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Risk Assessment for the Waste Technologies Industries (WTI) Hazardous Waste Incinerator Facility (East Liverpool, Ohio)

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Volume V:
HUMAN HEALTH RISK ASSESSMENT (HHRA): EVALUATION OF POTENTIAL RISKS FROM MULTIPATHWAY EXPOSURE TO EMISSIONS

Prepared with the assistance of:
A.T. Kearney, Inc. (Prime Contractor: Chicago, IL);
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VOLUME V
HUMAN HEALTH RISK ASSESSMENT: EVALUATION OF POTENTIAL RISKS FROM MULTIPATHWAY EXPOSURE TO EMISSIONS

CONTENTS

	Page
I. INTRODUCTION	I-1
A. Overview of Volume V	I-1
II. RISK ASSESSMENT METHODOLOGY	II-1
A. The Risk Assessment Process	II-1
B. Other U.S. EPA Guidance Documents	II-2
III. TOXICITY ASSESSMENT	III-1
A. Toxicity Assessment Methods	III-1
1. Carcinogenic Effects	III-1
2. Noncarcinogenic Effects	III-2
B. Toxicity Values for Substances of Potential Concern in Stack Emissions	III-4
1. Dioxins and Furans	III-4
2. Polycyclic Aromatic Hydrocarbons (PAHs)	III-7
3. Lead	III-8
4. Mercury	III-8
5. Nickel	III-9
6. Chromium	III-9
7. Acid Gases	III-9
8. Particulate Matter	III-10
C. Toxicity Assessment for Substances of Potential Concern in Fugitive Emissions	III-10
1. Fugitive Organic Chemical Emissions	III-10
2. Fugitive Ash Emissions	III-10
D. Uncertainties	III-10
1. Uncertainties in the Characterization of the Toxicity of Carcinogens	III-11
2. Uncertainties in the Characterization of the Toxicity of Noncarcinogens	III-13
3. Uncertainties Associated with Endocrine Disruptors	III-13
IV. SELECTION OF SURROGATE CHEMICALS	IV-1
A. Selection of Chemicals in Stack Emissions to Evaluate in the Risk Assessment	IV-1
B. Partitioning of Emissions Between the Vapor and Particle Phases	IV-5

CONTENTS
(continued)

C. Selection of Chemicals to Evaluate in Fugitive Emissions Analysis IV-5
1. Selection of Surrogate Chemicals in Fugitive Vapor Emissions IV-5
2. Estimation of Chemical-Specific Fugitive Organic Vapor Emission Rates IV-8
3. Estimation of Chemical-Specific Emission Rates in Fugitive Ash IV-9
D. Uncertainties IV-10
1. Uncertainties Associated with the Selection of Surrogate Organic Chemicals in Stack and Fugitive Emissions IV-10
2. Uncertainties Associated with Estimating Chemical-Specific Fugitive Emission Rates IV-10

V. IDENTIFICATION OF EXPOSURE POPULATIONS AND PATHWAYS V-1
A. Introduction V-1
B. Population Subgroups Potentially Exposed to Stack Emissions V-1
C. Potential Exposure Routes for Stack Emissions V-3
1. Air Exposure Routes V-3
2. Soil Exposure Routes V-3
3. Terrestrial Food Chain Exposure Routes V-3
4. Surface Water Exposure Routes V-3
5. Breast Milk Exposure Route V-4
6. Fish Consumption Exposure Route V-4
7. Ground Water Exposure Route V-5
D. Population Subgroups Potentially Exposed to Fugitive Emissions V-5
E. Uncertainties V-6
1. Uncertainties in the Identification of Exposure Populations V-6
2. Uncertainties in the Identification of Exposure Pathways V-6

VI. ESTIMATION OF ENVIRONMENTAL CONCENTRATIONS VI-1
A. Introduction VI-1
B. Estimation of Soil Concentrations VI-2
C. Estimation of Concentrations in Vegetation VI-3
D. Estimation of Meat, Eggs and Milk Concentrations VI-7
E. Estimation of Surface Water Concentrations VI-9
F. Estimation of Chemical Concentrations in Fish VI-10
G. Estimation of Breast Milk Concentrations VI-12
H. Uncertainties VI-13
1. Uncertainties Inherent in the Fate and Transport Models VI-14
2. Uncertainties in Input Parameters VI-15

CONTENTS
(continued)

VII. ESTIMATION OF EXPOSURE DOSE VII-1
A. Introduction VII-1
B. Estimation of Human Exposure VII-2
1. Estimation of Exposure Dose VII-2
2. Exposure Factors VII-9
C. Site-Specific Exposure Data VII-10
1. Home Gardening Practices VII-10
2. Local Fishing Practices VII-11
3. Local Farming Practices VII-12
4. Deer Hunting VII-16
5. Population Data VII-16
D. Development of the Risk Assessment Study Area and Subareas VII-16
1. Development of the Risk Assessment Study Area VII-17
2. Development of Subareas VII-18
3. Development of Subareas for Assessment of Fugitive Emissions VII-19
E. Estimation of Exposure Doses in Subareas VII-19
1. Estimation of Contaminant Dispersion/Deposition in Subareas VII-19
2. Estimation of Exposure Dose VII-20
F. Uncertainties VII-20

VIII. RISK CHARACTERIZATION VIII-1
A. Introduction VIII-1
B. Estimation of Risks Due to Stack Emissions VIII-2
1. Methodology for Estimating Individual Cancer Risk VIII-2
2. Methodology for Estimating Individual Noncancer Effects VIII-3
3. Methodology for Estimating Population Cancer Risk VIII-4
C. Overview of Individual Risks Associated with Stack Gas Emissions VIII-5
1. Risks Due to Direct (Inhalation) Exposure VIII-6
2. Risks Due to Indirect Exposure VIII-8
3. Sensitivity Analysis of Exposure Parameters for the Highly Exposed Subgroups VIII-11
4. Estimation of the Potential Health Effects Due to Lead VIII-12
5. Risks Associated with Specific Activities VIII-14
D. Overview of Population Risks VIII-18
E. Estimation of Risks Due to Fugitive Emissions VIII-20
1. Estimated Risks Due to Fugitive Organic Vapor Emissions VIII-21
2. Risks Due to Fugitive Ash Emissions VIII-21
F. Uncertainties VIII-23
1. Uncertainties Associated with the Risk Characterization Process VIII-23

CONTENTS
(continued)

2. Uncertainties Associated with the Risk Estimates VIII-24
3. Uncertainties Associated with the Uncharacterized Emissions VIII-25
G. Comparison of Incremental Dioxin and Furan Exposure to Expected Background Exposure VIII-25

IX. UNCERTAINTY ANALYSIS IX-1
A. Introduction IX-1
1. Types and Sources of Uncertainty and Variability IX-1
2. Uncertainty and the Risk Assessment Process IX-2
B. A Three-Tiered Approach to Uncertainty Analysis IX-5
1. Tier I—Quantification of Input Parameter Variances IX-6
2. Tier II—Sensitivity Analysis IX-7
3. Tier III—Variance Propagation IX-8
C. Implementation of Tiered Approach to Uncertainty Analysis IX-9
D. Results IX-11
1. Estimation of Input Parameter Ranges IX-11
2. Sensitivity Analysis IX-11
3. Variance Propagation IX-14
E. Major Assumptions and Limitations IX-28
F. Conclusions IX-28

X. SUMMARY AND CONCLUSIONS X-1

XI. REFERENCES XI-1

TABLES

Table I-1	Substances of Potential Concern in Stack Emissions	I-4
Table I-2	Fugitive Substances of Potential Concern	I-6
Table III-1	Summary of Inhalation and Oral Toxicity Values	III-15
Table III-2	Toxicity Equivalence Factors (TEFs) for Dioxins and Furans	III-22
Table III-3	Relative Potency of Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)	III-23
Table III-4	Summary of Inhalation Toxicity Values for Substances of Potential Concern (Fugitive Vapor Emissions)	III-24
Table III-5	Summary of Inhalation Toxicity Values for Metals of Potential Concern (Fugitive Ash Emissions)	III-28

CONTENTS
(continued)

Table III-6	Key Assumptions for Chapter III (Toxicity Assessment)	III-29
Table IV-1	Selection of Surrogate Organic Chemicals (Stack Emissions) on the Basis of Quantity, Carcinogenic Potency, and Bioaccumulation Potential	IV-12
Table IV-2	Selection of Surrogate Organic Chemicals (Stack Emissions) on the Basis of Quantity, Noncarcinogenic Potency, and Bioaccumulation Potential	IV-13
Table IV-3	Surrogate Chemicals Selected for the Indirect Risk Assessment of Stack Emissions	IV-14
Table IV-4	Fraction of Substance Partitioning onto Particulate Matter	IV-15
Table IV-5	Selection of Surrogate Chemicals (Fugitive Emissions) Based on Quantity, Vapor Pressure, and Carcinogenic Potency	IV-16
Table IV-6	Selection of Surrogate Chemicals (Fugitive Emissions) Based on Quantity, Vapor Pressure, and Noncancer Chronic Toxicity Potency	IV-17
Table IV-7	Surrogate Chemicals Selected for the Assessment of Fugitive Organic Vapor Emissions	IV-18
Table IV-8	Estimated Total Fugitive Organic Vapor Emissions Rates	IV-19
Table IV-9	Estimated CAB Emissions Associated with the Organic Waste Tanks	IV-20
Table IV-10	Estimated Fraction of Total Emissions Due to Individual Surrogate Chemicals	IV-21
Table IV-11	Estimated Emissions of Surrogate Chemicals from Fugitive Organic Vapor Emissions Sources	IV-22
Table IV-12	Estimated Average Concentrations of Metals and Inorganic Compounds in Fugitive Fly Ash Emissions	IV-23
Table IV-13	Key Assumptions for Chapter IV (Selection of Surrogate Chemicals)	IV-24
Table V-1	Exposure Populations and Pathways Considered in the Risk Assessment	V-8
Table V-2	Key Assumptions for Chapter V (Identification of Exposure Pathways and Populations)	V-9
Table VI-1	Site-Specific Parameters for Fate and Transport Modeling	VI-17
Table VI-2	Key Assumptions for Chapter VI (Estimation of Environmental Concentrations)	VI-20
Table VII-1	Typical Exposure Factors for which Site-Specific Data are Available	VII-22

CONTENTS
(continued)

Table VII-2	Results of East Liverpool Board of Health Vegetable Garden Survey	VII-23
Table VII-3	Portion of Diet from Home Garden	VII-24
Table VII-4	Summary of Ohio River Recreational Fishing Study Data	VII-25
Table VII-5	State-wide Beef Statistics	VII-26
Table VII-6	Estimated County Beef Statistics	VII-27
Table VII-7	Summary of Beef Farming Data, Beaver Valley Nuclear Power Station Survey	VII-28
Table VII-8	State-wide Milk Data	VII-31
Table VII-9	Estimated County Dairy Statistics	VII-32
Table VII-10	Summary of Dairy Farming Data, Beaver Valley Power Station Survey	VII-33
Table VII-11	Number of Dairy Farmers and Milk Production Range for Three Counties Surrounding WTI Facility (May 1994)	VII-34
Table VII-12	Estimation of Meat from Deer Hunted Locally	VII-35
Table VII-13	Summary of County Population Data	VII-36
Table VII-14	Average and Maximum Air Dispersion/Deposition Impacts in East Subareas	VII-37
Table VII-15	Average and Maximum Air Dispersion/Deposition Impacts in North Subareas	VII-38
Table VII-16	Average and Maximum Air Dispersion/Deposition Impacts in South Subareas	VII-39
Table VII-17	Average and Maximum Air Dispersion/Deposition Impacts in West Subareas	VII-40
Table VII-18	Chemical-specific Lifetime Average Daily Dose (LADD) for Carcinogens, Adult Subsistence Farmer in Subarea E1 (Average Concentration)	VII-41
Table VII-19	Chemical-specific Average Daily Dose (ADD) for Noncarcinogens, Adult Subsistence Farmer at Subarea E1 (Average Concentration)	VII-43
Table VII-20	Key Assumptions for Chapter VII (Estimation of Exposure Dose)	VII-45
Table VIII-1	Estimated Total Inhalation Cancer Risks for Substances of Potential Concern	VIII-27
Table VIII-2	Estimated Total Inhalation Noncancer Hazard Indices for Substances of Potential Concern	VIII-28
Table VIII-3	Comparison of Predicted Acid Gas and Particulate Matter Concentrations with NAAQS	VIII-29
Table VIII-4	Estimated Cancer Risks Due to Exposure from Indirect Pathways	VIII-30

CONTENTS
(continued)

Table VIII-5	Estimated Hazard Indices Due to Exposure from Indirect Pathways	VIII-31
Table VIII-6	Average Cancer Risks for an Adult Subsistence Farmer	VIII-32
Table VIII-7	Average Noncancer Hazard Indices for an Adult Subsistence Farmer	VIII-33
Table VIII-8	Chemical-specific Carcinogenic Risks for the Adult Subsistence Farmer in Subarea E1 (Area Average)	VIII-34
Table VIII-9	Chemical-specific Noncarcinogenic Hazard Indices for the Adult Subsistence Farmer in Subarea E1 (Area Average)	VIII-37
Table VIII-10	Estimated Cancer Risks Due to Exposure from Direct and Indirect Pathways	VIII-39
Table VIII-11	Estimated Hazard Indices Due to Exposure from Direct and Indirect Pathways	VIII-40
Table VIII-12	Comparison of Average and High-End Cancer Risks and Noncancer Hazard Indices for an Adult Subsistence Farmer in Subarea E1	VIII-41
Table VIII-13	Comparison of Average and High-End Cancer Risks and Noncancer Hazard Indices for a Subsistence Farmer Child in Subarea E1	VIII-42
Table VIII-14	Input Values for the IEUBK Lead Model	VIII-43
Table VIII-15	Estimated Total Cancer Risks and Hazard Indices for Subsistence Fishing (Average for Subareas and Location of Maximum Concentration)	VIII-44
Table VIII-16	Estimated Total Cancer Risks and Hazard Indices for Deer Hunting (Average for Subarea and Location of Maximum Concentration)	VIII-45
Table VIII-17	Estimated Total Cancer Risks and Hazard Indices for Consumption of Fruits and Vegetables from Residential Home Garden (Average for Subarea and Location of Maximum Concentration)	VIII-46
Table VIII-18	Estimated Cancer Risks for Infant Ingestion of Breast Milk (Average for Subarea and Location of Maximum Concentration)	VIII-47
Table VIII-19	Estimated Subarea Population Age Distribution for Residents and Farmers	VIII-48
Table VIII-20	Summary of Total Estimated Cancer Risks (Direct and Indirect) for Residents and Farmers	VIII-49
Table VIII-21	Estimated Additional Cancer Cases Due to WTI Facility Emissions	VIII-50

CONTENTS
(continued)

Table VIII-22	Average Concentration Cancer Risks and Noncancer Hazard Indices for Fugitive Organic Vapor Emission Sources at the WTI Facility	VIII-51
Table VIII-23	Total Cancer Risks and Noncancer Hazard Indices at Location of Maximum Off-site Concentration for Individual Fugitive Emissions Sources at the WTI Facility	VIII-52
Table VIII-24	Area Average and Maximum Location Cancer Risks and Noncancer Hazard Indices for Inhalation Exposure to Fugitive Ash Emissions	VIII-53
Table VIII-25	Area Average and Maximum Location Cancer Risks and Noncancer Hazard Indices for Indirect Exposure to Fugitive Ash Emissions	VIII-54
Table VIII-26	Key Assumptions for Chapter VIII (Risk Characterization)	VIII-55
Table IX-1	Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis	IX-30
Table IX-2	Summary of Sensitivity Analysis Results	IX-37
Table IX-3	Probability Distributions for Influential Parameters	IX-41
Table IX-4	Key Assumptions for Chapter IX (Uncertainty Analysis)	IX-43

FIGURES

Figure VII-1	Approximate Locations of Farms Identified in the Beaver Valley Power Station Survey with Beef Cattle or Dairy Cows	VII-47
Figure VII-2	Number of Dairy Farms by ZIP Code in Vicinity of the WTI Facility	VII-48
Figure VII-3	Subareas Within Risk Assessment Study Area	VII-49
Figure VII-4	Location of Fugitive Emission Sources and Quadrants Used to Evaluate Average Fugitive Emission Risks	VII-50
Figure VIII-1	Probability Density Function for Childhood Exposure to Lead Emitted from the WTI Facility	VIII-56
Figure VIII-2	ZIP Code Boundaries in the Vicinity of the WTI Incinerator Facility	VIII-57

CONTENTS
(continued)

APPENDICES

V-1	Summary of Log K_{ow} Values
V-2	Physical/Chemical Parameter Values and Toxicity Values Used in Selection of Surrogate Organic Chemicals (Stack Emissions)
V-3	Physical/Chemical Values Used to Estimate Partitioning onto Particles
V-4	Physical/Chemical Parameter Values and Toxicity Values Used in Selection of Surrogate Organic Chemicals (Fugitive Emissions)
V-5	Evaluation of Additional High-end Subgroups
V-6	Evaluation of Residential Exposure to Locally Caught Fish
V-7	Fate and Transport Model Equations and Parameter Values
V-8	Estimation of Exposure Factors
V-9	Review of USDA Milk Marketing Data
V-10	Milk Production by ZIP Code and Farm Size
V-11	Estimation of Environmental Media Concentrations
V-12	Estimation of Average Cancer and Noncancer Exposure Dose (LADD and ADD) for Subsistence Farmer in Subarea E1
V-13	Estimation of Maximum Cancer and Noncancer Exposure Dose (LADD and ADD) for Subsistence Farmer in Subarea E1
V-14	Estimation of Inhalation Cancer Risks and Hazard Quotients
V-15	Estimation of Cancer Risks and Hazard Indices for Indirect Exposure Pathways for Subsistence Farmer in Subarea E1
V-16	Exposure Pathway Cancer Risks and Hazard Indices
V-17	Estimation of High-end Cancer Risks and Hazard Quotients for Subsistence Farmer and Child in Subarea E1
V-18	Estimation of Cancer Risks and Hazard Quotients for Subsistence Fisher and Local Deer Hunter
V-19	Estimation of Population Risk
V-20	Estimation of Cancer Risks and Hazard Quotients Resulting from Fugitive Emissions
V-21	Summary of Input Parameters Used in Uncertainty Analysis

I. INTRODUCTION

A. Overview of Volume V

The Human Health Risk Assessment (HHRA) portion of the WTI Risk Assessment involves the integration of information about the facility with site-specific data for the surrounding region and population to characterize the potential human health risks due to emissions from the facility. The estimation of human health risks is comprised of the following general steps: 1) identification of substances of potential concern; 2) estimation of the nature and magnitude of chemical releases from the WTI facility; 3) prediction of the atmospheric transport of the emitted contaminants; 4) determination of the types of adverse effects associated with exposure to the substances of potential concern (referred to as hazard identification), and the relationship between the level of exposure and the severity of any health effect (referred to as dose-response assessment); 5) estimation of the magnitude of exposure (referred to as exposure assessment); and 6) characterization of the health risks associated with exposure (referred to as risk characterization).

Volume III of the WTI Risk Assessment identifies the chemicals that may be released from the WTI facility, both from the incinerator stack and from fugitive sources (step 1). These chemicals (referred to as substances of potential concern)—which include metals, dioxins/furans, products of incomplete combustion, acid gases, and particulate matter—are summarized in Tables I-1 and I-2 for substances emitted from the stack and for fugitive emissions, respectively. Estimates of chemical-specific emission rates and the prediction of atmospheric concentrations and deposition of the substances of potential concern in the vicinity of the site (steps 2 and 3) are provided in Volumes III and IV, respectively. Using this information, Volume V describes the techniques used in partitioning the substances of potential concern into different environmental compartments (e.g., soil, vegetables, etc.), calculating human exposure, and characterizing health risks to individuals and population subgroups living and working in the vicinity of the WTI facility. In addition, within each chapter of the HHRA, a summary of the sources of uncertainty and a qualitative discussion of these uncertainties is provided, with a more detailed, quantitative analysis of uncertainties and the effect on estimated risks provided following the risk characterization chapter.

The approach used in the HHRA is designed to provide estimates of: (1) individual risk based on central tendency exposure (within subareas surrounding the facility) and at maximum points within each subarea; (2) risks to highly exposed or susceptible subgroups of

the population (e.g., subsistence farmers and school children); (3) risks associated with specific activities that may result in elevated exposures (e.g., subsistence fishermen and deer hunters); and (4) population risk. In addition, for those subgroups of the population that are estimated to be more highly exposed, a sensitivity analysis is conducted to evaluate potential variabilities in exposure (e.g., "high-end" exposure).

The estimation of risks is achieved by subdividing the area most affected by emissions from WTI into subareas, and identifying subgroups to completely characterize the population in the area. In doing so, this approach allows for the estimation of risk to specific segments of the population taking into consideration activity patterns, number of individuals, and actual locations of individuals in these subgroups with respect to the site.

The methodologies used in estimating exposure and risks to identified subgroups in the vicinity of the WTI facility are contained in subsequent chapters and the associated appendices as follows:

Chapter II: Risk Assessment Methodology - which describes the steps and the guidance relied upon to conduct the HHRA;

Chapter III: Toxicity Assessment - in which measures of the human toxicity of substances of potential concern are identified;

Chapter IV: Selection of Surrogate Chemicals - in which a subset of the organic compounds released from the facility are selected for evaluation in the HHRA in order to focus the assessment on the chemicals with the greatest potential for risk;

Chapter V: Identification of Exposure Pathways and Populations - which identifies groups within the population living and working in the vicinity of the facility who may be exposed to emissions from WTI and the potential routes by which an individual may be exposed;

Chapter VI: Estimation of Environmental Concentrations - which describes the techniques used to estimate the fate and transport of site-related substances in the environment;

Chapter VII: Estimation of Human Exposure - which describes the methodology used to estimate exposure to subgroups of the population through exposure pathways identified in this chapter;

Chapter VIII: Human Health Risk Characterization - in which numerical estimates of carcinogenic risk and the potential for noncancer health effects are calculated for individual subgroups within the surrounding population, and for the population as a whole within the risk assessment study area;

Chapter IX: Uncertainty Analysis - in which uncertainties previously identified in the individual steps of the risk assessment process are summarized, and to the degree possible, quantitatively evaluated;

Chapter X: Summary and Conclusions - which presents the general conclusions of the HHRA for the WTI facility; and

Chapter XI: References.

TABLE I-1
Substances of Potential Concern in Stack Emissions[a]

PICs and Residual Organic Compounds		
Acenaphthene	Chlorophenol, 2-	Ethyl methacrylate
Acenaphthylene	Chlorodiphenylether, 4-	Ethylbenzene
Acetaldehyde	Chloropropane, 2-	Ethylene dibromide
Acetone	Chrysene	Ethylene oxide
Acetophenone	Cresol, m-	Ethylene thiourea
Acrolein	Cresol, o-	Fluoranthene
Acrylonitrile	Cresol, p-	Fluorene
Anthracene	Crotonaldehyde	Formaldehyde
Benzaldehyde	Cumene	Furfural
Benzene	2,4-D	Heptachlor
Benzoic acid	4,4'-DDE	Heptachlorobiphenyl
Benzotrichloride	Dibenz(a,h)anthracene	Hexachlorobenzene
Benzo(a)anthracene	Dibenz(a,h)fluoranthene	Hexachlorobiphenyl
Benzo(a)pyrene	Dibromo-3-chloropropane, 1,2-	Hexachlorobutadiene
Benzo(b)fluoranthene	Dibromochloromethane	Hexachlorocyclohexane, alpha-
Benzo(e)pyrene	Dichloro-2-butene, cis-1,4-	Hexachlorocyclohexane, beta-
Benzo(g,h,i)perylene	Dichloro-2-butene, trans-1,4-	Hexachlorocyclohexane, gamma-
Benzo(j)fluoranthene	Dichlorobenzene, 1,2-	(a.k.a. Lindane)
Benzo(k)fluoranthene	Dichlorobenzene, 1,3-	Hexachlorocyclopentadiene
Benzyl chloride	Dichlorobenzene, 1,4-	Hexachloroethane
Biphenyl	Dichlorobenzidine, 3,3'-	Hexachlorophene
Bis(2-chloroethoxy) methane	Dichlorobiphenyl	Hexane, n-
Bis(2-chloroethyl)ether	Dichlorodifluoromethane	Hexanone, 2-
Bis(2-chloroisopropyl)ether	Dichloroethane, 1,1-	Hexanone, 3-
Bis(2-ethylhexyl)phthalate	Dichloroethane, 1,2-	Indeno(1,2,3-cd)pyrene
Bromochloromethane	Dichloroethene, 1,1-	Isophorone
Bromodichloromethane	Dichloroethylene, trans-1,2-	Maleic hydrazide
Bromoethene	Dichlorofluoromethane	Methoxychlor
Bromoform	Dichlorophenol, 2,4-	Methylene bromide
Bromomethane	Dichloropropane, 1,2-	Methylene chloride
Bromodiphenylether, p-	Dichloropropene, cis-1,3-	Methylnaphthalene, 2-
Butadiene, 1,3-	Dichloropropene, trans-1,3-	Methyl-tert-butyl ether
Butanone, 2- (MEK)	Diethylphthalate	Methyl-2-Pentanone, 4-
Butylbenzylphthalate	Dimethoxybenzidine, 3,3'-	Monochlorobiphenyl
Carbon disulfide	Dimethylphenol, 2,4-	Naphthalene
Carbon tetrachloride	Dimethylphthalate	Nitroaniline, 2-
Chlordane	Di-n-butylphthalate	Nitroaniline, 3-
Chloro-3-methylphenol, 4-	Di-n-octyl phthalate	Nitroaniline, 4-
Chloroacetophenone, 2-	Dinitritoluene, 2,6-	Nitrobenzene
Chloroaniline, p-	Dinitro-2-methylphenol, 4,6-	Nitrophenol, 2-
Chlorobenzene	Dinitrobenzene, 1,2-	Nitrophenol, 4-
Chlorobenzilate	Dinitrobenzene, 1,3-	N-Nitroso-di-n-butylamine
Chloroethane	Dinitrobenzene, 1,4-	N-Nitroso-di-n-propylamine
Chloroform	Dinitrophenol, 2,4-	N-Nitrosodiphenylamine
Chloromethane	Dinitrotoluene, 2,4-	Nonachlorobiphenyl
Chloronaphthalene, beta	Dioxane, 1,4-	Octachlorobiphenyl

TABLE I-1 (continued)
Substances of Potential Concern in Stack Emissions[a]

PICs and Residual Organic Compounds		
Pentachlorobenzene	Styrene	Trichlorobiphenyl
Pentachlorobiphenyl	Tetrachlorobenzene, 1,2,4,5-	Trichloroethane, 1,1,1-
Pentachloronitrobenzene	Tetrachlorobiphenyl	Trichloroethane, 1,1,2-
Pentachlorophenol	Tetrachloroethane, 1,1,1,2-	Trichloroethene
Phenanthrene	Tetrachloroethane, 1,1,2,2-	Trichlorofluoromethane
Phenol	Tetrachloroethene	Trichlorophenol, 2,4,5-
Phosgene	Tetrachlorophenol, 2,3,4,6-	Trichlorophenol, 2,4,6-
Propionaldehyde	Toluene	Trichloropropane, 1,2,3-
Pyrene	Toluidine, o-	Vinyl acetate
Quinoline	Toluidine, p-	Vinyl chloride
Quinone	Trichloro-1,2,2-TFE, 1,1,2-	Xylene, m-
Safrole	Trichlorobenzene, 1,2,4-	Xylene, o-
		Xylene, p-

Dioxin Congeners	Furan Congeners	
2,3,7,8-TCDD		
1,2,3,7,8-PeCDD	2,3,7,8-TCDF	1,2,3,7,8,9-HxCDF
1,2,3,4,7,8-HxCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF
1,2,3,6,7,8-HxCDD	2,3,4,7,8-PeCDF	1,2,3,4,6,7,8-HpCDF
1,2,3,7,8,9-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,4,7,8,9-HpCDF
1,2,3,4,6,7,8-HpCDD	1,2,3,6,7,8-HxCDF	OCDF
OCDD		

Metals		
Aluminum	Cadmium	Mercury (inorganic and organic)
Antimony	Chromium (hexavalent and	Nickel
Arsenic	trivalent)	Selenium
Barium	Copper	Silver
Beryllium	Lead	Thallium
		Zinc

Acid Gases
Hydrogen chloride
Total nitrogen oxides (NO_x)
Total sulfur oxides (SO_x)

Particulate Matter
Respirable (PM_{10})
Total

Notes:
a - Substances of Potential Concern list developed as described in Volume III.
TFE - trifluoroethane
CDD - chlorodibenzo-p-dioxin
CDF - chlorodibenzofuran
MEK - methyl ethyl ketone
PM_{10} - particulate matter < 10 microns

TABLE I-2
Fugitive Substances of Potential Concern

Fugitive Organic Vapor Emissions[a]		
Acetone	Dichlorobenzene	Methyl methacrylate
Acetonitrile	Dichlorodifluoroethane	Methylbutadiene, 1-
Acetophenone	Dichlorodifluoromethane	Methylcholanthrene, 3-
Acetylaminofluorene, 2-	Dichloroethane, 1,1-	Methyl isobutyl ketone
Acrylonitrile	Dichloroethene	Naphthalene
Alcohols	Diethyl stilbestrol	Naphthylamine, 1-
Aliphatic hydrocarbons	Diethylphthalate	Naphthylamine, 2-
Aniline	Dimethyl sulfate	Nitrobenzene
Benzene	Dimethylamine	Nitrophenol, 4-
Benzenedicarboxylic acid, 1,2-	Dimethylbenzidine, 3,3'-	Nitropropane, 2-
Benzidine	Dimethylhydrazine	N-nitrosodiethanolamine
Benzoquinone, p-	Dimethylphenol, 2,6-	N-nitrosodiethylamine
Benzo(a)pyrene	Dimethylphthalate	N-nitrosodi-n-butylamine
Butanol	Dinitrotoluene	N-nitrosopyrolidine
Butanone, 2-	Dioxane, 1,4-	Phenol
Butyl acetate	Epichlorohydrin	Phthalic anhydride
Calcium chromate	Ethanol	Picoline, 2-
Carbon	Ethoxyethanol, 2-	Pyridine
Carbon disulfide	Ethyl acrylate	Resorcinol
Carbon tetrachloride	Ethylbenzene	Tetrachlorobenzene, 1,2,4,5-
Chlorobenzene	Fluoranthene	Tetrachloroethane, 1,1,1,2-
Chloroform	Formaldehyde	Tetrachloroethene
Chlorinated paraffin, oil, wax	Formic acid	Tetrahydofuran
Chrysene	Furfural	Toluene
Creosote (coal tar)	Heptane	Toluene diisocyanate
Cresol	Hydrazine	Toluenediamine
Crotonaldehyde	Indeno(1,2,3-cd)pyrene	Trichloro-1,2,2,-TFE, 1,1,2-
Cumene	Isobutanol	Trichlorobenzene
Cyclohexane	Isopropanol	Trichloroethane, 1,1,1-
Cyclohexanone	Isosafrole	Trichloroethene
Dibenz(a,h)anthracene	Maleic anhydride	Trichlorofluoromethane
Dibromoethane, 1,2-	Methanol	Xylene

Fugitive Ash Emissions[b]	
Arsenic	Nickel
Barium	Selenium
Cadmium	Silver
Lead	Cyanide

Notes:
a - Developed from list of "pumpable" waste streams expected at WTI during first year of operation. These substances represent approximately 90 percent of the total pumpable waste stream. Pumpable waste stream constituents list developed as described in Appendix III-1.
b - Based on metals detected in fly ash samples collected by WTI (1995).
TFE - trifluoroethane

II. RISK ASSESSMENT METHODOLOGY

The HHRA for the WTI facility consists of the evaluation of potential human health risks associated with exposure to incinerator stack and fugitive emissions produced during routine operation of the facility. A brief introduction to the general risk assessment process and recent U.S. EPA guidance relevant to the assessment of risks from indirect exposure to incinerator emissions is presented in the following sections.

A. The Risk Assessment Process

The foundation for the risk assessment methods described in this report is consistent with well-established chemical risk assessment principles and procedures developed for the regulation of environmental contaminants (NRC 1983, OSTP 1985, U.S. EPA 1986a,b). Application of these guidelines and principles provides a consistent process for evaluating and documenting potential health risks associated with environmental exposures.

The risk assessment process used by federal regulatory agencies and applied in this assessment is essentially that described by the National Research Council (NRC 1983), and consists of the following four components:

- Hazard identification, in which the chemical substances of concern in emissions from the facility are identified and data relevant to the toxic properties of these substances are compiled, reviewed, and evaluated;

- Dose-response evaluation, in which the relationship between dose and response is evaluated for each chemical of potential concern to derive toxicity values that can be used to estimate the incidence of adverse effects occurring at different exposure levels;

- Exposure assessment, in which potential exposure pathways are identified and measures of chemical exposure (e.g., concentrations for the various environmental media, or doses) are estimated for the potential exposure pathways, based upon various exposure assumptions and the characteristics of the population receiving the exposure; and,

- Risk characterization, in which numerical estimates of risk are calculated for each substance by each potential route of exposure using the toxicity information and the exposure estimates.

In addition to the steps listed above, the HHRA characterizes uncertainty associated with each step of the process and includes an analysis of the potential effects of the individual sources of uncertainty as part of the risk characterization.

It should also be noted that in the HHRA, the first two steps of the risk assessment process, hazard identification and dose-response assessment, are simplified by using toxicity information compiled by U.S. EPA. This information is typically used in conducting risk assessments where a significant number of common environmental contaminants are being evaluated. The combination of these steps in this assessment is referred to as the Toxicity Assessment.

B. Other U.S. EPA Guidance Documents

In conducting the HHRA, various sources of U.S. EPA guidance are relied upon that are specific to incineration or provide recent guidance on some aspect of the risk assessment process (e.g., exposure assessment). As previously emphasized, U.S. EPA guidance is used in conjunction with site-specific data and information to the extent possible.

- The primary source of U.S. EPA guidance for conducting the HHRA is the *Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions, Interim Final* (U.S. EPA 1990a).

- In addition, the *Addendum to Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions, External Review Draft* (U.S. EPA 1993a) that is presently undergoing U.S. EPA revision in response to an external peer review by the U.S. EPA Science Advisory Board (SAB) is relied upon for the analysis.

Other recent U.S. EPA guidance that is relied upon to complete this risk assessment include the *Revised Draft Implementation Guidance for Conducting Indirect Exposure Analysis at RCRA Combustion Units,* (U.S. EPA 1994a), the *Guidance on Risk Characterization for Risk Managers and Risk Assessors* (U.S. EPA 1992a), the *Guidance for Risk Characterization* (U.S. EPA 1995a), and the *Guidelines for Exposure Assessment* (U.S. EPA 1992b), which were developed by U.S. EPA to clarify and refocus the requirements for a complete and balanced risk assessment. For example, the *Guidelines for Exposure*

Assessment provide a general outline of the possible methods that U.S. EPA recommends using in an exposure assessment, and identifies important issues concerning presentation of results (e.g., use of various risk descriptors) and uncertainties.

Additional sources of guidance that are relied upon for the HHRA include: *Exposure Factors Handbook* (U.S. EPA 1990b), *Dermal Exposure Assessment: Principles and Applications* (U.S. EPA 1992c), *Estimating Exposure to Dioxin-Like Compounds, Volume II: Properties, Sources, Occurrence and Background Exposure, Review Draft* (U.S. EPA 1994b), *Estimating Exposure to Dioxin-Like Compounds, Volume III: Site-specific Assessment Procedures, Review Draft* (U.S. EPA 1994c), *Guidance on Metals and Hydrogen Chloride Controls from Hazardous Waste Incineration* (U.S. EPA 1989a), and other related risk and exposure assessment guidance documents.

A Project Plan (U.S. EPA 1993b) that describes the proposed methodology used in this assessment was previously developed and reviewed by an external peer review panel. As noted earlier, recommendations made by the peer reviewers are incorporated into this assessment to the extent possible.

III. TOXICITY ASSESSMENT

The toxicity assessment portion of the HHRA combines hazard identification and dose-response assessment. The primary objectives of this step of the risk assessment process are to identify the types of toxic effects associated with each substance of potential concern, characterize the conditions (e.g., route, duration) of exposure under which these effects might occur, and determine the relationship between the magnitude of human exposure and the extent of adverse health effects. This relationship is represented through the use of toxicity values relating to cancer or noncancer health endpoints.

A. Toxicity Assessment Methods

U.S. EPA has conducted toxicity assessments on many of the most frequently occurring environmental chemicals and has developed toxicity values for use in risk assessment, based on these analyses. Cancer and noncancer toxicity values for chemical substances are published by U.S. EPA and are updated regularly (IRIS 1995; U.S. EPA 1994d). The Integrated Risk Information System (IRIS) is an on-line data base maintained by U.S. EPA that provides toxicity data for many commonly detected substances. A second source of toxicity values is the *Health Effects Assessment Summary Tables* (HEAST) (U.S. EPA 1994d), which U.S. EPA also updates regularly. The procedures used by U.S. EPA in evaluating toxicity studies to develop toxicity values are described below.

1. Carcinogenic Effects

Substances classified by U.S. EPA as potentially carcinogenic are considered by many scientists to pose a finite cancer risk at all exposure levels. In evaluating cancer risks, therefore, a "no-threshold" assumption is applied. It should be noted that the no-threshold assumption may not apply for some classes of carcinogens that act through a mechanism that requires a threshold dose to be exceeded prior to initiation of the carcinogenic process. For purposes of this assessment, U.S. EPA's no-threshold assumption is conservatively assumed for all chemical carcinogens.

A two-step evaluation is used in assessing the carcinogenic potential of a chemical. The first step involves evaluating the likelihood that the substance is a human carcinogen (i.e., a weight-of-evidence assessment), and the second step involves defining the quantitative relationship between dose and response (i.e., development of a

slope factor). In the first step, U.S. EPA classifies a chemical into one of five groups that indicate the likelihood that the chemical is a human carcinogen, based on the weight of evidence from human and animal investigations as follows:

- Group A chemicals are classified as human carcinogens;
- Group B1 chemicals are probable human carcinogens with limited human data available and group B2 chemicals are probable human carcinogens with sufficient evidence in animals and inadequate or no evidence in humans;
- Group C chemicals are possible human carcinogens; and
- Group D chemicals are not classifiable as to human carcinogenicity.

Those chemicals that are determined to be known, probable, or potential human carcinogens are further evaluated. The outcome of the second part of the evaluation is the development of the slope factor (SF), which is a measure of the potency of the carcinogen. The SF represents the upper 95 percent confidence limit on the linear component of the slope of the tumorigenic dose-response curve in the low-dose (low-risk) region. The SF is an upper bound estimate of the likelihood that a response will occur per unit intake of a chemical over a 70-year lifetime, and is derived by applying a mathematical model to extrapolate from the relatively high doses administered to experimental animals or experienced by persons in the workplace to the lower exposure levels expected for human contact in the environment. A number of low-dose extrapolation models have been developed; U.S. EPA generally uses the linearized multistage model in the absence of adequate information to support some other model. The linearized multistage model is believed to be conservative, i.e., is likely to overpredict the true SF for a chemical.

2. Noncarcinogenic Effects

The basic approach used by U.S. EPA in developing toxicity values for noncarcinogenic effects of substances is based on the belief that some minimum (threshold) exposure level must be reached before the effect will occur, i.e., that protective mechanisms exist that must be overcome before an adverse health effect can occur. The estimated level of daily human exposure below which it is unlikely that deleterious effects will result is known as the Reference Dose (RfD). RfD values are reported in milligrams of chemical per unit body weight per day (mg/kg/d). Unless adequate human data are available, U.S. EPA develops an RfD value based on data from experimental animals. If data from several animal studies are available, U.S. EPA first seeks to identify the animal model that is most biologically relevant to

humans (e.g., similar metabolism of the substance). In the absence of information that identifies a given animal model as clearly most relevant, U.S. EPA assumes that humans are at least as sensitive to the substance as the most sensitive animal species tested. Accordingly, U.S. EPA selects the study using the most sensitive species tested and the most sensitive endpoint measured as the critical study upon which the RfD is based (U.S. EPA 1989b).

From this critical study, the experimental exposure representing the highest dose level tested at which no adverse effects were demonstrated (the no-observed-adverse-effect level, NOAEL) is identified. In selecting the NOAEL as the basis for the RfD, the assumption is made that if the critical toxic effect is prevented from occurring, then all toxic effects are prevented. The NOAEL is to be distinguished from the no-observed-effect level (NOEL), which corresponds to the exposure level at which no effect at all is observed; whereas, the NOAEL is the level at which no effect considered to be of toxicological significance is observed. In some studies, only a lowest-observed-adverse-effect level (LOAEL) is available. The use of a LOAEL in deriving an RfD requires the use of an additional uncertainty factor, as described below (U.S. EPA 1989b).

The RfD is derived from the NOAEL or LOAEL for the critical toxic endpoint by dividing the NOAEL or LOAEL by one or more uncertainty factors. These factors generally are multiples of 10, with each factor representing a specific area of uncertainty in the extrapolation from the available study data. For example, a 100-fold uncertainty factor is typically used when the RfD is based on results from long-term animal studies. This factor of 100 incorporates an uncertainty factor of 10 to account for variation in sensitivity in the human population and another uncertainty factor of 10 to account for interspecies variability between humans and experimental animals. Additional modifying factors ranging from 1 to 10 may be applied to reflect qualitative judgements about limitations or uncertainties in the critical study or in the data base as a whole that are not explicitly addressed by the standard uncertainty factors (U.S. EPA 1989b). Thus, since the RfD is intended to be adequately protective of sensitive individuals, application of the RfD to the general population is conservative.

Reference Concentration (RfC) values have been developed by U.S. EPA for the assessment of non-carcinogenic effects from inhalation exposures. RfC values are reported as air concentrations in units of mass of chemical per unit volume of air (e.g., mg/m^3). In this assessment, the potential for adverse effects as a result of inhalation exposure is estimated by comparing exposure concentrations to a fixed fraction of the RfC. Based on U.S. EPA guidance (U.S. EPA 1989c), a fixed fraction of 25 percent of the threshold toxicity value (RfC) is allocated for direct inhalation exposure. The

remaining 75 percent of the threshold is allocated to background and other exposures. This is likely a conservative approach to estimating the potential for noncancer health effects from inhalation exposure, thus ensuring that such risks are likely not underestimated. The acceptable concentration calculated in this manner is defined as the reference air concentration (RAC), which is determined from the inhalation RfC, if available, or calculated from the oral reference dose (RfD).

For toxic substances for which verified inhalation RfCs are not available, the RAC is calculated from the oral reference dose (RfD) as recommended in the incinerator controls guidance document (U.S. EPA 1989c) and the final rule for boilers and industrial furnaces (U.S. EPA 1991):

$$RAC = \frac{[RfD\ (mg/kg\text{-}day)](70\ kg)[background\ factor(25\%)]}{20\ m^3\ air\ breathed/day} \qquad \text{(III-1)}$$

The uncertainty associated with using this route-to-route extrapolation methodology is discussed in the uncertainty section of this chapter (Section D).

B. Toxicity Values for Substances of Potential Concern in Stack Emissions

Relevant toxicity values (e.g., RfC, RfD, SF values), compiled (if available) from IRIS, are presented in Table III-1. Verified toxicity values are not available in IRIS for all chemicals; therefore, to the extent possible, toxicity values for chemicals of concern without IRIS toxicity values are compiled from HEAST (U.S. EPA 1994d), consultation with U.S. EPA, or, in the case of RACs, developed based on route-to-route extrapolation (i.e., use of an oral RfD for deriving a RAC).

For certain substances or group of compounds, the methodology used to assess toxicity is somewhat different from that described above. In addition, there are specific issues with respect to the toxicity of certain substances that should be noted. Therefore, a separate discussion of the toxicity assessment approach is provided for the following substances: 1) dioxins and furans; 2) polycyclic aromatic hydrocarbons; 3) lead; 4) mercury; 5) nickel; 6) chromium; 7) acid gases; and 8) particulate matter, as discussed below.

1. Dioxins and Furans

There are over 200 individual forms or "congeners" of chlorinated dioxins and furans. A congener is a single member of a chemical family (e.g., there are 75 congeners of chlorinated dibenzo-p-dioxins). U.S. EPA has developed procedures for assessing the cancer risks associated with exposure to the many forms of dioxins and furans based on the relative toxicity of these compounds to the toxicity of 2,3,7,8-

tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), which is generally believed to be the most toxic form (U.S. EPA 1994b). Each congener is assigned a value, referred to as a toxicity equivalency factor (TEF), corresponding to its toxicity relative to 2,3,7,8-TCDD (i.e., 2,3,7,8-TCDD has a TEF of 1.0 and other dioxin and furan congeners have TEFs between zero and 1.0). Although various groups and organizations have developed TEF schemes, the U.S. EPA-recommended approach (U.S. EPA 1994b) is used in this risk assessment. This approach is the same as the internationally accepted approach given in the North Atlantic Treaty Organization, Committee on the Challenges of Modern Society (NATO/CCMS 1988). The TEFs for dioxin and furan congeners considered in this assessment are presented in Table III-2.

Of the 210 possible congeners of the chlorinated dioxins and furans, only the 17 congeners having chlorine substituents in the 2, 3, 7, and 8 positions are generally regarded as displaying dioxin-like toxicity (Table III-2). As mentioned above, the cancer slope factors for dioxin and furan compounds other than 2,3,7,8-TCDD are derived by the assignment of TEF values which compare the toxicity of the toxic congeners to that of 2,3,7,8-TCDD. For 2,3,7,8-TCDD, the cancer slope factor is based on actual experimental evidence in rodents. For the other 16 toxic congeners, the toxic potency compared to 2,3,7,8-TCDD is based upon receptor binding studies or a sensitive measure of receptor binding, namely induction of Aryl Hydrocarbon Hydroxylase (AHH) enzyme activity. These TEFs have been developed based upon the activity of these compounds in short-term toxicity assays that are considered predictive of their ability to cause cancer in long-term carcinogenicity studies in experimental animals. Consequently, the cancer slope factors (derived from the TEF values) for these 16 toxic congeners are less certain than the cancer slope factor for 2,3,7,8-TCDD.

In accordance with U.S. EPA guidance (U.S. EPA 1994b,c), the individual dioxin and furan congeners are assessed separately throughout the exposure assessment process. This involves the estimation of congener-specific emission rates, followed by the evaluation of each congener for partitioning into various environmental media. This approach is adopted due to the important differences between dioxin and furan congeners in the fate and transport properties needed to estimate exposures through the food chain pathways (U.S. EPA 1994b,c; Washburn 1991; McLachlan 1993). The TEFs are applied in the final step of the risk assessment process, in estimating potential health risks.

In addition to the potential for dioxins to cause cancer, there is also concern for the potential noncancer effects from these chemicals. U.S. EPA concludes that adequate evidence exists to suggest that exposure to 2,3,7,8-TCDD and related

dioxin-like compounds results in a broad spectrum of effects in animals, some of which may occur in humans (U.S. EPA 1994h).

This conclusion is based upon results from epidemiology studies in human populations, experiments in laboratory animals, and ancillary experimental studies. The effects induced will likely range from adaptive changes at or near background levels of exposure to adverse effects with increasing severity as exposure levels increase above background levels. Enzyme induction, alterations in hormone levels and indicators of altered cellular function are examples of effects of currently unknown significance; they may or may not be early indicators of toxic response. Because the threshold levels for exposure to 2,3,7,8-TCDD and dioxin-like compounds below which toxic effects are not observed has not been established, the U.S. EPA does not currently list RfD or RfC values for dioxin-like compounds.

The deduction that humans could respond to exposures to 2,3,7,8-TCDD and dioxin-like compounds with adverse non-cancer effects is based on the fact that these compounds impact cellular regulation at a fundamental molecular level in a diverse variety of animal species which have been shown to respond with adverse effects. In addition, similar impacts on cellular regulation have been demonstrated in human cells in experimental cell culture.

It is well known that individual animal species vary in their sensitivity to exhibit different effects due to exposure to 2,3,7,8-TCDD. However, the available evidence indicates that humans most likely fall in the middle of the range of sensitivity for individual effects among animals rather than at either extreme. Thus, humans do not appear to be either extremely sensitive to or extremely insensitive to the individual effects of 2,3,7,8-TCDD and dioxin-like compounds.

In general, biochemical, cellular and organ-level effects have been observed in experiments in which only 2,3,7,8-TCDD was studied. Specific data on the effects of other dioxin-like homologues such as the pentachlorinated and hexachlorinated dioxins and furans are generally not available. However, as mentioned previously, dioxin-like compounds exhibit the common property of binding to the intracellular Aryl Hydrocarbon Hydroxylase receptor. Based upon differences in receptor binding capacity, toxicity equivalence factors (TEFs) have been developed for the 17 dioxin and furan congeners with chlorine substituents in the 2,3,7, and 8 ring positions. The TEF for 2,3,7,8-TCDD is one; the TEFs for the 16 other congeners are a fraction of this value (i.e., between zero and 1.0).

Greater uncertainty exists with respect to the extent of non-cancer effects of the 16 other congeners as compared to those of 2,3,7,8-TCDD due to the very limited amount

of toxicology testing of these congeners. Hence greater uncertainty is associated with the TEFs of these congeners as compared to the TEF for 2,3,7,8-TCDD.

Since formal RfD and RfC values for dioxin-like compounds are not available, it is not possible to directly quantify in a risk assessment the noncancer effects of exposure to dioxin-like compounds. However, with regard to incremental exposures to dioxin-like compounds from point sources such as the WTI incinerator, it is valuable to compare the estimated incremental exposures to the predicted or expected background exposure levels.

In this risk assessment, the individual TEF values for each dioxin and furan congener are applied to the estimated total incremental exposure dose of each congener for the most highly exposed individual. This results in the calculation of a toxic equivalent (TEQ) dose for each congener. The sum of TEQ values for each congener results in a total TEQ dose. The total TEQ exposure dose due to operation of the WTI incinerator is compared to the expected background TEQ exposure dose for individuals living in the vicinity of WTI, as estimated by U.S. EPA (1994b).

2. Polycyclic Aromatic Hydrocarbons (PAHs)

The compounds benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene, are considered to be carcinogenic by U.S. EPA. With the exception of chrysene, the PAHs listed above are all known animal carcinogens. U.S. EPA has derived an oral slope factor of 7.3 $(mg/kg\text{-}day)^{-1}$ (IRIS 1995) for benzo[a]pyrene (BaP); however, the remaining carcinogenic PAHs have not been assigned carcinogenic toxicity values in IRIS because of the limitations of the cancer studies performed on these compounds.

Until individual toxicity values are assigned, U.S. EPA (1993c) recommends an interim relative potency approach to determining carcinogenic potential based upon results in a group of carcinogenicity studies in animals. The toxicity of each carcinogenic PAH is evaluated relative to the toxicity of BaP. The potency of BaP has been assigned a value of 1.0, which is equivalent to an oral slope factor of 7.3 $(mg/kg\text{-}day)^{-1}$, and other PAHs have relative potencies between zero and one, as shown in Table III-3. Each of the PAHs considered in this assessment are evaluated separately with regard to estimating stack emissions, modeling fate and transport in the environment, and quantifying human dose. The relative potency factors in Table III-3 are applied in the final step of the risk assessment process, in estimating potential health risks.

3. Lead

U.S. EPA does not currently list an RfD or RfC for lead because a threshold level for exposure to lead below which toxic effects are not observed has not been established. Additionally, based upon findings that neurobehavioral effects have been observed in children with blood lead levels below those that have caused carcinogenic effects in laboratory animals, a cancer SF has not be derived by U.S. EPA. The Agency has relied upon the neurological effects observed in children as the sensitive endpoint for evaluating lead toxicity. Consequently, U.S. EPA has applied an uptake/biokinetic modeling approach, which evaluates potential risks by predicting blood lead levels associated with exposure to lead. The uptake/biokinetic model (U/BK) for lead was developed through the efforts of U.S. EPA (1990c) and New York University professors N.H. Harley and T.J. Kneip (Kneip et al. 1983). It integrates a number of assumptions about the complex exposure pattern and physiological handling of lead by the body, and has been validated at several sites where lead exposure data and human blood lead levels are available (U.S. EPA 1990c). The U/BK model has been reviewed and recommended by the U.S. EPA Science Advisory Board (SAB) (U.S. EPA 1992d).

U.S. EPA has developed a computerized version of the U/BK model (version 0.99d) that predicts blood lead levels and distributions for children ages zero to seven years of age (U.S. EPA 1994e). At present, as directed by U.S. EPA (1994e), it is not possible to apply the computer model to predict potential blood lead levels in adults. In general, however, children are more susceptible to lead exposures than adults as a result of higher soil ingestion rates and greater absorption from the gut, in addition to nutritional variables and lower body weight. Thus, in this assessment, environmental concentrations of lead resulting from stack emissions are used, with the U/BK model, to predict the child blood lead levels.

4. Mercury

Mercury can exist in either organic or inorganic forms in the environment. Although emissions from the stack at the WTI facility are expected to be in an inorganic form (as metallic mercury), it is possible that some portion of the mercury is converted to organic forms (e.g., methylmercury) in the environment. The bioaccumulation potential of methylmercury may be as much as ten times greater than that of inorganic forms of mercury. Based on recommendations by U.S. EPA in its Report to Congress on mercury in the environment (U.S. EPA 1994f), it is assumed that 25 percent of the mercury in aquatic environments is in the organic form. Mercury in air, soil,

vegetation, and animal products (with the exception of fish) is assumed to be entirely inorganic.

5. Nickel

U.S. EPA treats certain forms of nickel, including nickel carbonyl, nickel subsulfide, and nickel refinery dust, as carcinogens. However, U.S. EPA, in the *Final Rule for Burning of Hazardous Wastes in Boilers and Industrial Furnaces* (U.S. EPA 1991), does not consider nickel emissions from hazardous waste combustions units to be carcinogenic because the carcinogenic forms of nickel are not expected to be present in the oxidizing environment of combustion units. More recent data, however, suggest other forms of nickel may be carcinogenic, and the International Agency for Research on Cancer (IARC) has classified "nickel and certain nickel compounds" as probable human, inhalation carcinogens. Therefore, to ensure that the potential inhalation cancer risks associated with inhalation exposure to airborne nickel are not underestimated, this assessment evaluates nickel as an inhalation carcinogen.

6. Chromium

The oxidation state of chromium is a crucial issue in evaluating the toxicity of this metal and the risks associated with exposure. Hexavalent chromium (Cr^{+6}) is the most toxic valence state of chromium and has been shown to be a human carcinogen through inhalation exposure. Trivalent chromium, a commonly found less oxidized form of chromium, has not been shown to be carcinogenic in either humans or laboratory animals. U.S. EPA (1990d,e) has indicated that chromium emitted from a combustion unit is not likely to be in the hexavalent form; however, sufficient evidence does not exist to reliably estimate the partitioning of chromium emissions into these two valence states. Therefore, the worst-case assumption that 100 percent of the facility chromium emissions are in the hexavalent form is adopted.

7. Acid Gases

Exposure to acid gases may occur through the inhalation pathway. However, there are currently no U.S. EPA-verified inhalation toxicity values (e.g., RfC or SF values) for sulfur oxides or nitrogen oxides. Therefore, estimated air concentrations of these acid gases are compared in this assessment to the National Ambient Air Quality Standards (NAAQS), which were developed by U.S. EPA to be protective of human health. The NAAQS for sulfur dioxide and nitrogen dioxide are 100 $\mu g/m^3$ and 80 $\mu g/m^3$, respectively (40 CFR 50.4-50.12).

8. Particulate Matter

There are currently no RfD, RfC, or SF values for either total particles or respirable particles (generally assumed to be particles with an aerodynamic diameter equal to or less than 10 micrometers, or PM_{10}). In this assessment, estimated air concentrations of particulate matter are compared to the NAAQS. The annual average NAAQS for PM_{10} is 50 $\mu g/m^3$ (40 CFR 50.4-50.12).

C. Toxicity Assessment for Substances of Potential Concern in Fugitive Emissions

Although the general methodology for assessing the toxicity of chemicals emitted from fugitive sources does not differ from the methodology used for substances emitted from the stack, a different list of chemicals may apply to emissions from fugitive sources. As noted previously, fugitive emissions occur from two types of sources resulting in two different types of substances: volatile organic compounds (from four specific sources) and metals (in ash).

1. Fugitive Organic Chemical Emissions

Given their volatile nature, exposure to fugitive vapor emissions is expected to occur primarily through inhalation. Therefore, the relevant inhalation toxicity values (e.g., RAC, inhalation SF) are compiled from IRIS (1995) and HEAST (U.S. EPA 1994d), and are presented in Table III-4. As indicated in Table III-4, for the chemicals with potential noncancer health effects, RACs are developed from the RfCs or from oral RfDs, based on a route-to-route extrapolation, as described earlier.

2. Fugitive Ash Emissions

The evaluation of risks associated with fugitive ash emissions is conducted for exposure by inhalation and by indirect exposure pathways. The relevant inhalation and oral toxicity values for the substances identified in ash samples from the WTI facility are summarized in Table III-5.

D. Uncertainties

In the majority of risk assessments, as in this risk assessment, available scientific information is insufficient to provide a complete understanding of all the toxic properties of chemicals to which humans are potentially exposed. It is generally necessary, therefore, to infer these properties by extrapolating them from data obtained under other conditions of exposure, frequently in laboratory animals. In evaluating the toxicity of the substances considered in this assessment, a number of assumptions are made. Table III-6 summarizes the key assumptions used in this chapter. In addition to noting the key assumptions, Table

III-6 provides the basis for each assumption, and the direction and relative magnitude of the effect of each assumption on the overall estimated risks, as discussed in Volume II.

Experimental animal data have been relied upon for many years by regulatory agencies and other expert groups for assessing the hazards and safety of human exposure to chemicals. This reliance has been supported in general by empirical observations. There may be differences in chemical absorption, metabolism, excretion, and toxic response, however, between humans and the species for which experimental toxicity data are generally available. Uncertainties associated with the characterization of chemical toxicity in humans are also introduced as a result of the following (U.S. EPA 1989b):

- Using dose-response information from effects observed at relatively high exposure levels to predict effects that may occur following exposure to the much lower exposure levels expected from contact with the chemical in the environment;

- Using data from one route of exposure to predict effects from exposure via other routes;

- Using dose-response data from short-term or subchronic exposures to predict the effects following longer-term exposure; and

- Using dose-response information from homogeneous animal populations or healthy human populations to predict effects that may occur in the general population, including sensitive subpopulations.

The methods for addressing these uncertainties in the toxicological assessment for noncarcinogens and carcinogens are discussed below.

1. Uncertainties in the Characterization of the Toxicity of Carcinogens

For many substances that are carcinogenic in animals, there is uncertainty as to whether they are also carcinogenic in humans. The Office of Science and Technology Policy (OSTP 1985) has observed the following:

> "...known human carcinogens, with the single exception of arsenic, are carcinogenic in appropriately conducted studies in some animal system (arsenic has recently been reported to produce carcinomas of the respiratory tract in hamsters). This does not mean that all chemicals found carcinogenic in animals will turn out to be carcinogenic in

humans. Because of differences in the production of critical metabolites and because of other differences between species, a given carcinogen may not produce cancer in all species or in all strains of rodents."

The finding that relatively few substances are known human carcinogens may be due in part to the difficulty in conducting adequately designed epidemiologic investigations in exposed human populations. The available data in humans are derived mainly from retrospective epidemiology studies of workers exposed to multiple chemicals and at doses that can not be reliably quantified.

As with RfD and RfC values, all U.S. EPA-verified slope factors in IRIS are accompanied by a weight-of-evidence classification, which is an indication of the likelihood that the agent is a human carcinogen. This classification is based on the completeness of the evidence that the agent causes cancer in experimental animals and humans. The strength of the evidence that a carcinogen is a potential human carcinogen is strengthened by such factors as the following: (1) greater number of tissue sites affected by the agent; (2) carcinogenic response in more than one species, strain, and sex, and by multiple routes of exposure; (3) evidence of a clear-cut dose-response relationship as well as a high level of statistical significance of the increased tumor incidence in treated compared to control groups; (4) dose-related shortening of the time-to-tumor occurrence or time to death with tumor; (5) dose-related increase in the proportion of tumors that are malignant; (6) a plausible biological mechanism of tumorigenicity; (7) similar carcinogenic properties exhibited by structurally-related compounds; (8) evidence of an association between exposure to the chemical of concern and an increased tumor incidence in human populations (U.S. EPA 1989b; U.S. EPA 1986a).

Because of uncertainties associated with the measure of carcinogenic potency of a chemical in humans, U.S. EPA has adopted procedures in the calculation of slope factors that are generally conservative. For example, in the absence of data to the contrary, U.S. EPA uses the biologically acceptable data set from long-term animal studies showing the greatest sensitivity (U.S. EPA 1986a).

There are several mathematical models available to derive low-dose unit risks from high exposure levels used in experimental studies. No single model is recognized as the most appropriate for low-dose extrapolation. The model generally used by U.S. EPA is the linearized multistage model, which generally provides the most conservative estimate of risk at low doses (i.e., highest risk per unit dose). The procedure employed by U.S. EPA is also to use the 95 percent upper confidence limit on the slope of the dose-response curve estimated by the linearized multistage model. According to U.S.

EPA (1989b), use of the 95 percent upper confidence limit value, rather than the unit risk that represents the maximum likelihood estimate, provides an estimate of the upper boundary on risk. U.S. EPA (1986a) has also emphasized "that the linearized multistage model leads to a plausible upper limit to the risk that is consistent with some proposed mechanisms of carcinogenesis. Such an estimate, however, does not necessarily give a realistic prediction of the risk. The true value of the risk is unknown, and may be as low as zero."

2. Uncertainties in the Characterization of the Toxicity of Noncarcinogens

To adjust for uncertainties such as those discussed above, U.S. EPA and other regulatory agencies typically base the RfD or RfC (or other expression of the acceptable daily intake) for noncarcinogens on the most sensitive animal species, i.e., the species that experiences adverse effects at the lowest dose. This dose is then adjusted by the use of uncertainty and modifying factors to compensate for various sources of uncertainty in the underlying toxicity data. The resulting toxicity factor incorporates a substantial margin of safety, although the actual size of this safety margin cannot be quantified with any certainty.

For all verified RfD and RfCs, U.S. EPA does provide in IRIS a qualitative statement of the confidence that the evaluators have in the RfD or RfC itself, in the critical study upon which the RfD or RfC is based, and in the overall data base.

U.S. EPA guidance for hazardous waste incinerators (U.S. EPA 1989a) suggests that where a verified oral RfD has been developed by U.S. EPA but where there is no verified RfC for that substance, the RfD should be used to extrapolate to the inhalation RAC. As noted by U.S. EPA (1989a), certain limitations are introduced with such route-to-route extrapolation with respect to: "(a) the appropriateness of extrapolating when a portal of entry is the critical target organ; (b) first pass effects; and (c) the effect of the route upon dosimetry." The compounds for which this process is used to determine RACs are noted in Tables III-1, III-4, and III-5.

In general, it is expected that these assumptions will result in an overestimation of the toxicity of chemicals with noncarcinogenic effects.

3. Uncertainties Associated with Endocrine Disruptors

The term "endocrine disruptors" (sometimes referred to as "environmental hormones") applies to any number of a broad class of chemical compounds with the ability to perturb or interfere with the finely-tuned endocrine system that is fundamental to normal function and homeostasis in cells, tissues and organisms. The current concern about endocrine disruptors stems from a body of diverse historical information

and more recent findings which have been integrated into a working hypothesis. The central theme of the hypothesis is that exposure to exogenous hormone-mimetic agents that interfere with the production, release, transport, metabolism, receptor binding, action or elimination of natural blood borne hormones and ligands can potentially lead to adverse health effects, particularly effects on reproduction function.

The data that have contributed to this working hypothesis stem from a number of different disciplines. These include wildlife reproduction (feminization of birds, alligators, and certain terrestrial mammals); wildlife population ecology (population declines); human reproductive physiology (decreased sperm count in males in industrialized nations); epidemiology (observed increases in breast cancer in industrialized nations); molecular biology (receptor-mediated mode of action data); and endocrinology (increased understanding of mechanisms of hormone regulation and impacts of perturbations). These findings serve as a basis for further experimentation to determine whether the fundamental hypothesis is correct, and, if so, to what extent.

The broad definition of chemicals which could qualify as endocrine disruptors is particularly problematic for the process of risk assessment. These problems include the following: 1) reliance on limited, and in some cases conflicting, empirical data to support the designation of specific chemicals as endocrine disruptors; 2) lack of a clear structure-activity relationship among the diverse group of chemicals considered to be endocrine disruptors; 3) lack of unifying dose-response relationships among the diverse group of chemicals; and 4) existence of multiple modes of action for chemicals currently considered to be endocrine disruptors.

Given the current limited state-of-the-science, it is premature to attempt to evaluate the potential risks from human exposure to chemicals from the standpoint of endocrine disruption. Therefore, the U.S. EPA has not yet developed a methodology for the quantitative assessment of risks due to exposures to potential endocrine disruptors.

TABLE III-1 Summary of Inhalation and Oral Toxicity Values				
Substance	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg/kg-day)	*Slope Factor $(mg/kg\text{-}day)^{-1}$
PICs and Residual Organic Compounds				
Acenaphthene	53[g]	NA	6.0×10^{-2}	NA
Acenaphthylene	NL	NL	NL	NL
Acetaldehyde	2.3	7.7×10^{-3}	NL	NA
Acetone	88[g]	NA	1.0×10^{-1}	NA
Acetophenone	88[g]	NA	1.0×10^{-1}	NA
Acrolein	0.005	NA	NA	NA
Acrylonitrile	0.5	2.4×10^{-1}	1.0×10^{-3}	5.4×10^{-1}
Anthracene	260[g]	NA	3.0×10^{-1}	NA
Benzaldehyde	88[g]	NA	1.0×10^{-1}	NA
Benzene	1.5[a]	2.9×10^{-2}	NA	2.9×10^{-2}
Benzoic acid	3,500[g]	NA	4.0	NA
Benzo(a)anthracene	NA	NA	NA	7.3×10^{-1}
Benzo(a)pyrene	NA	NA	NA	7.3
Benzo(b)fluoranthene	NA	NA	NA	7.3×10^{-1}
Benzo(e)pyrene	NL	NL	NL	NL
Benzo(g,h,i)perylene	NA	NA	NA	NA
Benzo(j)fluoranthene	NL	NL	NL	NL
Benzo(k)fluoranthene	NA	NA	NA	7.3×10^{-2}
Benzotrichloride	NA	NA	NA	13
Benzyl chloride	NA	NA	NA	1.7×10^{-1}
Biphenyl	44[g]	NA	5.0×10^{-2}	NA
Bis(2-chloroethoxy) methane	NA	NA	NA	NA
Bis(2-chloroethyl)ether	NA	1.1	NA	1.1
Bis(2-chloroisopropyl)ether	35[g]	NA	4.0×10^{-2}	NA
Bis(2-ethylhexyl)phthalate	18[g]	NA	2.0×10^{-2}	1.4×10^{-2}
Bromochloromethane	NA	NA	NA	NA
Bromodichloromethane	18[g]	NA	2.0×10^{-2}	6.2×10^{-2}
Bromoethene	0.75	1.1×10^{-1}	NA	NA
Bromoform	18[g]	3.9×10^{-3}	2.0×10^{-2}	7.9×10^{-3}
Bromomethane	1.3	NA	1.4×10^{-3}	NA
Bromodiphenylether, p-	NA	NA	NA	NA
Butadiene, 1,3-	NA	1.8	NA	NA

TABLE III-1 (continued)
Summary of Inhalation and Oral Toxicity Values

Substance	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg/kg-day)	Slope Factor $(mg/kg\text{-}day)^{-1}$
Butanone, 2- (MEK)	250	NA	6×10^{-1}	NA
Butylbenzylphthalate	180[g]	NA	2.0×10^{-1}	NA
Carbon disulfide	2.5	NA	1.0×10^{-1}	NA
Carbon tetrachloride	0.5[a]	5.3×10^{-2}	7.0×10^{-4}	1.3×10^{-1}
Chlordane	0.053[g]	1.3	6.0×10^{-5}	1.3
Chloro-3-methylphenol, 4-	NL	NL	NL	NL
Chloroacetophenone, 2-	0.0075	NA	NA	NA
Chloroaniline, p-	3.5[g]	NA	4.0×10^{-3}	NA
Chlorobenzene	5.0	NA	2.0×10^{-2}	NA
Chlorobenzilate	18[g]	2.7×10^{-1}	2.0×10^{-2}	2.7×10^{-1}
Chloroethane	2,500	NA	NA	NA
Chloroform	8.8[g]	8.1×10^{-2}	1.0×10^{-2}	6.1×10^{-3}
Chloromethane	NA	6.3×10^{-3}	NA	1.3×10^{-2}
Chloronaphthalene, beta	70[g]	NA	8.0×10^{-2}	NA
Chlorophenol, 2-	4.4[g]	NA	5.0×10^{-3}	NA
Chlorodiphenyl ether, 4-	NL	NL	NL	NL
Chloropropane, 2-	25	NA	NA	NA
Chrysene	NA	NA	NA	7.3×10^{-3}
Cresol, m-	44[g]	NA	5.0×10^{-2}	NA
Cresol, o-	44[g]	NA	5.0×10^{-2}	NA
Cresol, p-	4.4[g]	NA	5.0×10^{-3}	NA
Crotonaldehyde	NA	NA	NA	1.9
Cumene	2.3	NA	4×10^{-2}	NA
D, 2,4-	8.8[g]	NA	1.0×10^{-2}	NA
DDE, 4,4'-	NA	NA	NA	3.4×10^{-1}
Dibenz(a,h)anthracene	NA	NA	NA	7.3
Dibenz(a,h)fluoranthene	NL	NL	NL	NL
Dibromo-3-chloropropane, 1,2-	0.05	2.4×10^{-3}	NA	1.4
Dibromochloromethane	18[g]	NA	2.0×10^{-2}	8.4×10^{-2}
Dichloro-2-butene[b], cis-1,4-	NA	9.3	NA	NA
Dichloro-2-butene[b], trans-1,4-	NA	9.3	NA	NA
Dichlorobenzene, 1,2-	50	NA	9×10^{-2}	NA
Dichlorobenzene, 1,3-	NA	NA	NA	NA
Dichlorobenzene, 1,4-	200	NA	NA	2.4×10^{-2}

TABLE III-1 (continued)
Summary of Inhalation and Oral Toxicity Values

Substance	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg/kg-day)	Slope Factor $(mg/kg\text{-}day)^{-1}$
Dichlorobenzidine, 3,3'-	NA	NA	NA	4.5×10^{-1}
Dichlorobiphenyl	NA	NA	NA	7.7[c]
Dichlorodifluoromethane	50	NA	2×10^{-1}	NA
Dichloroethane, 1,1-	130	NA	1.0×10^{-1}	NA
Dichloroethane, 1,2-	NA	9.1×10^{-2}	NA	9.1×10^{-2}
Dichloroethene, 1,1-	7.9[g]	1.2	9.0×10^{-3}	6×10^{-1}
Dichloroethene, trans-1,2-	18[g]	NA	2.0×10^{-2}	NA
Dichlorofluoromethane	NL	NL	NL	NL
Dichlorophenol, 2,4-	2.6[g]	NA	3.0×10^{-3}	NA
Dichloropropane, 1,2-	1.0	NA	NA	6.8×10^{-2}
Dichloropropene[b], cis-1,3-	5.0	1.3×10^{-1}	3.0×10^{-4}	1.8×10^{-1}
Dichloropropene[b], trans-1,3-	5.0	1.3×10^{-1}	3.0×10^{-4}	1.8×10^{-1}
Diethylphthalate	700[g]	NA	8.0×10^{-1}	NA
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.4×10^{-2}
Dimethylphenol, 2,4-	18[g]	NA	2.0×10^{-2}	NA
Dimethylphthalate	NA	NA	NA	NA
Di-n-butylphthalate	88[g]	NA	1.0×10^{-1}	NA
Di-n-octylphthalate	18[g]	NA	2.0×10^{-2}	NA
Dinitrotoluene, 2,6-	0.88[g]	NA	1.0×10^{-3}	6.8×10^{-1}
Dinitro-2-methylphenol, 4,6-	NL	NL	NL	NL
Dinitrobenzene, 1,2-	0.35[g]	NA	4.0×10^{-4}	NA
Dinitrobenzene, 1,3-	0.088[g]	NA	1.0×10^{-4}	NA
Dinitrobenzene, 1,4-	0.35[g]	NA	4.0×10^{-4}	NA
Dinitrophenol, 2,4-	1.8[g]	NA	2.0×10^{-3}	NA
Dinitrotoluene, 2,4-	1.8[g]	NA	2.0×10^{-3}	6.8×10^{-1}
Dioxane, 1,4-	NA	NA	NA	1.1×10^{-2}
Ethyl methacrylate	79[g]	NA	9.0×10^{-2}	NA
Ethylbenzene	250	NA	1.0×10^{-1}	NA
Ethylene dibromide	0.05	7.6×10^{-1}	NA	85
Ethylene oxide	NA	3.5×10^{-1}	NA	1.0
Ethylene thiourea	0.07[g]	NA	8.0×10^{-5}	1.1×10^{-1}
Fluoranthene	35[g]	NA	4.0×10^{-2}	NA
Fluorene	35[g]	NA	4.0×10^{-2}	NA
Formaldehyde	180[g]	4.5×10^{-2}	2.0×10^{-1}	NA

TABLE III-1 (continued)
Summary of Inhalation and Oral Toxicity Values

Substance	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg/kg-day)	Slope Factor $(mg/kg\text{-}day)^{-1}$
Furfural	13	NA	3.0×10^{-3}	NA
Heptachlor	0.44[g]	4.5	5.0×10^{-4}	4.5
Heptachlorobiphenyl	NA	NA	NA	7.7[c]
Hexachlorobenzene	0.7[g]	1.6	8.0×10^{-4}	1.6
Hexachlorobiphenyl	NA	NA	NA	7.7[c]
Hexachlorobutadiene	0.18[g]	7.8×10^{-2}	2.0×10^{-4}	7.8×10^{-2}
Hexachlorocyclohexane, alpha-	NA	6.3	NA	6.3
Hexachlorocyclohexane, beta-	NA	1.8	NA	1.8
Hexachlorocyclohexane, gamma- (Lindane)	0.26[g]	NA	3.0×10^{-4}	1.3
Hexachlorocyclopentadiene	0.018	NA	7.0×10^{-3}	NA
Hexachloroethane	0.88[g]	1.4×10^{-2}	1.0×10^{-3}	1.4×10^{-2}
Hexachlorophene	0.26[g]	NA	3.0×10^{-4}	NA
Hexane, n-	50	NA	6.0×10^{-2}	NA
Hexanone, 2-	NL	NL	NL	NL
Hexanone, 3-	NL	NL	NL	NL
Indeno(1,2,3-cd)pyrene	NA	NA	NA	7.3×10^{-1}
Isophorone	180[g]	NA	2.0×10^{-1}	9.5×10^{-4}
Maleic hydrazide	440[g]	NA	5.0×10^{-1}	NA
Methoxychlor	4.4[g]	NA	5.0×10^{-3}	NA
Methylene bromide	8.8[g]	NA	1.0×10^{-2}	NA
Methylene chloride	750	1.6×10^{-3}[d]	6.0×10^{-2}	7.5×10^{-3}
Methylnaphthalene, 2-	NL	NL	NL	NL
Methyl-2-pentanone, 4- (MIBK)	20	NA	8×10^{-2}	NA
Methyl-tert-butyl ether	750	NA	NA	NA
Monochlorobiphenyl	NA	NA	NA	7.7[c]
Naphthalene	35	NA	4×10^{-2}	NA
Nitroaniline, 2-	0.05	NA	NA	NA
Nitroaniline, 3-	NL	NL	NL	NL
Nitroaniline, 4-	NL	NL	NL	NL
Nitrobenzene	0.5	NA	5.0×10^{-4}	NA
Nitrophenol, 2-	NL	NL	NL	NL
Nitrophenol, 4-	NL	NL	NL	NL
N-Nitroso-di-n-butylamine	NA	5.4	NA	5.4

TABLE III-1 (continued)
Summary of Inhalation and Oral Toxicity Values

Substance	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg/kg-day)	Slope Factor $(mg/kg\text{-}day)^{-1}$
N-Nitroso-di-n-propylamine	NA	NA	NA	7.0
N-Nitrosodiphenylamine	NA	NA	NA	4.9×10^{-3}
Nonachlorobiphenyl	NA	NA	NA	7.7[c]
Octachlorobiphenyl	NA	NA	NA	7.7[c]
Pentachlorobenzene	NA	NA	8.0×10^{-4}	NA
Pentachlorobiphenyl	NA	NA	NA	7.7[c]
Pentachloronitrobenzene	2.6[g]	NA	3.0×10^{-3}	2.6×10^{-1}
Pentachlorophenol	26[g]	NA	3.0×10^{-2}	1.2×10^{-1}
Phenanthrene	NA	NA	NA	NA
Phenol	530[g]	NA	6.0×10^{-1}	NA
Phosgene	NL	NL	NL	NL
Propionaldehyde	NL	NL	NL	NL
Pyrene	26[g]	NA	3.0×10^{-2}	NA
Quinoline	NA	NA	NA	12
Quinone	NL	NL	NL	NL
Safrole	NL	NL	NL	NL
Styrene	250	NA	2.0×10^{-1}	NA
Tetrachlorobenzene, 1,2,4,5-	0.26[g]	NA	3.0×10^{-4}	NA
Tetrachlorobiphenyl	NA	NA	NA	7.7[c]
Tetrachloroethane, 1,1,1,2-	26[g]	2.6×10^{-2}	3.0×10^{-2}	2.6×10^{-2}
Tetrachloroethane, 1,1,2,2-	NA	2.0×10^{-1}	NA	2.0×10^{-1}
Tetrachloroethene	8.8[g]	2.0×10^{-3}[f]	1.0×10^{-2}	5.2×10^{-2}[f]
Tetrachlorophenol, 2,3,4,6-	26[g]	NA	3.0×10^{-2}	NA
Toluene	100	NA	2.0×10^{-1}	NA
Toluidine, o-	NA	NA	NA	2.4×10^{-1}
Toluidine, p-	NA	NA	NA	1.9×10^{-1}
Trichloro-1,2,2-TFE, 1,1,2-	7,500	NA	3.0×10^{1}	NA
Trichlorobenzene, 1,2,4-	50	NA	1.0×10^{-2}	NA
Trichlorobiphenyl	NA	NA	NA	7.7[c]
Trichloroethane, 1,1,1-	250[f]	NA	NA	NA
Trichloroethane, 1,1,2-	3.5[g]	5.7×10^{-2}	4.0×10^{-3}	5.7×10^{-2}
Trichloroethene	NA	6.0×10^{-3}[f]	NA	1.1×10^{-2}[f]
Trichlorofluoromethane	180	NA	3×10^{-1}	NA
Trichlorophenol, 2,4,5-	88[g]	NA	1.0×10^{-1}	NA

TABLE III-1 (continued)
Summary of Inhalation and Oral Toxicity Values

Substance	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg/kg-day)	Slope Factor $(mg/kg\text{-}day)^{-1}$
Trichlorophenol, 2,4,6-	NA	1.0×10^{-2}	NA	1.1×10^{-2}
Trichloropropane, 1,2,3-	5.3[g]	NA	6.0×10^{-3}	7.0
Vinyl acetate	50	NA	1.0	NA
Vinyl chloride	NA	3.0×10^{-1}	NA	1.9
Xylene, m-	1,800[g]	NA	2.0	NA
Xylene, o-	1,800[g]	NA	2.0	NA
Xylene, p-	NA	NA	NA	NA
Dioxin and Furan Congeners				
2,3,7,8-TCDD	NA	1.5×10^{5}	NA	1.5×10^{5}
1,2,3,7,8-PeCDD	NA	7.5×10^{4}	NA	7.5×10^{4}
1,2,3,4,7,8-HxCDD	NA	1.5×10^{4}	NA	1.5×10^{4}
1,2,3,6,7,8-HxCDD	NA	1.5×10^{4}	NA	1.5×10^{4}
1,2,3,7,8,9-HxCDD	NA	1.5×10^{4}	NA	1.5×10^{4}
1,2,3,4,6,7,8-HpCDD	NA	1.5×10^{3}	NA	1.5×10^{3}
OCDD	NA	1.5×10^{2}	NA	1.5×10^{2}
2,3,7,8-TCDF	NA	1.5×10^{4}	NA	1.5×10^{4}
1,2,3,7,8-PeCDF	NA	7.5×10^{3}	NA	7.5×10^{3}
2,3,4,7,8-PeCDF	NA	7.5×10^{4}	NA	7.5×10^{4}
1,2,3,4,7,8-HxCDF	NA	1.5×10^{4}	NA	1.5×10^{4}
1,2,3,6,7,8-HxCDF	NA	1.5×10^{4}	NA	1.5×10^{4}
2,3,4,6,7,8-HxCDF	NA	1.5×10^{4}	NA	1.5×10^{4}
1,2,3,7,8,9-HxCDF	NA	1.5×10^{4}	NA	1.5×10^{4}
1,2,3,4,6,7,8-HpCDF	NA	1.5×10^{3}	NA	1.5×10^{3}
1,2,3,4,7,8,9-HpCDF	NA	1.5×10^{3}	NA	1.5×10^{3}
OCDF	NA	1.5×10^{2}	NA	1.5×10^{2}
Metals				
Aluminum	NA	NA	NA	NA
Antimony	0.35[g]	NA	4.0×10^{-4}	NA
Arsenic	0.26[g]	50	3.0×10^{-4}	1.75[d]
Barium	0.13	NA	7.0×10^{-2}	NA
Beryllium	4.4[g]	8.4	5.0×10^{-3}	4.3
Cadmium	0.44[g]	6.1	5.0×10^{-4}	NA
Chromium (hexavalent)	4.4[g]	41	5.0×10^{-3}	NA

TABLE III-1 (continued)
Summary of Inhalation and Oral Toxicity Values

Substance	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg/kg-day)	Slope Factor $(mg/kg\text{-}day)^{-1}$
Chromium (trivalent)	880[g]	NA	1.0	NA
Copper	NA	NA	NA	NA
Lead	NA	NA	NA	NA
Mercury	0.075	NA	3.0×10^{-4}	NA
Methylmercury[i]	0.075[g]	NA	3.0×10^{-4}	NA
Nickel	18[g]	0.84	2.0×10^{-2}	NA
Selenium	4.4[g]	NA	5.0×10^{-3}	NA
Silver	4.4[g]	NA	5.0×10^{-3}	NA
Thallium[e]	0.061[g]	NA	7.0×10^{-5}	NA
Zinc	260[g]	NA	3.0×10^{-1}	NA
Acid Gases and Particulate Matter				
Hydrogen chloride	1.8	NA	NA	NA
Total nitrogen oxides (NOx)	NL	NL	NL	NL
Total sulfur oxides (SOx)	NL	NL	NL	NL
Particulate matter	NL	NL	NL	NL
Respirable particulates	NL	NL	NL	NL

Notes:
All values from IRIS or HEAST unless otherwise noted
a - On recommendation from EPA, ECAO (provisional)
b - Value for mixed isomers
c - Value for PCBs, in general
d - Calculated from unit risk
e - Value for thallic oxide (highest potency salt)
f - Superfund Health Risk Technical Support Center per HEAST.
g - RAC estimated based on route-to-route extrapolation from RfD.

CDD - chlorodibenzo-p-dioxin
CDF - chlorodibenzofuran
RfD - reference dose
RAC - reference air concentration, estimated to be 25% of the RfC
TFE - trifluoroethane
MIBK - methyl isobutyl ketone
MEK - methyl ethyl ketone
NA - data not available for EPA to make a quantitative assessment
NL - compound not listed in IRIS or HEAST

h - In this assessment, concentrations of these substances are compared to NAAQS: 100 $\mu g/m^3$ for nitrogen dioxide; 80 $\mu g/m^3$ for sulfur dioxide; and 50 $\mu g/m^3$ for PM_{10}.
i - Although methylmercury is referred to as an "organic" form of mercury, it is classified in this table, and in this assessment, with the metals.

TABLE III-2
Toxicity Equivalence Factors (TEFs) for Dioxins and Furans[a]

Congener	TEF
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF	0.05 0.5
1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Notes:
a - U.S. EPA 1994b
CDD - chlorodibenzo-p-dioxin
CDF - chlorodibenzofuran

TABLE III-3
Relative Potency of Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs)

Polycyclic Aromatic Hydrocarbon	Relative Potency
Benzo[a]pyrene	1
Benzo[a]anthracene	0.1
Benzo[b]fluoranthene	0.1
Benzo[k]fluoranthene	0.1
Chrysene	0.01
Dibenzo[a,h]anthracene	1
Indeno[1,2,3-cd]pyrene	0.1

Reference: U.S. EPA 1993c

TABLE III-4
Summary of Inhalation Toxicity Values for Substances of Potential Concern (Fugitive Vapor Emissions)

Substance of Potential Concern	Inhalation Slope Factor $(mg/kg\text{-}day)^{-1}$	RAC $(\mu g/m^3)$
Organic Compounds		
Acetone	NA	88[a]
Acetonitrile	NA	13
Acetophenone	NA	88[a]
Acetylaminofluorene, 2-	NL	NL
Acrylonitrile	0.24	0.50
Alcohols	NL	NL
Aliphatic hydrocarbons	NL	NL
Aniline	NA	0.25
Benzene	0.029	NA
Benzenedicarboxylic acid, 1,2-	NA	880[a]
Benzidine	230	2.6[a]
Benzoquinone, p-	NL	NL
Benzo(a)pyrene	NA	NA
Butanol	NA	88
Butanone, 2-	NA	250
Butyl acetate	NA	44[a]
Calcium chromate	NL	NL
Carbon	NL	NL
Carbon disulfide	NA	2.5
Carbon tetrachloride	0.053	0.50[a]
Chlorobenzene	NA	5.0
Chloroform	0.081	8.8[a]
Chlorinated paraffin, oil, wax	NL	NL
Chrysene	NA	NA
Creosote (coal tar)	NL	NL
Cresol	NA	4.4[a]
Crotonaldehyde	NA	NA
Cumene	NA	2.3
Cyclohexane	NL	NL
Cyclohexanone	NA	4400[a]

TABLE III-4 (continued) Summary of Inhalation Toxicity Values for Substances of Potential Concern (Fugitive Vapor Emissions)		
Substance of Potential Concern	**Inhalation Slope Factor (mg/kg-day)$^{-1}$**	**RAC (μg/m^3)**
Dibenz(a,h)anthracene	NA	NA
Dibromoethane, 1,2-	0.76	0.05
Dichlorobenzene	NA	50
Dichlorodifluoroethane	NL	NL
Dichlorodifluoromethane	NA	50
Dichloroethane, 1,1-	0.091	120
Dichloroethene	1.2	7.9[a]
Diethyl stilbestrol	490	NA
Diethylphthalate	NA	700[a]
Dimethyl sulfate	NA	NA
Dimethylamine	NL	NL
Dimethylbenzidine, 3,3'-	NA	NA
Dimethylhydrazine	NA	NA
Dimethylphenol, 2,6-	NA	0.53[a]
Dimethylphthalate	NA	NA
Dinitrotoluene	NA	0.88[a]
Dioxane, 1,4-	NA	NA
Epichlorohydrin	0.0042	1.8[a]
Ethanol	NL	NL
Ethoxyethanol, 2-	NA	50[a]
Ethyl acrylate	NA	NA
Ethylbenzene	NA	250
Fluoranthene	NA	35[a]
Formaldehyde	0.045	180[a]
Formic acid	NA	1,800[a]
Furfural	NA	13
Heptane	NL	NL
Hydrazine	17	NA
Indeno(1,2,3-cd)pyrene	0.73	NA
Isobutanol	NA	250[a]
Isopropanol	NL	NL

TABLE III-4 (continued) Summary of Inhalation Toxicity Values for Substances of Potential Concern (Fugitive Vapor Emissions)		
Substance of Potential Concern	**Inhalation Slope Factor (mg/kg-day)$^{-1}$**	**RAC (μg/m^3)**
Isosafrole	NL	NL
Maleic anhydride	NA	88[a]
Methanol	NA	440[a]
Methyl methacrylate	NA	70[a]
Methylbutadiene, 1-	NL	NL
Methylcholanthrene, 3-	NL	NL
Methyl isobutyl ketone	NA	20
Naphthalene	NA	35
Naphthylamine, 1-	NL	NL
Naphthylamine, 2-	NL	NL
Nitrobenzene	NA	0.50
Nitrophenol, 4-	NL	NL
Nitropropane, 2-	9.4	5.0
N-nitrosodiethanolamine	NA	NA
N-nitrosodiethylamine	150	NA
N-nitrosodi-n-butylamine	5.4	NA
N-nitrosopyrolidine	2.1	NA
Phenol	NA	530[a]
Phthalic anhydride	NA	30
Picoline, 2-	NA	NL
Pyridine	NA	0.88[a]
Resorcinol	NL	NL
Tetrachlorobenzene, 1,2,4,5-	NA	0.26[a]
Tetrachloroethane, 1,1,1,2-	0.20	26[a]
Tetrachloroethene	0.052	8.8[a]
Tetrahydofuran	NL	NL
Toluene	NA	100
Toluene diisocyanate	NL	NL
Toluenediamine	NA	175
Trichloro-1,2,2,-trifluoroethane, 1,1,2-	NA	7,500
Trichlorobenzene	NA	50

TABLE III-4 (continued)
Summary of Inhalation Toxicity Values for Substances of Potential Concern
(Fugitive Vapor Emissions)

Substance of Potential Concern	Inhalation Slope Factor $(mg/kg\text{-}day)^{-1}$	RAC $(\mu g/m^3)$
Trichloroethane, 1,1,1-	NA	250
Trichloroethene	0.011	NA
Trichlorofluoromethane	NA	175
Xylene	NA	1,800[a]

Notes:
Values derived from IRIS and HEAST
RAC - reference air concentration, estimated to be 25% of the RfC.
NA - data not available for EPA to make a quantitative assessment
NL - compound not listed in IRIS or HEAST
a - RAC estimated based on route-to-route extrapolation from RfD.

TABLE III-5
Summary of Inhalation and Oral Toxicity Values for Metals of Potential Concern
(Fugitive Ash Emissions)

Metal/Inorganic Compound	Inhalation		Oral	
	RAC ($\mu g/m^3$)	Slope Factor $(mg/kg\text{-}day)^{-1}$	RfD (mg-kg-day)	Slope Factor $(mg/kg\text{-}day)^{-1}$
Arsenic	0.26[a]	50	3.0×10^{-4}	1.75[b]
Barium	0.13	NA	7.0×10^{-2}	NA
Cadmium	0.44[a]	6.1	5.0×10^{-4}	NA
Lead	NA	NA	NA	NA
Nickel	18[a]	0.84	2.0×10^{-2}	NA
Selenium	4.4[a]	NA	5.0×10^{-3}	NA
Silver	4.4[a]	NA	5.0×10^{-3}	NA
Cyanide	18[a]	NA	2.0×10^{-2}	NA

Notes:
All values from IRIS or HEAST unless otherwise noted
a - RAC estimated based on route-to-route extrapolation from RfD.
b - Calculated from unit risk

TABLE III-6
Key Assumptions for Chapter III
(Toxicity Assessment)

Assumption	Basis	Magnitude of Effect	Direction of Effect
The following assumptions are implied in using EPA toxicity values in the assessment: - The chemical toxicity values in IRIS and HEAST are accurate - A "no-threshold" assumption has been applied for exposure to carcinogens - The SF is based on the upper 95% confidence limit based on the linearized multistage model - A "threshold" assumption has been applied for exposure to chemicals with non-carcinogenic affects - The RfD is related to the NOAEL or LOAEL by uncertainty factors - Oral values apply for dermal exposures	Toxicity values presented in IRIS and HEAST reflect EPA's conservative assessment of the available data and include safety factors as appropriate.	low to medium	overestimate
RACs are developed from oral RfDs when RfCs are not available	It is conservative to assume that oral data apply when there is a lack of data for the inhalation route.	low	overestimate
Nickel is evaluated for both carcinogenic and noncarcinogenic effects	A conservative assumption because there is no direct evidence that the forms of nickel expected to be emitted from hazardous waste combustion units are carcinogenic. IARC and U.S. EPA, however, both recognize that certain forms of nickel could be carcinogenic by the inhalation route.	low	overestimate
Dioxin-like compounds are assigned cancer slope factors based on the TEF scheme	The internationally accepted approach is used in this assessment.	low	overestimate
The cancer slope factors of PAHs are assigned based on a relative potency scheme	EPA (1993c) interim guidance based on results in a group of carcinogenicity studies in animals.	low	overestimate

TABLE III-6 (continued)
Key Assumptions for Chapter III
(Toxicity Assessment)

Assumption	Basis	Magnitude of Effect	Direction of Effect
NAAQS are protective of human health	NAAQS have been developed by EPA using conservative assumptions to ensure they would be protective of human health.	low	overestimate

Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten

IV. SELECTION OF SURROGATE CHEMICALS

A. Selection of Chemicals in Stack Emissions to Evaluate in the Risk Assessment

As identified in the preceding chapters, almost 200 organic compounds are identified that could potentially be released from the incinerator stack. Human health risks associated with direct inhalation of each of these compounds are quantitatively evaluated in the HHRA. In order to focus the assessment of risks from indirect pathways of exposure, a subset of the organic compounds listed in Table I-1 is selected that are predicted to contribute most of the risks. This subset of compounds, referred to as the "surrogate organic chemicals", is the subject of further quantitative evaluation.

In assessing the risks associated with indirect exposure to organic compounds emitted from the stack, the selection of surrogate chemicals focuses on the organic residues and PICs that are highly toxic and have the greatest potential to accumulate in environmental media. Surrogate organic chemicals are selected based on the following factors:

Emission Rate - as reflected by data collected during trial burns and performance tests at the WTI facility, as estimated earlier;

Toxicity - considering both carcinogenic and noncarcinogenic effects; and

Bioaccumulation Potential - based on the octanol/water partition coefficient, K_{ow}, a measure of a chemical's likelihood to bioaccumulate.

The surrogate chemicals selection process consists of two steps and is in general agreement with the most recent U.S. EPA guidance for conducting risk assessments at RCRA hazardous waste combustion units (U.S. EPA 1994a), with the following deviation. K_{ow} is used in the selection process instead of log K_{ow}, to be consistent with the bioaccumulation equations in the fate and transport modeling. The use of K_{ow} will lead to the selection of chemicals that are the most likely to bioaccumulate, and therefore, present the greatest significance in the indirect risk assessment. Chemicals that are selected by this approach may be further evaluated for their persistence and bioaccumulation potential in environmental media and the food chain. The factors to be evaluated would include the potential for

biodegradation, absorption, metabolism, and excretion. The following steps outline the methodology used in the surrogate chemical selection process.

Step 1: Selection of Surrogates on the Basis of Quantity, Carcinogenic Potency, and Bioaccumulation Potential

In Step 1, 17 dioxin and furan congeners and 174 organic residues and PICs are ranked on the basis of estimated quantity emitted, carcinogenic potency, and bioaccumulation potential, as determined by the following equation:

$$QCB = (ER)(SF)(K_{ow}) \qquad \text{(IV-1)}$$

where:

QCB	=	quantity/carcinogenic potency/bioaccumulation potential score
ER	=	estimated emission rate
SF	=	slope factor (oral or inhalation, whichever is higher [to be conservative])
K_{ow}	=	octanol-water partition coefficient, which is related to a chemical's bioaccumulation potential in milk, meat, and fish.

Average emission rates in the above equation for the dioxin and furan congeners and PICs are estimated as described in Volume III. Emission rates are not available for 31 compounds; consequently, these compounds are not evaluated in this assessment.

Chemical-specific values for the octanol-water partition coefficient, K_{ow}, used in the above equation are obtained from the literature. K_{ow} values reported in the scientific literature often vary (sometimes by more than an order of magnitude) from one source to another, depending on the methodology used to derive the value. Therefore, the selection of K_{ow} values used in calculating QCB scores is conducted using the following sources. For the dioxin and furan congeners and chlorinated biphenyls, K_{ow} values are obtained from the report, *Estimating Exposure to Dioxin-Like Compounds* (U.S. EPA 1994b). For the PICs, the U.S. EPA document titled: *Internal Report on Summary of Measured, Calculated and Recommended Log K_{ow} Values* (U.S. EPA 1995b) is used as the primary source of K_{ow} values. The K_{ow} values recommended in this document are used in the HHRA. K_{ow} values are not available in this source for 29 compounds, so other sources are relied upon, including Howard (1993), the National Library of Medicine's Hazardous Substance Data Bank (HSDB), U.S. EPA (1990f), Verschueren (1983), and Montgomery and Welkom (1990). For chemicals that have multiple K_{ow}

values listed in these sources, the maximum value is conservatively applied in this assessment. It should be noted that a K_{ow} value could not be found in the literature for dibenzo(a,h)fluoranthene. This chemical, therefore, is not evaluated in this assessment. The log K_{ow} values used in this assessment are presented in Appendix V-1.

Slope factors, obtained from the U.S. EPA Integrated Risk Information System (IRIS) and HEAST (U.S. EPA 1994d) data bases, are listed in Table III-1. Chemicals for which slope factors are not available from these sources are not considered in this step. Of the chemicals considered, slope factors are not available for 77 compounds (the absence of slope factors indicates that these compounds have not exhibited carcinogenic effects in toxicity studies or not enough data were available for U.S. EPA to derive cancer toxicity values). These compounds may have noncarcinogenic effects and are included in Step 2. A tabulation of the emission rates, slope factors, and K_{ow} values used in estimating QCB scores is presented in Appendix V-2. (Appendix V-2 does not include the 31 compounds for which emission rates are not available.)

The 65 PICs and 17 dioxins/furans for which slope factors were available are ranked on the basis of QCB score and 8 surrogate organic compounds (plus 17 dioxin/furan congeners) are selected for evaluation in the HHRA. As can be seen from Table IV-1, which shows the chemicals with the highest QCB scores, the dioxin and furan congeners account for approximately 95% of the total QCB score. Additionally, the 17 dioxin and furan congeners and 8 organic PICs that are retained by the screen incorporate approximately 99.8% of the total QCB score. The cutoff criterion is selected to ensure all the dioxin and furan congeners are included. It should be noted, however, that of the eight surrogate organic compounds selected, only one, bis(2-ethylhexyl)phthalate, was detected during the August 1994 PIC testing.

In addition to the compounds selected on the basis of the QCB score, two PCBs, tetrachlorobiphenyl and hexachlorobiphenyl, are included for quantitative evaluation in the HHRA to represent PCB compounds that have high bioaccumulation potential.

Step 2: Selection of Surrogates on the Basis of Quantity, Noncarcinogenic Toxicity, and Bioaccumulation Potential

In Step 2, organic chemicals are ranked on the basis of quantity, noncarcinogenic toxicity, and bioaccumulation potential, as determined using the following equation:

$$QNB = (ER)(K_{ow})/RfD \qquad \text{(IV-2)}$$

where:

QNB	=	quantity/non-cancer toxicity/bioaccumulation potential score
ER	=	emission rate
K_{ow}	=	octanol-water partition coefficient, which is related to a chemical's bioaccumulation potential in milk, meat, and fish
RfD	=	reference dose (oral or inhalation, whichever is smaller to be conservative).

RfD values, obtained from IRIS and HEAST (U.S. EPA 1994d) data bases, are listed in Table III-1 and in Appendix V-2. The 72 chemicals (this includes the 17 dioxins/furans) for which RfD values are not available are not included in this step. Emission rates and K_{ow} values are estimated using the methods described earlier.

The results of Step 2 for the 87 chemicals with RfD values are presented in Table IV-2. A cutoff of 99% of the total QNB score is used, resulting in five chemicals being retained on the basis of emission rate, toxicity, and bioaccumulation potential. With the exception of bis(2-ethylhexyl)phthalate, none of the surrogate chemicals selected on the basis of QNB score were detected in the August 1994 PIC testing at the WTI facility.

Carbon tetrachloride is also retained for evaluation in the HHRA since it is the next highest ranked compound (based on QNB score) that was actually detected in the August 1994 PIC testing. Table IV-3 contains a listing of all chemicals to be evaluated in the indirect risk assessment.

In summary, 8 surrogate organic compounds and 17 dioxin/furan congeners are selected for evaluation on the basis of QCB score. Two PCBs (tetrachlorobiphenyl and heptachlorobiphenyl) are selected on the basis of bioaccumulation potential. Five chemicals are selected on the basis of QNB score [bis(2-ethylhexyl)phthalate appears on both the QCB and QNB lists]. In addition, carbon tetrachloride is added to the QNB list to provide another chemical that was actually detected in PIC testing. The list of surrogate organic compounds evaluated in the HHRA is shown in Table IV-3. All of the metals for which toxicity data are available (see Table III-1) are included in Table IV-3. Appendix V-2 provides a list of the organic compounds (142 organic compounds and 17 dioxins/furans) considered in the assessment for which emission rates or K_{ow} values are available. The emission rates, slope factors, reference doses, and octanol-water coefficients used in calculating the QCB and QNB scores are also presented in Appendix V-2.

It should be noted that once a surrogate organic chemical is selected, it is evaluated in the HHRA for both cancer and noncancer toxicity, regardless of the basis of its selection

(i.e., chemicals selected on the basis of carcinogenic potential are also evaluated for noncancer effects, if noncancer toxicity values are available. Similarly, chemicals selected on the basis of noncancer toxicity are also evaluated for carcinogenic potential, if cancer toxicity values are available).

B. Partitioning of Emissions Between the Vapor and Particle Phases

As discussed in Volume III, stack gas from the WTI incinerator contains substances present in either the vapor phase or as particles. When the stack gas is emitted to the atmosphere, vapor-phase substances will either remain in the vapor phase or adsorb onto particles present in the gas stream. The methodology for predicting this partitioning is described in Volume III. This methodology is applied to the dioxin/furan compounds, the surrogate organic chemicals selected in the previous sections of this chapter, and mercury.

The fraction of organic chemicals that adsorbs to particles is estimated using the equations in Volume III and is presented in Table IV-4 for the dioxin and furan congeners, mercury, and the surrogate organic chemicals representing PIC and residual organic compounds emissions from the stack (also see Appendix V-3). The polycyclic aromatic hydrocarbons dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene, which have very low vapor pressures (i.e., less than 10^{-10} mm Hg), and all the metals, with the exception of mercury, are assumed to be present entirely as particles.

C. Selection of Chemicals to Evaluate in Fugitive Emissions Analysis

Residents in the immediate vicinity of the WTI facility may be exposed to fugitive emissions of volatile organic compounds from the site. Fugitive chemicals are primarily volatile constituents present in the waste feed that are released during waste handling and processing prior to incineration. These volatile constituents are released from locations close to ground elevation and are likely to have a more localized impact than chemicals emitted from the stack. Consequently, the surrogate selection procedure for fugitive emissions is directed towards identifying chemicals present in the waste feed that are of concern as a result of direct inhalation exposures.

Following the selection of the surrogate fugitive organic chemicals for analysis, chemical-specific emission rates are estimated, based on the physical-chemical properties of the surrogate chemicals.

1. Selection of Surrogate Chemicals in Fugitive Vapor Emissions

More than 300 organic compounds are identified as being in the pumpable feed at the facility, likely to be the most significant source of fugitive emissions from the WTI facility. To focus the risk assessment of fugitive organic vapor emissions, a subset of

these compounds, referred to as surrogate chemicals, is developed. The selection of surrogate chemicals that significantly contribute to health risks associated with fugitive organic vapor emissions from the WTI facility is based on the quantity, volatility, and toxicity of the chemicals as follows:

Quantity - quantity is accounted for by estimating the total moles of each chemical that are processed by WTI, based on the total pounds annually in the pumpable feeds at the facility and the molecular weight of the chemicals;

Volatility - volatility of each compound is accounted for by its vapor pressure, which reflects the equilibrium of the chemical between the vapor and condensed (i.e., generally liquid) phases at a specific temperature (25°C assumed); and

Toxicity - toxicity is evaluated using cancer slope factors (SFs) and noncancer reference doses (RfDs) that have been compiled by U.S. EPA. When available, SFs and RfDs for the inhalation route of exposure are used; however, for many chemicals only oral toxicity values are available, and these are conservatively applied. Oral toxicity values are used to estimate inhalation toxicity for 28 chemicals with non-cancer chronic toxicities.

To facilitate the surrogate selection process, the original list of approximately 300 chemicals identified in the pumpable waste feed is condensed to a list of 96 chemicals that account for 90 percent of the total pumpable feed processed in a year, as presented in Appendix V-4. These 96 compounds are evaluated using the following methodology.

Step 1: Selection of Chemicals Based on Quantity, Vapor Pressure, and Carcinogenic Potency

The 96 compounds are scored and ranked on the basis of quantity, vapor pressure, and carcinogenic potency using the following equation:

$$SC_C = (FR/MW)(SF)(VP) \qquad \text{(IV-3)}$$

where:

SC_C = surrogate chemical score for carcinogens
FR = feed rate
MW = molecular weight

SF = inhalation slope factor
VP = vapor pressure

Feed rates for individual waste stream constituents are estimated based on waste quantities projected for the first year of operation of the WTI facility, as described in Appendix III-1. Slope factors are obtained from IRIS (1995) and HEAST (U.S. EPA 1994d). Nineteen of the 96 compounds have slope factors. Chemicals for which SFs are not available are not included in this step, but are included in Step 2. Vapor pressures and molecular weights are obtained from several sources, including Howard (1993), the National Library of Medicine's Hazardous Substance Data Bank (HSDB), Montgomery and Welkom (1990), and the Kirk-Othmer Encyclopedia of Chemical Technology (Grayson 1984).

Four surrogate chemicals, which are listed in Table IV-5, are selected on the basis of the SC_C score. These compounds are selected so as to account for at least 90 percent of the total surrogate chemical score for carcinogens, as indicated in Table IV-5.

Step 2: Selection of Chemicals Based on Quantity, Vapor Pressure, and Noncancer Toxicity

The 96 compounds are scored and ranked on the basis of quantity, vapor pressure, and the potential to cause noncarcinogenic health effects using the following equation:

$$SC_{NC} = (FR/MW)(VP)/(RAC) \quad \text{(IV-4)}$$

where:

SC_{NC} = surrogate chemical score for chemicals with non-cancer chronic toxicities
FR = feed rate
MW = molecular weight
RAC = reference air concentration
VP = vapor pressure

Feed rates, vapor pressures, and molecular weights for individual waste stream constituents are estimated, using the methods described earlier. Inhalation and oral reference doses, to estimate RACs, are obtained from IRIS and HEAST (U.S. EPA 1994d); values were available for 51 chemicals. Chemicals for which RfDs are not available are not included in this step.

Nine surrogate chemicals (two of which were selected in the previous step as carcinogens), which are listed in Table IV-6, are selected on the basis of the SC_{NC} score. These compounds are selected so as to account for at least 90 percent of the total surrogate chemical score for chemicals with non-cancer chronic toxicities, as indicated in Table IV-6. In total, 11 chemicals are identified as surrogates for the quantitative evaluation of fugitive emissions, as listed in Table IV-7.

Appendix V-4 provides a list of the 96 organic compounds considered, vapor pressures, slope factors, reference doses, and feed rates used in calculating SC_C and SC_{NC} scores.

2. Estimation of Chemical-Specific Fugitive Organic Vapor Emission Rates

Total fugitive emission rates are estimated in Volume III for four organic vapor sources based on fugitive emissions models, waste feed throughput, and U.S. EPA-derived emission factors, as summarized in Table IV-8. Chemical-specific emission rates from one of these sources, tanks in the tank farm that are vented to the CAB system, are estimated using U.S. EPA's tank calculation program known as TANKS2. The TANKS2 program uses parameters such as molecular weight, vapor pressure over a range of temperatures, and chemical-specific feed rates to derive emission rates. The program requires chemical-specific information on the 11 surrogate chemicals, as well as data on the physical properties of the remainder of the waste feed. To represent the remainder of the waste feed, it is assumed to be primarily composed of the 12 constituents present in the highest volume, as determined from the waste profile for the first year of operation[1]. The waste feed throughput to these tanks is based on the maximum heat input rate based on the design of the incinerator (121 million BTU/hr higher heating value [HHV]; ENSR 1993). The resulting total tank farm-related emissions from the CAB system are estimated to be 212.2 lbs/year, as shown in Table IV-8. The TANKS2 program also provided an estimate of the emissions represented by each of the surrogate organic chemicals, as summarized in Table IV-9. It should be noted that the vapor pressure for dichlorodifluoromethane is beyond the acceptable range permitted by the TANKS2 program, so an emission rate is not developed for this compound. However, as evident from the SC_{NC} score for dichlorodifluoromethane (Table IV-6), this compound is estimated to consititute only approximately eight percent of the fugitive risk associated with the compounds with noncancer effects.

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[1] Waste feed properties are assumed to be reflective of the 12 constituents that comprise approximately 60 percent of the waste feed. The surrogate chemical emission rates are not expected to be very sensitive to the overall waste feed properties.

The results of the tank farm modeling are extrapolated to the other emission sources by assuming that the chemical composition of fugitive emissions (expressed as a weight fraction) will be the same for all the identified fugitive emission sources. Thus, weight fractions of individual constituents derived from the above analysis of tank farm emissions are used with estimates of total fugitive emission rates (Table IV-8) for each of the sources of fugitive organic emissions in determining chemical-specific emission rates. Weight fractions in the vapor phase for each of the surrogate chemicals are determined using the chemical-specific emission rates summarized in Table IV-9 and the total predicted tank farm-related emission rate of 212.2 lbs/yr, and are summarized in Table IV-10.

The chemical-specific fractions in Table IV-10 are multiplied individually by the total estimated emission rates for each of the fugitive organic vapor emissions sources identified in Table IV-8. Thus, chemical-specific emission rates for each of the four sources are estimated and are summarized in Table IV-11. It should be noted that since the waste water tank contains highly diluted wastes, use of this procedure of deriving chemical-specific emission rates will significantly overstate actual emissions from the waste water tanks. Total fugitive emissions, however, should not be significantly overestimated because fugitive emissions from the waste water tank account for only a small fraction (less than 10 percent) of the total fugitive emissions from the facility.

3. Estimation of Chemical-Specific Emission Rates in Fugitive Ash

Emissions of specific metals contained within the fugitive ash are estimated based on the available data on ash composition. In 1994, WTI conducted monthly sampling of ash from the ESP. The samples of fly ash were analyzed by WTI for 80 volatile and semi-volatile organic compounds, total and amenable cyanide, and 9 metals. None of the 12 samples indicated detectable levels of any of the 80 organic compounds. Organic compounds, therefore, are not evaluated further in the analysis of fly ash emissions.

Average metal concentrations associated with the fly ash are estimated based on the monthly sampling results, shown in Table IV-12. In estimating average concentrations, it is assumed that metals that were detected on at least one occasion are present in the ash at one-half the detection limit on other occasions when the concentrations are reported to be below the detection limits.

To estimate metal-specific emission rates, the concentration of each metal (or inorganic analyte in the case of total cyanide) is multiplied by the estimated fugitive ash emission rate of 4.03×10^{-4} g/sec (estimated in Volume III). The resulting metal-specific emission rates due to fugitive ash releases are summarized in Table IV-12.

D. Uncertainties

In selecting chemicals for quantitative evaluation, it is possible that some are eliminated from consideration (e.g., because of a lack of toxicity values) that may pose a potential health risk. The process described in this chapter was developed to reduce the uncertainty associated with this step. However, there are several key assumptions, which are shown in Table IV-13, that may affect the outcome of this assessment. Most importantly, the selection of K_{ow} values from the range of values reported in the literature could have a significant impact on whether a chemical is selected as a surrogate. In this assessment, a conservative method is used in selecting K_{ow} values; therefore, as indicated in Table IV-13, it is possible that an overestimate of risks (associated with organic compounds) may result.

The following sections provide a qualitative summary of the uncertainties associated with the methodologies discussed in this chapter.

1. Uncertainties Associated with the Selection of Surrogate Organic Chemicals in Stack and Fugitive Emissions

There are some uncertainties introduced in condensing the hundreds of chemicals present in emissions from the facility to a smaller list of surrogate chemicals that are quantitatively evaluated. However, the scoring procedure used to select surrogate chemicals is designed to provide reasonable estimates of the relative risk posed by the individual chemicals, which ensures that a significant percentage of the risk is accounted for by the surrogate chemicals. For example, the surrogate chemicals emitted from the stack account for greater than 99 percent of the total stack score; the surrogate chemicals for fugitive emissions account for approximately 90 percent of the total fugitive score. Thus, the estimated risks are not anticipated to be significantly understated by selecting a subset of the chemicals emitted for quantitative evaluation.

2. Uncertainties Associated with Estimating Chemical-Specific Fugitive Emission Rates

Uncertainties exist in both the nature and magnitude of fugitive emissions. Uncertainties in the chemical nature of fugitive emissions principally arise from limitations in the understanding of the waste characteristics of the various fugitive emission sources. For example, it is assumed that emissions from the waste water tank are similar in composition to the composition of emissions from the organic waste tank farm. Furthermore, emissions from the tank farm are estimated assuming the waste profile from the first year of operation is typical of long-term facility waste receipts. In contrast with stack emissions, fugitive emissions are more strongly correlated with the

chemical composition of the wastes, so that fluctuations in waste composition directly affects the fugitive emissions.

Uncertainties in the magnitude of chemical-specific fugitive emissions arise from uncertainties in the estimation of total fugitive emissions for the individual sources as described in Volume III, and the extrapolation of the results of the TANKS2 modeling of tank farm emissions to the other sources of fugitive emissions, such as the container building and the truck wash. Since the tank farm is expected to be the dominant source of fugitive emissions, these extrapolations are not expected to materially affect the risk assessment results.

TABLE IV-1
Selection of Surrogate Organic Chemicals (Stack Emissions) on the Basis of Quantity, Carcinogenic Potency, and Bioaccumulation Potential

Chemical	Emission Rate (g/s)	Slope Factor $(mg/kg/day)^{-1}$	K_{ow}	QCB Score	Cumulative % of Total
OctaCDF	1.89e-08	1.50e+02	6.31e+08	1.79e+03	31.87%
1,2,3,4,6,7,8-HeptaCDF	9.30e-09	1.50e+03	7.94e+07	1.11e+03	51.56%
2,3,4,6,7,8-HexaCDF	1.50e-09	1.50e+04	2.00e+07	4.50e+02	59.57%
1,2,3,4,7,8-HexaCDF	1.43e-09	1.50e+04	2.00e+07	4.27e+02	67.15%
1,2,3,6,7,8-HexaCDF	1.33e-09	1.50e+04	2.00e+07	4.00e+02	74.25%
1,2,3,4,6,7,8-HeptaCDD	1.24e-09	1.50e+03	1.58e+08	2.95e+02	79.49%
2,3,4,7,8-PentaCDF	4.67e-10	7.50e+04	8.32e+06	2.91e+02	84.66%
Dibenz(a,h)anthracene[a]	5.50e-06	7.30e+00	4.90e+06	1.97e+02	88.15%
1,2,3,4,7,8,9-HeptaCDF	1.22e-09	1.50e+03	7.94e+07	1.45e+02	90.74%
1,2,3,7,8,9-HexaCDD	1.09e-10	1.50e+04	6.17e+07	1.01e+02	92.53%
1,2,3,7,8,9-HexaCDF	2.93e-10	1.50e+04	2.00e+07	8.77e+01	94.09%
1,2,3,4,7,8-HexaCDD	8.95e-11	1.50e+04	6.17e+07	8.28e+01	95.56%
Benzo(a)pyrene[a]	5.50e-06	7.30e+00	1.29e+06	5.17e+01	96.48%
1,2,3,6,7,8-HexaCDD	1.66e-10	1.50e+04	2.00e+07	4.96e+01	97.36%
OctaCDD	6.15e-09	1.50e+02	3.89e+07	3.59e+01	97.99%
1,2,3,7,8-PentaCDD	6.78e-11	7.50e+04	4.37e+06	2.22e+01	98.39%
Indeno(1,2,3-cd)pyrene[a]	5.50e-06	7.30e-01	4.47e+06	1.79e+01	98.71%
1,2,3,7,8-PentaCDF	3.45e-10	7.50e+03	6.17e+06	1.59e+01	98.99%
Bis(2-ethylhexyl)phthalate	3.72e-05	1.40e-02	2.00e+07	1.04e+01	99.18%
2,3,7,8-TetraCDD[a]	1.08e-11	1.50e+05	4.37e+06	7.07e+00	99.30%
Hexachlorobenzene[a]	5.50e-06	1.60e+00	7.76e+05	6.83e+00	99.42%
Benzo(b)fluoranthene[a]	5.50e-06	7.30e-01	1.58e+06	6.36e+00	99.54%
Heptachlorobiphenyl[a]	1.40e-08	7.70e+00	5.01e+07	5.40e+00	99.63%
Heptachlor[a]	5.50e-07	4.50e+00	1.82e+06	4.50+00	99.71%
2,3,7,8-TetraCDF	8.77e-11	1.50e+04	3.39e+06	4.46e+00	99.79%
Total of 191 Chemicals	-	-	-	5.63e+03	-

Notes:
a - Compound not detected in stack gas. Estimated emission rate based on half of the lowest detection limit for this compound.
QCB - Quantity/carcinogenic potency/bioaccumulation potential score.

TABLE IV-2
Selection of Surrogate Organic Chemicals (Stack Emissions) on the Basis of Quantity, Noncarcinogenic Potency, and Bioaccumulation Potential

Chemical	Emission Rate (g/s)	Reference Dose (mg/kg/day)	K_{ow}	QNB Score	Cumulative % of Total
Hexachlorophene[a]	3.20e-05	3.00e-04	3.47e+07	3.70e+06	94.94%
Hexachlorocyclopentadiene[a]	5.50e-06	2.00e-05	2.45e+05	6.75e+04	96.67%
Bis(2-ethylhexyl)phthalate	3.72e-05	2.00e-02	2.00e+07	3.71e+04	97.62%
Hexachlorobutadiene[a]	1.01e-04	2.00e-04	6.46e+04	3.26e+04	98.46%
Di(n)octyl phthalate[a]	5.50e-06	2.00e-02	1.15e+08	3.16e+04	99.27%
Carbon tetrachloride	1.58e-04	7.00e-04	5.37e+02	1.21e+02	-
Total of 191 Chemicals	-	-	-	3.90e+06	-

Notes:
a - Based on worst-case DRE applied to chemical composition in waste feed developed from waste profile information.
QNB - Quantity/noncancer toxicity/bioaccumulation potential score.

TABLE IV-3
Surrogate Chemicals Selected for the
Indirect Risk Assessment of Stack Emissions

PICs and Residual Organic Compounds (15)		
Bis(2-ethylhexyl)phthalate	Benzo(b)fluoranthene	Heptachlorobiphenyl
Carbon tetrachloride	Benzo(a)pyrene	Hexachlorobiphenyl
Di(n)octyl phthalate	Dibenz(a,h)anthracene	Tetrachlorobiphenyl
Heptachlor	Indeno(1,2,3-cd)pyrene	
Hexachlorobenzene		
Hexachlorobutadiene		
Hexachlorocyclopentadiene		
Hexachlorophene		

Dioxin Congeners (7)	Furan Congeners (10)	
2,3,7,8-TCDD		
1,2,3,7,8-PeCDD	2,3,7,8-TCDF	1,2,3,7,8,9-HxCDF
1,2,3,4,7,8-HxCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF
1,2,3,6,7,8-HxCDD	2,3,4,7,8-PeCDF	1,2,3,4,6,7,8-HpCDF
1,2,3,7,8,9-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,4,7,8,9-HpCDF
1,2,3,4,6,7,8-HpCDD	1,2,3,6,7,8-HxCDF	OCDF
OCDD		

Metals (13)		
Antimony	Chromium (hexavalent)	Silver
Arsenic	Lead	Thallium
Barium	Mercury[a]	Zinc
Beryllium	Nickel	
Cadmium	Selenium	

Notes:
a - Includes methylmercury in aquatic environments
CDD - chlorodibenzo-p-dioxin
CDF - chlorodibenzofuran

TABLE IV-4 Fraction of Substance Partitioning onto Particulate Matter	
Chemical	**Fraction Partitioning onto Particulate Matter**
Dioxin\Furan Congeners	
2,3,7,8-TCDD	0.449
1,2,3,7,8-PeCDD	0.741
1,2,3,4,7,8-HxCDD	0.925
1,2,3,6,7,8-HxCDD	0.964
1,2,3,7,8,9-HxCDD	0.981
1,2,3,4,6,7,8-HpCDD	0.980
OCDD	0.998
2,3,7,8-TCDF	0.291
1,2,3,7,8-PeCDF	0.583
2,3,4,7,8-PeCDF	0.697
1,2,3,4,7,8-HxCDF	0.941
1,2,3,6,7,8-HxCDF	0.936
1,2,3,7,8,9-HxCDF	0.892
2,3,4,6,7,8-HxCDF	0.933
1,2,3,4,6,7,8-HpCDF	0.957
1,2,3,4,7,8,9-HpCDF	0.975
OCDF	0.998
PICs and Residual Organic Compounds	
Benzo(a)pyrene	0.673
Benzo(b)fluoranthene	0.028
Bis(2-ethylhexyl)phthalate	0.751
Carbon tetrachloride	0.000
Dibenz(a,h)anthracene	1.000
Di(n)octyl phthalate	0.003
Heptachlor	0.000
Hexachlorobenzene	0.000
Heptachlorobiphenyl	0.000
Hexachlorobiphenyl	0.000
Hexachlorobutadiene	0.000
Hexachlorocyclopentadiene	0.000
Hexachlorophene	1.000
Indeno(1,2,3-cd)pyrene	1.000
Tetrachlorobiphenyl	0.066
Metals	
Mercury	0.000

TABLE IV-5
Selection of Surrogate Chemicals (Fugitive Emissions) Based on Quantity, Vapor Pressure, and Carcinogenic Potency

Chemical	Feed Rate (kg/yr)	Molecular Weight (g/g-mol)	Slope Factor $(mg/kg\text{-}d)^{-1}$	Vapor Pressure (mm Hg)	SC_c	Cumulative Percent of Total SC_c
2-Nitropropane	145,854	89.1	9.4	20	6.8×10^5	32.6
Formaldehyde	45,666	30.0	4.5×10^{-2}	3,883	5.9×10^5	60.8
1,1-Dichloroethene	22,370	97.0	1.2	591	3.6×10^5	78.1
Hydrazine	17,423	32.1	17	14.4	2.9×10^5	92.2

Notes:
SC_c - Surrogate chemical score for carcinogens.

TABLE IV-6
Selection of Surrogate Chemicals (Fugitive Emissions) Based on Quantity, Vapor Pressure, and Noncancer Chronic Toxicity Potency

Chemical	Feed Rate (kg/yr)	Molecular Weight (g/g-mol)	RAC ($\mu g/m^3$)	Vapor Pressure (mm Hg)	SC_{NC}	Cumulative Percent of Total SC_{NC}
Acrylonitrile	24,611	53.1	0.5	107.8	2.2×10^5	26.2
Carbon Tetrachloride	47,303	153.8	0.61	113.8	1.3×10^5	41.1
Pyridine	160,578	79.1	0.88	20	1.0×10^5	53.2
Formaldehyde	45,666	30.0	175	3,883	7.4×10^4	62.1
Carbon disulfide	20,705	76.1	2.5	297	6.8×10^4	70.1
Dichlorodifluoromethane	26,676	102.9	50	5,013	5.7×10^4	76.9
Dibromomethane	15,297	187.9	0.05	14	5.0×10^4	82.9
1,1-Dichloroethene	22,370	97.0	7.9	591	3.8×10^4	87.4
Acetone	252,132	58.1	88	231	2.5×10^4	90.4

Notes:
RAC - Reference air concentration, estimated to be 25% of the RfC.
SC_{NC} - Surrogate chemical score for chemicals with noncancer chronic toxicities.

TABLE IV-7
Surrogate Chemicals Selected for the Assessment of Fugitive Organic Vapor Emissions

Acetone	Dichlorodifluoromethane
Acrylonitrile	1,1-Dichloroethene
Carbon Disulfide	Formaldehyde
Carbon Tetrachloride	Hydrazine
Dibromomethane	2-Nitropropane
	Pyridine

TABLE IV-8
Estimated Total Fugitive Organic Vapor Emissions Rates

Source	Estimated Emissions lb/yr (g/sec)
Tank Farm Building[a]	2,126 (3.06×10^{-2})
Wastewater Tank	202 (2.91×10^{-3})
Truck Wash Building	9.9 (1.42×10^{-4})
Carbon Adsorption Bed System (total)	224.3 (3.23×10^{-3})
From Tanks:	212.2 (3.06×10^{-3})
Blending	57.2 (8.23×10^{-4})
Holding	57.2 (8.23×10^{-4})
Pumpout	47.7 (6.86×10^{-4})
Reception	50.1 (7.21×10^{-4})
From Container Processing	12.1 (1.74×10^{-4})
Total All Sources:	2,562 (3.68×10^{-2})

Notes:
a - Tank farm building emissions are from the leaky valves and flanges which, for the purposes of this risk assessment, are assumed to all occur from the vents on the roof of this building.

TABLE IV-9
Estimated CAB Emissions Associated with the Organic Waste Tanks

Surrogate Chemical	Estimated Emissions (g/sec)
Acetone	1.16×10^{-3}
Acrylonitrile	2.57×10^{-5}
Carbon Disulfide	7.67×10^{-5}
Carbon Tetrachloride	5.15×10^{-5}
Dibromomethane	2.53×10^{-6}
1,1-Dichloroethene	7.53×10^{-5}
Formaldehyde	6.38×10^{-4}
Hydrazine	1.63×10^{-6}
2-Nitropropane	2.11×10^{-5}
Pyridine	2.68×10^{-5}

Note:
The vapor pressure of dichlorodifluoromethane was beyond the acceptable range of values for the TANKS2 program and a emission rate could not be developed.

TABLE IV-10
Estimated Fraction of Total Emissions Due to Individual Surrogate Chemicals

Surrogate Chemical	Fraction of Total Emissions
Acetone	0.38
Acrylonitrile	0.0084
Carbon Disulfide	0.025
Carbon Tetrachloride	0.017
Dibromomethane	0.0008
1,1-Dichloroethene	0.025
Formaldehyde	0.21
Hydrazine	0.0005
2-Nitropropane	0.0069
Pyridine	0.0088

Note:
The vapor pressure of dichlorodifluoromethane was beyond the acceptable range of values for the TANKS2 program and an emission rate could not be developed.

TABLE IV-11
Estimated Emissions of Surrogate Chemicals from Fugitive Organic Vapor Emissions Sources

Chemical	Estimated Emissions (g/sec)			
	CAB System	Wastewater Tank	Truck Wash	Tank Farm
Acetone	1.23×10^{-3}	1.10×10^{-3}	5.41×10^{-5}	1.16×10^{-2}
Acrylonitrile	2.71×10^{-5}	2.44×10^{-5}	1.19×10^{-6}	2.57×10^{-4}
Carbon Disulfide	8.10×10^{-5}	7.30×10^{-5}	3.58×10^{-6}	7.68×10^{-4}
Carbon Tetrachloride	5.44×10^{-5}	4.90×10^{-5}	2.40×10^{-6}	5.16×10^{-4}
Dibromomethane	2.68×10^{-6}	2.41×10^{-6}	1.18×10^{-7}	2.54×10^{-5}
1,1-Dichloroethene	7.95×10^{-5}	7.16×10^{-5}	3.51×10^{-6}	7.54×10^{-4}
Formaldehyde	6.75×10^{-4}	6.08×10^{-4}	2.98×10^{-5}	6.40×10^{-3}
Hydrazine	1.72×10^{-6}	1.55×10^{-6}	7.58×10^{-8}	1.63×10^{-5}
2-Nitropropane	2.23×10^{-5}	2.01×10^{-5}	9.86×10^{-7}	2.12×10^{-4}
Pyridine	2.83×10^{-5}	2.55×10^{-5}	1.25×10^{-6}	2.68×10^{-4}

Note:
The vapor pressure of dichlorodifluoromethane was beyond the acceptable range of values for the TANKS2 program and an emission rate could not be developed.

TABLE IV-12
Estimated Average Concentrations of Metals and Inorganic Compounds in Fugitive Fly Ash Emissions

Metal/Inorganic Compound	Frequency of Detection	Concentration Range (mg/kg)	Average Concentration in Ash (mg/kg)	Emission Rate (g/sec)
Arsenic	1/12	<0.5 - 27	3.4	1.37×10^{-6}
Barium	9/12	<1 - 4.1	1.7	6.75×10^{-7}
Cadmium	11/12	<0.1 - 640	71.0	2.86×10^{-5}
Lead	11/12	<0.5 - 130	36.1	1.45×10^{-5}
Nickel	9/12	<0.15 - 1.9	0.7	2.92×10^{-7}
Selenium	5/12	<0.1 - 1.0	0.2	8.23×10^{-8}
Silver	6/12	<0.1 - 2.1	0.3	1.04×10^{-7}
Total Cyanide	2/12	<0.5 - 1.1	0.4	1.41×10^{-7}

Notes:
< - Lower end of concentration range is the lowest detection limit from samples in which analyte was not detected.

TABLE IV-13
Key Assumptions for Chapter IV
(Selection of Surrogate Chemicals)

Assumption	Basis	Magnitude of Effect	Direction of Effect
The screen to select surrogate organic stack chemicals retains the chemicals that present the greatest health risk. The more conservative (oral or inhalation) toxicity value is used.	Professional judgment. The screen was designed to retain the chemicals that contribute most significantly to risk and includes several compounds to ensure chemicals with lower rankings were not inadvertently overlooked.	low	unknown
K_{ow} is an accurate measure of bioaccumulation potential. The K_{ow} values are appropriate.	Professional judgment. Measurement of K_{ow} values, especially for highly lipophilic chemicals, contains significant uncertainty. Maximum values were selected for the assessment.	high	likely overestimate
The screen to select surrogate organic fugitive chemicals retains the chemicals that present the greatest health risk.	Professional judgment. The screen was designed to retain the chemicals that contribute most significantly to risk.	low	unknown

Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten

V. IDENTIFICATION OF EXPOSURE POPULATIONS AND PATHWAYS

A. Introduction

The exposure assessment step of the risk assessment process involves the identification of the potentially exposed population, and the measurement or estimation of the magnitude of exposure to individuals in that population. This chapter and the following two chapters present the steps used in assessing exposure to the population in the vicinity of the WTI facility. Within the exposed population, the magnitude of exposure is expected to vary by individual, due to differences in individual characteristics and activity patterns, among other factors. Therefore, a distribution of exposures across the population exists. Direct measurement of this exposure distribution cannot readily be performed. Therefore, subgroups within the population are identified that are expected to have similar exposure because of similarities in activity and behavior patterns. This chapter describes the approaches used to identify the exposed population, subgroups within that population, and pathways of exposure; the following chapters provide estimates of environmental concentrations based on the fate and transport of chemicals in the environment, and estimates of human exposure of local populations to substances in affected environmental media.

In the WTI Risk Assessment Project Plan (U.S. EPA 1993b), a number of preliminary population subgroups were identified. During the peer review process of the Project Plan, several additional subgroups of the exposed population that may be at a higher risk due to behavior patterns, proximity to the facility, or sensitivity were identified. The Peer Review Panel suggested a number of additional population subgroups for possible consideration in the risk assessment. A review of these subgroups is provided in Appendix V-5. Based on the recommendations of the Peer Review Panel and the analysis described in Appendix V-5, one additional exposure group, deer hunters, is included in the HHRA.

B. Population Subgroups Potentially Exposed to Stack Emissions

As stack emissions from the WTI facility disperse downwind, individuals may be exposed to these emissions via direct inhalation. In addition, dry and wet deposition may occur on soil, surface water, and vegetation. The deposited chemicals may then be taken up by crops, livestock, and fish. Ingestion of locally raised crops and livestock, and consumption of fish caught in local streams, lakes, and rivers represent potential pathways of

indirect human exposure. Other indirect exposures, such as consumption of local milk and milk products potentially affected by site emissions, are also possible.

Based on the characteristic activity and behavior patterns, the following subgroups have been identified for the population in the study area surrounding the WTI facility:

- Adult non-farming residents;
- Child non-farming residents;
- Adult farmers whose diet consists partially of homegrown food products (e.g., meat, milk, vegetables); and
- Children of farmers whose diet consists partially of homegrown food products.

In addition to these subgroups, which are expected to comprise a significant portion of the local population, three additional potentially exposed subgroups of the population have been identified. Individuals in these subgroups may experience elevated exposures to contaminants from the WTI facility due to their specific behavior pattern. These subgroups are the following:

- Children (7 to 12 years old) who attend school in the area;
- Adult farmers whose entire diet is homegrown (referred to as subsistence farmers); and,
- Children of subsistence farmers.

In addition to these subgroups, several groups have been identified as special population segments who may be highly exposed because of their particular activity patterns. On this basis, the following subgroups are included in the risk assessment:

- Adult and child residents whose diet consists partially of homegrown food products;
- Breast-feeding infants (assumed to be all children under 1 year old);
- Subsistence fishermen (recreational fishermen who obtain a significant portion of their diet from fish in local bodies of water); and
- Deer hunters who consume deer that have been exposed to contaminants in the food chain.

Exposure is evaluated in this assessment for the specific activities listed above; however, these exposures are expected to be incremental to exposure experienced through other pathways by the individual performing the activity. Exposure from consuming

homegrown vegetables, for example, applies to only those residents that have home gardens. For breast-fed infants and subsistence fishermen, the pathways listed above are likely to be the most significant source of exposure and, therefore, risk. Finally, only a small fraction of the population would be anticipated to consume deer meat.

C. Potential Exposure Routes for Stack Emissions

The potential routes of exposure for the population subgroups that may be exposed to stack emissions are tabulated in Table V-1 and discussed in greater detail in the following sections. Inhalation of stack and fugitive emissions is the only direct route of exposure; the other routes in Table V-1 are indirect exposure routes.

1. Air Exposure Routes

Direct inhalation of emissions from the WTI incinerator stack is the primary route of airborne exposure for all population subgroups.

2. Soil Exposure Routes

A portion of the chemicals emitted from the stack is expected to be deposited on surface soils in the vicinity of the facility. Residents working or playing outdoors may inadvertently ingest soil, and absorb chemicals through the skin during soil contact. These exposure routes are also assumed to apply to farmers, who work outdoors for significant periods of time, and children who attend local schools and play outdoors.

3. Terrestrial Food Chain Exposure Routes

Chemicals deposited in the vicinity of the facility may accumulate in various parts of the food chain. Chemicals may be incorporated in vegetation, crops, plants, and forage, as a result of deposition on leaves, absorption from the soil through the roots, and uptake of vapors from the air. Vegetation may, in turn, be consumed by local residents, or by dairy cows, beef cattle, pigs, and poultry. The cows, cattle, pigs, and poultry may also be exposed through ingestion of soil. Chemicals may then accumulate in the meat from the livestock and milk from the cows. Therefore, consumption of vegetables, beef, poultry, pork products, eggs, and dairy products from local farms and gardens is a potential source of indirect exposure to stack emissions for humans. Each of these food chain exposures is evaluated in the risk assessment.

4. Surface Water Exposure Routes

Chemical emissions may enter surface water in the vicinity of the facility through deposition of stack emissions directly onto the water body or through runoff of

contaminated soil that enters the water body. Although a portion of the drinking water for East Liverpool and Columbiana County is supplied from the Ohio River, surface water is subjected to several treatment steps before use; therefore, significant exposure through this pathway is unlikely, and is not evaluated quantitatively in this assessment.

It is possible that local residents may swim in surface water bodies and come into contact with chemicals through ingestion and dermal absorption. A West Virginia Department of Natural Resources (Pierce et al. 1983) study has indicated that a significant amount of swimming occurs during the summer months in the Ohio River near East Liverpool. This potential route of exposure, therefore, is considered in the assessment. In addition, discussions with a local wildlife official indicated that Tomlinson Run Lake, located approximately six miles south of the WTI facility, and Little Beaver Creek, located two miles north and east of the WTI facility, are other popular recreational areas in the vicinity of the WTI facility. Exposure to surface water in these water bodies is evaluated.

5. Breast Milk Exposure Route

Lipophilic compounds, including dioxins and PCBs, may accumulate in body tissues, preferentially concentrating in adipose tissue. Such compounds may then accumulate in the breast milk of nursing women in the study area. Exposure to nursing infants of mothers in the high-end subgroup is considered in the risk assessment.

6. Fish Consumption Exposure Route

Chemicals dissolved in surface water and adsorbed to sediments may be transferred to and accumulate in fatty tissues of fish in local water bodies. Individuals may consume fish caught locally and be exposed indirectly to stack emissions. For residents living in the vicinity of the WTI facility, it is possible that a portion of the fish diet may be derived from local waters, thereby increasing the potential exposure through the food consumption pathway. An analysis of this exposure pathway is presented in Appendix V-6. This analysis indicates that fish caught in the vicinity of the WTI facility are not a significant source of food for the typical local resident. The basis for this assumption is presented in Appendix V-6. It should be noted, however, that a subgroup of the local population may exist that derives a significant fraction of their diet from locally caught fish. This activity is referred to in this assessment as subsistence fishing. Although no data or information are available to indicate that subsistence fishermen actually reside in the vicinity of the WTI facility, exposure to WTI-related contaminants by subsistence fishermen will be considered in the risk assessment as a high-end exposure scenario.

7. Groundwater Exposure Route

It is possible that chemicals deposited on surface soils could become dissolved in precipitation and percolate through surface soils to the groundwater. The *Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions* (U.S. EPA 1990a), evaluated the likelihood of this route of chemical transport using worst-case assumptions in a leachate transport model for organic and inorganic constituents. U.S. EPA concluded that a very limited potential for contamination of groundwater exists, and that further evaluation of this pathway was unnecessary. The groundwater exposure pathway, therefore, is not considered in this assessment.

D. Population Subgroups Potentially Exposed to Fugitive Emissions

As noted in Volume III, fugitive emissions occur in the form of organic chemical vapors and as ash. The fugitive vapor emissions are comprised almost entirely of organic compounds that volatilize from drums, tanks, valves, etc., and are transported off-site by wind. Because of the nature of these fugitive emissions, i.e., volatile organic compounds, it is assumed that inhalation would be the primary exposure pathway. Deposition of organic vapors is generally considered to be insignificant and is, therefore, unlikely to result in human health risks through indirect routes of exposure. In addition, as described in Volume III, fugitive vapor emissions primarily occur from ground-level sources (with the exception of the CAB system). The most significant impacts from ground-level sources are likely to occur in the immediate vicinity of the source. The primary exposed populations in the vicinity of the WTI facility, therefore, include residents (adults and children) that generally live to the north and west of the facility. Because of the commercial/industrial location of the WTI incinerator and the lack of farms in the immediate vicinity, significant exposure by farmers to fugitive emissions is not expected to occur. Therefore, in this assessment, risks due to fugitive vapor emissions via inhalation are estimated for three population subgroups:

- Adult non-farming residents;
- Child non-farming residents; and
- Children (7 to 12 years old) who attend school in the area.

Fugitive ash emissions, which are also released from a near ground-level source, will be dispersed to a limited degree with the most significant impacts likely occurring in the vicinity of the source. Because the ash is in particle form, deposition and subsequent exposure to individuals in the vicinity of the WTI facility by indirect exposure pathways must be considered. Therefore, risks associated with direct and indirect exposure to fugitive ash emissions are estimated for the three population subgroups noted above. The indirect

pathways of exposure that are considered include ingestion of and dermal contact with soil, and ingestion of homegrown vegetables. As noted earlier, farming is not presently conducted in the immediate vicinity of the facility, nor is it expected that farming will be conducted in this area in the near future.

E. Uncertainties

In developing the scope of the HHRA, some assumptions are made in order to focus the assessment on the most important exposure pathways and populations, thus reducing the complexity of the assessment. In doing so, it is possible that all risks associated with the WTI facility may not be accounted for; however, given the conservative nature of this assessment, it is unlikely that risks are underestimated. The key assumptions used in identifying exposure populations and pathways are summarized in Table V-2 along with a rationale and qualitative descriptions of their potential effects on estimated risks. The key assumptions used in identifying exposure populations and pathways are not expected to impact the results of the HHRA significantly (i.e., the magnitude of effect is "low" for both assumptions).

1. Uncertainties in the Identification of Exposure Populations

In this assessment, an attempt is made to identify subgroups within the exposed population in the vicinity of the WTI facility that have similar behavior patterns and, therefore, have similar levels of exposure. To this end, a range of exposure populations are identified that include infants, young children, school-age children, and adults (both farming and non-farming). It is possible, however, that a group of individuals may exist that are more highly exposed than any of the identified population subgroups. Consequently, exposure to such individuals would be underpredicted.

As noted above, several potential high-end exposure populations were suggested for consideration as potential high-end exposures. After careful review, however, it did not appear that any of the groups are either highly exposed or exposed significantly different from populations already identified. Therefore, it does not appear that a significant underestimate of risks has resulted from the process used to identify exposure populations.

2. Uncertainties in the Identification of Exposure Pathways

The exposure pathways identified in this chapter cover a wide range of possible activities likely experienced by individuals in the local population. There are several potential exposure pathways that are not quantitatively evaluated in this assessment, including primarily exposure to groundwater (through consumption, dermal contact, or

inhalation during showering) and exposure to surface water used by local municipalities for drinking water. The groundwater exposure pathway is not considered because based on existing information, it would not appear to be a source of significant risks to the local population.

Surface water (the Ohio River) is used as a source of drinking water in the East Liverpool area. Although this water is treated (including flocculation and sedimentation, sand filtration, carbon absorption, and chlorination) before use by local residents, it is possible that some types of contaminants (e.g., dioxins and heavy metals) may not be entirely removed. Based on the results of the surface water-related exposure pathway (Chapter VIII), however, the use of the Ohio River as a drinking water source would not appear to present a significant source of risk.

As described in Appendix V-6, consumption of locally-caught fish by residents is not considered in this assessment. Certain individuals within the population may be exposed by this pathway, but it is estimated that, on average, risks by this pathway to a resident are insignificant. To account for potential risks to individuals who consume fish from local waters, risks to the subgroup referred to as subsistence fishermen are estimated. Based on the insignificant risks estimated for this pathway (Chapter VIII), it is estimated that risks to residents due to consumption of fish from local waters are also insignificant.

TABLE V-1
Exposure Populations and Pathways Considered in the Risk Assessment

Exposure Pathway	Exposure Population						
	Resident		School Child[b]	Farmer		Subsistence Farmer	
	Adult	Child[a]		Adult	Child[a]	Adult	Child[a]
Air Inhalation	X	X	X	X	same as CR	same as AF	same as CR
Soil Ingestion	X	X	X	X	same as CR	same as AF	same as CR
Dermal Contact with Soil	X	X	X	X	same as CR	same as AF	same as CR
Locally Raised Meat	X	X	X	X	X	X	X
Milk and Milk Products from Locally Raised Cows	X	X	X	X	X	X	X
Homegrown Vegetables	NA[d]	NA[d]	NA[d]	X	X	X	X
Surface Water Ingestion	X	X	X	X	same as CR	same as AF	same as CR
Dermal Contact with Surface Water	X	X	X	X	same as CR	same as AF	same as CR

Activites Associated with Potential High-End Exposure Subgroups

Consumption of Homegrown Fruits and Vegetable (Adult and Child Residents and School-age Children)
Consumption of Locally Caught Fish by Subsistence Fisherman
Consumption of Mother's Milk by Breast-feeding Infants[c]
Consumption of Meat from Locally Hunted Deer

Notes:
NA - Not applicable
X - Unique exposure assumptions are required
CR - Child resident
AF - Adult farmer

a - assumed to be in 1 to 6 year-old age range.
b - assumed to be in 7 to 12 year-old age range.
c - assumed to be less than 1 year old.
d - consumption of homegrown fruits and vegetables is evaluated separately for residents with home gardens.

TABLE V-2
Key Assumptions for Chapter V
(Identification of Exposure Pathways and Populations)

Assumption	Basis	Magnitude of Effect	Direction of Effect
Population subgroups and high-end subgroups have been adequately identified and characterized (e.g., inclusion of subsistence fisherman is appropriate).	The populations identified include several additional populations recommended for inclusion by the Peer Review Panel. Inclusion of several high-end subgroups (e.g., subsistence fisherman) likely overestimates risk because there is no data that supports the existence of a subsistence fisherman and the data suggest that only a limited subsistence farmer population exists.	low	overestimate
Exposure pathways have been adequately identified and characterized. The ground water pathway and surface water consumption are not assessed.	Exposure pathways are recommended in U.S. EPA guidance (e.g., U.S. EPA 1989b). U.S. EPA (1990a) recommends that evaluation of the ground water pathway is unnecessary based on their study using worst-case assumptions. The surface water goes through several treatment steps prior to use so exposure to chemicals will be limited.	low	variable

Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten

VI. ESTIMATION OF ENVIRONMENTAL CONCENTRATIONS

A. Introduction

Individuals living and working in the vicinity of the WTI facility may be exposed to substances emitted from the facility through both direct and indirect pathways. Direct exposure occurs through inhalation of vapors and particles in the air. Indirect exposure occurs as a result of dry and wet deposition of particles and vapor onto soil and vegetation, and subsequent migration of these chemicals into other media. For example, stack gas constituents that are deposited onto the soil can be incorporated into vegetation, which can then be ingested by livestock. Consequently, human exposure may occur through ingestion of vegetables or livestock grown or raised locally. Additionally, deposition of stack gas constituents on local water bodies and runoff from watershed soils will result in concentrations of contaminants in surface water in the vicinity of the facility.

In order to assess the risk of exposure to chemicals emitted from the stack, an estimate of the concentrations of substances of potential concern in air, soil, vegetables, animal products (e.g., meat, eggs, milk, game), surface water, fish, and mothers' breast milk is necessary. The modeling of contaminant transport in air is discussed in Volume IV. For other environmental media, concentrations are estimated using fate and transport models designed to simulate the transport of substances in the environment over time. The models used in this assessment are based on U.S. EPA guidance (U.S. EPA 1990a, 1993a, 1994c) and reflect the current understanding of environmental fate and transport processes. This chapter presents an overview of the models used. A more detailed presentation of the fate and transport models, input values used in the models, and the basis for these values is located in Appendix V-7.

As noted in Appendix V-7, whenever possible, site-specific data are applied in this assessment rather than using conservative default values. Substantial effort has been devoted to obtaining site-specific information for use in estimating environmental concentrations, including reviews of the scientific literature and conversations with local biologists and agricultural agents. Table VI-1 presents the site-specific values used in this assessment.

It is anticipated that use of site-specific values reduces the uncertainty associated with the modeled results. It should be noted, however, that several of the models applied in this assessment are based on limited data and, therefore, contribute to the uncertainty in the results. The uncertainties that result from applying these models are discussed qualitatively

at the end of this chapter and are evaluated quantitatively in Chapter IX. To compensate for the uncertainty in the estimation process, conservative assumptions are generally applied in this assessment so that estimated environmental concentrations are likely to be greater than those actually associated with facility operations.

B. Estimation of Soil Concentrations

Stack gas constituents emitted to the atmosphere may deposit on surface soils in the area surrounding the WTI facility due to dry and wet deposition of particles and vapor. The concentration of chemicals in surface soil is required to 1) estimate potential human exposures through soil ingestion and dermal contact with the soil, 2) predict uptake in vegetation for human consumption and grazing animals, and 3) estimate concentrations in surface water due to runoff of contaminated soil.

To estimate the chemical concentration in soil, the following equation is used (U.S. EPA 1990a):

$$CS = \frac{[Dyd + Dyw + L_{DIF}]\left[1 - e^{-(ks)\,(Tc)}\right](100)}{(Z)\,(BD)\,(ks)} \qquad \text{(VI-1)}$$

where:

CS	=	chemical concentration in soil, mg/kg
Dyd	=	dry deposition rate for particles, g/m^2-yr
Dyw	=	wet deposition rate for particles, g/m^2-yr
L_{DIF}	=	vapor deposition rate, g/m^2-yr
ks	=	soil loss constant, yr^{-1}
Tc	=	total time of deposition, yr
Z	=	soil depth, cm
BD	=	bulk density, g/cm^3

Soil concentrations are estimated for surface (one centimeter) soils and root zone (20 centimeters) soil (U.S. EPA 1990a). In addition, soil concentrations within the upper 10 centimeters are estimated as an input to estimating surface water concentrations (U.S. EPA 1994c), assuming an agricultural watershed, which could have some tilled and some untilled soils. Estimated soil concentrations at these depths are based on deposition rates of constituents of concern assuming complete mixing within the soil layer of interest (1 cm, 10 cm, or 20 cm) and continuous operation of the facility over a period of 30 years. Dry and wet deposition rates for particles (Dyd and Dyw) are predicted by the ISC-COMPDEP model.

The parameters values used in the above equation are presented in Appendix V-7 along with the methodology and assumptions used in estimating soil concentrations. Site-specific information needed to estimate soil concentrations include: fraction of organic carbon in soil; bulk density of soil; annual precipitation, irrigation, runoff, and evapotransporation; soil volumetric content; Universal Soil Loss Equation (USLE) constants for erosivity and erodability; wind speed; and air temperature, viscosity and density. The values used in this assessment are presented in Table VI-1.

C. Estimation of Concentrations in Vegetation

The concentration of constituents in vegetation is necessary to estimate the exposure to chemicals through ingestion of vegetation (i.e., vegetables and fruit) as well as to estimate the uptake of constituents in animals that feed on the vegetation (i.e., grain, forage, and silage). Stack gas constituents may bioaccumulate in plants through three mechanisms: uptake by roots, direct deposition on exposed plant tissues, and air-to-plant transfer of vapor-phase constituents. These mechanisms are discussed more fully by U.S. EPA (1990a and 1994c).

The magnitude of chemical uptake by produce is dependent on the type of vegetable and its potential for exposure to the atmosphere. For example, contaminant deposition is more likely to occur onto leafy vegetables (such as lettuce) than onto vegetables that are protected from the atmosphere (such as corn or root vegetables). Similarly, the uptake of chemicals from the soil will differ for below ground and above ground vegetables. Therefore, four types of produce classes are considered in the risk assessment:

- Leafy produce (e.g., lettuce, broccoli, forage);
- Above ground protected produce (e.g., corn, peas, grain);
- Above ground exposed produce (e.g., tomatoes, green peppers); and
- Root produce (e.g., carrots, onions).

Assumptions presented in Appendix V-7, for each of these classes of produce are used in the following equations to estimate concentrations of chemicals in produce. The overall approach and important, site-specific input parameters are described below; however, details on model application are presented in Appendix V-7.

The total concentration of a constituent in a given plant (CV) due to root uptake (Pr_i), direct deposition (Pd_i), and air-to-plant transfer (Pv_i) can be calculated as follows:

$$CV = Pr_i + Pd_i + Pv_i \quad \text{(VI-2)}$$

where:

CV = total concentration of constituent in the i^{th} plant group, mg/kg
Pr_i = concentration of constituent in i^{th} plant group due to root uptake, mg/kg
Pd_i = concentration of constituent in i^{th} plant group due to direct deposition, mg/kg
Pv_i = concentration of constituent in i^{th} plant group due to air-to-plant transfer, mg/kg

Root Uptake

The constituent concentration from root uptake (Pr_i) for above ground vegetation (i.e., above ground exposed and protected vegetables, and leafy vegetables) is dependent on the soil concentration (CS) and a chemical specific plant/soil bioconcentration factor (Br_i):

$$Pr_i = (CS)\ (Br_i) \quad \text{(VI-3)}$$

where:

Pr_i = concentration of constituent in i^{th} plant group due to root uptake, mg constituent/kg plant tissue, dry weight (DW)
CS = soil concentration of constituent after the total period of deposition, mg constituent/kg soil
Br_i = plant/soil bioconcentration factor for the i^{th} plant group, (mg constituent/kg plant tissue DW)/(mg constituent/kg soil)

Baes et al. (1984) present bioconcentration factors for the metals evaluated in the HHRA. For organic chemicals, the bioconcentration factors are calculated using an equation developed by Travis and Arms (1988) and recommended by U.S. EPA (1993a). Details on this equation are presented in Appendix V-7.

For below ground vegetation (i.e., root vegetables), Pr_i can be estimated by the method developed by Briggs (1982) as follows (further details in Appendix V-7):

$$Pr_i = \frac{(CS)\ (RCF_i)\ (VG_{bg})}{Kd_s} \quad \text{(VI-4)}$$

where:

RCF_i = root concentration factor for the i^{th} plant group, L/kg
VG_{bg} = empirical correction factor, unitless
Kd_s = soil/water partition coefficient, L/kg

Briggs (1982) developed a regression equation dependent on the octanol/water partition coefficient, K_{ow}, to calculate RCF_i values for organic compounds, presented in Appendix V-7.

VG_{bg} is a factor introduced into the calculation of contaminant concentrations to reflect the reduced translocation of compounds in bulky, below ground vegetables, such as carrots and potatoes (U.S. EPA 1994c). In general, the contaminant concentrations measured in the barley roots of the Briggs (1982) experiments would be representative of the levels of compounds in the outer few millimeters of below ground vegetation, but much higher than the average concentration in the whole vegetable. Thus, a VG_{bg} value of 0.01 is used for all substances of concern, as recommended by U.S. EPA (1994a).

Direct Deposition

The factors related to the plant concentration attributable to direct deposition on exposed plant tissues (Pd_i), as shown in Appendix V-7, are as follows:

$$Pd_i = \frac{(1000)\ [Dyd + (Fw)\ (Dyw)]\ (Rp_i)\ \left[1 - e^{-(kp)\ (Tp_i)}\right]}{(Yp_i)\ (kp)} \qquad \text{(VI-5)}$$

where:

Pd_i	=	concentration of constituent due to direct deposition in the i^{th} plant group, mg constituent/kg plant tissue DW
Dyd	=	yearly dry deposition rate, g constituent/m^2-yr
Fw	=	fraction of wet deposition that adheres to plant surfaces, unitless
Dyw	=	yearly wet deposition rate, g constituent/m^2-yr
Rp_i	=	interception fraction of the edible portion of plant tissue for the i^{th} plant group, unitless
kp	=	plant surface loss coefficient, yr^{-1}
Tp_i	=	length of plant's exposure to deposition per harvest of the edible portion of the i^{th} plant group, yr
Yp_i	=	yield or standing crop biomass of the edible portion of the i^{th} plant group, kg DW/m^2

Parameter values used in the above equation are presented in Appendix V-7. The wet and dry deposition rates are provided from the air dispersion modeling. Equations to calculate Rp_i, and kp are also presented in Appendix V-7. Values for Tp_i and Yp_i are obtained from Pennsylvania Agricultural Statistics Service (PDA 1994) and the Census of Agriculture (USDC 1993a,b,c), as shown in Table VI-1. This route of exposure for plants is

not considered for above ground protected vegetables and root vegetables, which are significantly less susceptible to direct deposition.

Air-to-Plant Transfer

Plant concentrations attributable to air-to-plant transfer are dependent on the vapor-phase air concentration, and an air-to-plant biotransfer factor, as shown in the following equation. This type of transfer applies only to above ground exposed plants (i.e., does not include root vegetables or above ground protected plants).

$$Pv_i = \frac{(Cy)\ (Bv_i)\ (VG_{ag})}{(\rho_a)\ (10^3)} \qquad \text{(VI-6)}$$

where:

Pv_i	=	concentration of constituent due to air-to-plant transfer in the i^{th} plant group, mg constituent/kg plant tissue DW
Cy	=	vapor-phase concentration of constituent in air due to direct emissions, μg constituent/m^3 air
Bv_i	=	air-to-plant biotransfer factor for the i^{th} plant group, [mg constituent/kg plant tissue DW]/[mg constituent/kg air]
VG_{ag}	=	above ground plant correction factor, unitless
ρ_a	=	density of air, kg/m^3
10^3	=	units conversion, $mg/10^3\mu g$

Parameter values used in the above equation are presented in Appendix V-7. These factors are related to various physical and chemical properties of the constituents. Equations recommended by U.S. EPA (1994c) to estimate Bv_i are also presented in Appendix V-7. Cy is predicted from the air dispersion modeling. VG_{ag} is a correction factor similar to VG_{bg} that is introduced to reflect the difference between the concentration in the outer few millimeters and the average concentration in the whole vegetable. U.S. EPA (1994c) recommends that VG_{ag} should be set equal to 0.01 for unspecified above ground fruits and vegetables, 1.0 for leafy vegetables and forage, and 0.5 for silage and 0 for grain. These recommendations are based, in part, on the reduction of chemical concentrations in unspecified fruits and vegetables as a result of cleaning and peeling; the direct analogy of leafy vegetables and forage to azalea leaves, the experimental leaves on which the equation was based; the assumption that silage can be considered part leafy and part protected; and the assumption that grain is fully protected. The density of air, related to the site-specific air temperature, is presented in Table VI-1.

D. Estimation of Meat, Eggs and Milk Concentrations

Stack gas constituents in soil, surface water, and plants may accumulate in animals that ingest these media while grazing. The uptake of chemicals by livestock is required to estimate human exposure to constituents that accumulate in milk and meat products from animals that are raised in the vicinity of the WTI facility. U.S. EPA (1990a; 1994c) presents a food chain model to estimate concentrations of stack gas constituents in beef, milk, pork, poultry, and eggs, etc. This model considers the concentration of constituents in plants, and soil, the quantity of plants, and soil that animals consume, and the biotransfer (Ba) or bioconcentration factor (BCF) of each type of animal tissue. According to U.S. EPA (1994c), uptake of constituents via inhalation or ingestion of contaminated water is insignificant compared to soil and fodder ingestion and is, therefore, not considered in this assessment.

The algorithm used to estimate constituent concentrations in animal tissues is expressed as follows:

$$CB = \left[\sum_{i=1}^{n} (Qp_{ij})\,(P_{ij})\,(F_{ij}) + (Qs_j)\,(CS)\right](Ba_j)\,(MF) \qquad \text{(VI-7)}$$

or for dioxin-like compounds[1]:

$$CB = \left[\sum_{i=1}^{n} (DFp_{ij})\,(P_{ij})\,(F_{ij}) + (DFs_j)\,(CS)\,(B_s)\right](BCF)\,(fat_j) \qquad \text{(VI-8)}$$

where:

CB	=	concentration of constituent in the j^{th} animal tissue group, mg constituent/kg animal tissue fresh weight
Qp_{ij} or Dfp_{ij}	=	quantity of i^{th} plant group eaten by the j^{th} animal each day or fraction of diet that is i^{th} plant group, kg plant tissue DW/day or unitless
P_{ij}	=	total concentration of constituent in the i^{th} plant group eaten by the j^{th} animal, mg constituent/kg plant tissue dry weight
F_{ij}	=	fraction of feed from on-site sources (additional adjustment factor to account for grain or silage that is imported from outside areas), unitless

[1] In this assessment, dioxin-like compounds are assumed to include all the dioxin and furan congeners considered and the polychlorinate biphenyl compounds.

Qs_j or DFs_j	=	quantity of soil eaten by the j^{th} animal each day or fraction of diet that is soil, kg soil/day or unitless
CS	=	soil concentration, mg constituent/kg soil
B_s	=	soil bioavailability term, unitless
Ba_j	=	biotransfer factor for the j^{th} animal tissue group, d/kg
MF	=	metabolism factor, unitless
BCF	=	bioconcentration factor for dioxin-like compounds, unitless
fat_j	=	fraction of j^{th} animal tissue that is fat, unitless

These equations include uptake of chemicals by livestock through ingestion of fodder and soil. Appendix V-7 presents the necessary input parameters on the type and amount of plants and soil consumed by various animals.

The biotransfer (bioconcentration) factors used in this assessment are derived from three sources. For the dioxin-like compounds, BCFs recommended by U.S. EPA (1994b) are used (see equation (VI-8)). For the organic chemicals, regression equations presented by Travis and Arms (1988) and recommended by U.S. EPA (1993a) relating Ba to K_{ow} are used. For metals, Ba values presented by U.S. EPA (1995c), Baes et al. (1984), and other literature sources are used.

The regression equation used to estimate biotransfer factors for organic chemicals developed by Travis and Arms (1988) is based on data for a limited group of compounds comprised primarily of pesticides and chlorinated compounds. In the HHRA, biotransfer factors estimated using this regression equation are applied to the non-dioxin organic compounds. Sufficient scientific evidence exists (Ikeda 1980; Astill 1989; Daniel and Bratt 1974; Albro 1986), however, to indicate that bis(2-ethylhexyl)phthalate is metabolized in the body of mammals and does not bioaccumulate to the extent implied by using the Travis and Arms regression equation. Therefore, a "metabolism factor", MF, is introduced in equation (VI-7) to account for metabolism in beef cattle, milk cows, and humans. The value of MF is estimated to be 0.01 for bis(2-ethylhexyl)phthalate based on a study by Ikeda et al. (1980). Additional discussion of the metabolism, absorption, and excretion of bis(2-ethylhexyl)phthalate is presented in Appendix V-7. For all other compounds, the value of MF is conservatively assumed to be 1.0.

F_{ij} is a site-specific value that has been obtained from discussions with a local agricultural agent (Miller 1993), as shown in Table VI-1. This value equals 0.9 for grain and silage for dairy cows and 1.0 for all else. These values imply that only 10% of a dairy cattle's grain and silage intake is imported from outside areas with the balance from local sources.

E. Estimation of Surface Water Concentrations

Surface water bodies may receive stack gas constituents from direct deposition, from runoff of contaminated soils in the vicinity of the WTI facility, and from eroded soils. The concentration of constituents in the surface water is required to estimate human exposure through surface water ingestion and dermal contact, and to estimate the uptake of chemicals from the surface water by fish. U.S. EPA (1994c) presents a model to estimate constituent concentrations in surface water bodies. This algorithm contains several simplifying and conservative assumptions, as follows:

- Soil concentrations within a watershed are uniform;
- Chemicals enter into a surface water body via soil erosion, surface runoff, and direct deposition; and
- Steady-state is achieved between concentrations in the dissolved phase in the water column, concentrations in the suspended sediment, and concentrations in bottom sediments.

To determine surface water concentrations, the concentration on the suspended sediment must be estimated. The suspended sediment concentration is calculated from the total load of constituent to the water body and the annual amount of suspended sediment, as presented in Appendix V-7 and summarized below:

$$C_{ssed} = \frac{\rho}{\phi} \qquad \text{(VI-9)}$$

where:

C_{ssed} = concentration on suspended sediment, mg/kg
ρ = annual contaminant entry via erosion + direct deposition, mg/yr
ϕ = annual amount of suspended sediment, kg/yr

The values for ρ and ϕ are determined by the equations in Appendix V-7.

Once the suspended sediment concentration is determined, the dissolved concentration is estimated by calculating a mass balance between the mass of contaminants entering the water body and the amount that partitions to the three compartments in the water body: a) dissolved in the water column, b) sorbed to suspended material, and c) sorbed to particles settling to the bottom. Specifically, the dissolved concentration is estimated by the following equation:

$$CW = \frac{C_{ssed}}{Kd_{ssed}} \quad \text{(VI-10)}$$

where:

CW	=	dissolved-phase concentration in water column, mg/L
C_{ssed}	=	concentration on suspended sediment, mg/kg
Kd_{ssed}	=	sediment-water partition coefficient for contaminated suspended sediment, L/kg

The bottom sediment concentration is determined by the following relationship with the concentration on the suspended sediment estimated by:

$$C_{sed} = (C_{ssed})\left(\frac{OC_{sed}}{OC_{ssed}}\right) \quad \text{(VI-11)}$$

where:

C_{sed}	=	concentration on bottom sediment, mg/kg
C_{ssed}	=	concentration on suspended sediment, mg/kg
OC_{sed}	=	fraction organic carbon in bottom sediment, unitless
OC_{ssed}	=	fraction organic carbon in suspended sediment, unitless

The equations and parameter values used in this assessment are presented in Appendix V-7. Site-specific values are needed for several parameters to characterize the water body and watershed area (e.g., water body surface area, volume, and total suspended solids, and watershed area) and are presented in Table VI-1. These values are obtained from the literature and are described further in Appendix V-7. The chemical-specific partition coefficient, Kd_{ssed}, is estimated from the organic carbon coefficient, K_{oc}, and the fraction of organic carbon in the suspended sediments.

F. Estimation of Chemical Concentrations in Fish

Stack emissions may enter local surface water bodies through both direct deposition and deposition onto watershed soils, followed by runoff and erosion into the surface water bodies. These chemicals may then accumulate in fish tissue. The concentration of constituents in fish is required to estimate human exposure to constituents via ingestion of fish. U.S. EPA (1990a) presents a model to estimate chemical concentrations in fish. This model, which calculates constituent concentrations by considering the water concentration and

a bioconcentration factor, is generally appropriate for chemicals with high water solubility and low affinity for sediments.

The water concentration and a bioconcentration factor are necessary to estimate concentrations of constituents in fish, as shown in Appendix V-7 and as follows:

$$CF = (C_{wat})\ (BAF) \qquad \text{(VI-12)}$$

where:

CF	=	concentration in fish, mg/kg
C_{wat}	=	dissolved water concentration, mg/L
BAF	=	bioaccumulation factor, L/kg

Estimation of water concentrations has been described previously. BAFs are calculated as the product of a bioconcentration factor (BCF) and a food-chain multiplier (FCM) (U.S. EPA 1995d). U.S. EPA (1995d) presents FCMs for various trophic levels based on the logarithm of K_{ow}. The FCMs for the piscivorous fish trophic level are used in this assessment. BCF values for specific substances of concern are compiled from the scientific literature and other sources, e.g., the U.S. EPA AQUIRE data base.

An alternative equation is applied to dioxin-like compounds because of their low water solubility and high affinity to sediments (Appendix V-7), as follows:

$$CF = \left(\frac{C_{sed}}{OC_{sed}}\right)\ (BSAF)\ (f_{lipid}) \qquad \text{(VI-13)}$$

where:

C_{sed}	=	bottom sediment total concentration, mg/kg
OC_{sed}	=	fraction organic carbon in bottom sediment, unitless
BSAF	=	biota to sediment accumulation factor, unitless
f_{lipid}	=	fraction lipid content of fish, unitless

Default values are used for OC_{sed} and f_{lipid} because of the likely variability in site-specific data; BSAF is chemical-specific, and values recommended by U.S. EPA are used in this assessment (U.S. EPA 1994c). Specific parameter values used in this assessment can be found in Appendix V-7.

G. Estimation of Breast Milk Concentrations

Constituents in breast milk provide an exposure pathway for infants, a potentially sensitive population subgroup. For dioxin-like compounds, Smith (1987) has developed an approach to estimating concentrations in breast milk. This approach is based on the half-life of dioxins within the human body, estimated as five to seven years (U.S. EPA 1994a), and is shown as follows:

$$C_{mm} = \frac{(m)\ (h)\ (f_1)}{(0.693)\ (f_2)} \left(\frac{LT}{ED}\right) \qquad \text{(VI-14)}$$

where:

C_{mm} = chemical concentration in mother's milk fat, mg/kg
m = lifetime average maternal intake of dioxin-like compound, mg/kg of body weight/day
h = half-life of dioxin in adults, days
f_1 = proportion of ingested dioxin-like compound stored in fat
f_2 = proportion of mother's weight that is fat, kg maternal fat/kg total body weight
LT = lifetime, days
ED = exposure duration, days

The lifetime average maternal intake, m, is the average daily dose the mother receives during her lifetime, rather than the dose during the period of exposure. Therefore, the LT over ED factor is included to correct for the lifetime averaging used in the estimation of maternal intake (i.e., to estimate an average daily dose during the period of exposure). Parameter values used in the assessment are shown in Appendix V-7.

Travis et al. (1988) presents a generic, alternative methodology to estimate breast milk concentrations for chemicals not amenable to the Smith (1987) approach (i.e., chemicals other than dioxins/furans and PCBs). This methodology is summarized in Appendix V-7 and below:

$$C_{mm} = (M_{ti})\ (F_{mm}) \left(\frac{LT}{ED}\right) (MF) \qquad \text{(VI-15)}$$

where:

C_{mm} = constituent concentration in mother's milk fat, mg/kg
M_{ti} = maternal total daily intake from all routes of exposure, mg/day

F_{mm} = mother's milk fat biotransfer factor, day/kg
MF = metabolism factor, unitless

The method used to estimate the mothers' total daily intake is summarized in Appendix V-7. Biotransfer factors are a function of K_{ow} and are calculated by the modified Travis et al. (1988) equation shown in Appendix V-7. As noted earlier, the value for MF is 1.0 for all chemicals, except for bis(2-ethylhexyl)phthalate for which a value of 0.01 is assigned. Additional discussion of this approach is presented in Appendix V-7.

Inorganic compounds, including metals, are not generally lipophilic and thus accumulation in mother's milk is not anticipated.

H. Uncertainties

Uncertainties in estimating chemical concentrations in the environment are classified as follows:

- Uncertainties inherent in the fate and transport models used to predict environmental concentrations; and

- Uncertainties in the parameters values used as inputs to the fate and transport models.

These two types of uncertainty are discussed separately below. A quantitative evaluation of the effect of uncertainties in the environmental modeling is presented in Chapter IX. In addition, Table VI-2 identifies the key assumptions used in estimating environmental concentrations. The basis for each assumption is provided in the table, as well as the estimated direction and magnitude of effect that the assumption could have on the results of the HHRA. As indicated in Table VI-2, several of the assumptions used in this chapter could significantly impact the results of the assessment, if these assumptions are incorrect. Significant uncertainty is associated with the accuracy of the fate and transport models because of the simplifying assumptions used in the derivation of these models and the limited, largely lab-scale, validation that has been conducted. As noted earlier, conservative assumptions are applied in this assessment to account for this uncertainty.

Chemical-specific input values used in the fate and transport equations may also have a significant effect on the results of the risk assessment. Specifically, K_{ow} values used in many of the models are highly uncertain and may have a significant impact on estimated concentrations in environmental media. In addition, estimates of K_{ow} values for some chemicals range over several orders of magnitude.

1. Uncertainties Inherent in the Fate and Transport Models

As outlined in this chapter, it is necessary to rely on models to predict chemical behavior in the environment following release from the WTI facility. These models, while based on fundamental scientific principles, represent a simplification of the processes that will determine actual chemical concentrations in air, soil, surface water, and other environmental media. Such simplification can, in theory, lead to either an overestimation or underestimation of chemical concentrations in the various environmental media. In this risk assessment, models are selected that are more likely to overestimate, rather than underestimate, chemical concentrations in the environment given conservative input parameters to these models.

The models used to predict chemical concentrations in soil, vegetables, meat, milk, surface water, fish, and breast milk are based primarily on the scientific principles of: 1) mass balance, and 2) chemical partitioning. Use of mass balance principles ensures that the total mass of a contaminant is taken into account, for example, in predicting soil concentrations. Chemical partitioning indicates what fraction of the total mass will be transferred from one medium to another and dictates parameters such as biotransfer factors (BTFs) and bioconcentration factors (BCFs). Uncertainty is associated with both mass balance and partitioning model approaches, due to incomplete knowledge in several areas, including the nature, rate, and extent of chemical degradation in the environment, the types of chemicals produced by such degradation, and the chemical, physical, and biological factors that determine the movement of a chemical from one environmental medium to another.

Specific uncertainties associated with the fate and transport modeling used for dioxin and furan cogeners are discussed below because these groups of compounds are likely to be the primary contributor to total cancer risk due to human exposure to incinerator stack emissions. This risk assessment relies on the fate and transport modeling described in the U.S. EPA document: *Estimating Exposure to Dioxin-Like Compounds: Volume III* (U.S. EPA 1994c), which was recently reviewed by the U.S. EPA's Science Advisory Board (U.S. EPA 1995e). The Science Advisory Board's comments on some of the major fate and transport modeling issues for dioxins and furans are summarized below.

- The role of combustor emissions on long-term accumulation of dioxins and furans in sediments and soil requires further study.

- The existing air dispersion models adequately simulate the atmospheric transport of vapor-phase dioxins and furans, but are unable to account for partitioning processes onto soil, vegetation, and water surfaces.

- The available qualitative evidence suggests that the lesser chlorinated dioxins and furan congeners are degraded by photolysis between the source and environmental sinks. This degradation is not accounted for in the fate and transport modeling.

- The primary physical/chemical properties of the individual dioxin and furan congeners, other than 2,3,7,8-TCDD, are developed based on limited data, which introduces some uncertainty in the estimates of environmental concentrations.

- Validation of the vapor/particle partioning model (Bidleman 1988) is required over the broad temperature range typical of environmental conditions.

Further details regarding the Science Advisory Board's comments may be found in: *An SAB Report: A Second Look at Dioxin. Review of the Office of Research and Development's Reassessment of Dioxin and Dioxin-Like Compounds by the Dioxin Reassessment Review Committee* (U.S. EPA 1995e).

2. Uncertainties in Input Parameters

The fate and transport models used to predict concentrations in the environment require inputs regarding both the environmental media (e.g., soil density, wind speed, fraction organic content in soil and sediment) and the physical/chemical properties of the chemicals of concern (e.g., bioconcentration factors, solubility, Henry's Law constants). In some cases, only limited data are available regarding a property of an environmental medium or chemical. For example, biotransfer factors have not been directly measured for certain chemicals considered in this assessment, and thus are extrapolated using regression equations based on available data for other chemicals. Many of these regression equations are based on the octanol/water partition coefficient, K_{ow}. The value of K_{ow} for many chemicals is highly uncertain, with estimated values for a single chemical potentially ranging several orders of magnitude. Furthermore, regression equations are often based on the study of a limited number or specific class of compounds (e.g., pesticides). The uncertainty associated with applying these regressions to compounds outside the class of compounds used in the original study may be significant. These data gaps introduce uncertainty in the model results. In other cases, there is considerable variability in the available data, and a single value from a

range or distribution of reported values for a parameter is selected for use in the risk assessment.

It is not possible to rigorously quantify the effect of all uncertainties introduced into the risk assessment by the fate and transport models and inputs to these models. However, a quantitative evaluation of the uncertainties in the fate and transport modeling for two types of chemicals of primary concern in the risk assessment (dioxins and metals) is performed, and is presented in Chapter IX.

Table VI-1 Site-Specific Parameters for Fate and Transport Modeling				
	Parameter	**Value**	**Media**	**Basis**
OC_{soil}	Fraction of organic carbon in soil (unitless)	0.013	plant, soil	average of organic matter values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), Butler (USDA SCS 1989), and Allegheny counties, PA (USDA SCS 1981); Brooke, Hancock, & Ohio counties, WV (USDA SCS 1974); and Columbiana county, OH (USDA SCS 1968) and assumption that the organic matter is comprised of 40-50% carbon (Foth and Turk 1972)
BD	Bulk density of soil (g/cm^3)	1.31	soil	average of values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), and Butler counties, PA (USDA SCS 1989)
P	Precipitation (cm/yr)	95	soil	average of values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), Butler (USDA SCS 1989), and Allegheny counties, PA (USDA SCS 1981); Brooke, Hancock, & Ohio counties, WV (USDA SCS 1974); and Columbiana county, OH (USDA SCS 1968)
I	Irrigation (cm/yr)	28	soil	PA average (personal communication, Jarrett 1994)
RO	Runoff (cm/yr)	25	soil	PA average (personal communication, Jarrett 1994)
Ev	Evapotranspiration (cm/yr)	44	soil	based on meteorological data from Columbus, OH (personal communication, Reinke 1994)
θ_s	Soil volumetric water content (mL/cm^3)	0.25	soil	regional average (personal communication, Seibert 1994)
R	USLE erosivity (yr^{-1})	125	soil	constant for Allegheny county, PA (personal communication, Moyer 1994)

Table VI-1 (continued)
Site-Specific Parameters for Fate and Transport Modeling

	Parameter	Value	Media	Basis
K	USLE erodability (tons/acre)	0.34	soil	average of values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), and Butler counties, PA (USDA SCS 1989)
u	Wind speed (m/sec)	4.1	soil	based on meteorological data from Pittsburgh, PA (personal communication, Vreeland 1994)
T	Air temperature (K)	283	plant, soil	average of values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), Butler (USDA SCS 1989), and Allegheny counties, PA (USDA SCS 1981); Brooke, Hancock, & Ohio counties, WV (USDA SCS 1974); and Columbiana county, OH (USDA SCS 1968)
μ_a	Viscosity of air (g/cm-sec)	1.76×10^{-4}	soil	calculated from the air temperature (Munson et al. 1990)
ρ_a	Density of air (g/cm^3)	1.25×10^{-3}	soil, plant	calculated from the air temperature (Munson et al. 1990)
Tp	Length of exposure to deposition per harvest of the edible portion (yr)	0.226 a-g exposed 0.288 leafy 0.315 forage 0.082 silage	plant	time of harvesting activity (PDA 1994)
Yp	Standing crop biomass (kg DW/m^2)	0.09 a-g exposed 0.18 leafy 0.449 forage 2.989 silage	plant	literature values for aboveground exposed and leafy vegetable (Belcher and Travis 1989), average 1987 and 1992 grain, forage, and silage values from Census of Agriculture (USDC 1993a, 1993b, 1993c)
F	Fraction of feed from on-site sources	0.9 for grain and silage for dairy cows, 1.0 for all else	animal	personal communication, Miller 1993

Table VI-1 (continued)
Site-Specific Parameters for Fate and Transport Modeling

	Parameter	Value	Media	Basis
A_w	Effective watershed area (m^2)	5.57×10^7 (TR L.) 1.3×10^9 (LBC) 4×10^9 (Ohio R.)	lake river	CES 1994 USGS 1993 professional judgement
A_{wat}	Surface area of water body (m^2)	1.2×10^5 (TR L.) 2.4×10^5 (LBC) varies by subarea (Ohio R.)	lake river	CES 1994 30 m avg width and 8,050 m length (professional judgement) 450 m avg width and lengths of 3.5, 3, 2, 2, 3, and 6.5 river miles in the E3, E2, E1, S1, W2, and W3 subareas, respectively (professional judgement)
V_{wat}	Volume of water (L/yr)	1.46×10^{10} (TR L.) 4.7×10^{11} (LBC) 3.4×10^{13} (Ohio R.)	lake river	CES 1994 USGS 1993 personal communication, Fraser 1995
TSS	Total suspended solids (mg/L)	19 (TR L.) 12 (LBC) 20 (Ohio R.)	lake river	avg of bimonthly samples at three locations (CES 1994) personal communication, Davic 1995 average of 10/89 to 6/92 monthly measurements from East Liverpool Station, Ohio River (personal communication, Fraser 1995)
PER	Particle emission rate (g/s)	0.07 0.07	lake river	average of 33 runs from the trial burns and performance tests

a-g exposed = above ground exposed fruit and vegetables
TR L. = Tomlinson Run Lake
LBC = Little Beaver Creek
Ohio R. = Ohio River

TABLE VI-2
Key Assumptions for Chapter VI
(Estimation of Environmental Concentrations)

Assumption	Basis	Magnitude of Effect	Direction of Effect
The March 1993 trial burn data of particle size are extrapolated to smaller size fractions	Professional judgment.	low	unknown
Fate and transport modeling accurately reflects reality	The U.S. EPA-recommended (U.S. EPA 1990a, 1993b, 1994c) models used in this assessment are based on the best available data (although somewhat limited). These models do not adequately account for degradative processes that limit chemical availability. In some instances models developed under conservative laboratory conditions are applied to compounds or conditions that would overstate environmental concentrations.	high	likely overestimate
Chemical-specific inputs are appropriate	Input values for key parameters, such as K_{ow}, were conservatively selected.	high	likely overestimate
Site-specific inputs are appropriate	Professional judgment on best available data.	low	unknown
The surrounding area is an agricultural watershed that has a soil mixing zone of 10 cm	U.S. EPA (1994c) guidance assuming an agricultural watershed has some tilled and some untilled soils.	low	overestimate
The chemicals mix completely within the soil layer of interest (1, 10, or 20 cm)	U.S. EPA (1990a) guidance assuming tilling in agricultural lands.	low	overestimate
The facility operates continuously over 30 years	It is highly unlikely that the facility will operate 100% of the time for 30 years. The facility operated 53% of the time in the first year.	low	likely overestimate
Uptake of chemicals via inhalation and surface water ingestion by animals are not evaluated	These pathways are considered insignificant compared to fodder and soil ingestion (U.S. EPA 1994c) based on a review of the literature.	low	underestimate

TABLE VI-2 (continued)
Key Assumptions for Chapter VI
(Estimation of Environmental Concentrations)

Assumption	Basis	Magnitude of Effect	Direction of Effect
For surface water: -Soil concentrations within a watershed are uniform -Steady-state is achieved between concentrations in the dissolved phase, suspended sediment, and bottom sediment	U.S. EPA (1994c) guidance.	low	unknown
PAHs bioaccumulate in fish	Conservative since scientific evidence indicates that PAHs are metabolized in fish and do not significantly bioaccumulate	medium	overestimate
Inorganic compounds do not accumulate in mother's milk	Inorganic compounds are generally not lipophilic and would not tend to accumulate in mother's milk	low	underestimate

Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten

VII. ESTIMATION OF EXPOSURE DOSE

A. Introduction

Estimates of chemical dose developed in the exposure assessment are used to estimate the risks to individuals and to the collective population in the vicinity of the WTI facility. U.S. EPA guidelines recommend that the presentation of such estimates for individuals and populations be made using several descriptors (U.S. EPA 1992a; 1995a). For example, the guidelines call for estimating the "high-end" exposure, which is an estimate of the exposure of individuals in the upper end of the exposure distribution of the population. Conceptually, the U.S. EPA guidelines define high-end exposure as within the upper ten percent of the exposure distribution, but not higher than the upper bound of the distribution (i.e., not above the expected highest value in the true exposure distribution of the population). The guidelines also recommend the development of "central tendency" exposure estimates to reflect the exposure borne by typical members of the exposed population, i.e., those approximately at the median of the exposure distribution.

In order to estimate the exposure distribution of the population, it is necessary to develop sufficient data to characterize the exposed population. The method used in this assessment to estimate the exposure distribution for the population is based on dividing the population into subgroups (identified in Chapter V) made up of individuals expected to share the same exposure characteristics. These subgroups can be characterized by developing an exposure distribution using site-specific information concerning:

- The location of the exposure subgroups with respect to the WTI facility;
- Typical activity patterns that generally characterize each subgroup; and
- The number of individuals that comprise each subgroup.

To fully develop an exposure distribution for a subgroup requires detailed information concerning the activity and behavioral patterns of individuals in the subgroup, including the percent of time spent in performing different activities at designated locations (e.g., indoors, outdoors, garden, school), dietary intake estimates, sources of different food groups within the area, age and sex of individuals in the population, and other data characterizing human behavior of the population. For example, it is important to understand the extent to which food consumed locally is derived from local sources rather than imported from more distant

sources. This aspect is particularly important in assessing the fraction of consumed food that may be affected by emissions from the WTI incinerator.

It is recognized that gaps in this information exist, and that some of the activity and behavioral patterns will change over time. However, this methodology should provide a reasonable estimate of the exposure distribution within each subgroup. After distributions have been developed for each subgroup, they can be combined to approximate the exposure distribution for the population as a whole.

The Peer Review Panel emphasized the importance of obtaining site-specific data, including information on the amount of consumed meat derived from local sources, the amount of fish derived locally, and the amount of food consumed from local home gardens. As described in the Project Plan (U.S. EPA 1993b), surveys have been conducted to obtain site-specific data of this nature. The data collected from these efforts, as well as subsequent data collected, are described in this chapter.

B. Estimation of Human Exposure

The fate and transport models described in the preceding chapter provide a means of estimating environmental media concentrations of substances released from the WTI facility. Exposure to these substances by individuals living and working in the vicinity of the facility may occur as a result of contact (e.g., inhalation, ingestion, dermal contact) with contaminated media. To quantify the magnitude of this exposure, environmental media concentrations are combined with exposure factors in exposure dose equations using the methodology described below.

1. Estimation of Exposure Dose

Exposure to a chemical by an individual may occur by either intake, where the chemical enters the body through a body opening (e.g., the mouth), or uptake, where the chemical is absorbed through a body boundary (e.g., the skin). Exposures through both intake and uptake are of interest in the risk assessment.

Theoretically, the dose may be measured at any one of several locations between the point of contact and the location in the body where the chemical takes effect. It is general practice to estimate either the dose at the point of entry into the body (referred to as the potential dose), or the dose that has been absorbed through a body boundary and is available for biological action (referred to as the internal dose), depending on the exposure route being assessed (U.S. EPA 1992a). In addition, the dose is estimated as an average dose rate over time.

When considering intake processes (e.g., ingestion, inhalation), the potential dose rate is estimated. For the evaluation of noncancer health effects, this dose rate is

referred to as the average daily potential dose (ADD_{pot}) and is averaged over the exposure duration. In evaluating cancer risks, the daily potential dose is averaged over the individual's lifetime and is referred to as the lifetime average daily potential dose ($LADD_{pot}$). For uptake processes, where the chemical crosses a body boundary, such as the skin, the internal dose rate is of interest. In this case, the average daily internal dose (ADD_{int}) and the lifetime average daily internal dose ($LADD_{int}$) are estimated when assessing noncancer and cancer health effects, respectively. Although it is theoretically possible to estimate an internal dose for intake processes, such as ingestion and inhalation, by using factors that account for the transfer of chemicals across internal boundaries (e.g., lungs, stomach), the chemical-specific data are seldom available to perform such an assessment reliably.

The rate of chemical intake and/or uptake is dependent upon the concentration of chemicals in environmental media to which individuals come into contact, and the nature and duration of contact. The concentration of chemicals in environmental media is estimated using fate and transport models (as described in Chapter VI). The nature and duration of contact with contaminated media is estimated for generally homogenous subgroups within the population, based on assumptions about behavior. As recommended in U.S. EPA guidelines (U.S. EPA 1992b), these assumptions of behavior can be represented by discrete values. These discrete values, referred to as exposure factors, represent such parameters as the exposure duration, exposure frequency, and the media intake rate.

The exposure factors are combined with the media concentrations in equations that estimate the ADD or the LADD. These equations, used to estimate the dose (potential or internal), are dependent on the route of exposure (e.g., ingestion, inhalation, dermal contact with water). In the following sections, the equation used to estimate the dose for each route of exposure is presented. The input parameters for these equations, i.e., exposure factors, are presented and described in Appendix V-8.

a. Inhalation of Air

When assessing the potential for non-cancer effects, inhalation exposure to chemicals in air is calculated using the following equation:

$$ADD_{pot} = \frac{(CA)(IR)(ET)(EF)(ED)}{(BW)(AT)} \qquad \text{(VII-1)}$$

where:

ADD_{pot} = average daily potential dose, mg/kg-day

CA	=	concentration of chemical in air, mg/m^3
IR	=	inhalation rate, m^3/hr
ET	=	exposure time, hr/day
EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

For non-cancer effects, AT is set equal to ED. In evaluating carcinogenic health effects, the $LADD_{pot}$ is estimated using the equation above, but with the AT replaced by the number of days in a lifetime, LT.

b. Soil Ingestion

For non-cancer health effects, exposure through incidental soil ingestion is calculated using the following equation:

$$ADD_{pot} = \frac{(CS)\left(\frac{10^{-6}kg}{mg}\right)(IR)(EF)(ED)}{(BW)(AT)} \qquad \text{(VII-2)}$$

where:

ADD_{pot}	=	average daily potential dose, mg/kg-day
CS	=	chemical concentration in soil, mg/kg
IR	=	soil ingestion rate, mg/day
EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

In assessing non-cancer effects, AT is set equal to ED. When evaluating carcinogenic health effects, the $LADD_{pot}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT.

c. Dermal Contact with Soil

When assessing non-cancer health effects, dermal exposure to chemicals in soil is estimated using the following equation:

$$ADD_{int} = \frac{(CS)(SA)(AF)\left(\frac{10^{-6}kg}{mg}\right)(ABS)(EF)(ED)}{(BW)(AT)} \quad \text{(VII-3)}$$

where:

ADD_{int}	=	average daily internal dose, mg/kg-day
CS	=	chemical concentration in soil, mg/kg
SA	=	skin surface area available for contact, cm^2
AF	=	soil to skin adherence factor, mg/cm^2-day
ABS	=	absorption factor, unitless
EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

In assessing non-cancer effects, AT is set equal to ED. For carcinogenic health effects, the $LADD_{int}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT.

d. Ingestion of Locally Raised Beef or Other Meat

Exposure to chemicals in beef or other meat (or eggs) may occur when individuals consume meat products from locally raised livestock or when individuals consume meat from locally hunted deer. When assessing potential non-cancer health effects, exposure to chemicals in meat products is calculated using the following equation:

$$ADD_{pot} = \frac{(CB)(IR)\left(\frac{10^{-3}kg}{g}\right)(FI)(EF)(ED)}{(BW)(AT)} \quad \text{(VII-4)}$$

where:

ADD_{pot}	=	average daily potential dose, mg/kg-day
CB	=	chemical concentration in meat, mg/kg
IR	=	ingestion rate, g/day
FI	=	fraction of meat ingested from contaminated source, unitless

EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

In evaluating non-cancer effects, AT is set equal to ED. For carcinogenic health effects, the $LADD_{pot}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT.

e. Ingestion of Milk and Milk Products from Locally Raised Cows

Exposure to milk and milk products from locally raised cows is calculated for chemicals with noncancer health effects using the following equation:

$$ADD_{pot} = \frac{(CM)(IR)\left(\frac{10^{-3}kg}{g}\right)(FI)(EF)(ED)}{(BW)(AT)} \qquad \text{(VII-5)}$$

where:

ADD_{pot}	=	average daily potential dose, mg/kg-day
CM	=	chemical concentration in milk and milk products on a whole milk basis, mg/kg
IR	=	ingestion rate, g/day
FI	=	fraction of milk or milk-product from contaminated source, unitless
EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

In assessing non-cancer risks, AT is set equal to ED. For carcinogenic health effects, the $LADD_{pot}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT.

f. Ingestion of Locally Grown Produce

When evaluating non-cancer effects, exposure to chemicals in locally grown produce is calculated using the following equation:

$$ADD_{pot} = \frac{(CV)(IR)\left(\frac{10^{-3}kg}{g}\right)(FI)(EF)(ED)}{(BW)(AT)} \qquad \text{(VII-6)}$$

where:

ADD_{pot}	=	average daily potential dose, mg/kg-day
CV	=	chemical concentration in vegetables, mg/kg
IR	=	ingestion rate, g/day
FI	=	fraction of vegetable diet that is locally grown, unitless
EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

For non-cancer health effects, AT is set equal to ED. For carcinogenic health effects, the $LADD_{pot}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT. It should be noted that FI may be zero for vegetables not grown in the study area when assessing individual risk.

g. Ingestion of Surface Water

In assessing non-cancer health effects, exposure to chemicals in surface water is calculated using the following equation:

$$ADD_{pot} = \frac{(CW)(IR)(ET)(EF)(ED)}{(BW)(AT)} \qquad \text{(VII-7)}$$

where:

ADD_{pot}	=	average daily potential dose, mg/kg-day
CW	=	chemical concentration in surface water, mg/L
IR	=	ingestion rate, L/hr
ET	=	exposure time, hours/day
EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

For non-cancer health effects, AT is set equal to ED. For carcinogenic health effects, the $LADD_{pot}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT.

h. Dermal Contact with Surface Water

In assessing non-cancer health effects, dermal exposure to chemicals in surface water is estimated using the following equation:

$$ADD_{int} = \frac{(DA_{event})(SA)(EF)(ED)}{(BW)(AT)} \qquad \text{(VII-8)}$$

where:

ADD_{int}	=	average daily internal dose, mg/kg-day
DA_{event}	=	adsorbed dose per event, mg/cm^2-event
SA	=	skin surface area available for contact, cm^2
EF	=	exposure frequency, events/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

For non-cancer health effects AT is set equal to ED. For carcinogenic health effects, the $LADD_{int}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT. DA_{event} is estimated in accordance to U.S. EPA guidance (U.S. EPA 1992c), as described in Appendix V-8.

i. Ingestion of Locally Caught Fish

When assessing non-cancer health effects exposure to chemicals in fish caught in local surface water bodies is calculated using the following equation:

$$ADD_{pot} = \frac{(CF)(IR)(FI)(EF)(ED)\left(\frac{10^{-3}kg}{g}\right)}{(BW)(AT)} \qquad \text{(VII-9)}$$

where:

ADD_{pot}	=	average daily potential dose, mg/kg-day
CF	=	chemical concentration in fish, mg/kg
IR	=	ingestion rate, g/day
FI	=	fraction of fish ingested that are caught locally, unitless

EF	=	exposure frequency, days/year
ED	=	exposure duration, years
BW	=	body weight, kilograms
AT	=	time over which the dose is averaged, days

For non-cancer health effects, AT is set equal to ED. For carcinogenic health effects, the $LADD_{pot}$ is estimated using the equation above, but with AT replaced by the number of days in a lifetime, LT.

j. Ingestion of Breast Milk

When assessing non-cancer health effects, exposure to chemicals in breast milk is calculated using the following equation:

$$LADD_{pot} = \frac{(C_{mm})(f_4)(IR)(ED)\left(\frac{10^{-3}kg}{g}\right)}{(BW)(LT)} \qquad \text{(VII-10)}$$

where:

$LADD_{pot}$	=	lifetime average daily dose, mg/kg-day
C_{mm}	=	chemical concentration in mother's milk, mg/kg
f_4	=	fraction of ingested contaminant that is absorbed, unitless
IR	=	ingestion rate, g/day
ED	=	exposure duration, days
BW	=	body weight, kilograms
LT	=	lifetime, days

Noncarcinogenic health effects due to infant ingestion of breast milk are not considered in this assessment due to the significant uncertainty in applying health effects/toxicity data to infants (U.S. EPA 1994a).

2. Exposure Factors

The dose equations identified in the preceding sections include various exposure factors, such as contact rate, and exposure frequency and duration. Each of these factors has a range of possible values based on the population subgroup and exposure pathway of interest. Estimation of typical exposures for each subgroup is performed by combining exposure factors reflecting typical activity and behavior patterns of the subgroup with media concentrations to which the subgroups may be exposed. Typical

values for the exposure factors used in the various dose equations listed above are presented in Appendix V-8. The high-end of the population exposure distribution includes highly exposed subgroups from areas most significantly impacted by the facility. A further assessment of the variability of exposure to these individuals is described in Chapter VIII, by applying high-end exposure factor values. A summary of these values is presented in Appendix V-8.

In Appendix V-8, typical values refer to values that represent either the mean or the median of the distribution of possible values. As noted in the *Exposure Assessment Guidelines* (U.S. EPA 1992b), for skewed or truncated distributions, the median may be more representative of the central tendency value than the mean. Most exposure factor distributions are skewed or truncated; therefore, when possible, the median value is used in the HHRA. High-end represents the values toward the upper end of the distribution, generally 90th percentile and greater.

As described in Appendix V-8, site-specific information and U.S. EPA guidance (U.S. EPA 1989b; 1990b; 1992c) are generally relied upon in estimating appropriate values for the exposure factors. In some instances, professional judgment is applied in the selection of exposure factor values. A discussion of the site-specific data relied upon in developing exposure factors is provided in the following sections. Assumptions based on U.S. EPA guidance or professional judgment used in developing exposure factors are discussed in Appendix V-8.

C. Site-Specific Exposure Data

In order to provide a more complete understanding of the exposure to the population surrounding the WTI facility, site-specific data characterizing this population, land use characteristics, local topography, and the local meteorology are used wherever possible in the risk assessment. These site-specific data are used in the risk assessment to estimate the potential exposure to the actual population living or working in the area surrounding the WTI incinerator. Table VII-1 summarizes the exposure factors used in the exposure dose equations for which site-specific data are available.

1. Home Gardening Practices

An informal home gardening survey was conducted in June 1993 by the East Liverpool Board of Health in six sections of East Liverpool: 1) East End (half a mile northeast of WTI); 2) Dixonville (half a mile north of WTI); 3) Northside (2 miles northwest of WTI); 4) LaCroft (3 miles northwest of WTI); 5) Pleasant Heights (2 miles west of WTI); and 6) Downtown (2 miles southwest of WTI). This survey indicated that approximately 30 percent of local residents have home gardens. Of the

residents with home gardens, the Board of Health contacted 100 residents, to ascertain gardening practices, such as the types of vegetables and fruit grown and percentage of their total vegetable/fruit intake that is homegrown. The data from the home gardening survey provide a general indication of gardening practices in the East Liverpool area, and are tabulated in Tables VII-2 and VII-3. These tables include the general locations of vegetable gardens in the East Liverpool area, the vegetables and fruit grown in home gardens, and the estimated portion of vegetable and fruit diet that is homegrown. The information on home gardening practices collected by the Board of Health is used to estimate the fraction of homes in the area surrounding WTI that have gardens and the fraction of residents' fruit and vegetable diets that are homegrown, as indicated in Table VII-1.

2. Local Fishing Practices

Fishing practices in the Ohio River valley in the vicinity of the WTI facility were evaluated by the Ohio and West Virginia Departments of Natural Resources (DNR) in a joint recreational fishing study (ODNR 1994a) conducted to identify the amount of fishing and the types of fish being caught along the Ohio River between the Ohio/Pennsylvania border (Ohio River Mile 40.1) and Greenup Dam, 300 miles downstream (ORM 341). This 300-mile study area was subdivided into 32 survey areas, which include survey points (embayments and tailwaters), and pools. Four of the 32 survey areas (locations #1 to #4) are in the general vicinity (30-kilometer radius) of the WTI facility (located at ORM 41.5). These four survey areas were assumed to be representative of the Ohio River in the vicinity of the WTI facility. The four survey areas cover the entire stretch of the Ohio River from the Ohio/Pennsylvania border to Steubenville, Ohio (ORM 40.1 to ORM 69.5).

The DNR study was conducted between April and November 1992. The amount of fishing that occurs between December and March is believed to be insignificant in comparison with other parts of the year and should not appreciably affect the results of this survey. Therefore, the data collected in this study are assumed to reflect annual data. Table VII-4 summarizes the recreational fishing data obtained from the Ohio/West Virginia DNR study (ODNR 1994a).

The Ohio River Valley Sanitation Commission (ORSANCO) conducted an electrofishing survey (between ORM 21.6 and ORM 55.5) from 1991 to 1993 (ORSANCO 1994) that provides the average weight of fish from the Ohio River corresponding to various size ranges. In addition, ORSANCO performed fish tissue sampling from 1987 through 1992 at various locations in the Ohio River valley. The resulting data include moisture and lipid content, length and weight information, and

pesticide, PCB, and metals concentration in fish tissue (ORSANCO 1988; 1990; 1993). As described in the analysis of the fishing data in Appendix V-6, the recreational fishing data do not suggest that locally caught fish are a significant portion of the fish diet for typical local residents. Furthermore, the data discussed above are not sufficient to indicate the presence or absence of subsistence fishing in the Ohio River Valley area. Nonetheless, subsistence fishing is evaluated using exposure factors developed from national statistics, as described in Appendix V-6.

3. Local Farming Practices

Information concerning local farming practices has been obtained from interviews with local Agricultural Extension agents who are familiar with farming practices in this area of Ohio, Pennsylvania, and West Virginia. In addition, data on local beef farming and cattle raising practices were compiled from Agricultural Statistics Service (associated with the Departments of Agriculture in Ohio, Pennsylvania, and West Virginia) reports and from federal Department of Agriculture reports. The following sections summarize the site-specific data collected on beef and dairy farming practices in the area surrounding the WTI facility.

a. Beef Farming

The primary source of information on beef farming statistics is agricultural data compiled by the Agricultural Statistics Service associated with the Departments of Agriculture in each of the three states (Ohio, Pennsylvania, West Virginia) located in the vicinity of WTI (ODA 1994; PDA 1994; WVDA 1994). Summaries of livestock data are published annually and include such parameters as: total number of cattle/calves in the state, number of calves born annually, and information on slaughter and marketing of beef cattle and calves.

A summary of beef farming data for Ohio, Pennsylvania, and West Virginia is provided in Table VII-5. The value for total cattle/calves in Table VII-5 is the number of cattle related to beef and dairy farming that were reported in the state as of January 1, 1993. This value includes all types of cattle including: milk cows; beef cows used in calving operations; milk and beef heifers (i.e., replacement cows); steers; bulls; and calves.

Information on the disposition of beef cattle and calves is also provided in the Agricultural Statistics Service summaries. The number of cattle and calves that are slaughtered in registered slaughtering facilities in each state is shown in Table VII-5. The source of the slaughtered animals, however, is not available because processing facilities are not required to keep records on the origin/owner

of the cattle sold for slaughter. A report on the state of the slaughtering industry in Ohio (Distad 1992) indicates that Ohio does not have any "large" capacity cattle slaughtering facilities, but does have many smaller operations with slaughtering capacities of less than 1,000 head per year. Furthermore, the report indicates that Ohio is a net exporter of beef for slaughter, as indicated by the greater number of steers in the state than head slaughtered (i.e., 229,000 head to 185,000 slaughtered). The same situation would appear to apply in West Virginia.

Pennsylvania, on the other hand, is home to two of the largest cattle slaughtering facilities in the country (10th and 12th largest overall) with a total annual slaughtering capacity of approximately 740,000 head (Distad 1992); a large fraction of the 740,000 head are likely to be imported from out of state. Because of these two very large plants (both of which are located in the eastern part of the state) Pennsylvania is a net importer of beef cattle for slaughter. For the purpose of this assessment, it is necessary to estimate the number of cattle that are raised as well as slaughtered in Pennsylvania. Including the data from these importing plants would significantly overestimate the number of locally raised, locally slaughtered cattle. To obtain an estimate of Pennsylvania-bred cattle slaughtered in the state, therefore, the 740,000 head slaughtered at the large slaughtering houses in eastern Pennsylvania are subtracted from the state total slaughter. The resulting estimate, 229,000 head, is more consistent with the other states in the area and with the 220,000 beef steers raised in the state (see Table VII-5). This value, therefore, is assumed to approximate the number of Pennsylvania-bred cattle slaughtered in the state.

County-specific beef farming data available from the Agricultural Statistics Service data summaries are limited. Therefore, a number of parameters are estimated based on state-wide data, as shown in Table VII-6. This methodology assumes that beef raising and slaughter practices are similar across all parts of a state, which may not necessarily be true. To address this uncertainty, agricultural extension agents for the counties located in the vicinity of the WTI facility were interviewed regarding local beef cattle raising practices. Although no actual data were obtained from these sources, judgments concerning local farming practices proved to be a valuable resource to supplement the state-wide data.

For example, the primary type of beef farming performed in the eastern Ohio/western Pennsylvania area involves cow/calf operations that raise cows to produce calves. These calves are raised locally for six to nine months, weaned, and generally sold to feedlots out of state (personal communication, county

agricultural extension agents, August 1994). In other portions of these states (Ohio, Pennsylvania, West Virginia), this practice may not be as commonplace.

As a result of the regional variances, the state-wide statistics, therefore, may not accurately represent local beef farming practices. For example, according to the state-wide data, the fraction of calves born that are marketed ranges from 0.23 for Ohio to 0.51 for West Virginia (as shown in Table VII-5). Discussions with local agricultural extension agents indicate, however, that 60 to 70 percent of a local calf crop in any given year is marketed (sold at auction to feedlots in western Ohio or the western U.S.) and may range as high as 80 to 90 percent of the local calf crop, but is rarely below 50 percent. Because most calves are sent out of the area for slaughter, it is likely that estimates of local slaughter provided in Table VII-6, overestimate actual local slaughter in these counties. The published and estimated beef statistics for three counties in the vicinity of the WTI facility are provided in Table VII-6 for the following counties: Columbiana, Ohio; Beaver, Pennsylvania; and Hancock, West Virginia (ODA 1994; PDA 1994; WVDA 1994).

A limited amount of data are also available from a 1992 survey of beef cattle farms performed by the Beaver Valley Nuclear Power Station located in Shippingport, Pennsylvania, approximately 10 miles east of the WTI facility (PCI 1992). Data were collected over a 5-mile radius centered at the power station. The survey indicates that within five miles of the Beaver Valley Power Station at the time of the survey, there were 67 farms with a total of 909 beef cattle, as indicated in Table VII-7. These data are presented in Figure VII-1.

Based on the site-specific data obtained, it is estimated that the residents in the vicinity of WTI obtain 15 percent of their beef diet from locally raised livestock. Site-specific data are also used to develop estimates of the fraction of residents' pork and egg diet that is from locally raised livestock, as described in Appendix V-8.

b. Dairy Farming

The number of milk cows, milk production, and milk marketing data available from the Agricultural Statistics Services for Ohio, Pennsylvania, and West Virginia (ODA 1994; PDA 1994; WVDA 1994) are summarized in Table VII-8. To augment these data, agricultural extension agents representing counties in the vicinity of the WTI facility were contacted to provide a local characterization of dairy farming practices (personal communication, county agricultural extension agents, August 1994). In general, the extension agents

reported that dairy farming in the eastern Ohio/western Pennsylvania area is not significantly different from other parts of Ohio and Pennsylvania, and that state-wide statistics are likely applicable to the area around the WTI facility. Table VII-9 provides estimates of county-specific milk cow herd size and milk production statistics, and estimates of milk marketing, based on the state-wide data for three counties in the vicinity of the WTI facility. The milk marketing data include information on milk consumption on the farm, marketing to plants/dealers, and direct sales to consumers.

With respect to the milk marketing data, it should be noted that Ohio and West Virginia do not differentiate between milk sold to plants/dealers and milk sold directly to the consumer. The distribution between these two options shown in the Pennsylvania data, therefore, is applied to the Ohio and West Virginia data. This estimate was carried through to the estimates of county-level milk marketing. It is estimated that this assumption does not significantly affect estimates of total local milk available in Ohio and West Virginia. Based on the data obtained from the Agricultural Statistics Services, an estimate of the fraction of milk consumption that is from local sources is derived. A value of 36 percent is estimated as described in Appendix V-9.

As noted with the beef farming data, limited dairy farming data are also available from a survey of dairy farms performed by the Beaver Valley Nuclear Power Station. Data were collected over a 5-mile radius centered at the power station and are summarized in Table VII-10. The survey indicates that within five miles of the Beaver Valley Power Station at the time of the survey, there were 332 dairy cows, of which 242 were milked. The total daily milk production for the area is 970 gallons (4.0 gallons/cow). Although these data are not used to estimate local milk consumption, a plot of the locations of these farms, shown in Figure VII-1, indicates that several large dairy farms are located in the vicinity of the WTI facility (Figure VII-1 indicates the boundaries of the risk assessment study area developed in Section D of this chapter).

General locations of dairy farms in the area surrounding the WTI facility are based on information from the Agricultural Marketing Service of the USDA (personal communication, J. Rourke 1994). These data provide information on the number and size of dairy farms per ZIP code area in each of the counties surrounding the WTI facility for a single month, May 1994. The data for the three counties surrounding the facility are tabulated in Appendix V-10 and summarized in Table VII-11. Figure VII-2 shows the number of dairy farms by ZIP code for several counties in the area of the WTI facility. Although these data

provide useful information concerning the location of dairy farms in the vicinity of WTI, annual data (Table VII-9) are used to develop estimates of local milk production because production rates can vary considerably throughout the year.

It should be noted that Figure VII-2, developed from the May 1994 data, shows that many of the farms in Columbiana County are located in the northwest portion of the county and very few farms are located in the area immediately surrounding the facility. This information indicates that using county-wide data and assuming that dairy farms are equally distributed across the county overestimates risk (i.e., production of milk in the area that might be impacted by the facility is lower than assumed).

4. Deer Hunting

The Departments of Natural Resources in Ohio, Pennsylvania, and West Virginia were contacted for information on deer hunting in the area surrounding the WTI facility (personal communication, ODNR 1994b; PDNR 1994; WVDNR 1995). These agencies provided data as summarized in Table VII-12. In addition, these agencies provided data on the number of hunting licenses issued in Ohio, Pennsylvania, and West Virginia counties, also summarized in Table 33 in Appendix V-8. These data are used to estimate typical deer meat consumption rates for deer hunters, as described in Appendix V-8.

5. Population Data

Population data for the three-county (Columbiana, Ohio; Beaver, Pennsylvania; Hancock, West Virginia) area surrounding the WTI facility are compiled from a summary of the 1990 census developed by CACI Marketing, Inc. (CACI 1992), as shown in Table VII-13. In addition, the county farming populations are estimated based on the number of farms (USDC 1993a,b,c) and the typical household size (CACI 1992) in each county.

D. Development of the Risk Assessment Study Area and Subareas

In this risk assessment, population risk, generally defined as the cancer risk burden across all exposed individuals, is also evaluated. To facilitate the estimation of population risks, exposure (and subsequently risks) is estimated for subgroups located in defined subareas surrounding the WTI facility. These subareas are developed in order to account for differences in exposure at different distances and directions from the facility. Because risk generally decreases with distance from the facility, a point is eventually reached where inclusion of additional individuals does not significantly affect total population risk (due to

the insignificant increment in exposure of these individuals). The area within which the population risk is estimated is referred to as the risk assessment study area. Outside this area, risks are anticipated to be relatively insignificant. The methods used to develop the risk assessment study area and the subareas within the study area are described below, followed by an estimation of exposure in the subareas.

1. Development of the Risk Assessment Study Area

The area within which exposure (and risk) are estimated is referred to as the risk assessment study area. The study area is defined so as to include all individuals that may significantly contribute to the risk burden of the population in the vicinity of the WTI facility. To ensure that all such individuals are included, the perimeter of the study area is defined based on the risk to the most highly exposed subgroup within the exposed population. Specifically, in this assessment, the study area is initially defined based on an estimation of the human health risks associated with the accumulation of chlorinated dioxin and furan compounds in locally raised beef, and subsequent ingestion by a subsistence farmer. This exposure pathway and population subgroup were identified in screening-level assessments performed by U.S. EPA as potentially the most significant for the WTI facility (U.S. EPA 1993d, 1994g). Furthermore, the perimeter of the study area is defined to include locations where excess cancer risks to a subsistence farmer due to beef ingestion are estimated to exceed one in ten million (1×10^{-7}). This level of risk was selected because risks less than 1×10^{-6} have typically been considered not to be subject to regulatory action by U.S. EPA. An individual risk level below 1×10^{-7} would not likely contribute significantly to the overall risk burden of the exposed population living closer to the facility.

To understand the relationship between the concentration/deposition predictions of the air dispersion modeling and the estimated risks of dioxins, a preliminary analysis of dioxin/furan cancer risk to a subsistence farmer was conducted. In the preliminary analysis, the location of maximum impact of emissions from the WTI facility (indirect and direct cancer risks should be greatest at this location) was used for this purpose. Based on the air dispersion/deposition modeling conducted for the risk assessment, the location of maximum impact is predicted to be approximately one kilometer east of the WTI facility stack (as indicated in Volume IV). Based on the assumption that a subsistence farm could be placed at this location, concentrations of dioxin/furan congeners in beef were then calculated. These calculations were based on the fate and transport models described in Chapter VI. Dioxin/furan cancer risks were subsequently estimated by combining the exposure dose with toxicity values (Table III-1) for the individual dioxin/furan congeners.

As a result of this study area analysis, it was noted that plant uptake of vapor-phase dioxin/furans is the primary contributor to total risk. By comparison, uptake of dioxins/furans via particle deposition is relatively minor. For example, at the location of maximum impact, the contribution of vapor-phase dioxins/furans to the total risk is approximately two orders of magnitude greater than the contribution of either dry or wet deposition (see Chapter VIII). Therefore, the predicted vapor concentrations of dioxins/furans are used as a surrogate measure of total risk in this assessment.

The dioxin/furan cancer risk at the location of maximum vapor impact was estimated in the study area analysis to be approximately 2×10^{-6} (for beef ingestion by a subsistence farmer). At the point of maximum impact, the air dispersion modeling predicts a vapor impact of 0.91 $\mu g/m^3$ per gram/second emission rate from the stack (i.e., the vapor impact of 0.91 $\mu g/m^3$ per gram/second corresponds approximately to a total dioxin/furan cancer risk of 2×10^{-6}). The perimeter of the study area used in this risk assessment is defined to correspond to a total dioxin/furan cancer risk of 1×10^{-7}, a factor of 20 times lower than the estimated risk at the point of maximum impact. Therefore, the perimeter of the study area corresponds to a vapor impact of 0.046 $\mu g/m^3$ (0.91 $\mu g/m^3$ per gram/second divided by 20), which is rounded to 0.05 $\mu g/m^3$. A plot of the vapor dispersion isopleths (shown in Appendix IV-1) predicted from the air dispersion modeling indicates that the 0.05 $\mu g/m^3$ isopleth is irregular in shape but is generally contained within a radius of 12 kilometers (km) of the site. The risk assessment study area boundary, therefore, is defined by the 12-km radius.

2. Development of Subareas

The study area is divided into subareas to estimate risks to population subgroups within the study area, and to facilitate the estimation of population risks. Based on the results of the vapor dispersion modeling, 12 subareas are developed, as shown in Figure VII-3. The boundaries of the subareas are defined by concentric rings surrounding the facility at radii of 3 km, 7 km, and 12 km, and radials oriented northeast, southeast, southwest, and northwest. The radials are oriented in this manner to include areas with similar dispersion patterns within individual sectors. As developed, the average vapor concentration in each subarea decreases approximately two to three fold from the preceding subarea as the distance from the facility increases in any given direction. Thus, average risks in the outermost sector are approximately an order of magnitude less than the innermost sector in each direction.

3. Development of Subareas for Assessment of Fugitive Emissions

Although population risks are not being evaluated in the assessment of fugitive organic vapor emissions from WTI, it is necessary to identify areas in the vicinity of the facility where impacts are predicted to be most significant. Because the fugitive emission sources at the WTI facility (with the exception of the CAB system stack) are ground-level (or near ground-level) sources, the maximum predicted impacts from these sources are generally on-site, with concentrations decreasing rapidly with distance from the source. Thus, the area of interest for assessing the risks associated with fugitive emissions is the immediate vicinity of the site.

The off-site impact of fugitive emissions is assessed within a 2,000-foot radius of the site. This area is selected to include residential and commercial areas in East Liverpool near the facility, and the East Elementary school. Based on a review of the air dispersion modeling, predicted air concentrations decrease significantly at distances greater than 2,000 feet from the facility. To account for concentration variation with direction from the site, the 2,000-foot radius for the fugitive emissions study area is sub-divided into four quadrants (north, south, east, and west), as indicated in Figure VII-4.

E. Estimation of Exposure Doses in Subareas

1. Estimation of Contaminant Dispersion/Deposition in Subareas

In order to estimate the range of risks within a subarea, average exposure for the entire subarea as well as exposure at the location of maximum impact are estimated. The average risk of the population within a subarea is represented by the average or typical estimate of exposure. To estimate typical exposure, the average concentration and deposition rate of contaminants within the subarea is estimated. The air dispersion/deposition modeling predicts air concentrations and particle deposition rates (wet and dry) at discrete locations (referred to as receptor locations) on concentric circles around the facility to a distance of 50 kilometers from the facility. Thus, each of the 12 subareas (4 subareas for the fugitive emissions assessment) includes a number of these discrete receptor locations. In the subareas closest to the facility (E1, S1, W1, and N1 in Figure VII-3), where there is greater variation in predicted impacts, the receptor locations are more closely spaced than farther from the facility, as described in Volume IV. As a result, a greater number of receptors are contained within the subareas closer to the facility. The average dispersion/deposition for a subarea is estimated based on an area-weighted average of the dispersion or deposition predictions at receptors within the subarea.

The calculated average dispersion and wet and dry deposition factors (surface and mass-weighted) for each subarea are summarized in Tables VII-14 to VII-17. In addition, dispersion and deposition factors at the point of maximum impact in each subarea (defined as the location of maximum predicted vapor concentration) are compiled from the air dispersion/deposition modeling results and are summarized in Tables VII-14 to VII-17.

2. Estimation of Exposure Dose

The predicted dispersion and deposition factors summarized in Table VII-14 to VII-17 are used in the fate and transport models described in Chapter VI to predict contaminant media concentrations in each of the subareas. Estimated media concentrations in each of the subareas are summarized in Appendix V-11. The average or typical exposure dose is calculated using the dose equations (LADD and ADD), described earlier in this chapter. The dose equations use the media concentrations in Appendix V-11 and the appropriate exposure factors in Appendix V-8. Typical exposure doses for each subgroup of the population and for each exposure pathway are shown in Appendix V-12. In addition, LADDs and ADDs for the exposed population subgroups are estimated at the location of maximum impact within each subarea, as shown in Appendix V-13. An example of estimated chemical-specific exposure doses (LADDs and ADDs) is provided in Tables VII-18 and VII-19, for a subsistence farmer in subarea E1.

F. Uncertainties

In conducting the exposure assessment, several assumptions about general characteristics of the population and individual behavior patterns are made. General characteristics of the population include the identification of different subgroups that constitute the population in the vicinity of the site. A detailed review is conducted to ensure that the general population is represented; in addition, subgroups that could be subject to high exposure because of their particular behavior patterns are identified. Although all populations may not be represented in the analysis, the range of exposures that is evaluated is selected to constitute such a wide range that exposures to a particular subgroup are likely to be represented within the exposure range evaluated. Similarly, the exposure pathways are selected to be as inclusive as feasible, so that it is unlikely that any pathway of significance is excluded.

In estimating the exposure dose for the exposed population, several exposure factors such as inhalation rate, soil ingestion rate and body weight are used. Typical values for these parameters are used in the analysis. To account for the variability in these factors, the 90th percentile values for each of the exposure factors are determined, as summarized in

Appendix V-8. These high-end values are used in characterizing exposure to populations at the high-end of the risk distribution in assessing exposure variability in Chapter VIII. In addition, in Chapter IX a quantitative evaluation of uncertainty and variability is conducted, which relies on the range of values developed for the exposure factors in assessing the overall impact of uncertainty and variability on the estimated risks at the site.

Specific assumptions used in the estimation of exposure dose are identified in Table VII-20. This table summarizes the key assumptions, a basis for each assumption, and the effect of each assumption of the results of the HHRA. The effect of each assumption on the estimated risks is characterized by estimating the direction (under- or overestimate) and relative magnitude (low, medium, high) of the effect. As shown in Table VII-20, the selection of exposure factor values (especially for the subsistence farmer) likely has the greatest effect of the assumptions used in this chapter.

TABLE VII-1
Typical Exposure Factors for which Site-Specific Data are Available[a]

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer	Child of Farmer	Hunter
Percentage of residents with home gardens	30	30	30	-	-	-
Fraction from contaminated source						
beef	0.15	0.15	0.15	-	-	-
pork	0.18	0.18	0.18	-	-	-
eggs	0.16	0.16	0.16	-	-	-
milk	0.36	0.36	0.36	-	-	-
vegetables	0.25	0.25	0.25	0.25	0.25	-
fruit	0.125	0.125	0.125	0.125	0.125	-
Deer meat ingestion rate (g/day)	-	-	-	-	-	15

Notes:
a = Method of estimation outlined in Appendix V-8.
- = Site-specific data do not apply to this population.

TABLE VII-2
Results of East Liverpool Board of Health
Vegetable Garden Survey

Number of Home Gardens							
VEGETABLES[a]	**Downtown**	**Dixonville**	**East End**	**Northside**	**Pleasant Heights**	**Lacroft**	**TOTALS**
Beans, green	1	5	12	8	13	9	48
Beans, lima	0	0	1	2	2	0	5
Beets	0	1	3	2	1	1	8
Broccoli	0	1	3	3	2	2	11
Cabbage	0	0	7	1	7	3	18
Carrots	0	1	2	3	3	3	12
Corn	0	1	7	5	8	6	27
Cucumber	0	0	7	7	11	8	33
Lettuce	0	0	7	4	3	4	18
Onions	1	2	11	5	13	6	38
Onions, green	0	1	6	2	0	2	11
Peas	0	0	3	3	3	1	10
Peppers	2	5	14	9	15	8	53
Peppers, hot	0	0	3	4	5	1	13
Potatoes	0	1	4	2	5	2	14
Radishes	0	1	2	3	7	3	16
Spinach	2	1	0	1	1	0	5
Squash	1	2	7	6	9	2	27
Tomatoes	4	6	29	17	29	15	100
FRUITS[a]	**Downtown**	**Dixonville**	**East End**	**Northside**	**Pleasant Heights**	**Lacroft**	**TOTALS**
Apples	0	2	3	3	5	2	15
Cherries	0	1	1	1	1	1	5
Grapes	0	0	3	1	1	0	5
Peaches	0	1	4	3	4	0	12
Strawberries	0	1	2	1	3	0	7
Watermelon	0	0	0	3	2	1	6

Notes:
a - Only those vegetables and fruits identified by at least 5 percent of respondents are included.
Source: East Liverpool Board of Health (personal communication).

TABLE VII-3
Portion of Diet from Home Garden[a]

Percentage of Vegetable Diet	Number of Homes						
	Downtown	Dixonville	East End	Northside	Pleasant Heights	Lacroft	TOTAL
<25%	3	4	13	6	17	6	49
25% - 50%	1	2	11	11	9	8	42
50% - 75%			4		3		7
>75%			1	1		1	3
Percentage of Fruit Diet	**Downtown**	**Dixonville**	**East End**	**Northside**	**Pleasant Heights**	**Lacroft**	**TOTAL**
<25%	1	2	5	3	11	5	27
25% - 50%			1	2			3
50% - 75%							0
>75%			1				1

a - Based on the results of the East Liverpool Board of Health Home Garden Survey.
Source: East Liverpool Board of Health (personal communication).

TABLE VII-4
Summary of Ohio River Recreational Fishing Study Data

Parameter	WTI Facility Vicinity[b]	Farther Downstream of WTI[c]
Estimated Number of Fish Caught[a]	400,000	2,800,000
Estimated Number of Fish Kept[a]	63,000	300,000
Estimated Number of Angler Hours[a]	180,000	1,600,000
Fish Type and Size Data for Survey Locations in WTI Vicinity		
Types of Fish	% of Fish Kept	Avg. Size[d] (inches)
Bass	88%	7 - 13
Percids	8%	11 - 13
Catfish	1%	12 - 17
Carp	<0.1%	17 - 18
Other	3%	6 - 16

Notes:
a - Values extrapolated by ODNR from raw data.
b - Represents data collected in ODNR (1994a) study from survey areas #1 to #4 (Ohio River Mile (ORM) 40.1 to 69.5). The WTI facility is at ORM 41.5.
c - Represents data collected in ODNR (1994a) study from survey areas #5 to #32 (ORM 69.5 to 341).
d - Approximated from fish length data compiled by ODNR (1994a).

TABLE VII-5
State-wide Beef Statistics

Parameter	Number of Head (thousands)		
	Ohio[a]	Pennsylvania[a]	West Virginia[a]
Total Cattle/Calves (C_T)	**1,610**	**1,850**	**520**
Beef Cows	355	201	262
Milk Cows	315	659	23
Beef Heifers (replacement)	72	44	50
Milk Heifers (replacement)	159	293	9
Other Heifers	83	46	16
Steers	229	210	54
Bulls	30	31	17
Calves	367	366	89
Plant Cattle Slaughter (PS_{cattle})	185	969 229[b] (estimate)	16
Calves Born (B)	560	780	250
Calf Marketed (M_{calf})	150	291	128
Plant Calf Slaughter (PS_{calf})	62	168	NA

Notes:
NA - Not available
a - State-wide agricultural statistics obtained from the Agricultural Statistics Service for Ohio, Pennsylvania, and West Virginia (ODA 1994; PDA 1994; WVDA 1994). Total cattle/calves data are for January 1, 1993; all other data are for most recent calendar year available (1993 for Ohio, 1992 for Pennsylvania and West Virginia).
b - This value is an estimate of the number of Pennsylvania-bred cattle that are slaughtered in the state. 740 thousand head slaughtered annually in two large eastern Pennsylvania slaughter houses are not included in this number.

TABLE VII-6
Estimated County Beef Statistics

Parameter	Number of Head in County		
	Columbiana, Ohio	Beaver, Pennsylvania	Hancock, West Virginia
Total Cattle/Calves (C_T)[a]	26,000	11,500	1,200
Plant Cattle Slaughter (PS_{catt})[b]	3,000	1,400	37
Calves Born (B)[c]	9,000	4,800	580
Plant Calf Slaughter (PS_{calf})[d]	1,000	1,000	87

Note:
a - ODA 1994; as of January 1, 1993.
b - Based on state-wide data: PS_{cat}/C_T (185/1,610 = 0.12)
c - Based on state-wide data: B/C_T (560/1,610 = 0.35)
d - Based on state-wide data: PS_{calf}/B (62/560 = 0.11)

TABLE VII-7 Summary of Beef Farming Data Beaver Valley Nuclear Power Station Survey	
Farm Location with Respect to Power Plant (miles)	**Number of Beef Cattle**
1.70 N	9
3.86 N	4
3.94 N	40
3.94 N	18
3.03 NNE	10
4.70 NNE	14
4.93 NNE	11
3.11 NE	15
3.94 NE	6
2.62 E	6
3.39 E	3
3.98 E	17
2.94 ESE	10
2.96 ESE	2
3.52 ESE	2
1.78 SE	2
2.35 SE	11
2.75 SE	2
3.07 SE	4
3.07 SE	25
3.50 SE	16
3.56 SE	15
1.10 SSE	19
3.14 SSE	3
4.53 SSE	9
4.57 SSE	6
5.00 SSE	12
2.16 S	2

TABLE VII-7 (continued) Summary of Beef Farming Data Beaver Valley Nuclear Power Station Survey	
Farm Location with Respect to Power Plant (miles)	**Number of Beef Cattle**
2.24 S	2
2.35 S	3
2.38 S	1
2.82 S	1
3.83 S	10
4.70 S	7
5.04 S	32
1.82 SSW	1
2.20 SSW	5
2.69 SSW	6
3.60 SSW	12
4.55 SSW	4
4.60 SSW	12
4.74 SSW	20
1.55 SW	105
2.73 SW	10
2.77 SW	28
2.80 SW	6
3.11 SW	8
3.14 SW	6
4.09 SW	21
4.83 SW	30
1.63 WSW	95
2.54 WSW	7
2.54 WSW	15
2.84 WSW	6
2.88 WSW	30
3.26 WSW	8

TABLE VII-7 (continued) Summary of Beef Farming Data Beaver Valley Nuclear Power Station Survey	
Farm Location with Respect to Power Plant (miles)	**Number of Beef Cattle**
3.41 WSW	15
3.83 WSW	3
4.51 WSW	23
2.52 W	6
3.18 W	1
3.52 W	23
2.84 WNW	2
3.11 WNW	13
3.68 WNW	3
2.46 NNW	10
4.44 NNW	26
TOTAL (67)	909
Source: Porter Consultants Inc. (PCI) 1992.	

TABLE VII-8
State-wide Milk Data[a]

	Ohio	Pennsylvania	West Virginia
Milk Cows (x 10^3 head)	315	655	23
Milk Production (x 10^6 lbs)	4,625	10,364	278
Marketing (x 10^6 lbs)	4,625	10,364	278
Fed to Calves on Farm	20	70	4
Consumed on Farm	15	30	2
Sold to Plants/Dealers	NA[b] (4,470)	9,999	NA[b] (265)
Sold to Consumers	NA[b] (120)	265	NA[b] (7)

Notes:

a - State-wide agricultural statistics obtained from the Agricultural Statistics Service for Ohio, Pennsylvania, and West Virginia (ODA 1994; PDA 1994; WVDA 1994).

b - Available Ohio and West Virginia sales data were not divided between sales to plants/dealers and direct sales to consumers. The numbers in parenthesis represent estimated values based on the distribution of sales between sales to Plants/dealers and direct sales to consumers exhibited in Pennsylvania data.

TABLE VII-9
Estimated County Dairy Statistics[a]

	Columbiana, Ohio	Beaver, Pennsylvania	Hancock, West Virginia
Milk Cows[b]	11,800	3,000	<50
Milk Production (x 10^3 lbs)	179,800[c]	41,700[d]	604[e]
Marketing[f] (x 10^3 lbs)			
Fed to Calves on Farm	770	280	9
Consumed on Farm	580	120	4
Sold to Plants/Dealers	173,800	40,200	576
Sold to Consumers	4,700	1,100	15

Notes:
a - County data estimated based on state data and the fraction of the total state herd in county.
b - ODA 1994; PDA 1994; WVDA 1994
c - Available Ohio agricultural statistics provide county-specific data on milk sold. Milk production was estimated based on state-wide data.
d - PDA 1994
e - Estimated based on fraction of state milk cow herd in county multiplied by the total milk produced in the state.
f - Marketing values do not necessarily sum to total production due to rounding.

TABLE VII-10
Summary of Dairy Farming Data
Beaver Valley Nuclear Power Station Survey

Farm Location with Respect to Power Plant (miles)	Number of Cows	Number Milked	Daily Milk Production (gallons)	Dairy Milk Production (gallons) per Cow
0.98 ESE	2	1	1.5	1.5
2.24 S	1	0	0	-
4.83 S	1	0	0	-
2.16 SSW	60	43	150	3.5
3.56 SSW	2	0	0	-
4.55 SSW	1	1	8	8
5.11 SSW	55	40	115	2.9
5.15 SSW	80	55	185	3.4
3.75 WSW	35	33	210	6.4
3.83 WSW	50	34	150	4.4
3.86 WSW	45	35	150	4.3
TOTAL (11)	332	242	969.5	4.0

Source: Porter Consultants, Inc. (PCI) 1992

TABLE VII-11
Number of Dairy Farmers and Milk Production Range for Three Counties Surrounding WTI Facility (May 1994)[a]

	Columbiana County, Ohio	Beaver County, Pennsylvania	Hancock County, West Virginia
1 - 30,000 (lbs)			No dairy farmers listed
Dairy farmers	22	10	
Production (lbs)	492,698	215,490	
30,001 - 60,000 (lbs)			
Dairy farmers	48	21	
Production (lbs)	2,188,406	914,075	
60,001 - 90,000 (lbs)			
Dairy farmers	38	14	
Production (lbs)	2,793,815	977,058	
90,001 - 120,000 (lbs)			
Dairy farmers	20	9	
Production (lbs)	2,008,339	931,132	
120,001 - 150,000 (lbs)			
Dairy farmers	14	4	
Production (lbs)	1,929,043	518,946	
150,001 & over (lbs)			
Dairy farmers	22	1	
Production (lbs)	4,769,800	R	
Total County			
Dairy farmers	164	59	
Production (lbs)	14,182,101	3,556,701[b]	

Notes:
a - From records of Federal Milk Marketing Orders; obtained from personal communication with J. Rourke (personal communication 1994).
b - Total county production for Beaver County, PA, does not include production volume of producer with milk production of greater than 150,000 pounds.
R - Restricted data.

TABLE VII-12
Estimation of Meat from Deer Hunted Locally

County	Annual Deer Harvest[a]	Deer Meat Available[b] (lbs)	Numbers of Hunters[a]
Columbiana	2,149	85,960	4,315
Beaver	4,452	178,080	17,013
Hancock	787	31,480	3,365
TOTAL	7,388	295,520	24,693

Notes:
a - ODNR 1994b, PDNR 1994, WDNR 1994a
b - WVDNR 1994b

TABLE VII-13
Summary of County Population Data

County	Total Population[a]	Number of Farms[b]	Estimated Farming Population[c]
Columbiana, Ohio	108,276	977	2,570
Beaver, Pennsylvania	186,093	512	1,300
Hancock, West Virginia	35,233	75	191

Sources:
a - CACI 1992
b - Ohio: USDC 1993a; Pennsylvania: USDC 1993b; West Virginia USDC 1993c
c - Estimated based on the average number of individuals per household (2.63 per household in Columbiana; 2.54 per household in Beaver; and 2.54 per household in Hancock; CACI 1992) and the number of farms in county.

TABLE VII-14
Average and Maximum Air Dispersion/Deposition Impacts in East Subareas

Subarea Concentration Estimator		Vapor Dispersion ($\mu g/m^3$-g/s)	Surface Avg Deposition[a] (g/m^2-yr per g/s)		Mass Avg Deposition[a] (g/m^2-y per g/s)	
			Wet	Dry	Wet	Dry
E1						
	Average	0.29	0.014	0.0021	0.011	0.00097
	Maximum	0.91	0.025	0.0052	0.018	0.0025
E2						
	Average	0.14	0.0039	0.00098	0.0032	0.00046
	Maximum	0.31	0.0065	0.0018	0.0052	0.00084
E3						
	Average	0.060	0.0017	0.00039	0.0015	0.00019
	Maximum	0.092	0.0021	0.00051	0.0018	0.00025

Note:

a - Organic compounds adsorb onto the outer surface of airborne particles as condensation occurs in the cooler regions of the post-combustion zone (i.e., surface distribution). Metals are assumed to be homogeneously dispersed throughout the entire particle (i.e., mass distribution) because they may form particles themselves rather than condensing onto existing particles. Therefore, for organics, deposition on particles is a function of the total surface area of particles emitted from the stack; whereas, for metals, deposition is a function of the total mass. The amount of a substance deposited on the ground surface is dependent upon the type of distribution (surface or mass) assumed.

TABLE VII-15
Average and Maximum Air Dispersion/Deposition Impacts in North Subareas

Subarea Concentration Estimator		Vapor Dispersion ($\mu g/m^3$-g/s)	Surface Avg Deposition[a] (g/m^2-yr per g/s)		Mass Avg Deposition[a] (g/m^2-y per g/s)	
			Wet	Dry	Wet	Dry
N1						
	Average	0.14	0.0075	0.00074	0.0057	0.00037
	Maximum	0.38	0.025	0.0012	0.019	0.00070
N2						
	Average	0.055	0.0023	0.00027	0.0018	0.00013
	Maximum	0.14	0.0049	0.0010	0.0039	0.00047
N3						
	Average	0.024	0.0011	0.00011	0.00096	0.000055
	Maximum	0.038	0.0016	0.00027	0.0014	0.00013

Note:

a - Organic compounds adsorb onto the outer surface of airborne particles as condensation occurs in the cooler regions of the post-combustion zone (i.e., surface distribution). Metals are assumed to be homogeneously dispersed throughout the entire particle (i.e., mass distribution) because they may form particles themselves rather than condensing onto existing particles. Therefore, for organics, deposition on particles is a function of the total surface area of particles emitted from the stack; whereas, for metals, deposition is a function of the total mass. The amount of a substance deposited on the ground surface is dependent upon the type of distribution (surface or mass) assumed.

TABLE VII-16
Average and Maximum Air Dispersion/Deposition Impacts in South Subareas

Subarea Concentration Estimator		Vapor Dispersion ($\mu g/m^3$-g/s)	Surface Avg Deposition[a] (g/m^2-yr per g/s)		Mass Avg Deposition[a] (g/m^2-y per g/s)	
			Wet	Dry	Wet	Dry
S1	Average	0.14	0.0051	0.00074	0.0042	0.00036
	Maximum	0.51	0.025	0.0024	0.021	0.0012
S2	Average	0.066	0.0012	0.00030	0.00098	0.00015
	Maximum	0.14	0.0030	0.00066	0.0026	0.00033
S3	Average	0.029	0.00057	0.00013	0.00048	0.000066
	Maximum	0.042	0.00095	0.00019	0.00082	0.00010

Note:

a - Organic compounds adsorb onto the outer surface of airborne particles as condensation occurs in the cooler regions of the post-combustion zone (i.e., surface distribution). Metals are assumed to be homogeneously dispersed throughout the entire particle (i.e., mass distribution) because they may form particles themselves rather than condensing onto existing particles. Therefore, for organics, deposition on particles is a function of the total surface area of particles emitted from the stack; whereas, for metals, deposition is a function of the total mass. The amount of a substance deposited on the ground surface is dependent upon the type of distribution (surface or mass) assumed.

TABLE VII-17
Average and Maximum Air Dispersion/Deposition Impacts in West Subareas

Subarea Concentration Estimator		Vapor Dispersion ($\mu g/m^3$-g/s)	Surface Avg Deposition[a] (g/m^2-yr per g/s)		Mass Avg Deposition[a] (g/m^2-y per g/s)	
			Wet	Dry	Wet	Dry
W1						
	Average	0.20	0.0077	0.00084	0.0058	0.00044
	Maximum	0.59	0.014	0.0022	0.0050	0.0012
W2						
	Average	0.096	0.0023	0.00038	0.0018	0.00020
	Maximum	0.21	0.0041	0.00082	0.0032	0.00044
W3						
	Average	0.044	0.0011	0.00017	0.00094	0.00009
	Maximum	0.068	0.00089	0.00026	0.00073	0.00014

Note:

a - Organic compounds adsorb onto the outer surface of airborne particles as condensation occurs in the cooler regions of the post-combustion zone (i.e., surface distribution). Metals are assumed to be homogeneously dispersed throughout the entire particle (i.e., mass distribution) because they may form particles themselves rather than condensing onto existing particles. Therefore, for organics, deposition on particles is a function of the total surface area of particles emitted from the stack; whereas, for metals, deposition is a function of the total mass. The amount of a substance deposited on the ground surface is dependent upon the type of distribution (surface or mass) assumed.

TABLE VII-18
Chemical-specific Lifetime Average Daily Dose (LADD) for Carcinogens
Adult Subsistence Farmer in Subarea E1 (Average Concentration)

Chemical	Soil Ingestion and Dermal Contact mg/kg-d	Total Meat and Egg Ingestion[a] mg/kg-d	Total Dairy Product Ingestion[b] mg/kg-d	Total Fruit and Vegetable Ingestion[c] mg/kg-d	River Water Ingestion and Dermal Contact mg/kg-d	Infant Breast Milk Ingestion mg/kg-d
2,3,7,8-TCDD	1×10^{-16}	5×10^{-14}	3×10^{-14}	1×10^{-15}	1×10^{-18}	5×10^{-14}
1,2,3,7,8-PeCDD	5×10^{-16}	7×10^{-13}	5×10^{-13}	2×10^{-14}	5×10^{-18}	8×10^{-13}
1,2,3,4,7,8-HxCDD	5×10^{-16}	5×10^{-13}	4×10^{-13}	3×10^{-14}	7×10^{-18}	5×10^{-13}
1,2,3,6,7,8-HxCDD	1×10^{-15}	1×10^{-13}	1×10^{-13}	8×10^{-15}	1×10^{-17}	1×10^{-13}
1,2,3,7,8,9-HxCDD	6×10^{-16}	2×10^{-13}	1×10^{-13}	9×10^{-15}	2×10^{-17}	2×10^{-13}
1,2,3,4,6,7,8-HpCDD	7×10^{-15}	1×10^{-12}	1×10^{-12}	5×10^{-13}	6×10^{-17}	2×10^{-12}
OCDD	3×10^{-14}	3×10^{-10}	2×10^{-10}	6×10^{-11}	3×10^{-16}	3×10^{-10}
2,3,7,8-TCDF	9×10^{-16}	1×10^{-13}	1×10^{-13}	2×10^{-14}	1×10^{-17}	2×10^{-13}
1,2,3,7,8-PeCDF	3×10^{-15}	6×10^{-13}	5×10^{-13}	1×10^{-13}	4×10^{-17}	7×10^{-13}
2,3,4,7,8-PeCDF	4×10^{-15}	4×10^{-12}	3×10^{-12}	1×10^{-13}	6×10^{-17}	4×10^{-12}
1,2,3,4,7,8-HxCDF	9×10^{-15}	2×10^{-12}	2×10^{-12}	1×10^{-13}	1×10^{-16}	2×10^{-12}
1,2,3,6,7,8-HxCDF	8×10^{-15}	4×10^{-12}	3×10^{-12}	2×10^{-13}	1×10^{-16}	4×10^{-12}
1,2,3,7,8,9-HxCDF	2×10^{-15}	9×10^{-13}	6×10^{-13}	5×10^{-14}	3×10^{-17}	9×10^{-13}
2,3,4,6,7,8-HxCDF	9×10^{-15}	3×10^{-12}	2×10^{-12}	2×10^{-13}	1×10^{-16}	3×10^{-12}
1,2,3,4,6,7,8-HpCDF	5×10^{-14}	2×10^{-12}	1×10^{-12}	5×10^{-13}	6×10^{-16}	2×10^{-12}
1,2,3,4,7,8,9-HpCDF	7×10^{-15}	4×10^{-13}	3×10^{-13}	4×10^{-14}	8×10^{-17}	5×10^{-13}
OCDF	1×10^{-13}	2×10^{-11}	2×10^{-11}	1×10^{-11}	6×10^{-16}	3×10^{-11}

TABLE VII-18 (continued)
Chemical-specific Lifetime Average Daily Dose (LADD) for Carcinogens
Adult Subsistence Farmer in Subarea E1 (Average Concentration)

Chemical	Soil Ingestion and Dermal Contact mg/kg-d	Total Meat and Egg Ingestion[a] mg/kg-d	Total Dairy Product Ingestion[b] mg/kg-d	Total Fruit and Vegetable Ingestion[c] mg/kg-d	River Water Ingestion and Dermal Contact mg/kg-d	Infant Breast Milk Ingestion mg/kg-d
Tetrachlorobiphenyl	1×10^{-13}	1×10^{-11}	7×10^{-12}	3×10^{-13}	2×10^{-15}	1×10^{-11}
Hexachlorobiphenyl	2×10^{-13}	8×10^{-12}	5×10^{-12}	3×10^{-13}	4×10^{-15}	8×10^{-12}
Heptachlorobiphenyl	2×10^{-13}	2×10^{-10}	1×10^{-10}	9×10^{-12}	9×10^{-15}	2×10^{-10}
Benzo(a)pyrene	3×10^{-12}	1×10^{-8}	2×10^{-8}	1×10^{-9}	3×10^{-14}	9×10^{-8}
Benzo(b)fluoranthene	1×10^{-11}	8×10^{-9}	9×10^{-9}	5×10^{-10}	1×10^{-13}	6×10^{-8}
Bis(2-ethylhexyl)phthalate	1×10^{-12}	1×10^{-6}	1×10^{-6}	5×10^{-7}	2×10^{-13}	1×10^{-6}
Carbon tetrachloride	8×10^{-12}	1×10^{-12}	7×10^{-13}	2×10^{-9}	5×10^{-15}	2×10^{-12}
Dibenz(a,h)anthracene	8×10^{-12}	2×10^{-9}	2×10^{-9}	9×10^{-12}	1×10^{-13}	5×10^{-8}
Heptachlor	7×10^{-15}	9×10^{-12}	1×10^{-11}	5×10^{-13}	3×10^{-17}	8×10^{-11}
Hexachlorobenzene	1×10^{-11}	1×10^{-10}	8×10^{-11}	1×10^{-10}	2×10^{-13}	6×10^{-10}
Hexachlorobutadiene	3×10^{-11}	3×10^{-11}	2×10^{-11}	7×10^{-11}	4×10^{-14}	2×10^{-11}
Indeno(1,2,3-cd)pyrene	9×10^{-12}	2×10^{-9}	2×10^{-9}	1×10^{-11}	1×10^{-13}	4×10^{-8}
Arsenic	3×10^{-11}	2×10^{-10}	2×10^{-11}	8×10^{-11}	1×10^{-15}	NA
Beryllium	8×10^{-14}	1×10^{-13}	3×10^{-16}	4×10^{-14}	2×10^{-18}	NA

Notes:
a - Based on ingestion of beef, pork, chicken, other poultry, and eggs
b - Based on ingestion of milk, cheese, milk desserts, yogurt, cream, and butter
c - Based on ingestion of exposed, protected leafy, and root produce, and exposed and protected fruit

TABLE VII-19
Chemical-specific Average Daily Dose (ADD) for Noncarcinogens, Adult Subsistence Farmer in Subarea E1
(Average Concentration)

Chemical	Soil Ingestion and Dermal Contact mg/kg-d	Total Meat and Egg Ingestion[a] mg/kg-d	Total Dairy Product Ingestion[b] mg/kg-d	Total Fruit and Vegetable Ingestion[c] mg/kg-d	River Water Ingestion and Dermal Contact mg/kg-d
Bis(2-ethylhexyl)phthalate	4×10^{-12}	4×10^{-6}	4×10^{-6}	2×10^{-6}	6×10^{-13}
Carbon tetrachloride	3×10^{-11}	3×10^{-12}	2×10^{-12}	6×10^{-9}	2×10^{-14}
Di(n)octyl phthalate	1×10^{-12}	1×10^{-5}	1×10^{-5}	9×10^{-9}	1×10^{-13}
Heptachlor	2×10^{-14}	3×10^{-11}	3×10^{-11}	2×10^{-12}	1×10^{-16}
Heptachlorobenzene	4×10^{-11}	5×10^{-10}	3×10^{-10}	4×10^{-10}	7×10^{-13}
Hexachlorobutadiene	1×10^{-10}	1×10^{-10}	5×10^{-11}	3×10^{-10}	2×10^{-13}
Hexachlorocyclopentadiene	2×10^{-12}	6×10^{-12}	3×10^{-12}	6×10^{-12}	5×10^{-15}
Hexachlorophene	7×10^{-11}	3×10^{-7}	3×10^{-7}	6×10^{-10}	4×10^{-12}
Antimony	3×10^{-12}	3×10^{-11}	1×10^{-11}	7×10^{-11}	2×10^{-16}
Arsenic	1×10^{-10}	7×10^{-10}	6×10^{-11}	3×10^{-10}	5×10^{-15}
Barium	1×10^{-10}	5×10^{-10}	1×10^{-9}	2×10^{-9}	9×10^{-15}
Beryllium	3×10^{-13}	4×10^{-13}	9×10^{-16}	1×10^{-13}	5×10^{-18}
Cadmium	2×10^{-12}	2×10^{-11}	3×10^{-12}	2×10^{-10}	2×10^{-16}
Chromium (hexavalent)	8×10^{-12}	6×10^{-11}	4×10^{-11}	5×10^{-12}	1×10^{-16}
Mercury	1×10^{-9}	4×10^{-9}	6×10^{-9}	2×10^{-7}	1×10^{-13}
Nickel	1×10^{-11}	6×10^{-10}	1×10^{-10}	2×10^{-10}	5×10^{-16}
Selenium	2×10^{-9}	1×10^{-7}	6×10^{-7}	1×10^{-8}	7×10^{-14}

TABLE VII-19 (continued)
Chemical-specific Average Daily Dose (ADD) for Noncarcinogens, Adult Subsistence Farmer in Subarea E1
(Average Concentration)

Chemical	Soil Ingestion and Dermal Contact mg/kg-d	Total Meat and Egg Ingestion[a] mg/kg-d	Total Dairy Product Ingestion[b] mg/kg-d	Total Fruit and Vegetable Ingestion[c] mg/kg-d	River Water Ingestion and Dermal Contact mg/kg-d
Silver	1×10^{-11}	4×10^{-10}	9×10^{-9}	6×10^{-10}	7×10^{-16}
Thallium	5×10^{-10}	5×10^{-8}	3×10^{-9}	1×10^{-10}	6×10^{-15}
Zinc	7×10^{-11}	3×10^{-10}	2×10^{-10}	4×10^{-8}	5×10^{-15}

Notes:
a - Based on ingestion of beef, pork, chicken, other poultry, and eggs
b - Based on ingestion of milk, cheese, milk desserts, yogurt, cream, and butter
c - Based on ingestion of exposed, protected leafy, and root produce, and exposed and protected fruit

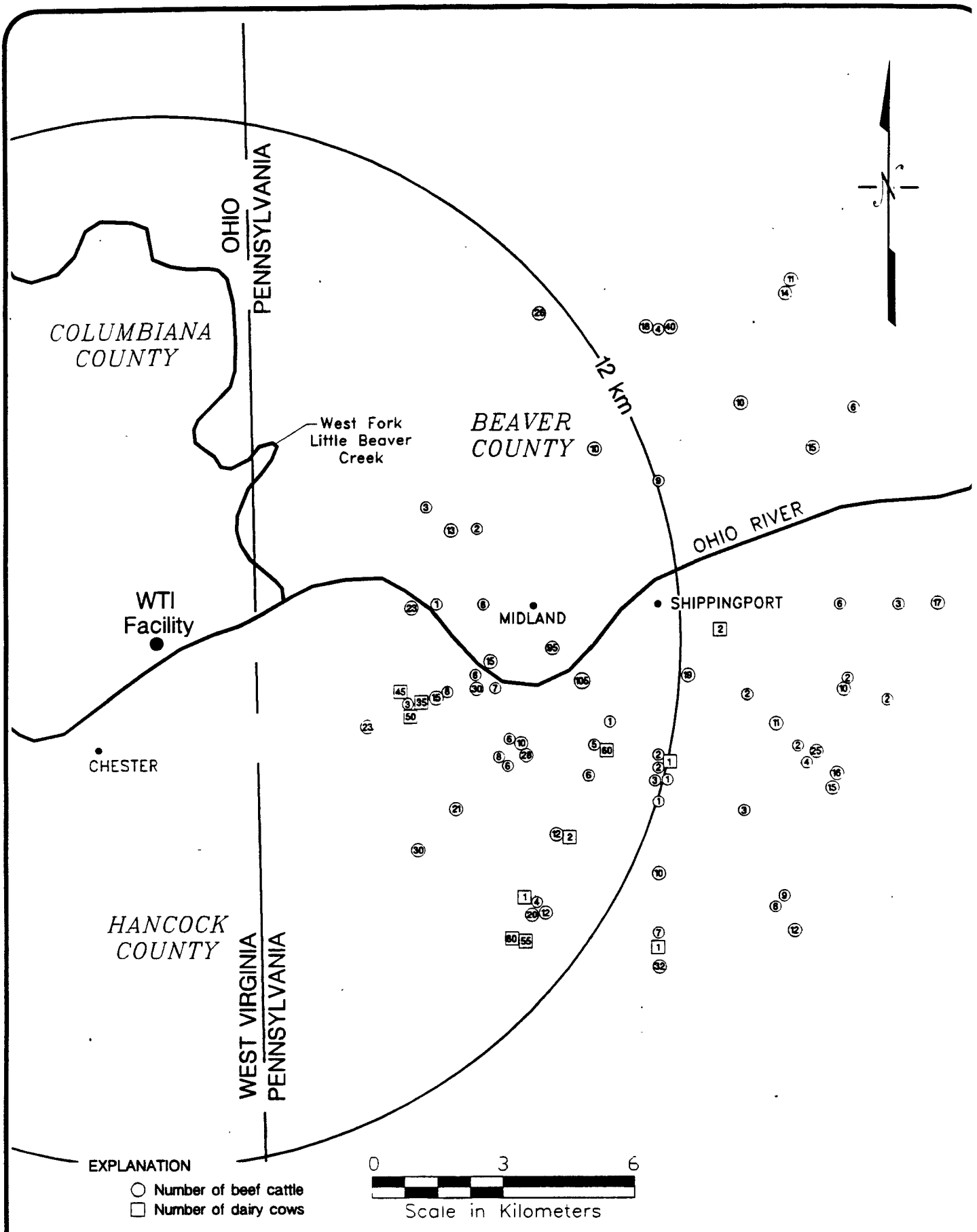
TABLE VII-20
Key Assumptions for Chapter VII
(Estimation of Exposure Dose)

Assumption	Basis	Magnitude of Effect	Direction of Effect
Exposure to organic vapor fugitive emissions is evaluated only via the inhalation pathway	Fugitive emissions are volatile chemicals, which are not likely to bioconcentrate.	low	underestimate
The East Liverpool Board of Health estimates that 30% of local residents have home gardens. Their survey of 100 residents with gardens is representative of local gardening practices and provides reasonable data to estimate the fraction of diet that is homegrown	Professional judgment on best available data.	low	unknown
Fishing practices near the WTI facility are represented by four fishing study areas. Annual data are based on April to November data. The average weight of fish is estimated by the ORSANCO electrofishing survey of average weight of fish.	Professional judgment on best available data.	low	unknown
The number of Pennsylvania-bred cattle is estimated	Professional judgment. The estimate is consistent with data from Ohio and West Virginia.	low	unknown
State-wide cattle statistics are representative of local farming practices (i.e., beef raising and slaughter practices are uniform across all parts of the state)	Discussion with local agricultural agents indicated that most calves are sent out of the area for slaughter.	low	overestimate
State-wide milk production estimates apply to local production and the distribution of milk sold to plants/dealers and directly to consumers is the same in Ohio and West Virginia as Pennsylvania	Discussion with local agricultural agents indicated that local dairy farming practices do not differ from state practices.	low	unknown

TABLE VII-20
Key Assumptions for Chapter VII
(Estimation of Exposure Dose)

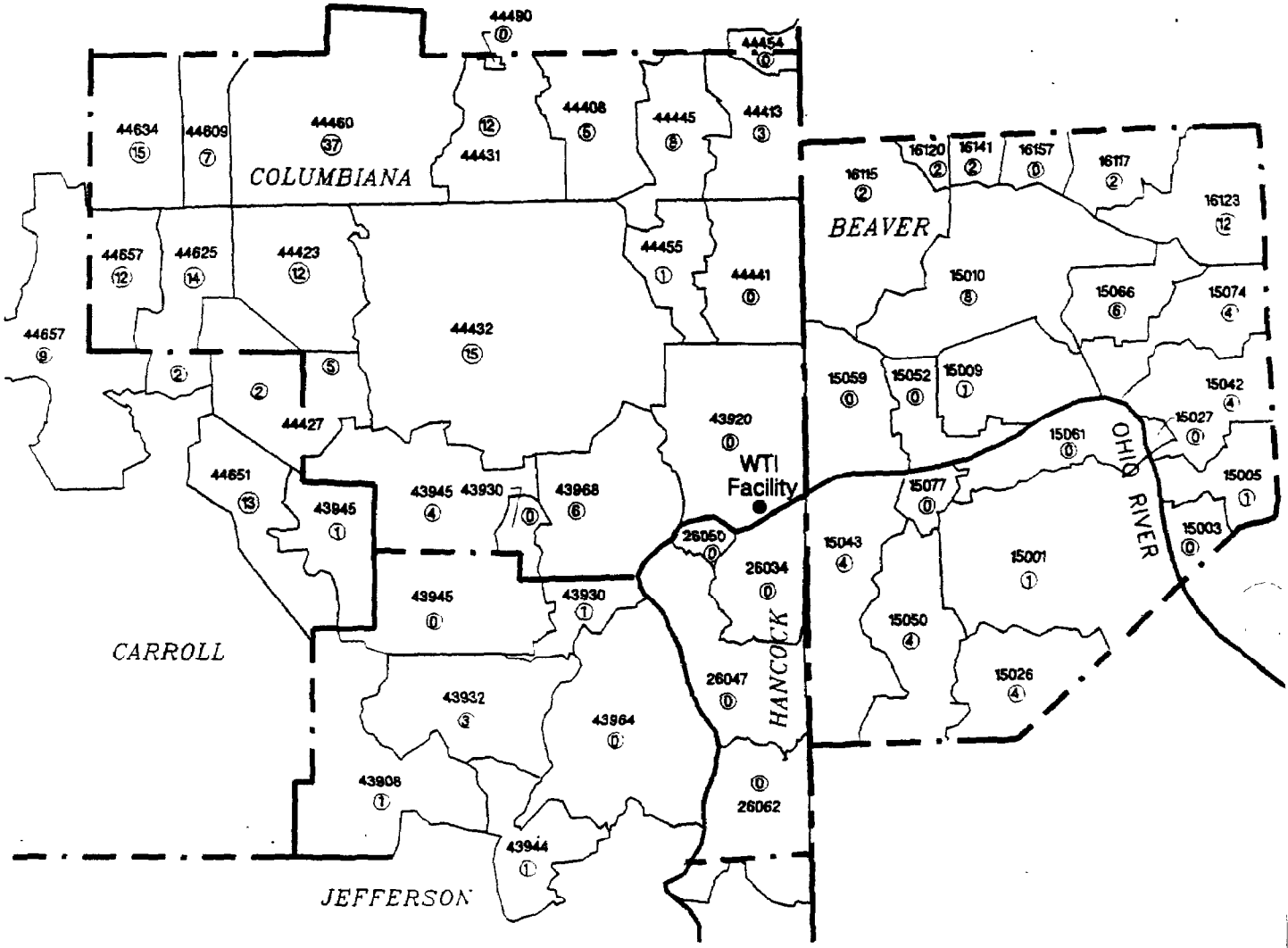
Assumption	Basis	Magnitude of Effect	Direction of Effect
Exposure factors represent the behavior of the various populations	Site-specific values are used whenever possible, otherwise, EPA-default values are used - the 50th percentile for average exposures and the 90th percentile for high-end exposure. Factors for the subsistence farmer likely overestimate risks because this assessment conservatively assumes the food products this population consumes are 100% locally-raised, which is unlikely.	medium	overestimate

Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten



NOTE: This survey was limited to a 5 mile radius centered at Shippingport, PA

Volume V	APPROXIMATE LOCATIONS OF FARMS IDENTIFIED IN THE BEAVER VALLEY POWER STATION SURVEY WITH BEEF CATTLE OR DAIRY COWS	External Review Draft Do Not Cite or Quote	Figure VII-1

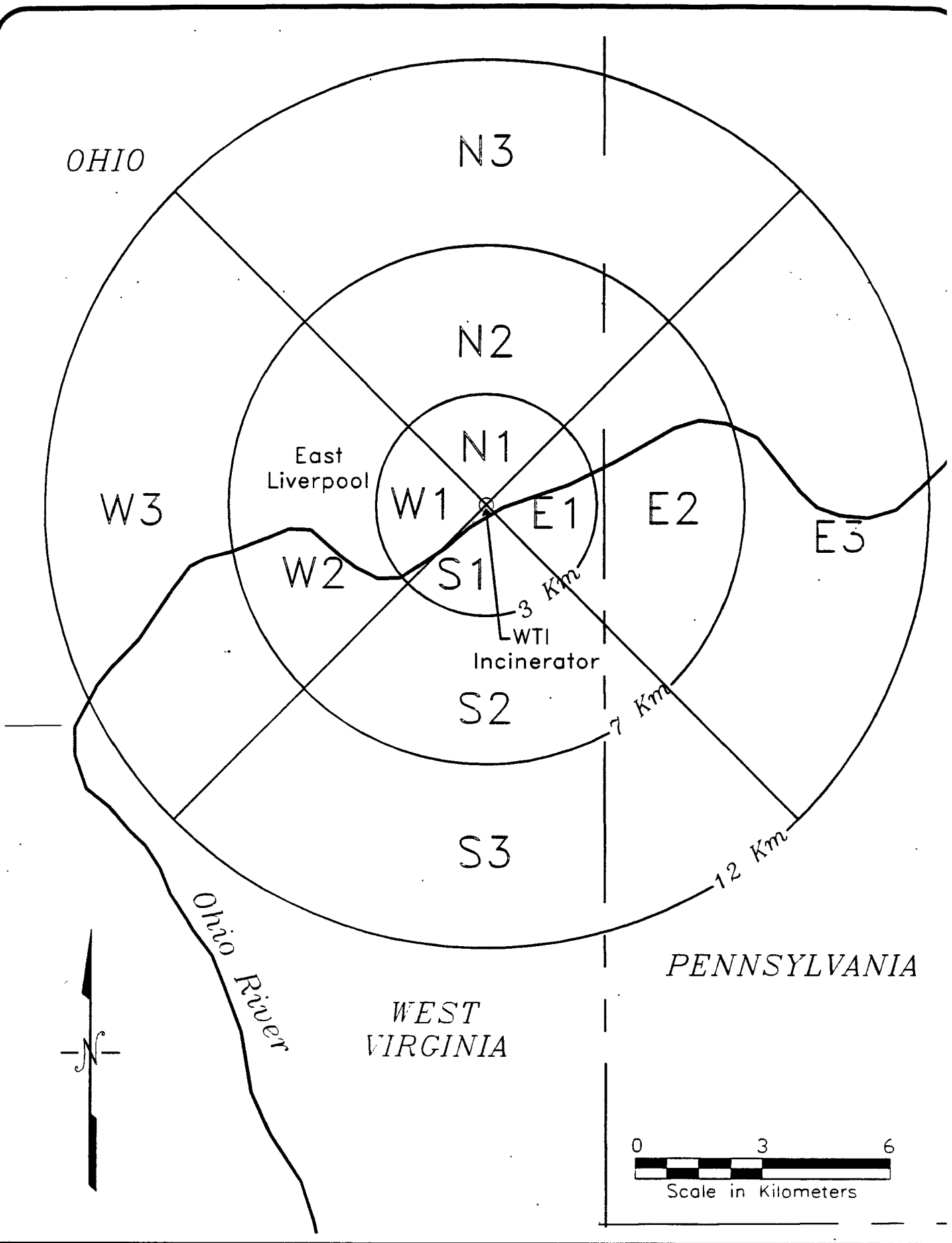


EXPLANATION

44634 ZIP code

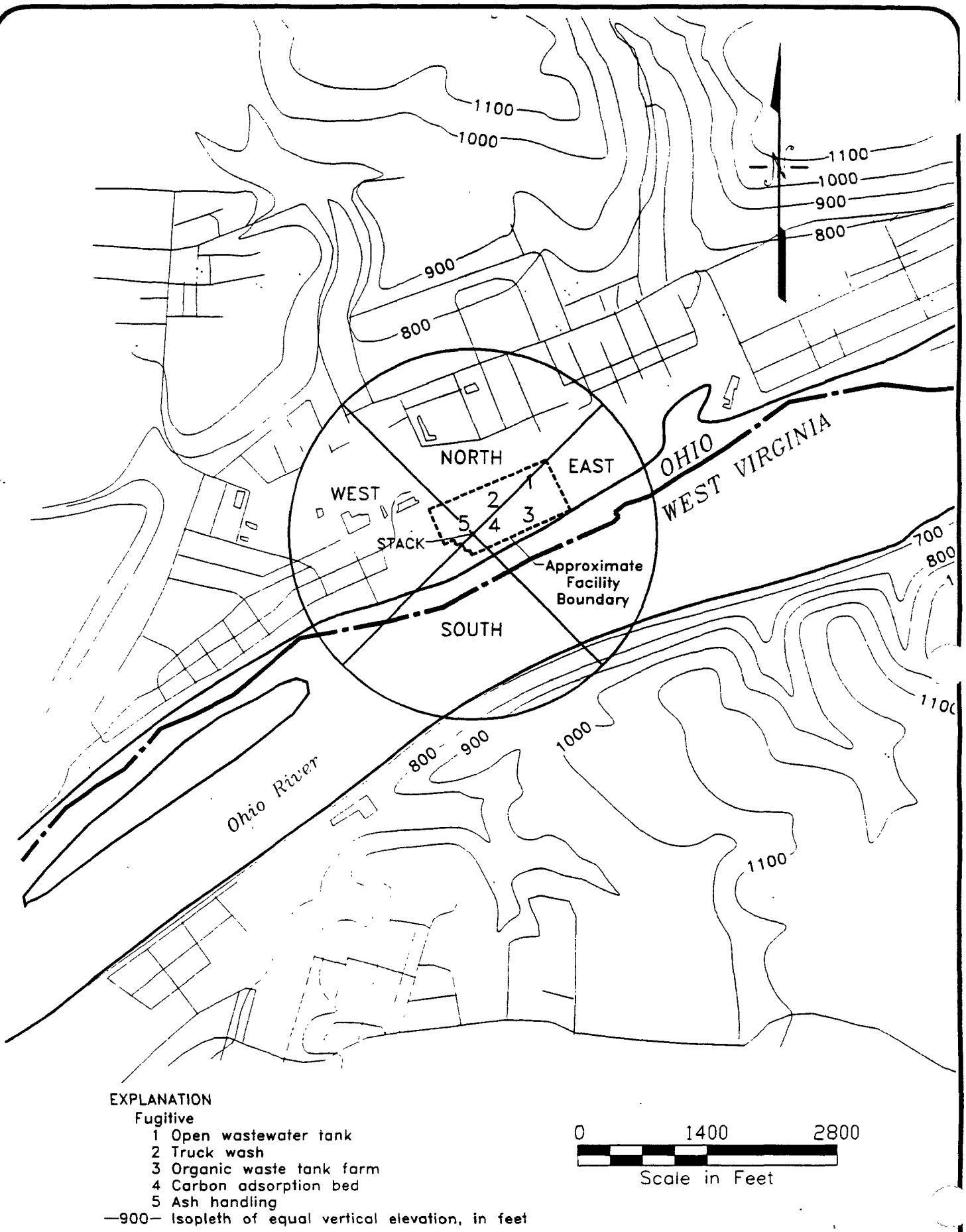
④ Number of dairy farms within ZIP code

Volume V	NUMBER OF DAIRY FARMS BY ZIP CODE IN VICINITY OF THE WTI FACILITY	External Review Draft Do Not Cite or Quote	Figure VII-2



SUB-AREAS WITHIN RISK ASSESSMENT STUDY AREA

Figure VII-3



LOCATION OF FUGITIVE EMISSION SOURCES AND QUADRANTS USED TO EVALUATE AVERAGE FUGITIVE EMISSION RISKS

Figure VII-4

VIII. RISK CHARACTERIZATION

A. Introduction

In the risk characterization step of the risk assessment process, the chemical toxicity values (summarized in Chapter III) are combined with dose estimates for each of the various exposure pathways and population subgroups (described in Chapter VII) to evaluate both carcinogenic risks and the potential for noncarcinogenic health effects. Beyond the quantitative aspects of the risk assessment, risk characterization is also intended to place the estimated risks in context through a discussion of the qualitative elements of the risk assessment, including a discussion of the major factors influencing the risk estimates, underlying assumptions, and the rationale for these assumptions. In addition, the risk characterization generally includes a discussion of the uncertainty and variability associated with the quantitative results. Therefore, a table of the key assumptions, as described in Volume II, is presented as part of the uncertainty section of this chapter. A quantitative analysis of uncertainties is presented in Chapter IX.

Based on a review of the Project Plan for the WTI Risk Assessment (U.S. EPA 1993b), the Peer Review Panel made several recommendations regarding risk characterization. These recommendations include the following:

- Assessment of Risks Associated with Fugitive Emissions - The Project Plan (U.S. EPA 1993b) proposed that fugitive emissions be evaluated on a qualitative level. Based on recommendations of the Peer Review Panel, a quantitative analysis of carcinogenic risks and the potential for noncancer health effects is conducted for four sources of possible fugitive emissions from the WTI facility. This chapter summarizes the results of the fugitive emissions analysis, which focuses on exposures within 2,000 feet of the WTI facility where potential impacts are most significant based on the air dispersion modeling.

- Additivity of Risk - The Peer Review Panel commented that additivity of risks should be considered in the risk characterization, including an evaluation of synergistic and antagonistic effects of exposure to chemicals in combination. In this chapter, additive risks are estimated for the combination of all chemicals evaluated in each exposure pathway, and for the combination of all pathways

evaluated for each population subgroup. A quantitative evaluation of synergistic and antagonistic effects is not performed due to limitations in available data and methodologies for characterizing or quantifying these effects at the exposure levels estimated in the vicinity of WTI.

- Evaluation of Additional High-end Subgroups - The Peer Review Panel identified a number of additional subgroups of the exposed population that may be at a higher risk due to behavior patterns, proximity to the facility, or toxicological sensitivity. An evaluation of additional high-end subgroups is presented in Appendix V-5. Based on this analysis, an additional potential high-end subgroup, deer hunters, was identified. An evaluation of human health risks associated with consumption of deer meat obtained from the vicinity of the WTI facility is presented in this chapter.

- Uncertainty and Variability - The Peer Review Panel recommended that as part of the characterization of risks, the uncertainty and variability associated with estimated risks also be presented. A quantitative uncertainty and variability analysis for the HHRA, is presented as a separate chapter (Chapter IX). Issues that affect the uncertainty of the risk characterization are discussed qualitatively in Section F of this chapter.

The following sections present the results of the risk assessment for exposure to stack emissions and fugitive releases. Risks associated with exposure to stack emissions and fugitive emissions are characterized separately.

B. Estimation of Risks Due to Stack Emissions

Substances of potential concern emitted from the incinerator stack at the WTI facility disperse in the atmosphere as well as deposit on soils in the vicinity of the facility. Exposure to these substances by individuals living and working in the area surrounding the WTI facility can occur through various pathways and may result in adverse health effects. To estimate the likelihood of such effects, cancer risks and the potential for noncarcinogenic effects are characterized based on a combination of estimated exposure doses and U.S. EPA-published chemical-specific toxicity values, as described below.

1. Methodology for Estimating Individual Cancer Risk

The excess lifetime cancer risk resulting from the modeled exposure to a specific carcinogenic chemical is calculated by multiplying the lifetime average daily

dose (LADD), which is estimated as described in Chapter VII, by the risk per unit dose, or slope factor (discussed in Chapter III), as follows:

$$Risk_i = (LADD_i)(SF_i) \quad \text{(VIII-1)}$$

where:

$Risk_i$ = lifetime probability of developing cancer due to exposure to chemical i in stack emissions from the WTI facility

$LADD_i$ = lifetime average daily dose to chemical i, mg/kg-day

SF_i = carcinogenic slope factor for chemical i, $(mg/kg\text{-}day)^{-1}$

In cases of multiple chemical exposures, it is assumed that cancer risks are additive (U.S. EPA 1986b). Accordingly, the cancer risk estimates for each exposure pathway are developed by summing the risk calculated for the individual chemicals. In addition, risk estimates are summed across exposure pathways to develop total cumulative risks for a population subgroup, in cases when it is reasonable to assume that individuals in a subgroup could typically be exposed through all such pathways.

2. Methodology for Estimating Individual Noncancer Effects

Unlike the measure of risk used for carcinogens, the measure used to describe the potential for noncarcinogenic effects to occur is not expressed as a probability of experiencing an adverse effect (U.S. EPA 1986b). Instead, the potential for adverse noncancer effects is expressed as the ratio of the calculated dose to the dose below which adverse effects are not anticipated (or the Reference Dose). If this ratio exceeds 1.0 (unity), it is assumed that the potential exists for noncancer health effects. For oral exposures, the following equation is used:

$$HQ_i = ADD_i/RfD_i \quad \text{(VIII-2)}$$

where:

HQ_i = hazard quotient for chemical i

ADD = average daily dose to chemical i (all appropriate pathways combined), mg/kg-day

RfD = reference dose for chemical i, mg/kg-day

For inhalation exposures, reference air concentrations (RACs), which account for exposure to background sources of chemicals with noncarcinogenic effects, are developed to assess the potential for noncancer effects. In order to compare the RACs, expressed in units of milligrams per cubic meter (mg/m^3), with the ADD, the RACs are converted to inhalation reference doses, in units of milligram per kilogram-day (mg/kg-day), based on a standard inhalation rate (20 m^3/day) and body weight (70 kilograms) (U.S. EPA 1990b). The hazard quotients are calculated using the above equation and the inhalation RfDs.

The assessment of overall potential for noncancer effects posed by simultaneous exposure to multiple chemicals is conducted using the Hazard Index approach developed in U.S. EPA's *Guidelines for the Health Risk Assessment of Chemical Mixtures* (U.S. EPA 1986b) and described in U.S. EPA's *Risk Assessment Guidance for Superfund* (U.S. EPA 1989b). As a first screening, the HQ values for all individual chemicals associated with a given exposure pathway are summed to provide an indication of the potential for noncancer effects posed by multiple chemical exposure. This sum of the HQ values for individual chemicals is referred to as the Hazard Index (HI). The HI approach assumes that multiple sub-threshold exposures could result in an adverse effect, and that a reasonable criterion for evaluating the potential adverse effects is the sum of the HQ values (U.S. EPA 1986b). In cases where the overall HI exceed unity, chemicals are segregated by target organ effect and mechanism of toxicity to derive HI values for each type of effect, as recommended by U.S. EPA (1986b).

3. Methodology for Estimating Population Cancer Risk

In addition to individual risk, the total cancer risk burden for the exposed population in the vicinity of the facility is determined for incinerator stack emissions.[1] As described in Chapter VII, a study area has been developed comprising of 12 subareas surrounding the WTI facility. Cancer risks for each of the identified subgroups (e.g., farmers, adult residents, child residents, etc.) are estimated within each subarea using the procedures described above. The total population cancer risk associated with incinerator stack emissions is then calculated across all subareas and subgroups in the study area using the following equation:

---

[1] Given the relatively small area potentially affected by fugitive emissions based on the atmospheric dispersion modeling, population risks are not characterized for fugitive emissions sources.

$$Population\ Cancer\ Risk = \sum_{i=1}^{n}\sum_{j=1}^{m}(P_{ij})(Risk_{ij}) \qquad \text{(VIII-3)}$$

where:

P_{ij}	=	population of subgroup i in subarea j
$Risk_{ij}$	=	cancer risk for subgroup i in subarea j
n	=	number of subgroups
m	=	number of subareas

The calculated population cancer risk represents the hypothetical number of additional cancer cases within the study area due to stack emissions at the WTI facility, given the assumptions inherent in the calculation of individual risk.

C. Overview of Individual Risks Associated with Stack Gas Emissions

Using the methodologies described above, excess cancer risks and HQ values are estimated for the following major population subgroups:

- Adult non-farming resident;
- Child non-farming resident;
- Adult farmer; and
- Child of farmer.

In addition to these major subgroups, which are expected to comprise a significant portion of the local population, three subgroups of the population, which may experience elevated exposures due to their particular behavior patterns also identified:

- School-age child resident;
- Adult subsistence farmer; and
- Child of subsistence farmer.

For each of the two sets of subgroups listed above, inhalation cancer risks and noncancer HQ values are estimated for more than 200 substances of potential concern in each of the 12 subareas. For the indirect pathways of exposure, excess cancer risks and noncancer HQ values are estimated for the substances of primary concern, which include metals, dioxin/furan congeners, organic chemical residues and PICs with the greatest potential to accumulate in the food chain.

In addition to these subgroups, excess cancer risks and noncancer HQ values are estimated for the following four activities that may lead to significantly higher exposures, but in which only a relatively small fraction of the population is expected to participate:

- Consumption of locally caught fish by a subsistence fisherman;
- Consumption of deer harvested locally by hunters;
- Consumption of mother's milk by breast-feeding infants; and
- Consumption of homegrown fruits and vegetables from residential gardens.

The risks associated with direct and indirect exposures by the seven population subgroups are discussed below. Calculated risks are presented only for average emission rates for the substances of concern, and "average" or "typical" exposure factors, as discussed in Chapter VII. For each subarea, risks posed by average and maximum concentrations, as differentiated by the atmospheric dispersion modeling of average emission rates, are presented. Following the discussion of direct and indirect risks based on average emissions and typical exposure, the results of a sensitivity analysis on the exposure factors are presented. The impact of using high-end emission rates is evaluated in Chapter IX.

Results are also presented for an analysis of the potential effects of lead emissions from the incinerator, and the risks posed by the four activities identified above as potentially leading to higher exposures (i.e., ingestion of fish by a subsistence fisherman, ingestion of deer hunted locally, consumption of mother's milk by an infant, and consumption of homegrown vegetables).

1. Individual Risks Due to Direct (Inhalation) Exposure

For the inhalation pathway, excess cancer risks and noncancer HQ values are estimated for the substances of potential concern for stack gas emissions, including organic compounds and PICs, dioxin and furan congeners, metals, and hydrochloric acid (HCl). Nitrogen oxides (NO_x), sulfur oxides (SO_x), and particles are examined by comparison to the National Ambient Air Quality Standards (NAAQS). Cancer risks and noncancer HQ values for the inhalation pathway are estimated based on: 1) the average vapor concentration calculated within each subarea; and 2) the maximum calculated vapor concentration in each subarea.

a. Carcinogenic Effects

Table VIII-1 summarizes the estimated total inhalation cancer risks for the substances of potential concern for each subarea. Area average

inhalation cancer risks are based on average air concentrations estimated in each subarea, as described in Chapter VII. In addition, excess cancer risks at the point of maximum vapor concentration in each subarea are also presented. As shown in Table VIII-1, estimated average cancer risks do not exceed 1 x 10^{-7} for any population subgroup in any subarea. The highest inhalation cancer risk,
8 x 10^{-8}, (assuming average concentrations) is for children of residents and farmers living in subarea E1. Inhalation cancer risks in subarea W1 are approximately 30 percent lower than estimated average risks in subarea E1. Average cancer risks in subareas S1 and N1 for all subgroups are approximately half those estimated in subarea E1.

As evident from Table VIII-1, cancer risks tend to decrease with increasing distance from the facility. In general, risks decrease by a factor of 2 to 3 from subarea to subarea as the distance from the site increases in any one direction (e.g., E1 to E2 or E2 to E3).

Cancer risks estimated at the point of maximum concentration follow a similar pattern to that described above, but are generally a factor of 2 to 4 higher than estimated average cancer risks. The highest estimated cancer risk, 2 x 10^{-7}, is for children of residents and farmers living in subarea E1 at the point of maximum concentration. Appendix V-14 presents the inhalation cancer risks for individual substances of potential concern.

b. Noncarcinogenic Effects

Table VIII-2 summarizes HI values estimated for the substances of potential concern, based on the estimated air concentrations in each subarea. As shown in Table VIII-2, estimated total HI values do not exceed 1.0 (unity), indicating that adverse noncancer human health effects are not expected to occur due to inhalation exposure. Similar to the pattern of average cancer risks described above, the potential for noncancer health effects is greatest in subarea E1 followed by subarea W1. HI values in other subareas are significantly lower than values estimated for subarea E1, and tend to decrease with increasing distance from the facility. HI values are highest for children of residents and farmers, but do not exceed 5 x 10^{-2} based on average concentrations within subarea E1.

HI values are estimated to be 2 to 4 times higher at the point of maximum concentration than HI values based on the areal average concentration. HI values for children of residents and farmers in subarea

E1 are 1×10^{-1} based on maximum estimated concentrations in subarea E1. HI values in other subareas based on maximum estimated concentrations do not exceed 1×10^{-1} for any subgroup. Appendix V-14 contains inhalation HQ values for the substances of potential concern considered in this assessment.

c. Potential Health Effects Associated with Inhalation of NO_x, SO_x, and Particulate Matter

Chronic toxicity criteria have not been established by U.S. EPA for SO_x, NO_x, or particles less than 10 microns in diameter (PM_{10}). Thus, an evaluation of the risks posed by emissions of these substances is performed by comparison to annual average National Ambient Air Quality Standards (NAAQS). U.S. EPA has developed annual average NAAQS values for NO_2, SO_2, and PM_{10} of 100, 80, and 50 $\mu g/m^3$, respectively. The maximum and average ground-level air concentrations of these substances estimated in each subarea are presented in Table VIII-3. As shown in Table VIII-3, the average predicted concentrations of SO_x, NO_x, and PM_{10} in the subareas are at least 100 times less than the NAAQS, with maximum predicted concentrations at least a factor of 10 below the NAAQS in all subareas. The highest estimated concentrations of SO_x, NO_x, and PM_{10} within a single subarea are predicted to occur in subarea E1. Using the NAAQS as a guideline, inhalation exposure to SO_x, NO_x, and PM_{10} emissions from the WTI facility stack is, therefore, not expected to pose a significant health risk.

2. Risks Due to Indirect Exposure

For the indirect routes of exposure, average and maximum excess cancer risks and noncancer HQ values are estimated for the dioxin/furan congeners, metals, and other surrogate organic chemicals. Average risk estimates are based on average emission rates, average dispersion/deposition within a subarea, and typical exposure factors. Maximum risks are also estimated using average emission rates and typical exposure factors, but are estimated at the point of maximum vapor concentration (based on air dispersion modeling) within a subarea.

As described in Chapter IV, a screening process was developed to identify the organic residues and PICs that represent the greatest potential health hazard through the indirect exposure pathways. For each of the surrogate chemicals identified to be of primary concern (including dioxin/furan congeners, metals, and

organic residues and PICs), cancer risks and/or noncancer HQs are estimated for the following exposure pathways:

- Soil ingestion;
- Dermal contact with soil;
- Consumption of meat (beef, pork, and poultry) and eggs from locally raised livestock;
- Consumption of milk and dairy products (cheese, milk desserts, yogurt, cream, and butter) from locally raised cows;
- Consumption of homegrown fruits and vegetables;
- Ingestion of river/lake water during swimming; and
- Dermal contact with river/lake water during swimming.

The pathways of exposure applicable to the individual subgroups were identified earlier in Table V-1.

Tables VIII-4 and VIII-5 summarize the estimated total cancer risks and noncancer hazard indices for the seven population subgroups in the subareas designated. The average cancer risks and hazard indices are based on media concentrations estimated from average emission rates and average contaminant deposition within each subarea. Cancer risks and HI values for the location of maximum exposure in each subarea are also presented in Tables VIII-4 and VIII-5. Estimated cancer risks do not exceed 1×10^{-5} for any population subgroup. Estimated HI values are at least an order of magnitude below unity for exposure under both average and maximum concentration conditions. As shown in Tables VIII-4 and VIII-5, the subsistence farmer and child population subgroups have the highest cancer risk and HI values. In subarea E1, where the highest risks are predicted, cancer risks to the subsistence farmer and child are 1×10^{-6} (for both subgroups), based on average concentrations within the subarea. Average cancer risks for other subgroups do not exceed 5×10^{-7}. Cancer risks at the location of maximum concentration in subarea E1 are estimated to be 4×10^{-6} for the subsistence farmer and child, and risks are generally 2 to 3 times greater than the average estimated risks. Cancer risks do not exceed 2×10^{-6} for the resident, farmer, and school child subgroups.

HI values are also estimated to be highest in subarea E1, with subarea W1 somewhat lower (approximately 30 percent). HI values in subarea E1 based on average and maximum concentrations do not exceed 2×10^{-2} and 6×10^{-2}, respectively, for the child of a subsistence farmer. For other subgroups, estimated

HI values, based on average and maximum concentrations, do not exceed 9 x 10^{-3} and 2 x 10^{-2}, respectively. Appendix V-15 contains cancer risks and HQ values for the individual substances of primary concern estimated for the indirect exposure pathways that are considered in this assessment.[2]

Tables VIII-6 and VIII-7 provide risk estimates for individual exposure pathways for the subsistence farmer (exposure pathway-specific cancer risks and HI values for the other population subgroups are provided in Appendix V-16). As Tables VIII-6 and VIII-7 show, consumption of food (i.e., ingestion of meat and eggs from locally raised livestock, consumption of milk and dairy products from locally raised cows, and consumption of homegrown fruits and vegetables) is the most significant exposure pathway for the subsistence farmer. The distribution of risks between the various food pathways varies somewhat between subgroups, due to varying consumption rates between subgroups (e.g., dairy products consumption accounts for a greater proportion of the total risk for children than for adults due to significantly higher milk consumption rates in children), as shown in Appendix V-16. Risks from non-food exposure pathways (soil and surface water related pathways), however, are relatively insignificant.

Tables VIII-8 and VIII-9 present chemical-specific cancer risks and noncancer HQ values for the adult subsistence farmer in subarea E1. The most important contributors to total cancer risk are the dioxin and furans congeners (accounting for 76 percent of the total cancer risk for the subsistence farmer in subarea E1). In particular, 2,3,4,7,8-pentachlorodibenzofuran (2,3,4,7,8-PeCDF) accounts for 38 percent of the cancer risk for a subsistence farmer in subarea E1. Organic compounds account for the greatest portion of the total HI (71 percent) with hexachlorophene accounting for 38 percent of the total HI value. The metals with the greatest contribution to the total HI are thallium and mercury, together accounting for almost 90 percent of the total HI for inorganic

[2] As noted in Chapter VII, upon estimation of the cancer risks and noncancer HI values, an adjustment to the study area boundary would be made if it appeared that the boundary of the preliminarily defined study area did not include all areas of potentially significant risk. However, as apparent from a review of the cumulative human health risks estimated in the subareas on the outer ring of the study area (i.e., subareas E3, S3, W3, and N3), the area outside the designated study area is expected to be very low risk (i.e., less than a 1 x 10^{-7} cancer risk or HIs less than 0.1) for all population subgroups. The study area and the subareas within the study area, as defined in Chapter VII, therefore, are assumed to include all areas of significant risk.

compounds, and 15 and 13 percent, respectively, of the total HI for all compounds.

Tables VIII-10 and VIII-11 present the combined direct and indirect cancer risks (sum of values in Tables VIII-1 and VIII-4) and HI values (sum of values in Tables VIII-2 and VIII-5), respectively. Total cancer risks and HI values are greatest in subarea E1, with the highest risk experienced by adult subsistence farmers and children of subsistence farmers.

3. Sensitivity Analysis of Exposure Parameters for the Highly Exposed Subgroups

Exposure parameters (e.g., ingestion rate, inhalation rate, exposure frequency) are used in the exposure assessment process to reflect the behavior and activity patterns of the population subgroups. The values of these exposure parameters are often based on the assumption that the exposed population or subgroup is homogeneous. In reality, however, the exposed population actually consists of many individuals, with a distribution of exposures due to varying inhalation rates, ingestion rates, exposure durations and other critical behavioral characteristics.

To evaluate the variability in risks estimated for the most highly exposed subgroups, the subsistence farmer and child in subarea E1 (as noted above), the exposure parameters (in Appendix V-8) that have the most significant impact on the magnitude of potential exposures are identified and varied to determine "high-end" risks. These parameters are identified by setting each parameter, in turn, at the high-end value and calculating the resulting risks. The two parameters that result in the greatest increase in exposure (and risk) are identified for each exposure pathway. Using the identified parameters, high-end exposure and the associated risk are estimated.

For example, for food consumption pathways, assuming that the body weight and lifetime are constants, the lifetime average daily dose through each food pathway is estimated varying each of the following parameters:

CM: Chemical Concentration in Food (related to emission rate)
IR: Food Ingestion Rate
FI: Fraction Ingested from Contaminated Source
EF: Exposure Frequency
ED: Exposure Duration

For the adult subsistence farmer, the exposure parameters with the greatest effect on total risk are food ingestion rates and exposure duration. For the subsistence farmer child, the exposure parameters with the greatest effect on total risk are food ingestion rates and concentration in food (estimated based on the variability in the emission rates). Risks are thus re-calculated with these parameters set at the high-end value and all the other parameters set at their typical values. The resulting risk estimates represent the upper end of the risk distribution for the adult and child subsistence farmer exposure population subgroups in subarea E1, the most highly exposed subgroups in the general population.

As shown in Tables VIII-12 and VIII-13, high-end food consumption cancer risks and hazard indices for the subsistence farmer and child are generally 2 to 6 times higher than average cancer risks and hazard indices. Total high-end cancer risk (all exposure pathways combined) for the subsistence farmer and child do not exceed 7×10^{-6}, and the cumulative high-end noncancer hazard indices are 1×10^{-1} for the subsistence farmer child and 3×10^{-2} for the subsistence farmer. Appendix V-17 provides details of the high-end cancer risks and hazard indices estimated for the subsistence farmer and child in subarea E1.

4. Estimation of the Potential Health Effects Due to Lead

The evaluation of risks associated with exposure to lead requires the use of U.S. EPA's Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children, a computerized model that predicts blood lead concentrations in children exposed to lead through a variety of media. The model is designed to estimate blood lead levels using a combination of default exposure assumptions and site-specific exposure information, where available.

The assessment of risks associated with exposure to lead from the WTI facility is conducted using version 0.99d of the IEUBK model, which is calibrated for children from one-half to seven years of age (U.S. EPA 1994e). Uptake of lead from five media (air, drinking water, soil/dust, food, and paint) is evaluated by the model. For this assessment, blood lead levels for children in the one to seven year-old age range are modeled.

The default input values used in the IEUBK model are presented in Table VIII-14. Two site-specific exposure values (background lead concentrations in air and child inhalation rates) are substituted for the model default values for the WTI site analysis. The default air lead concentration of 0.1 $\mu g/m^3$ is replaced with an estimated background air lead concentration of 0.065 $\mu g/m^3$ (OEPA 1993). This concentration is estimated from air sampling conducted at the East Elementary

School in East Liverpool, which was compiled by Ohio EPA. Monthly samples were collected from this monitoring station during late-1992 and early 1993, prior to full operation of the WTI facility. None of the samples indicated the presence of lead in air above the detection limit (which ranged from 0.075 to 0.188 $\mu g/m^3$). The lead concentration in air is estimated as the average of one-half the detection limits for the seven monthly samples.

In addition, the default age-specific inhalation rates for one to seven year-old children, which ranged from 2 to 7 m^3/day, are changed to 16 m^3/day for all ages to be consistent with the inhalation rate for children used elsewhere in this risk assessment. This change likely results in an overestimate of the potential for adverse health effects in children due to inhalation of lead.

For all media modeled, site-specific incremental increases in lead concentrations attributed to the WTI incinerator are added to the default values or site-specific background lead concentrations. In all cases, however, the magnitude of these incremental increases is too small to change the model inputs (i.e., modeled media lead concentrations due to the WTI facility are insignificant compared to estimated background levels of lead in the environment).

According to U.S. EPA, the Food and Drug Administration (FDA), the Centers for Disease Control (CDC), and other regulatory bodies, low-level exposure to lead during infancy and childhood increases the risk of irreversible neurobehavioral deficits at levels of internal exposure as low as 10 $\mu g/dL$ (CDC 1991; U.S. EPA 1990c, 1994e; USDHHS 1990; ATSDR 1993). In general, regulatory agencies consider exposures that correspond to blood lead levels of 10 $\mu g/dL$ or less in 95 percent of exposed children to be acceptable. The Guidance Manual for the IEUBK model (version 0.99d) for lead in children (U.S. EPA 1994e) states:

> "At present the definition of elevated blood lead (EBL) is the level of concern of 10 $\mu g/dL$ defined by U.S. EPA (1990g) as the lower limit of the range of known possible adverse neurobehavioral effects in young children. The protection level most often used in practice is a maximum 5 percent risk of elevated blood lead (EBL) for children in a given household."

This criterion is used in the WTI incinerator site analysis.

The output of the IEUBK model is a probability curve constructed around a modeled geometric mean blood lead concentration. From this probability curve, the 95th percentile of the children's blood lead concentrations can be determined.

The probability curve from the WTI incinerator site analysis is shown in Figure VIII-1. As is demonstrated by this probability curve, over 98% of the children who may be exposed to lead in the environment from both background sources and from the WTI facility are predicted to have blood lead levels below the 10 μg/dL level. It should be noted that this percentage of children below 10 μg/dL remains unchanged whether or not the emissions from the WTI facility are considered, since exposures to background levels of lead in air and soil far exceed exposures specifically associated with operation of the WTI facility. This observation indicates that lead emissions from the incinerator stack should have no adverse impacts on local children and would not change the estimated number of local children with elevated blood lead levels.

Because one to seven-year-old children are generally considered more sensitive to lead exposure that older children or adults, further analysis of lead exposure and potential health effects is not conducted.

5. Risks Associated with Specific Activities

As noted earlier, a limited number of individuals in the population may be engaged in specific activities that may result in elevated risks (e.g., subsistence fishing, deer hunting, home gardening, and consumption of mother's milk by an infant). For some individuals, the risks estimated for these specific activities could be an incremental addition to the risks associated with the exposure pathways described earlier. Risks associated with the substances of primary concern (including dioxin/furans, surrogate organic chemicals, and metals) through the indirect exposure pathways are estimated for the populations described below.

a. Subsistence Fishing

As indicated in Chapter VII, an analysis of local fishing data indicate that consumption of locally caught fish by the general residential population is unlikely to be a significant source of exposures. However, it is possible that a subgroup of the population may derive a significant portion of their daily diet from locally caught fish (subsistence fishing). Cancer risks and noncancer HQs are estimated for subsistence fishing based on the estimated dose via fish ingestion for the substances of primary concern. Table VIII-15 summarizes the total cancer risks and hazard indices for each of the subareas. Average risks are estimated based on average dispersion and deposition of contaminants within a subarea. Chemical-specific cancer risks and HQ values are shown in Appendix V-18.

In estimating cancer risks and noncancer HQs for subsistence fishing, actual bodies of water in the vicinity of the WTI facility in which fishing reportedly occurs are identified. Segments of the Ohio River (the largest body of water in the vicinity of the facility and the one most frequently used for fishing) are evaluated in each of the subareas through which it passes. In addition, Little Beaver Creek, which is located in Ohio near the Ohio-Pennsylvania border (subarea N2), is evaluated because discussions with local wildlife officials indicated that this body of water is a popular fishing location. Finally, Tomlinson Run Lake, located approximately 6 miles south of the WTI facility in West Virginia is also evaluated to include a lake environment (i.e, the other water bodies are rivers or creeks). Tomlinson Run Lake is located in subarea S3.

As shown in Table VIII-15, subsistence consumption of fish from recreational areas located in the vicinity of the WTI facility results in incremental cancer risks of less than 6×10^{-8}, with the highest risks due to fishing in the Ohio River. HI values are estimated to be significantly less than 1.0 for all subareas where lakes or rivers are located. Estimated HI values based on average concentrations do not exceed 4×10^{-3} (Tomlinson Run Lake). Maximum concentration HI values are not estimated for Tomlinson Run Lake because it is located several miles from the point of maximum concentration. The estimated HI value for subsistence fishing in the Ohio River at the location of maximum concentration is estimated to be 2×10^{-3}.

It should be noted that in the assessment, it is assumed that mercury in aquatic environments is found as both inorganic mercury and methylmercury, which fate and transport modeling indicates will bioaccumulate to a greater degree than inorganic mercury. As noted in Chapter VI, 25 percent of the mercury in aquatic environments is estimated to be in the form of methylmercury. Chemical-specific risks associated with aquatic exposure to inorganic mercury and methylmercury are tabulated in Appendix V-18.

Due to the relatively insignificant risks associated with subsistence fishing, total risks would not increase significantly for individuals participating in this activity.

b. Deer Hunting

Deer living in the vicinity of the WTI facility may be exposed to contaminants released from the WTI facility stack. It is possible, therefore, that individuals hunting in the area surrounding the WTI facility and consuming deer meat may be indirectly exposed to substances released from the WTI facility stack.

Deer meat concentrations are estimated in a fashion similar to that used for beef concentrations, assuming the same biotransfer and bioconcentration factors as for beef but using dry matter consumption rates and fat contents that are specific for deer. Excess cancer risks and noncancer HQs are estimated for the consumption of meat from deer hunted in the vicinity of the WTI facility. Table VIII-16 summarizes the total cancer risks and hazard indices for each of the subareas. Average risks are estimated based on average dispersion and deposition of contaminants within a subarea. In addition, cancer risks and hazard indices at the point of maximum concentration within a subarea are also evaluated, and are presented in Table VIII-16. As shown in Table VIII-16, the incremental average cancer risks do not exceed 1×10^{-8}, and average HI values do not exceed 5×10^{-5}, for all subareas. Maximum cancer risks and HI values are generally 2 to 3 times higher than average estimated risks. The highest cancer risks and HI values for consumption of deer meat occur in subarea E1. Cancer risks and HI values in subareas W1, S1, and N1 are somewhat lower (approximately 30 to 70 percent lower). It should be noted, however, that it is unlikely that significant deer hunting occurs in the subareas immediately surrounding the WTI facility due to the proximity of developed areas. Farther away from the facility, where hunting is more likely, risks tend to decrease by a factor of 2 to 3 (from subarea to subarea) as the distance increases from the WTI facility. Chemical-specific cancer risks and HQ values are shown in Appendix V-18.

c. Home Gardening

Some residents living in East Liverpool and surrounding areas have home gardens from which they may consume fruits and vegetables. An informal home gardening survey was conducted in June 1993 by the East Liverpool Board of Health, as described in Chapter VII. As a result of this survey, the Board of Health estimated that approximately 30 percent of local residents have home gardens. Therefore, excess cancer risks and

noncancer HQs due to exposure to stack gas constituents deposited on and accumulated in homegrown fruits and vegetables are estimated for this segment of the population.

Table VIII-17 summarizes the total cancer risks and HI values for each of the subareas. Average cancer risks and noncancer HI values are estimated based on average dispersion and deposition of contaminants within a subarea. In addition, cancer risks and noncancer HI values at the point of maximum concentration within a subarea are also evaluated, as shown in Table VIII-17. Average cancer risks for ingestion of homegrown vegetables by residents with gardens are below 6×10^{-9} for all subareas and the hazard indices do not exceed 1×10^{-4}. Cancer risks and hazard indices at the location of maximum concentration in each of the subareas are 2 to 3 times higher than the average cancer risks and hazard indices.

It should be noted that this assessment is limited to the consideration of fruits and vegetables from home gardens and does not consider the consumption of locally raised produce by individuals without home gardens. However, due to the low level of risk estimated, it is unlikely that locally grown vegetables pose a significant health risk. In addition, due to the relatively insignificant cancer risks and HI values estimated for home gardening, risks associated with this activity will not appreciably increase total risks to local residents.

d. Ingestion of Mother's Milk by Infant

Lipophilic compounds, such as dioxins and furans, may accumulate in body tissues and preferentially concentrate in adipose tissue. Exposure to these compounds by a mother before and while lactating, therefore, may result in the accumulation of contaminants in breast milk, and exposures to breast-feeding infants during nursing.

Excess cancer risks are estimated for infants exposed to contaminants accumulated in mother's milk. In calculating exposure levels for the infant through breast milk ingestion, it is assumed that the mother receives exposure through each of the pathways considered for a particular subgroup. Table VIII-18 summarizes the total cancer risks for each of the subareas. Average cancer risks are estimated based on average dispersion and deposition of contaminants within a subarea. In addition, cancer risks at the point of maximum concentration within a subarea are also evaluated, as shown in Table VIII-18. It should be noted that noncancer health

effects due to infant ingestion of breast milk are not considered in this assessment due to the significant uncertainty in applying noncancer toxicity data to infants (U.S. EPA 1994a).

Cancer risks based on average subarea exposures do not exceed 4 x 10^{-7} for infants of residents, 7 x 10^{-7} for children of farmers, and 2 x 10^{-6} for children of subsistence farmers. These cancer risks are estimated for subarea E1; the subarea with the next highest average cancer risks is subarea W1, where estimated risks are approximately 30 percent lower than in subarea E1. The primary contributor to the estimated average cancer risk of the infant of a subsistence farmer in subarea E1 are the non-dioxin organic compounds (66 percent of total risk) with benzo(a)pyrene accounting for 37 percent of the total average cancer risk. Dioxin and furan congeners as a whole account for 34 percent of the total estimated average cancer risk. Chemical-specific cancer risks for the infant of a subsistence farmer in subarea E1 are provided in Appendix V-15.

Cancer risks estimated for the point of maximum concentration in each subarea are generally 2 to 3 times higher than the average risks. Estimated maximum location cancer risks for breast-feeding infants of non-farming residents are 1 x 10^{-6} in subarea E1, the area of greatest impact, while breast-feeding infants of farmers and subsistence farmers are 2 x 10^{-6} and 5 x 10^{-6}, respectively, in subarea E1.

D. Overview of Population Risks

Individual risks are estimated for several population subgroups in the 12 subareas surrounding the WTI facility. These individual risks are combined with population data for each subarea (and subgroup) to estimate the cancer risk burden for the population within the study area. The population cancer risk is calculated as the individual cancer risk for each member of a population subgroup multiplied by the number of individuals in that population subgroup, summed across all subgroups.

Population data for ZIP codes contained partially or wholly within the study area have been compiled (CACI 1991). The population within three age groups—infants (0 to 12 months), children (1 to 12 years), and adults (13 years and older)—is estimated for each ZIP code area, and the fraction of each ZIP code area contained within each subarea is estimated based on Figure VIII-2. Appendix V-19 summarizes the population data for each ZIP code and the fraction of each ZIP code contained within each risk assessment subarea. The product of the fraction of a ZIP code area contained within a subarea and the ZIP code area population is used to estimate subarea populations. This methodology

assumes that the population within a ZIP code area is evenly distributed; therefore, the population within some subareas may be underestimated while the population in others it may be overestimated. This uncertainty, however, is not expected to impact significantly the results of the population risk assessment.

The total population is divided into the farming and the non-farming population. Census data on the farming population in the area surrounding the WTI facility were not readily available; therefore, the farming population is estimated. As indicated in Chapter VII, the 1992 Agricultural Census (USDC 1993a,b,c) identifies the number of farms in each of the three counties (Columbiana, Ohio; Beaver, Pennsylvania; and Hancock, West Virginia). The fraction of the total population associated with farms is estimated using the data presented in Table VII-13. As a result, the farming population is estimated to comprise approximately 2.4 percent, 0.7 percent, and 0.5 percent, of the total populations of Columbiana, Beaver, and Hancock counties, respectively. These values are estimated based on the average number of individuals per household (as indicated in Table VII-13), which may underestimate typical farming households. Thus, to ensure that the farming population is not underestimated, it is assumed that the farming population in the vicinity of the WTI facility comprises approximately 2.5 percent of the total population (the upper end of the values for the local counties). This method may underestimate the farming population in some subareas (likely those outside the East Liverpool area, i.e., farther from the facility) and overestimate the farming population in others (i.e., those near the facility in the more urbanized areas). The remaining 97.5 percent of the population is assumed to be non-farming residents. Furthermore, as indicated in Chapter VII, 30 percent of the non-farming population are assumed to have home gardens. Based on these assumptions, the total estimated farming and non-farming populations within each subarea is estimated, as shown in Table VIII-19.

Direct and indirect cancer risks are summed for the farming and non-farming population subgroups, as shown in Table VIII-20. For the residents with home gardens, risks associated with consumption of homegrown fruits and vegetables (Table VIII-17) are added to the indirect risks from other pathways and direct risks to develop the total risk estimates in Table VIII-20. Total average cancer risks for each population subgroup are multiplied by the corresponding age-distributed census data for each subarea to estimate the estimated number of additional cancer cases due to facility stack emissions (Table VIII-21) for each subgroup in each subarea. It should be noted that cancer risks estimated for children (1 to 6 years old) are applied to the entire age range of children (1 to 12 years) in estimating population risk, with the exception of indirect risks to infants for which risks from breast milk consumption are applied. In addition, inhalation risks estimated for children are applied to infants.

Table VIII-21 shows the population risk burden for the farming and non-farming subgroups for each subarea. The population cancer burden for the WTI study area is estimated as 3×10^{-3}, which implies that over a 70 year lifetime, including 30 years of WTI operation, 0.003 cancer cases are estimated to occur due to impacts from stack emissions. As a basis for comparison, statistics from the American Cancer Society (1993) indicate that the incidence of cancer from all sources is approximately 33 percent. Given the total population of approximately 54,000 individuals in the study area, this "background" cancer risk without operation of the WTI facility corresponds to approximately 18,000 cancer cases over a lifetime.

E. Estimation of Risks Due to Fugitive Emissions

As discussed in Volume III, several sources of fugitive organic vapor emissions associated with waste handling, processing, and storage prior to combustion, are identified at the WTI facility, including:

1) Carbon adsorption bed (CAB) system, which controls emissions from tanks in the organic waste tank farm building and from the container processing area;
2) Seals, valves, and flanges associated with tanks in the organic waste tank farm building;
3) Waste water holding tank;
4) On-site truck wash station; and
5) Ash handling.

Exposure to emissions from these source may occur to individuals living, working, or attending school in the vicinity of the WTI facility. Given the nature of the fugitive vapor releases and the extent of atmospheric dispersion predicted, only risks through inhalation are quantified for organic vapor emissions from sources 1 through 4. For fugitive ash emissions (source 5), direct and indirect exposure pathways are evaluated. Risks associated with these exposure are estimated for three potential exposure populations: adult residents, child residents, and school-age children.

Exposures are estimated in four quadrants (north, south, east, and west of the facility) that extend to a distance of 2,000 feet from the facility stack and include residential and commercial areas of East Liverpool and the East Elementary School to the north of the facility. For the fugitive organic vapor emissions sources (1 through 4 above), inhalation cancer risks and HQ values are estimated for the 11 surrogate organic compounds identified in Chapter IV. For the fugitive ash source (source 5), direct and

indirect cancer risks and HQ values are estimated for the metals identified in the ash in Chapter IV. The following sections summarize the estimated risks for these sources.

1. Estimated Risks Due to Fugitive Organic Vapor Emissions

Inhalation cancer risks and noncancer HQs are estimated within each of the four quadrants shown in Figure VII-4 for 11 surrogate organic chemicals that were selected for evaluation in Chapter IV. Total cancer risks and hazard indices for the four sources of fugitive emissions identified at the facility combined are presented in Table VIII-22, based on average vapor concentrations. As indicated in Table VIII-22, lifetime cancer risks due to average exposure to fugitive emissions from the WTI facility (all four sources of identified fugitive organic vapor emissions sources combined) are below 5×10^{-6} for children (1 to 6 years old) and school-age children (7 to 12 years old) and below 1×10^{-6} for adults. Total noncancer hazard indices are estimated to be significantly below 1, with a maximum estimated hazard index of 7×10^{-2} for children (1 to 6 years old) who spend most of their time in the areas east and west of the facility.

In addition to average risks associated with fugitive releases from the WTI facility, excess cancer risks and noncancer HQs are estimated at the point of off-site maximum concentration for each of the four fugitive emissions sources. Total cancer risks and hazard indices for the 11 surrogate chemicals combined are presented in Table VIII-23. Cancer risks and HI values for individual substances are presented in Appendix V-20. It should be noted that the location of maximum concentration for all sources except the elevated CAB source are on-site, thus the maximum off-site concentrations at receptors located along the fenceline are used in the analysis. Since residences near the site are generally between 1,000 and 1,500 feet from the fenceline, the estimation of long-term inhalation risks at the location of maximum concentration (i.e., based on exposure for 24 hours/day, 350 days/yr, and up to 9 years) is unrealistic and represents worst-case exposure. Nonetheless, cancer risks for the four organic vapor fugitive emissions sources identified at the WTI facility are below 1×10^{-5} at the respective locations of maximum concentration. The noncancer hazard indices for each of the four fugitive organic vapor sources are below 1.0, indicating that adverse noncancer health effects due to inhalation exposure are unlikely to result from activities at the WTI facility.

2. Risks Due to Fugitive Ash Emissions

Fugitive ash emissions from the loading of trucks is expected to occur as part of routine operations at the WTI facility. Average inhalation cancer risks and noncancer HQs are estimated within each of the four quadrants shown in Figure VII-4, for metals and cyanide that have been detected in samples of ash from the ESP at the facility. In addition, because deposition of fugitive ash emissions may occur in the vicinity of the WTI facility, cancer risks and noncancer HQ values are estimated for several indirect pathways, including ingestion of and dermal contact with soil, and consumption of homegrown vegetables. Indirect risks and HQ values are estimated for adult and child residents and school children who may be exposed by these pathways.

Total inhalation cancer risks and hazard indices, based on average airborne concentrations of ash off-site, are presented in Table VIII-24. Cancer risks and HQ values for individual substances are presented in Appendix V-20. As indicated in Table VIII-24, lifetime cancer risks due to average inhalation exposure to fugitive ash emissions from the WTI facility are below 5×10^{-8} for children (1 to 6 years old) and less than 3×10^{-8} for school-age children (7 to 12 years old). For adults, the estimated average cancer risks do not exceed 2×10^{-8}. The highest cancer risks are predicted for the area west of the site. Noncancer HI values are estimated to be significantly below 1.0 in all quadrants; the highest average HI value of 7×10^{-4} is estimated for the area west of the facility for children (1 to 6 years old).

In addition to average risks, cancer risks and noncancer HQs are estimated at the point of maximum off-site concentration of fugitive ash. Total inhalation cancer risks and hazard indices are presented in Table VIII-24. It should be noted that the location of maximum concentration is on-site, thus the maximum off-site concentration at a receptor located along the fenceline is used in the analysis. Since residences near the site are generally between 1,000 and 1,500 feet from the fenceline, the estimation of long-term inhalation risks at this location of maximum concentration (i.e., based on exposure for 24 hours/day, 350 days/yr) is unrealistic and represents worst-case exposure. Nonetheless, cancer risks are below 1×10^{-6} at the locations of maximum concentration. The noncancer hazard indices for each of the population subgroups are significantly below 1.0 (do not exceed 2×10^{-2}), indicating that adverse noncancer health effects due to inhalation exposure to fugitive ash emissions are unlikely to result from activities at the WTI facility.

Area average cancer risks and HI values for the indirect exposure pathways are summarized in Table VIII-25. Cancer risks and HQ values for individual

substances are presented in Appendix V-20. Estimated cancer risks and HI values for the indirect exposure pathways are significantly less than cancer risks and HI values estimated for the inhalation pathway. For adult residents, lifetime cancer risks due to average indirect exposure to fugitive ash emissions from the WTI facility are below
8×10^{-12}. For children (1 to 6 years old) and school-age children (7 to 12 years old), lifetime cancer risks for indirect exposure to metals in fugitive ash emissions are not expected to exceed 4×10^{-11} and 1×10^{-11}, respectively. The highest cancer risks are estimated for the areas east and west of the site for all subgroups. Noncancer HI values are estimated to be significantly below 1.0 in all quadrants; the highest average HI value estimated, 5×10^{-6}, is predicted for the eastern and western quadrants for children (1 to 6 years old).

Cancer risks and HI values for the indirect pathways of exposure are also estimated for the location of maximum concentration, as shown in Table VIII-25. Cancer risks are below 2×10^{-10} at the location of maximum concentration for all subgroups. The noncancer hazard indices for each of the population subgroups are significantly below 1.0 (do not exceed 3×10^{-5}), indicating that adverse noncancer health effects due to indirect exposure to fugitive ash emissions are unlikely to result from activities at the WTI facility.

F. Uncertainties

As emphasized in the recent U.S. EPA exposure assessment guidelines (U.S. EPA 1992b), identification and quantification of uncertainties and variability is an important element of the risk characterization. Various sources of uncertainty have been identified in each of the preceding chapters, and an overall assessment of uncertainty in the HHRA is conducted in Chapter IX. The following sections discuss uncertainties associated with the risk characterization process and the risk estimates.

1. Uncertainties Associated with the Risk Characterization Process

Uncertainties associated with the methodology used to characterize risks are based on a number of assumptions used in the risk characterization process. The key assumptions, the basis for each, and the estimated effects (including magnitude and direction of effect) on risks are summarized in Table VIII-26. For many of these methodological assumptions, potential effects on the overall results of the HHRA are judged to be minor. The primary exception is the estimation of impacts at the point of maximum concentration within each subarea, which assumes that an individual (resident, subsistence farmer, etc.) will be located at this

point continuously for the entire exposure duration. However, this assumption is necessary to provide an indication of the range of potential risks within a subarea.

As noted in section A of this chapter, there is some uncertainty associated with additive risks (i.e., summing cancer risk estimates and hazard quotients across chemicals and exposure pathways). The HI approach for the noncarcinogenic effects of chemicals assumes that multiple sub-threshold exposure could result in an adverse effect and that a reasonable criterion for evaluating the potential for adverse effects is the sum of the hazard quotients for individual chemicals. This methodology, however, is most appropriately applied to substances that induce the same effect on the same organ. Therefore, to the extent that toxic effects of the chemicals in the stack emissions are not additive, the HI approach is likely to result in an overestimate of potential risk.

Cancer risks for multiple chemical exposures are assumed to be additive. As noted by U.S. EPA (1989b), there are several limitations to this assumption of additivity. One of these limitations arises from the fact that risks are based on unit cancer risks that are derived as upper 95th percentiles of the probability distributions of cancer potency. Because upper 95th percentiles of probability distributions are not strictly additive, the total cancer risk estimate can become artificially more conservative as risks from a number of carcinogens are added. Secondly, the approach routinely applied in cancer risk assessment treats all carcinogens equally, regardless of the weight-of-evidence class to which a carcinogen is assigned. Each class is given equal weight; known carcinogens (class A) are considered equal to probable and possible carcinogens (classes B and C) in the summation of risks.

Finally, the mechanism of toxicity of any two chemicals may not be the same and, in fact, might not be independent. Cumulative risk estimates assume similar mechanisms of action and that mixtures of chemicals do not act antagonistically or synergistically. The combined risk of antagonistic chemicals is expected to be less that the sum of the individual risks; whereas, the total risk from synergistic chemicals could be greater than the sum of the individual risks. Data and methods to quantitatively assess these types of interactions, however, are not readily available.

2. Uncertainties Associated with the Risk Estimates

As noted above, Chapter IX presents a quantitative analysis of the uncertainties involved in each step of the process of estimating indirect risks of two substances—2,3,4,7,8-PeCDF and arsenic—for a subsistence farmer in subarea E1

(the subarea of greatest impact). This analysis is intended to evaluate the sources of uncertainty affecting the indirect risk estimates. Although subsistence farmers may not comprise a significant fraction of the population, the conclusions drawn from the analysis concerning sources of uncertainty likely apply to risk estimates for other subgroups as well.

3. Uncertainty Associated with the Uncharacterized Emissions

A source of uncertainty in estimating risk not specifically addressed in Chapter IX is the uncertainty associated with uncharacterized emissions. Although significant measurements have been obtained to characterize emissions from the facility, it is known that the characterized fraction of the organic emissions from the incinerator stack accounts for approximately 40 percent of the total organic emissions (as discussed in Chapter V of Volume III). The emission rates of the constituents within the characterized fraction are likely to be relatively accurate; however, the compounds emitted in the uncharacterized fraction are unknown. To provide an indication of the potential effects on total estimated risks, it is possible for the purpose of illustration to prorate the average cancer risks to the subsistence farmer in subarea E1 associated with the non-dioxin organic compounds by a factor of 2.5 to account for the uncharacterized fraction. The inherent assumption in the prorating process is that the cancer potency of the uncharacterized fraction is equal to the cancer potency of the characterized fraction. Total indirect cancer risks to the subsistence farmer in subarea E1 are estimated to be 1.3×10^{-6} in this assessment (as discussed earlier), with non-dioxin organic compounds accounting for approximately 24 percent of the risks. When the prorating factor of 2.5 is applied to the risks from organic compounds, the average cancer risks to a subsistence farmer in subarea E1 become 1.8×10^{-6}. Organic compounds would account for 44 percent of these risks, and there would be a 36 percent increase in total risk.

G. Comparison of Incremental Dioxin and Furan Exposure to Expected Background Exposure

As mentioned in Chapter III, the lack of RfD and RfC toxicity values for the dioxin-like compounds means that potential adverse noncancer effects from exposure to dioxins and furans cannot be directly quantified. Therefore, noncancer HQ values cannot be calculated for the potential risk from exposure to dioxins and furans. As an alternative, it is useful to compare the estimated incremental exposures to the predicted or expected background exposure levels.

This will serve as an indicator of the potential impact on human health by showing the additional contribution of the incremental exposure from incinerator emissions to the overall body burden of dioxin-like compounds from background exposures.

To make the comparison, it is necessary to calculate the toxic equivalent (TEQ) dose for the estimated exposure to the dioxin-like compounds. This calculation is performed using the LADD data for the adult subsistence farmer in Subarea E1 (Table VII-18). For each toxic dioxin and furan congener, the combined exposures from soil, water, and food are multiplied by the corresponding TEF value (Table III-2) to obtain a TEQ dose for each congener. The TEQ doses for each congener are summed to yield a total TEQ dose for the dioxin and furan congeners. The TEQ dose calculated in this manner is found to be 7×10^{-12} mg TEQ/kg-day.

The U.S. EPA discusses estimates of background exposure to dioxins and furans in its "Draft Dioxin Reassessment" (U.S. EPA 1994b). The range of background exposures to the U.S. adult population has been estimated as 1×10^{-9} to 3×10^{-9} mg TEQ/kg-day. This includes the predicted background exposure from multiple sources including the food chain pathway, the inhalation pathway, and soil ingestion.

Therefore, the LADD of 7×10^{-12} mg TEQ/kg-day for a subsistence farmer living in the subarea of greatest impact is predicted to be less than 1 percent of the average daily background dose expected for the U.S. adult population. Consequently, the probability is low that the incremental exposure due to emissions from WTI would result in a significantly increased body burden of dioxin-like compounds for the majority of the population in the vicinity of the incinerator.

TABLE VIII-1
Estimated Total Inhalation Cancer Risks for Substances of Potential Concern

Subarea Concentration	Population Subgroup				
	Resident Adult	Resident Child	School-Age Child	Farmer Adult[a]	Farmer Child[a]
E1					
Area Average	3×10^{-8}	8×10^{-8}	5×10^{-8}	7×10^{-8}	8×10^{-8}
Maximum Location	1×10^{-7}	2×10^{-7}	2×10^{-7}	2×10^{-7}	2×10^{-7}
E2					
Area Average	2×10^{-8}	4×10^{-8}	2×10^{-8}	3×10^{-8}	4×10^{-8}
Maximum Location	3×10^{-8}	8×10^{-8}	5×10^{-8}	8×10^{-8}	8×10^{-8}
E3					
Area Average	7×10^{-9}	2×10^{-8}	1×10^{-8}	1×10^{-8}	2×10^{-8}
Maximum Location	1×10^{-8}	3×10^{-8}	2×10^{-8}	2×10^{-8}	3×10^{-8}
S1					
Area Average	2×10^{-8}	4×10^{-8}	2×10^{-8}	3×10^{-8}	4×10^{-8}
Maximum Location	6×10^{-8}	1×10^{-7}	8×10^{-8}	1×10^{-7}	1×10^{-7}
S2					
Area Average	7×10^{-9}	2×10^{-8}	1×10^{-8}	2×10^{-8}	2×10^{-8}
Maximum Concentration	2×10^{-8}	4×10^{-8}	2×10^{-8}	3×10^{-8}	4×10^{-8}
S3					
Area Average	3×10^{-9}	8×10^{-9}	5×10^{-9}	7×10^{-9}	8×10^{-9}
Maximum Location	5×10^{-9}	1×10^{-8}	7×10^{-9}	1×10^{-8}	1×10^{-8}
W1					
Area Average	2×10^{-8}	5×10^{-8}	3×10^{-8}	5×10^{-8}	5×10^{-8}
Maximum Location	6×10^{-8}	2×10^{-7}	1×10^{-7}	1×10^{-7}	2×10^{-7}
W2					
Area Average	1×10^{-8}	3×10^{-8}	2×10^{-8}	2×10^{-8}	3×10^{-8}
Maximum Location	2×10^{-8}	6×10^{-8}	3×10^{-8}	5×10^{-8}	6×10^{-8}
W3					
Area Average	5×10^{-9}	1×10^{-8}	7×10^{-9}	1×10^{-8}	1×10^{-8}
Maximum Location	7×10^{-9}	2×10^{-8}	1×10^{-8}	2×10^{-8}	2×10^{-8}
N1					
Area Average	2×10^{-8}	4×10^{-8}	2×10^{-8}	3×10^{-8}	4×10^{-8}
Maximum Location	4×10^{-8}	1×10^{-7}	6×10^{-8}	9×10^{-8}	1×10^{-7}
N2					
Area Average	6×10^{-9}	2×10^{-8}	9×10^{-9}	1×10^{-8}	2×10^{-8}
Maximum Location	2×10^{-8}	4×10^{-8}	2×10^{-8}	3×10^{-8}	4×10^{-8}
N3					
Area Average	3×10^{-9}	7×10^{-9}	4×10^{-9}	6×10^{-9}	7×10^{-9}
Maximum Location	4×10^{-9}	1×10^{-8}	6×10^{-9}	9×10^{-9}	1×10^{-8}

Notes:
a - Inhalation cancer risks are the same for farmers and subsistence farmers (child and adult).

TABLE VIII-2
Estimated Total Inhalation Noncancer Hazard Indices for Substances of Potential Concern

Subarea	Population Subgroup				
	Resident Adult	Resident Child	School-Age Child	Farmer Adult[a]	Farmer Child[a]
E1					
Area Average	1×10^{-2}	5×10^{-2}	3×10^{-2}	1×10^{-2}	5×10^{-2}
Maximum Location	4×10^{-2}	1×10^{-1}	9×10^{-2}	4×10^{-2}	1×10^{-1}
E2					
Area Average	6×10^{-3}	2×10^{-2}	1×10^{-2}	6×10^{-3}	2×10^{-2}
Maximum Location	1×10^{-2}	5×10^{-2}	3×10^{-2}	1×10^{-2}	5×10^{-2}
E3					
Area Average	3×10^{-3}	9×10^{-3}	6×10^{-3}	3×10^{-3}	9×10^{-3}
Maximum Location	4×10^{-3}	1×10^{-2}	9×10^{-3}	4×10^{-3}	1×10^{-2}
S1					
Area Average	6×10^{-3}	2×10^{-2}	1×10^{-2}	6×10^{-3}	2×10^{-2}
Maximum Location	2×10^{-2}	8×10^{-2}	5×10^{-2}	2×10^{-2}	8×10^{-2}
S2					
Area Average	3×10^{-3}	1×10^{-2}	6×10^{-3}	3×10^{-3}	1×10^{-2}
Maximum Location	6×10^{-3}	2×10^{-2}	1×10^{-2}	6×10^{-3}	2×10^{-2}
S3					
Area Average	1×10^{-3}	5×10^{-3}	3×10^{-3}	1×10^{-3}	5×10^{-3}
Maximum Location	2×10^{-3}	7×10^{-3}	4×10^{-3}	2×10^{-3}	7×10^{-3}
W1					
Area Average	8×10^{-3}	3×10^{-2}	2×10^{-2}	8×10^{-3}	3×10^{-2}
Maximum Location	2×10^{-2}	9×10^{-2}	6×10^{-2}	2×10^{-2}	9×10^{-2}
W2					
Area Average	4×10^{-3}	2×10^{-2}	9×10^{-3}	4×10^{-3}	2×10^{-2}
Maximum Location	9×10^{-3}	3×10^{-2}	2×10^{-2}	9×10^{-3}	3×10^{-2}
W3					
Area Average	2×10^{-3}	7×10^{-3}	4×10^{-3}	2×10^{-3}	7×10^{-3}
Maximum Location	3×10^{-3}	1×10^{-2}	7×10^{-3}	3×10^{-3}	1×10^{-2}
N1					
Area Average	6×10^{-3}	2×10^{-2}	1×10^{-2}	6×10^{-3}	2×10^{-2}
Maximum Location	2×10^{-2}	6×10^{-2}	4×10^{-2}	2×10^{-2}	6×10^{-2}
N2					
Area Average	2×10^{-3}	9×10^{-3}	5×10^{-3}	2×10^{-3}	9×10^{-3}
Maximum Location	6×10^{-3}	2×10^{-2}	1×10^{-2}	6×10^{-3}	2×10^{-2}
N3					
Area Average	1×10^{-3}	4×10^{-3}	2×10^{-3}	1×10^{-3}	4×10^{-3}
Maximum Location	2×10^{-3}	6×10^{-3}	4×10^{-3}	2×10^{-3}	6×10^{-3}

Note:
a - Inhalation noncancer HI values are the same for farmers and subsistence farmers (child and adult).

TABLE VIII-3
Comparison of Predicted Acid Gas and Particulate Matter Concentrations with NAAQS

Subarea	Estimated Average and Maximum Air Concentration ($\mu g/m^3$) (NAAQS in parenthesis)					
	NO_x (100 $\mu g/m^3$)		SO_x (80 $\mu g/m^3$)		PM_{10} (50 $\mu g/m^3$)	
	Average	Maximum	Average	Maximum	Average	Maximum
E1	7×10^{-1}	2	3×10^{-2}	8×10^{-2}	2×10^{-2}	7×10^{-2}
E2	3×10^{-1}	8×10^{-1}	1×10^{-2}	3×10^{-2}	1×10^{-2}	2×10^{-2}
E3	2×10^{-1}	2×10^{-1}	6×10^{-3}	8×10^{-3}	4×10^{-3}	7×10^{-3}
N1	3×10^{-1}	9×10^{-1}	1×10^{-2}	4×10^{-2}	1×10^{-2}	3×10^{-2}
N2	1×10^{1}	3×10^{-1}	5×10^{-3}	1×10^{-2}	4×10^{-3}	1×10^{-2}
N3	6×10^{-2}	9×10^{-2}	2×10^{-3}	4×10^{-3}	2×10^{-3}	3×10^{-3}
S1	3×10^{-1}	1	1×10^{-2}	5×10^{-2}	1×10^{-2}	4×10^{-2}
S2	2×10^{-1}	3×10^{-1}	6×10^{-3}	1×10^{-2}	5×10^{-3}	1×10^{-2}
S3	7×10^{-2}	1×10^{-1}	3×10^{-3}	4×10^{-3}	2×10^{-3}	3×10^{-3}
W1	5×10^{-1}	1	2×10^{-2}	5×10^{-2}	1×10^{-2}	4×10^{-2}
W2	2×10^{-1}	5×10^{-1}	9×10^{-3}	2×10^{-2}	7×10^{-3}	2×10^{-2}
W3	1×10^{-1}	2×10^{-1}	4×10^{-3}	6×10^{-3}	3×10^{-3}	5×10^{-3}

Notes:
NAAQS: National Ambient Air Quality Standards. The average reported is the annual arithmetic mean.
NO_x: NAAQS reported for nitrogen dioxide only. Predicted concentrations are for all nitrogen oxides.
SO_x: NAAQS reported for sulfur dioxide only. Predicted concentrations are for all sulfur oxides.
PM_{10}: NAAQS reported for particulate matter less than or equal to 10 μm in diameter PM_{10}.

TABLE VIII-4
Estimated Cancer Risks Due to Exposure from Indirect Pathways

Subarea	Population Subgroup						
	Resident Adult	**Resident Child**	**Farmer Adult**	**Farmer Child**	**School-Age Child**	**Subsistence Farmer Adult**	**Subsistence Farmer Child**
E1							
Area Average	1×10^{-7}	3×10^{-7}	5×10^{-7}	5×10^{-7}	2×10^{-7}	1×10^{-6}	1×10^{-6}
Maximum Location	4×10^{-7}	1×10^{-6}	2×10^{-6}	2×10^{-6}	7×10^{-7}	4×10^{-6}	4×10^{-6}
E2							
Area Average	6×10^{-8}	2×10^{-7}	3×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	6×10^{-7}
Maximum Location	1×10^{-7}	3×10^{-7}	6×10^{-7}	5×10^{-7}	2×10^{-7}	1×10^{-6}	1×10^{-6}
E3							
Area Average	3×10^{-8}	7×10^{-8}	1×10^{-7}	1×10^{-7}	4×10^{-8}	3×10^{-7}	2×10^{-7}
Maximum Location	4×10^{-8}	1×10^{-7}	2×10^{-7}	2×10^{-7}	7×10^{-8}	4×10^{-7}	4×10^{-7}
S1							
Area Average	6×10^{-8}	2×10^{-7}	3×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	6×10^{-7}
Maximum Location	2×10^{-7}	6×10^{-7}	1×10^{-6}	9×10^{-7}	4×10^{-7}	2×10^{-6}	2×10^{-6}
S2							
Area Average	3×10^{-8}	7×10^{-8}	1×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	3×10^{-7}
Maximum Location	6×10^{-8}	2×10^{-7}	3×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	6×10^{-7}
S3							
Area Average	1×10^{-8}	3×10^{-8}	5×10^{-8}	5×10^{-8}	2×10^{-8}	1×10^{-7}	1×10^{-7}
Maximum Location	2×10^{-8}	5×10^{-8}	8×10^{-8}	7×10^{-8}	3×10^{-8}	2×10^{-7}	2×10^{-7}
W1							
Area Average	9×10^{-8}	2×10^{-7}	4×10^{-7}	3×10^{-7}	1×10^{-7}	9×10^{-7}	8×10^{-7}
Maximum Location	3×10^{-7}	6×10^{-7}	1×10^{-6}	1×10^{-6}	4×10^{-7}	3×10^{-6}	2×10^{-6}
W2							
Area Average	4×10^{-8}	1×10^{-7}	2×10^{-7}	2×10^{-7}	7×10^{-8}	4×10^{-7}	4×10^{-7}
Maximum Location	9×10^{-8}	2×10^{-7}	4×10^{-7}	3×10^{-7}	1×10^{-7}	9×10^{-7}	9×10^{-7}
W3							
Area Average	2×10^{-8}	5×10^{-8}	8×10^{-8}	7×10^{-8}	3×10^{-8}	2×10^{-7}	2×10^{-7}
Maximum Location	3×10^{-8}	7×10^{-8}	1×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	3×10^{-7}
N1							
Area Average	6×10^{-8}	2×10^{-7}	3×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	6×10^{-7}
Maximum Location	2×10^{-7}	4×10^{-7}	7×10^{-7}	7×10^{-7}	3×10^{-7}	2×10^{-6}	2×10^{-6}
N2							
Area Average	2×10^{-8}	6×10^{-8}	1×10^{-7}	9×10^{-8}	4×10^{-8}	2×10^{-7}	2×10^{-7}
Maximum Location	6×10^{-8}	2×10^{-7}	3×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	6×10^{-7}
N3							
Area Average	1×10^{-8}	3×10^{-8}	4×10^{-8}	4×10^{-8}	2×10^{-8}	1×10^{-7}	1×10^{-7}
Maximum Location	2×10^{-8}	4×10^{-8}	7×10^{-8}	7×10^{-8}	3×10^{-8}	2×10^{-7}	2×10^{-7}

TABLE VIII-5
Estimated Hazard Indices Due to Exposure from Indirect Pathways

Subarea	Population Subgroup						
	Resident Adult	Resident Child	Farmer Adult	Farmer Child	School-Age Child	Subsistence Farmer Adult	Subsistence Farmer Child
E1							
Area Average	1×10^{-3}	6×10^{-3}	2×10^{-3}	9×10^{-3}	3×10^{-3}	5×10^{-3}	2×10^{-2}
Maximum Location	2×10^{-3}	1×10^{-2}	5×10^{-3}	2×10^{-2}	8×10^{-3}	1×10^{-2}	6×10^{-2}
E2							
Area Average	4×10^{-4}	2×10^{-3}	8×10^{-4}	4×10^{-3}	1×10^{-3}	2×10^{-3}	9×10^{-3}
Maximum Location	7×10^{-4}	5×10^{-3}	2×10^{-3}	7×10^{-3}	3×10^{-3}	4×10^{-3}	2×10^{-2}
E3							
Area Average	2×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-3}	6×10^{-4}	9×10^{-4}	4×10^{-3}
Maximum Location	2×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-3}	8×10^{-4}	1×10^{-3}	6×10^{-3}
S1							
Area Average	4×10^{-4}	3×10^{-3}	8×10^{-4}	4×10^{-3}	1×10^{-3}	2×10^{-3}	1×10^{-2}
Maximum Location	2×10^{-3}	1×10^{-2}	4×10^{-3}	2×10^{-2}	6×10^{-3}	9×10^{-3}	4×10^{-2}
S2							
Area Average	1×10^{-4}	9×10^{-4}	3×10^{-4}	1×10^{-3}	5×10^{-4}	8×10^{-4}	4×10^{-3}
Maximum Location	3×10^{-4}	2×10^{-3}	7×10^{-4}	3×10^{-3}	1×10^{-3}	2×10^{-3}	8×10^{-3}
S3							
Area Average	7×10^{-5}	4×10^{-4}	1×10^{-4}	6×10^{-4}	2×10^{-4}	4×10^{-4}	2×10^{-3}
Maximum Location	1×10^{-4}	6×10^{-4}	2×10^{-4}	1×10^{-3}	4×10^{-4}	5×10^{-4}	3×10^{-3}
W1							
Area Average	6×10^{-4}	4×10^{-3}	1×10^{-3}	6×10^{-3}	2×10^{-3}	3×10^{-3}	1×10^{-2}
Maximum Location	1×10^{-3}	8×10^{-3}	3×10^{-3}	1×10^{-2}	5×10^{-3}	7×10^{-3}	3×10^{-2}
W2							
Area Average	2×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-3}	8×10^{-4}	1×10^{-3}	6×10^{-3}
Maximum Location	5×10^{-4}	3×10^{-3}	1×10^{-3}	4×10^{-3}	2×10^{-3}	3×10^{-3}	1×10^{-2}
W3							
Area Average	1×10^{-4}	7×10^{-4}	2×10^{-4}	1×10^{-3}	4×10^{-4}	6×10^{-4}	3×10^{-3}
Maximum Location	1×10^{-4}	9×10^{-4}	3×10^{-4}	1×10^{-3}	5×10^{-4}	8×10^{-4}	4×10^{-3}
N1							
Area Average	5×10^{-4}	3×10^{-3}	1×10^{-3}	5×10^{-3}	2×10^{-3}	3×10^{-3}	1×10^{-2}
Maximum Location	1×10^{-3}	9×10^{-3}	3×10^{-3}	1×10^{-2}	5×10^{-3}	8×10^{-3}	4×10^{-2}
N2							
Area Average	2×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-3}	6×10^{-4}	9×10^{-4}	4×10^{-3}
Maximum Location	4×10^{-4}	3×10^{-3}	9×10^{-4}	4×10^{-3}	1×10^{-3}	2×10^{-3}	1×10^{-2}
N3							
Area Average	8×10^{-5}	5×10^{-4}	2×10^{-4}	7×10^{-4}	3×10^{-4}	4×10^{-4}	2×10^{-3}
Maximum Location	1×10^{-4}	8×10^{-4}	3×10^{-4}	1×10^{-3}	4×10^{-4}	7×10^{-4}	3×10^{-3}

TABLE VIII-6
Average Cancer Risks for an Adult Subsistence Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	7×10^{-10}	2×10^{-10}	1×10^{-10}	4×10^{-10}	1×10^{-10}	5×10^{-11}	3×10^{-10}	9×10^{-11}	4×10^{-11}	4×10^{-10}	1×10^{-10}	7×10^{-11}
Soil Dermal Contact	4×10^{-10}	1×10^{-10}	6×10^{-11}	2×10^{-10}	7×10^{-11}	3×10^{-11}	2×10^{-10}	5×10^{-11}	2×10^{-11}	2×10^{-10}	8×10^{-11}	4×10^{-11}
Meat & Egg Ingestion	7×10^{-7}	3×10^{-7}	1×10^{-7}	3×10^{-7}	1×10^{-7}	6×10^{-8}	3×10^{-7}	2×10^{-7}	7×10^{-8}	5×10^{-7}	2×10^{-7}	1×10^{-7}
Dairy Ingestion	6×10^{-7}	3×10^{-7}	1×10^{-7}	3×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	1×10^{-7}	5×10^{-8}	4×10^{-7}	2×10^{-7}	8×10^{-8}
Vegetable & Fruit Ingestion	5×10^{-8}	2×10^{-8}	1×10^{-8}	2×10^{-8}	1×10^{-8}	4×10^{-9}	2×10^{-8}	1×10^{-8}	5×10^{-9}	4×10^{-8}	2×10^{-8}	8×10^{-9}
River Ingestion	4×10^{-15}	1×10^{-15}	4×10^{-16}	NA	6×10^{-15}	NA	5×10^{-15}	NA	NA	NA	6×10^{-15}	6×10^{-15}
River Dermal Contact	2×10^{-11}	5×10^{-12}	2×10^{-12}	NA	7×10^{-12}	NA	2×10^{-11}	NA	NA	NA	2×10^{-11}	2×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	8×10^{-15}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-12}	NA	NA	NA
Total Risk	1×10^{-6}	6×10^{-7}	3×10^{-7}	6×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	3×10^{-7}	1×10^{-7}	9×10^{-7}	4×10^{-7}	2×10^{-7}

TABLE VIII-7
Average Noncancer Hazard Indices for an Adult Subsistence Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	1×10^{-5}	4×10^{-6}	2×10^{-6}	6×10^{-6}	2×10^{-6}	9×10^{-7}	5×10^{-6}	2×10^{-6}	7×10^{-7}	6×10^{-6}	3×10^{-6}	1×10^{-6}
Soil Dermal Contact	2×10^{-6}	9×10^{-7}	4×10^{-7}	1×10^{-6}	4×10^{-7}	2×10^{-7}	1×10^{-6}	4×10^{-7}	2×10^{-7}	1×10^{-6}	6×10^{-7}	3×10^{-7}
Meat & Egg Ingestion	2×10^{-3}	9×10^{-4}	4×10^{-4}	1×10^{-3}	4×10^{-4}	2×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-4}	1×10^{-3}	5×10^{-4}	3×10^{-4}
Dairy Ingestion	2×10^{-3}	8×10^{-4}	3×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-4}	8×10^{-4}	3×10^{-4}	1×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-4}
Vegetable & Fruit Ingestion	7×10^{-4}	3×10^{-4}	1×10^{-4}	3×10^{-4}	1×10^{-4}	6×10^{-5}	3×10^{-4}	2×10^{-4}	7×10^{-5}	5×10^{-4}	2×10^{-4}	1×10^{-4}
River Ingestion	3×10^{-10}	1×10^{-10}	4×10^{-11}	NA	1×10^{-9}	NA	4×10^{-10}	NA	NA	NA	5×10^{-10}	5×10^{-10}
River Dermal Contact	2×10^{-8}	5×10^{-9}	2×10^{-9}	NA	3×10^{-8}	NA	2×10^{-8}	NA	NA	NA	2×10^{-8}	2×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-8}	NA	NA	NA
Total HI	5×10^{-3}	2×10^{-3}	9×10^{-4}	3×10^{-3}	9×10^{-4}	4×10^{-4}	2×10^{-3}	8×10^{-4}	4×10^{-4}	3×10^{-3}	1×10^{-3}	6×10^{-4}

TABLE VIII-8
Chemical-specific Carcinogenic Risks for the Adult Subsistence Farmer in Subarea E1 (Area Average)

Chemical	Soil Ingestion and Dermal Contact Risk	Total Meat and Egg Ingestion[a] Risk	Total Dairy Product Ingestion[b] Risk	Total Fruit and Vegetable Ingestion[c] Risk	River Water Ingestion and Dermal Contact Risk	Infant Breast Milk Ingestion Risk	TOTAL CANCER RISK[d]
2,3,7,8-TCDD	1×10^{-11}	7×10^{-9}	5×10^{-9}	2×10^{-10}	2×10^{-13}	7×10^{-9}	1×10^{-8}
1,2,3,7,8-PeCDD	4×10^{-11}	6×10^{-8}	4×10^{-8}	2×10^{-9}	4×10^{-13}	6×10^{-8}	1×10^{-7}
1,2,3,4,7,8-HxCDD	8×10^{-12}	7×10^{-9}	6×10^{-9}	4×10^{-10}	1×10^{-13}	8×10^{-9}	1×10^{-8}
1,2,3,6,7,8-HxCDD	1×10^{-11}	2×10^{-9}	1×10^{-9}	1×10^{-10}	2×10^{-13}	2×10^{-9}	4×10^{-9}
1,2,3,7,8,9-HxCDD	9×10^{-12}	3×10^{-9}	2×10^{-9}	1×10^{-10}	3×10^{-13}	3×10^{-9}	5×10^{-9}
1,2,3,4,6,7,8-HpCDD	1×10^{-11}	2×10^{-9}	2×10^{-9}	7×10^{-10}	1×10^{-13}	3×10^{-9}	5×10^{-9}
OCDD	5×10^{-12}	4×10^{-8}	3×10^{-8}	9×10^{-9}	4×10^{-14}	4×10^{-8}	8×10^{-8}
2,3,7,8-TCDF	1×10^{-11}	2×10^{-9}	2×10^{-9}	3×10^{-10}	2×10^{-13}	2×10^{-9}	4×10^{-9}
1,2,3,7,8-PeCDF	2×10^{-11}	5×10^{-9}	4×10^{-9}	8×10^{-10}	3×10^{-13}	5×10^{-9}	9×10^{-9}
2,3,4,7,8-PeCDF	3×10^{-10}	3×10^{-7}	2×10^{-7}	1×10^{-8}	4×10^{-12}	3×10^{-7}	5×10^{-7}
1,2,3,4,7,8-HxCDF	1×10^{-10}	3×10^{-8}	2×10^{-8}	1×10^{-9}	2×10^{-12}	3×10^{-8}	6×10^{-8}
1,2,3,6,7,8-HxCDF	1×10^{-10}	6×10^{-8}	4×10^{-8}	3×10^{-9}	2×10^{-12}	6×10^{-8}	1×10^{-7}
1,2,3,7,8,9-HxCDF	3×10^{-11}	1×10^{-8}	1×10^{-8}	8×10^{-10}	4×10^{-13}	1×10^{-8}	2×10^{-8}
2,3,4,6,7,8-HxCDF	1×10^{-10}	4×10^{-8}	3×10^{-8}	2×10^{-9}	2×10^{-12}	4×10^{-8}	7×10^{-8}
1,2,3,4,6,7,8-HpCDF	8×10^{-11}	3×10^{-9}	2×10^{-9}	8×10^{-10}	9×10^{-13}	4×10^{-9}	6×10^{-9}
1,2,3,4,7,8,9-HpCDF	1×10^{-11}	7×10^{-10}	5×10^{-10}	6×10^{-11}	1×10^{-13}	7×10^{-10}	1×10^{-9}
OCDF	2×10^{-11}	3×10^{-9}	2×10^{-9}	2×10^{-9}	9×10^{-14}	4×10^{-9}	8×10^{-9}

TABLE VIII-8 (continued)
Chemical-specific Carcinogenic Risks for the
Adult Subsistence Farmer in Subarea E1 (Area Average)

Chemical	Soil Ingestion and Dermal Contact Risk	Total Meat and Egg Ingestion[a] Risk	Total Dairy Product Ingestion[b] Risk	Total Fruit and Vegetable Ingestion[c] Risk	River Water Ingestion and Dermal Contact Risk	Infant Breast Milk Ingestion Risk	TOTAL CANCER RISK[d]
Tetrachlorobiphenyl	8×10^{-13}	1×10^{-10}	6×10^{-11}	2×10^{-12}	1×10^{-14}	9×10^{-11}	2×10^{-10}
Hexachlorobiphenyl	1×10^{-12}	6×10^{-11}	4×10^{-11}	2×10^{-12}	3×10^{-14}	6×10^{-11}	1×10^{-10}
Heptachlorobiphenyl	1×10^{-12}	1×10^{-9}	1×10^{-9}	7×10^{-11}	7×10^{-14}	1×10^{-9}	2×10^{-9}
Benzo(a)pyrene	2×10^{-11}	1×10^{-7}	1×10^{-7}	7×10^{-9}	2×10^{-13}	6×10^{-7}	2×10^{-7}
Benzo(b)fluoranthene	1×10^{-11}	6×10^{-9}	6×10^{-9}	4×10^{-10}	1×10^{-13}	5×10^{-8}	1×10^{-8}
Bis(2-ethylhexyl)phthalate	2×10^{-14}	2×10^{-8}	2×10^{-8}	8×10^{-9}	2×10^{-15}	2×10^{-8}	4×10^{-8}
Carbon tetrachloride	1×10^{-12}	1×10^{-13}	9×10^{-14}	2×10^{-10}	6×10^{-16}	3×10^{-13}	2×10^{-10}
Dibenz(a,h)anthracene	6×10^{-11}	2×10^{-8}	2×10^{-8}	7×10^{-11}	8×10^{-13}	4×10^{-7}	3×10^{-8}
Heptachlor	3×10^{-14}	4×10^{-11}	4×10^{-11}	2×10^{-12}	2×10^{-16}	3×10^{-10}	9×10^{-11}
Hexachlorobenzene	2×10^{-11}	2×10^{-10}	1×10^{-10}	2×10^{-10}	3×10^{-13}	1×10^{-9}	6×10^{-10}
Hexachlorobutadiene	3×10^{-12}	2×10^{-12}	1×10^{-12}	6×10^{-12}	3×10^{-15}	2×10^{-12}	1×10^{-11}
Indeno(1,2,3-cd)pyrene	6×10^{-12}	2×10^{-9}	2×10^{-9}	7×10^{-12}	8×10^{-14}	3×10^{-8}	3×10^{-9}
Arsenic	6×10^{-11}	3×10^{-10}	3×10^{-11}	1×10^{-10}	2×10^{-15}	NA	6×10^{-10}
Beryllium	4×10^{-13}	5×10^{-13}	1×10^{-15}	2×10^{-13}	6×10^{-18}	NA	1×10^{-12}

TABLE VIII-8 (continued)
Chemical-specific Carcinogenic Risks for the
Adult Subsistence Farmer in Subarea E1 (Area Average)

Chemical	Soil Ingestion and Dermal Contact Risk	Total Meat and Egg Ingestion[a] Risk	Total Dairy Product Ingestion[b] Risk	Total Fruit and Vegetable Ingestion[c] Risk	River Water Ingestion and Dermal Contact Risk	Infant Breast Milk Ingestion Risk	TOTAL CANCER RISK[d]
Total Risks							
DIOXIN TEQ	9×10^{-10}	6×10^{-7}	4×10^{-7}	4×10^{-8}	1×10^{-11}	6×10^{-7}	1×10^{-6}
ORGANICS TOTAL (non-dioxin)	1×10^{-10}	1×10^{-7}	2×10^{-7}	2×10^{-8}	2×10^{-12}	1×10^{-6}	3×10^{-7}
INORGANICS TOTAL	6×10^{-11}	3×10^{-10}	3×10^{-11}	1×10^{-10}	2×10^{-15}	NA	6×10^{-10}
SUBAREA TOTAL	1×10^{-9}	7×10^{-7}	6×10^{-7}	5×10^{-8}	2×10^{-11}	2×10^{-6}	1×10^{-6}

NOTES:
[a] Based on ingestion of beef, pork, chicken, other poultry, and eggs
[b] Based on ingestion of milk, cheese, milk desserts, yogurt, cream, and butter
[c] Based on ingestion of exposed, protected leafy, and root produce, and exposed and protected fruit
[d] Total cancer risk does not include infant breast milk ingestion risk

TABLE VIII-9
Chemical-specific Noncarcinogenic Hazard Indices for the Adult Subsistence Farmer in Subarea E1 (Area Average)

Chemical	Soil Ingestion and Dermal Contact HI Value	Total Meat and Egg Ingestion[a] HI Value	Total Dairy Product Ingestion[b] HI Value	Total Fruit and Vegetable Ingestion[c] HI Value	River Water Ingestion and Dermal Contact HI Value	Total Noncancer HI Value
Bis(2-ethylhexyl)phthalate	2×10^{-10}	2×10^{-4}	2×10^{-4}	1×10^{-4}	3×10^{-11}	5×10^{-4}
Carbon tetrachloride	4×10^{-8}	5×10^{-9}	4×10^{-9}	9×10^{-6}	2×10^{-11}	9×10^{-6}
Di(n)octyl phthalate	6×10^{-11}	5×10^{-4}	6×10^{-4}	5×10^{-7}	5×10^{-12}	1×10^{-3}
Heptachlor	5×10^{-11}	6×10^{-8}	7×10^{-8}	3×10^{-9}	2×10^{-13}	1×10^{-7}
Hexachlorobenzene	6×10^{-8}	6×10^{-7}	4×10^{-7}	5×10^{-7}	8×10^{-10}	2×10^{-6}
Hexachlorobutadiene	6×10^{-7}	5×10^{-7}	3×10^{-7}	1×10^{-6}	8×10^{-10}	3×10^{-6}
Hexachlorocyclopentadiene	3×10^{-10}	9×10^{-10}	5×10^{-10}	9×10^{-10}	7×10^{-13}	3×10^{-9}
Hexachlorophene	2×10^{-7}	1×10^{-3}	1×10^{-3}	2×10^{-6}	1×10^{-8}	2×10^{-3}
Antimony	7×10^{-9}	9×10^{-8}	3×10^{-8}	2×10^{-7}	5×10^{-13}	3×10^{-7}
Arsenic	4×10^{-7}	2×10^{-6}	2×10^{-7}	1×10^{-6}	2×10^{-11}	4×10^{-6}
Barium	2×10^{-9}	7×10^{-9}	2×10^{-8}	3×10^{-8}	1×10^{-13}	5×10^{-8}
Beryllium	6×10^{-11}	8×10^{-11}	2×10^{-13}	3×10^{-11}	1×10^{-15}	2×10^{-10}
Cadmium	3×10^{-9}	4×10^{-8}	7×10^{-9}	4×10^{-7}	4×10^{-13}	5×10^{-7}
Chromium (hexavalent)	2×10^{-9}	1×10^{-8}	7×10^{-9}	9×10^{-10}	2×10^{-14}	2×10^{-8}
Mercury	4×10^{-6}	1×10^{-5}	2×10^{-5}	6×10^{-4}	3×10^{-10}	6×10^{-4}
Nickel	6×10^{-10}	3×10^{-8}	6×10^{-9}	1×10^{-8}	3×10^{-14}	5×10^{-8}
Selenium	4×10^{-7}	2×10^{-5}	1×10^{-4}	2×10^{-6}	1×10^{-11}	1×10^{-4}

TABLE VIII-9 (continued)
Chemical-specific Noncarcinogenic Hazard Indices for the Adult Subsistence Farmer in Subarea E1 (Area Average)

Chemical	Soil Ingestion and Dermal Contact HI Value	Total Meat and Egg Ingestion[a] HI Value	Total Dairy Product Ingestion[b] HI Value	Total Fruit and Vegetable Ingestion[c] HI Value	River Water Ingestion and Dermal Contact HI Value	Total Noncancer HI Value
Silver	2×10^{-9}	7×10^{-8}	2×10^{-6}	1×10^{-7}	1×10^{-13}	2×10^{-6}
Thallium	7×10^{-6}	7×10^{-4}	4×10^{-5}	2×10^{-6}	8×10^{-11}	8×10^{-4}
Zinc	2×10^{-10}	1×10^{-9}	7×10^{-10}	1×10^{-7}	2×10^{-14}	1×10^{-7}
Total Hazard Indices						
ORGANICS TOTAL (non-dioxin)	1×10^{-6}	2×10^{-3}	2×10^{-3}	1×10^{-4}	2×10^{-8}	4×10^{-3}
INORGANICS TOTAL	1×10^{-5}	8×10^{-4}	2×10^{-4}	6×10^{-4}	4×10^{-10}	2×10^{-3}
SUBAREA TOTAL	1×10^{-5}	2×10^{-3}	2×10^{-3}	7×10^{-4}	2×10^{-8}	5×10^{-3}

Notes:
a - Based on ingestion of beef, pork, chicken, other poultry, and eggs
b - Based on ingestion of milk, cheese, milk desserts, yogurt, cream, and butter
c - Based on ingestion of exposed, protected leafy, and root produce, and exposed and protected fruit

TABLE VIII-10
Estimated Cancer Risks Due to Exposure from Direct and Indirect Pathways

Subarea	Population Subgroup						
	Resident Adult	**Resident Child**	**Farmer Adult**	**Farmer Child**	**School-Age Child**	**Subsistence Farmer Adult**	**Subsistence Farmer Child**
E1							
Area Average	2×10^{-7}	4×10^{-7}	6×10^{-7}	6×10^{-7}	3×10^{-7}	1×10^{-6}	1×10^{-6}
Maximum Location	5×10^{-7}	1×10^{-6}	2×10^{-6}	2×10^{-6}	8×10^{-7}	4×10^{-6}	4×10^{-6}
E2							
Area Average	8×10^{-8}	2×10^{-7}	3×10^{-7}	3×10^{-7}	1×10^{-7}	7×10^{-7}	6×10^{-7}
Maximum Location	2×10^{-7}	4×10^{-7}	6×10^{-7}	6×10^{-7}	3×10^{-7}	1×10^{-6}	1×10^{-6}
E3							
Area Average	3×10^{-8}	8×10^{-8}	1×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	3×10^{-7}
Maximum Location	5×10^{-8}	1×10^{-7}	2×10^{-7}	2×10^{-7}	8×10^{-8}	4×10^{-7}	4×10^{-7}
S1							
Area Average	8×10^{-8}	2×10^{-7}	3×10^{-7}	3×10^{-7}	1×10^{-7}	7×10^{-7}	6×10^{-7}
Maximum Location	3×10^{-7}	7×10^{-7}	1×10^{-6}	1×10^{-6}	5×10^{-7}	2×10^{-6}	2×10^{-6}
S2							
Area Average	4×10^{-8}	9×10^{-8}	1×10^{-7}	1×10^{-7}	6×10^{-8}	3×10^{-7}	3×10^{-7}
Maximum Location	8×10^{-8}	2×10^{-7}	3×10^{-7}	3×10^{-7}	1×10^{-7}	6×10^{-7}	6×10^{-7}
S3							
Area Average	2×10^{-8}	4×10^{-8}	6×10^{-8}	6×10^{-8}	3×10^{-8}	1×10^{-7}	1×10^{-7}
Maximum Location	2×10^{-8}	6×10^{-8}	9×10^{-8}	8×10^{-8}	4×10^{-8}	2×10^{-7}	2×10^{-7}
W1							
Area Average	1×10^{-7}	3×10^{-7}	4×10^{-7}	4×10^{-7}	2×10^{-7}	9×10^{-7}	9×10^{-7}
Maximum Location	3×10^{-7}	8×10^{-7}	1×10^{-6}	1×10^{-6}	5×10^{-7}	3×10^{-6}	3×10^{-6}
W2							
Area Average	5×10^{-8}	1×10^{-7}	2×10^{-7}	2×10^{-7}	8×10^{-8}	4×10^{-7}	4×10^{-7}
Maximum Location	1×10^{-7}	3×10^{-7}	4×10^{-7}	4×10^{-7}	2×10^{-7}	1×10^{-6}	9×10^{-7}
W3							
Area Average	2×10^{-8}	6×10^{-8}	9×10^{-8}	9×10^{-8}	4×10^{-8}	2×10^{-7}	2×10^{-7}
Maximum Location	4×10^{-8}	9×10^{-8}	1×10^{-7}	1×10^{-7}	6×10^{-8}	3×10^{-7}	3×10^{-7}
N1							
Area Average	8×10^{-8}	2×10^{-7}	3×10^{-7}	3×10^{-7}	1×10^{-7}	7×10^{-7}	6×10^{-7}
Maximum Location	2×10^{-7}	5×10^{-7}	8×10^{-7}	8×10^{-7}	3×10^{-7}	2×10^{-6}	2×10^{-6}
N2							
Area Average	3×10^{-8}	8×10^{-8}	1×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	2×10^{-7}
Maximum Location	8×10^{-8}	2×10^{-7}	3×10^{-7}	3×10^{-7}	1×10^{-7}	7×10^{-7}	6×10^{-7}
N3							
Area Average	1×10^{-8}	3×10^{-8}	5×10^{-8}	5×10^{-8}	2×10^{-8}	1×10^{-7}	1×10^{-7}
Maximum Location	2×10^{-8}	5×10^{-8}	8×10^{-8}	8×10^{-8}	3×10^{-8}	2×10^{-7}	2×10^{-7}

TABLE VIII-11
Estimated Hazard Indices Due to Exposure from Direct and Indirect Pathways

Subarea	Population Subgroup						
	Resident Adult	Resident Child	Farmer Adult	Farmer Child	School-Age Child	Subsistence Farmer Adult	Subsistence Farmer Child
E1							
Area Average	1×10^{-2}	5×10^{-2}	1×10^{-2}	6×10^{-2}	3×10^{-2}	2×10^{-2}	7×10^{-2}
Maximum Location	4×10^{-2}	2×10^{-1}	4×10^{-2}	2×10^{-1}	1×10^{-1}	5×10^{-2}	2×10^{-1}
E2							
Area Average	6×10^{-3}	2×10^{-2}	7×10^{-3}	3×10^{-2}	1×10^{-2}	8×10^{-3}	3×10^{-2}
Maximum Location	1×10^{-2}	5×10^{-2}	1×10^{-2}	6×10^{-2}	3×10^{-2}	2×10^{-2}	7×10^{-2}
E3							
Area Average	3×10^{-3}	1×10^{-2}	3×10^{-3}	1×10^{-2}	6×10^{-3}	3×10^{-3}	1×10^{-2}
Maximum Location	4×10^{-3}	2×10^{-2}	4×10^{-3}	2×10^{-2}	1×10^{-2}	5×10^{-3}	2×10^{-2}
S1							
Area Average	6×10^{-3}	2×10^{-2}	7×10^{-3}	3×10^{-2}	1×10^{-2}	8×10^{-3}	3×10^{-2}
Maximum Location	2×10^{-2}	9×10^{-2}	3×10^{-2}	1×10^{-1}	5×10^{-2}	3×10^{-2}	1×10^{-1}
S2							
Area Average	3×10^{-3}	1×10^{-2}	3×10^{-3}	1×10^{-2}	7×10^{-3}	4×10^{-3}	1×10^{-2}
Maximum Location	6×10^{-3}	2×10^{-2}	7×10^{-3}	3×10^{-2}	1×10^{-2}	8×10^{-3}	3×10^{-2}
S3							
Area Average	1×10^{-3}	5×10^{-3}	1×10^{-3}	5×10^{-3}	3×10^{-3}	2×10^{-3}	6×10^{-3}
Maximum Location	2×10^{-3}	7×10^{-3}	2×10^{-3}	8×10^{-3}	4×10^{-3}	2×10^{-3}	9×10^{-3}
W1							
Area Average	9×10^{-3}	4×10^{-2}	1×10^{-2}	4×10^{-2}	2×10^{-2}	1×10^{-2}	5×10^{-2}
Maximum Location	3×10^{-2}	1×10^{-1}	3×10^{-2}	1×10^{-1}	6×10^{-2}	3×10^{-2}	1×10^{-1}
W2							
Area Average	4×10^{-3}	2×10^{-2}	5×10^{-3}	2×10^{-2}	1×10^{-2}	5×10^{-3}	2×10^{-2}
Maximum Location	9×10^{-3}	4×10^{-2}	1×10^{-2}	4×10^{-2}	2×10^{-2}	1×10^{-2}	5×10^{-2}
W3							
Area Average	2×10^{-3}	8×10^{-3}	2×10^{-3}	8×10^{-3}	5×10^{-3}	2×10^{-3}	1×10^{-2}
Maximum Location	3×10^{-3}	1×10^{-2}	3×10^{-3}	1×10^{-2}	7×10^{-3}	4×10^{-3}	1×10^{-2}
N1							
Area Average	6×10^{-3}	3×10^{-2}	7×10^{-3}	3×10^{-2}	2×10^{-2}	9×10^{-3}	3×10^{-2}
Maximum Location	2×10^{-2}	7×10^{-2}	2×10^{-2}	7×10^{-2}	4×10^{-2}	2×10^{-2}	1×10^{-1}
N2							
Area Average	3×10^{-3}	1×10^{-2}	3×10^{-3}	1×10^{-2}	6×10^{-3}	3×10^{-3}	1×10^{-2}
Maximum Location	6×10^{-3}	2×10^{-2}	7×10^{-3}	3×10^{-2}	1×10^{-2}	8×10^{-3}	3×10^{-2}
N3							
Area Average	1×10^{-3}	4×10^{-3}	1×10^{-3}	5×10^{-3}	3×10^{-3}	1×10^{-3}	6×10^{-3}
Maximum Location	2×10^{-3}	7×10^{-3}	2×10^{-3}	7×10^{-3}	4×10^{-3}	2×10^{-3}	9×10^{-3}

TABLE VIII-12
Comparison of Average and High-End Cancer Risks and Noncancer Hazard Indices for an Adult Subsistence Farmer in Subarea E1

Exposure Pathway	Subsistence Farmer (Average)		Subsistence Farmer (High-End)	
	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
Inhalation	7×10^{-8}	1×10^{-2}	2×10^{-7}	1×10^{-2}
Meat & Egg Ingestion	7×10^{-7}	2×10^{-3}	3×10^{-6}	6×10^{-3}
Dairy Ingestion	6×10^{-7}	2×10^{-3}	3×10^{-6}	6×10^{-3}
Vegetable & Fruit Ingestion	5×10^{-8}	7×10^{-4}	3×10^{-7}	2×10^{-3}
Total Cancer Risk/Hazard Index[a]	1×10^{-6}	2×10^{-2}	7×10^{-6}	3×10^{-2}

Notes:
a - Total cancer risk/hazard index for all exposure pathways (inhalation, food ingestion, and non-food related pathways) combined.

TABLE VIII-13
Comparison of Average and High-End Cancer Risks and Noncancer Hazard Indices for an Subsistence Farmer Child in Subarea E1

Exposure Pathway	Subsistence Farmer Child (Average)		Subsistence Farmer Child (High-End)	
	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
Inhalation	8×10^{-8}	5×10^{-2}	8×10^{-8}	5×10^{-2}
Meat & Egg Ingestion	3×10^{-7}	5×10^{-3}	1×10^{-6}	1×10^{-2}
Dairy Ingestion	9×10^{-7}	2×10^{-2}	3×10^{-6}	5×10^{-2}
Vegetable & Fruit Ingestion	3×10^{-8}	2×10^{-3}	1×10^{-7}	6×10^{-3}
Total Cancer Risk/Hazard Index[a]	1×10^{-6}	7×10^{-2}	5×10^{-6}	1×10^{-1}

Notes:
a - Total cancer risk/hazard index for all exposure pathways (inhalation, food ingestion, and non-food related pathways) combined.

TABLE VIII-14
Input Values for the IEUBK Lead Model

Medium	Assumption	Default Value[a]	Value Used
Air	Background air concentration (μg Pb/m^3)	0.1	0.065[b]
Air	Inhalation rate (m^3/day)	0 - 1 yr 2.0 1 - 2 yr 3.0 2 - 3 yr 5.0 3 - 4 yr 5.0 4 - 5 yr 5.0 5 - 6 yr 7.0 6 - 7 yr 7.0	16[c]
Drinking water	Background water concentration (μg/L)	4	default
Soil/dust	Background soil/dust concentration (mg Pb/kg)	200	default
Soil/dust	Soil intake (g/day)	0 - 1 yr 0.085 1 - 2 yr 0.135 2 - 3 yr 0.135 3 - 4 yr 0.135 4 - 5 yr 0.100 5 - 6 yr 0.090 6 - 7 yr 0.085	default
Diet	Food intake (μg Pb/day)	0 - 1 yr 5.53 1 - 2 yr 5.78 2 - 3 yr 6.49 3 - 4 yr 6.24 4 - 5 yr 6.01 5 - 6 yr 6.34 6 - 7 yr 7.00	default
Paint	Paint intake (μg Pb/day)	0.0	default[d]
Mother's blood Pb conc at birth	Blood concentration (μg Pb/dL)	2.50	default

a - USEPA 1994d.
b - OEPA 1993.
c - This assessment.
d - Although residences in this area may have lead associated with the paint, this source of lead is not considered. However, because lead emissions from the stack has no affect on the distribution of blood lead levels in local children, as discussed in the text, this assumption does not affect the results of this assessment.

TABLE VIII-15
Estimated Total Cancer Risks and Hazard Indices for Subsistence Fishing
(Average for Subarea and Location of Maximum Concentration)

Subarea	Total Cancer Risk		Hazard Index	
	River	Tomlinson Run Lake	River	Tomlinson Run Lake
E1	Ohio River		Ohio River	
Area Average	1×10^{-8}	NA	5×10^{-4}	NA
Maximum Location	3×10^{-8}	NA	1×10^{-3}	NA
E2	Ohio River		Ohio River	
Area Average	6×10^{-9}	NA	2×10^{-4}	NA
Maximum Location	1×10^{-8}	NA	4×10^{-4}	NA
E3	Ohio River		Ohio River	
Area Average	2×10^{-9}	NA	6×10^{-5}	NA
Maximum Location	2×10^{-9}	NA	1×10^{-4}	NA
S1	Ohio River		Ohio River	
Area Average	2×10^{-8}	NA	7×10^{-4}	NA
Maximum Location	5×10^{-8}	NA	2×10^{-3}	NA
S2				
Area Average	NA	NA	NA	NA
Maximum Location	NA	NA	NA	NA
S3				
Area Average	NA	3×10^{-8}	NA	4×10^{-3}
Maximum Location	NA	NA[a]	NA	NA[a]
W1				
Area Average	NA	NA	NA	NA
Maximum Location	NA	NA	NA	NA
W2	Ohio River		Ohio River	
Area Average	2×10^{-8}	NA	8×10^{-4}	NA
Maximum Location	6×10^{-8}	NA	2×10^{-3}	NA
W3	Ohio River		Ohio River	
Area Average	2×10^{-8}	NA	8×10^{-4}	NA
Maximum Location	6×10^{-8}	NA	2×10^{-3}	NA
N1				
Area Average	NA	NA	NA	NA
Maximum Location	NA	NA	NA	NA
N2	Little Beaver Creek		Little Beaver Creek	
Area Average	2×10^{-8}	NA	2×10^{-3}	NA
Maximum Location	5×10^{-8}	NA	4×10^{-3}	NA
N3				
Area Average	NA	NA	NA	NA
Maximum Location	NA	NA	NA	NA

a - The location of maximum concentration is not located on or near the lake.

TABLE VIII-16
Estimated Total Cancer Risks and Hazard Indices for Deer Hunting
(Average for Subarea and Location of Maximum Concentration)

Subarea	Total Cancer Risk	Hazard Index
E1		
Area Average	1×10^{-8}	5×10^{-5}
Maximum Location	3×10^{-8}	1×10^{-4}
E2		
Area Average	5×10^{-9}	2×10^{-5}
Maximum Location	1×10^{-8}	4×10^{-5}
E3		
Area Average	2×10^{-9}	9×10^{-6}
Maximum Location	3×10^{-9}	1×10^{-5}
S1		
Area Average	5×10^{-9}	2×10^{-5}
Maximum Location	2×10^{-8}	9×10^{-5}
S2		
Area Average	2×10^{-9}	8×10^{-6}
Maximum Location	5×10^{-9}	2×10^{-5}
S3		
Area Average	1×10^{-9}	4×10^{-6}
Maximum Location	1×10^{-9}	6×10^{-6}
W1		
Area Average	7×10^{-9}	3×10^{-5}
Maximum Location	2×10^{-8}	8×10^{-5}
W2		
Area Average	3×10^{-9}	1×10^{-5}
Maximum Location	7×10^{-9}	3×10^{-5}
W3		
Area Average	2×10^{-9}	6×10^{-6}
Maximum Location	2×10^{-9}	8×10^{-6}
N1		
Area Average	5×10^{-9}	3×10^{-5}
Maximum Location	1×10^{-8}	8×10^{-5}
N2		
Area Average	2×10^{-9}	9×10^{-6}
Maximum Location	5×10^{-9}	2×10^{-5}
N3		
Area Average	9×10^{-10}	4×10^{-6}
Maximum Location	1×10^{-9}	7×10^{-6}

TABLE VIII-17
Estimated Total Cancer Risks and Hazard Indices for Consumption of Fruits and Vegetables from Residential Home Garden
(Average for Subarea and Location of Maximum Concentration)

Subarea	Total Cancer Risk	Hazard Index
E1		
Area Average	6×10^{-9}	1×10^{-4}
Maximum Location	2×10^{-8}	4×10^{-4}
E2		
Area Average	3×10^{-9}	7×10^{-5}
Maximum Location	6×10^{-9}	2×10^{-4}
E3		
Area Average	1×10^{-9}	3×10^{-5}
Maximum Location	2×10^{-9}	5×10^{-5}
S1		
Area Average	3×10^{-9}	7×10^{-5}
Maximum Location	1×10^{-8}	3×10^{-4}
S2		
Area Average	1×10^{-9}	3×10^{-5}
Maximum Location	3×10^{-9}	7×10^{-5}
S3		
Area Average	6×10^{-10}	1×10^{-5}
Maximum Location	8×10^{-10}	2×10^{-5}
W1		
Area Average	4×10^{-9}	1×10^{-4}
Maximum Location	1×10^{-8}	3×10^{-4}
W2		
Area Average	2×10^{-9}	5×10^{-5}
Maximum Location	4×10^{-9}	1×10^{-4}
W3		
Area Average	9×10^{-10}	2×10^{-5}
Maximum Location	1×10^{-9}	3×10^{-5}
N1		
Area Average	3×10^{-9}	7×10^{-5}
Maximum Location	7×10^{-9}	2×10^{-4}
N2		
Area Average	1×10^{-9}	3×10^{-5}
Maximum Location	3×10^{-9}	7×10^{-5}
N3		
Area Average	5×10^{-10}	1×10^{-5}
Maximum Location	7×10^{-10}	2×10^{-5}

TABLE VIII-18
Estimated Cancer Risks for Infant Ingestion of Breast Milk
(Average for Subarea and Location of Maximum Concentration)

Subarea	Cancer Risk for Infants of:		
	Resident	Farmer	Subsistence Farmer
E1			
Area Average	4×10^{-7}	7×10^{-7}	2×10^{-6}
Maximum Location	1×10^{-6}	2×10^{-6}	5×10^{-6}
E2			
Area Average	2×10^{-7}	3×10^{-7}	7×10^{-7}
Maximum Location	4×10^{-7}	6×10^{-7}	2×10^{-6}
E3			
Area Average	7×10^{-8}	1×10^{-7}	3×10^{-7}
Maximum Location	1×10^{-7}	2×10^{-7}	5×10^{-7}
S1			
Area Average	2×10^{-7}	3×10^{-7}	8×10^{-7}
Maximum Location	7×10^{-7}	1×10^{-6}	3×10^{-6}
S2			
Area Average	8×10^{-8}	1×10^{-7}	3×10^{-7}
Maximum Location	2×10^{-7}	3×10^{-7}	7×10^{-7}
S3			
Area Average	3×10^{-8}	6×10^{-8}	1×10^{-7}
Maximum Location	5×10^{-8}	9×10^{-8}	2×10^{-7}
W1			
Area Average	3×10^{-7}	4×10^{-7}	1×10^{-6}
Maximum Location	7×10^{-7}	1×10^{-6}	3×10^{-6}
W2			
Area Average	1×10^{-7}	2×10^{-7}	5×10^{-7}
Maximum Location	2×10^{-7}	4×10^{-7}	1×10^{-6}
W3			
Area Average	5×10^{-8}	9×10^{-8}	2×10^{-7}
Maximum Location	7×10^{-8}	1×10^{-7}	3×10^{-7}
N1			
Area Average	2×10^{-7}	3×10^{-7}	8×10^{-7}
Maximum Location	5×10^{-7}	1×10^{-6}	2×10^{-6}
N2			
Area Average	7×10^{-8}	1×10^{-7}	3×10^{-7}
Maximum Location	2×10^{-7}	3×10^{-7}	8×10^{-7}
N3			
Area Average	3×10^{-8}	6×10^{-8}	1×10^{-7}
Maximum Location	5×10^{-8}	9×10^{-8}	2×10^{-7}

TABLE VIII-19
Estimated Subarea Population Age Distributions for Residents and Farmers

Estimated Number of Residents with Gardens

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Infants	3	8	18	7	28	50	2	10	16	7	25	31
Child	34	95	232	83	332	605	36	142	225	79	317	405
Adults	164	459	1130	401	1615	2961	187	722	1138	380	1567	1945

Estimated Number of Residents without Gardens

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Infants	6	18	42	16	64	116	6	23	37	15	58	73
Child	79	222	541	194	777	1412	84	330	524	184	740	945
Adults	383	1071	2636	937	3769	6908	435	1685	2656	887	3656	4539

Estimated Number of Farmers

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Infants	0	1	2	1	2	4	0	1	1	1	2	3
Child	2	8	20	8	28	52	3	12	19	6	27	34
Adults	14	39	97	34	138	253	16	62	97	33	134	166

Source: Values estimated based on population data for ZIP codes in vicinity of the WTI facility (CACI 1991).

TABLE VIII-20
Summary of Total Estimated Cancer Risks (Direct and Indirect) for Residents and Farmers

Total Estimated Cancer Risks for Residents with Gardens

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Infants	5×10^{-7}	2×10^{-7}	9×10^{-8}	2×10^{-7}	9×10^{-8}	4×10^{-8}	2×10^{-7}	9×10^{-8}	4×10^{-8}	3×10^{-7}	1×10^{-7}	6×10^{-8}
Child	4×10^{-7}	2×10^{-7}	8×10^{-8}	2×10^{-7}	8×10^{-8}	3×10^{-8}	2×10^{-7}	9×10^{-8}	4×10^{-8}	3×10^{-7}	1×10^{-7}	6×10^{-8}
Adults	2×10^{-7}	8×10^{-8}	3×10^{-8}	8×10^{-8}	3×10^{-8}	1×10^{-8}	8×10^{-8}	4×10^{-8}	2×10^{-8}	1×10^{-7}	5×10^{-8}	2×10^{-8}

Total Estimated Cancer Risks for Residents without Gardens

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Infants	5×10^{-7}	2×10^{-7}	9×10^{-8}	2×10^{-7}	9×10^{-8}	4×10^{-8}	2×10^{-7}	9×10^{-8}	4×10^{-8}	3×10^{-7}	1×10^{-7}	6×10^{-8}
Child	4×10^{-7}	2×10^{-7}	8×10^{-8}	2×10^{-7}	8×10^{-8}	3×10^{-8}	2×10^{-7}	9×10^{-8}	4×10^{-8}	3×10^{-7}	1×10^{-7}	6×10^{-8}
Adults	2×10^{-7}	8×10^{-8}	3×10^{-8}	8×10^{-8}	3×10^{-8}	1×10^{-8}	8×10^{-8}	4×10^{-8}	2×10^{-8}	1×10^{-7}	5×10^{-8}	2×10^{-8}

Total Estimated Cancer Risks for Farmers

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Infants	8×10^{-7}	3×10^{-7}	1×10^{-7}	4×10^{-7}	1×10^{-7}	6×10^{-8}	3×10^{-7}	1×10^{-7}	7×10^{-8}	5×10^{-7}	2×10^{-7}	1×10^{-7}
Child	6×10^{-7}	3×10^{-7}	1×10^{-7}	3×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	1×10^{-7}	6×10^{-8}	4×10^{-7}	2×10^{-7}	9×10^{-8}
Adults	6×10^{-7}	3×10^{-7}	1×10^{-7}	3×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	1×10^{-7}	6×10^{-8}	4×10^{-7}	2×10^{-7}	9×10^{-8}

Source: Summary of area average risks presented in Table VIII-10.

TABLE VIII-21
Estimated Additional Cancer Cases Due to WTI Facility Emissions

Estimated Additional Cancer Cases for Residents with Gardens

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3	Total
Infants	1×10^{-6}	2×10^{-6}	2×10^{-6}	2×10^{-6}	2×10^{-6}	2×10^{-6}	5×10^{-7}	9×10^{-7}	7×10^{-7}	2×10^{-6}	3×10^{-6}	2×10^{-6}	2×10^{-5}
Child	1×10^{-5}	2×10^{-5}	2×10^{-5}	2×10^{-5}	3×10^{-5}	2×10^{-5}	7×10^{-6}	1×10^{-5}	9×10^{-6}	2×10^{-5}	4×10^{-5}	2×10^{-5}	2×10^{-4}
Adults	3×10^{-5}	4×10^{-5}	4×10^{-5}	3×10^{-5}	5×10^{-5}	4×10^{-5}	1×10^{-5}	3×10^{-5}	2×10^{-5}	4×10^{-5}	8×10^{-5}	5×10^{-5}	5×10^{-4}
Total	4×10^{-5}	6×10^{-5}	6×10^{5}	5×10^{-5}	8×10^{-5}	6×10^{-5}	2×10^{-5}	4×10^{-5}	3×10^{-5}	7×10^{-5}	1×10^{-4}	7×10^{-5}	7×10^{-4}

Estimated Additional Cancer Cases for Residents without Gardens

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3	Total
Infants	3×10^{6}	4×10^{6}	4×10^{6}	4×10^{-6}	5×10^{-6}	4×10^{-6}	1×10^{-6}	2×10^{-6}	2×10^{-6}	5×10^{-6}	8×10^{-6}	5×10^{-6}	5×10^{-5}
Child	3×10^{-5}	4×10^{-5}	4×10^{-5}	4×10^{-5}	6×10^{-5}	5×10^{-5}	2×10^{-5}	3×10^{-5}	2×10^{-5}	5×10^{-5}	9×10^{-5}	6×10^{-5}	5×10^{-4}
Adults	6×10^{-5}	8×10^{5}	9×10^{-5}	7×10^{-5}	1×10^{-4}	9×10^{-5}	3×10^{-5}	6×10^{-5}	4×10^{-5}	1×10^{-4}	2×10^{-4}	1×10^{-4}	1×10^{-3}
Total	1×10^{-4}	1×10^{-4}	1×10^{-4}	1×10^{-4}	2×10^{-4}	1×10^{-4}	5×10^{-5}	9×10^{-5}	6×10^{-5}	2×10^{-4}	3×10^{-4}	2×10^{-4}	2×10^{-3}

Estimated Additional Cancer Cases for Farmers

Subgroup	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3	Total
Infants	2×10^{-7}	2×10^{-7}	2×10^{-7}	2×10^{-7}	3×10^{-7}	3×10^{-7}	7×10^{-8}	1×10^{-7}	9×10^{-8}	3×10^{-7}	5×10^{-7}	3×10^{-7}	3×10^{-6}
Child	2×10^{-6}	2×10^{-6}	2×10^{-6}	2×10^{-6}	3×10^{-6}	2×10^{-6}	9×10^{-7}	2×10^{-6}	1×10^{-6}	3×10^{-6}	5×10^{-6}	3×10^{-6}	3×10^{-5}
Adults	9×10^{-6}	1×10^{-5}	1×10^{-5}	1×10^{-5}	2×10^{-5}	1×10^{-5}	5×10^{-6}	8×10^{-6}	6×10^{-6}	1×10^{-5}	3×10^{-5}	2×10^{-5}	1×10^{-4}
Total	1×10^{-5}	1×10^{-5}	1×10^{-5}	1×10^{-5}	2×10^{-5}	2×10^{-5}	6×10^{-6}	1×10^{-5}	7×10^{-6}	2×10^{-5}	3×10^{-5}	2×10^{-5}	2×10^{-4}
Grand Total	1×10^{-4}	2×10^{-4}	2×10^{-4}	2×10^{-4}	3×10^{-4}	2×10^{-4}	8×10^{-5}	1×10^{-4}	1×10^{-4}	2×10^{-4}	5×10^{-4}	3×10^{-4}	3×10^{-3}

Source: Values estimated based on population data for ZIP codes in vicinity of the WTI facility (CACI 1991) and total cancer risk (direct + indirect) estimates.

TABLE VIII-22
Average Concentration Cancer Risks and Noncancer Hazard Indices for Fugitive Organic Vapor Emission Sources at the WTI Facility

Quadrant	Adult	Child	School-Age Child
Total Cancer Risk			
Eastern	8×10^{-7}	2×10^{-6}	1×10^{-6}
Southern	6×10^{-7}	2×10^{-6}	9×10^{-7}
Western	8×10^{-7}	2×10^{-6}	1×10^{-6}
Northern	5×10^{-7}	1×10^{-6}	8×10^{-7}
Total Noncancer Hazard Index			
Eastern	2×10^{-2}	7×10^{-2}	4×10^{-2}
Southern	1×10^{-2}	5×10^{-2}	3×10^{-2}
Western	2×10^{-2}	7×10^{-2}	4×10^{-2}
Northern	1×10^{-2}	5×10^{-2}	3×10^{-2}

TABLE VIII-23
Total Cancer Risks and Noncancer Hazard Indices at Location of Maximum Off-site Concentration for Individual Fugitive Emissions Sources at the WTI Facility

Fugitive Emissions Source	Adult	Child	School-Age Child
Total Cancer Risk			
CAB System	4×10^{-8}	1×10^{-7}	6×10^{-8}
Waste Water Tank	3×10^{-6}	7×10^{-6}	4×10^{-6}
Truck Wash	9×10^{-8}	2×10^{-7}	1×10^{-7}
Tank Farm	2×10^{-6}	4×10^{-6}	3×10^{-6}
Total Noncancer Hazard Index			
CAB System	1×10^{-3}	5×10^{-3}	3×10^{-3}
Waste Water Tank	9×10^{-2}	3×10^{-1}	2×10^{-1}
Truck Wash	3×10^{-3}	1×10^{-2}	6×10^{-3}
Tank Farm	5×10^{-2}	2×10^{-1}	1×10^{-1}

TABLE VIII-24
Area Average and Maximum Location Cancer Risks and Noncancer Hazard Indices for Inhalation Exposure to Fugitive Ash Emissions

Quadrant	Adult	Child	School-Age Child
Area Average			
Inhalation Cancer Risk			
Eastern	2×10^{-8}	4×10^{-8}	3×10^{-8}
Southern	1×10^{-8}	3×10^{-8}	2×10^{-8}
Western	2×10^{-8}	5×10^{-8}	3×10^{-8}
Northern	1×10^{-8}	3×10^{-8}	2×10^{-8}
Inhalation Noncancer Hazard Index			
Eastern	1×10^{-4}	5×10^{-4}	3×10^{-4}
Southern	1×10^{-4}	4×10^{-4}	2×10^{-4}
Western	2×10^{-4}	7×10^{-4}	4×10^{-4}
Northern	1×10^{-4}	4×10^{-4}	2×10^{-4}
Maximum Location			
Inhalation Cancer Risk	5×10^{-7}	1×10^{-6}	8×10^{-7}
Inhalation Noncancer Hazard Index	5×10^{-3}	2×10^{-2}	1×10^{-2}

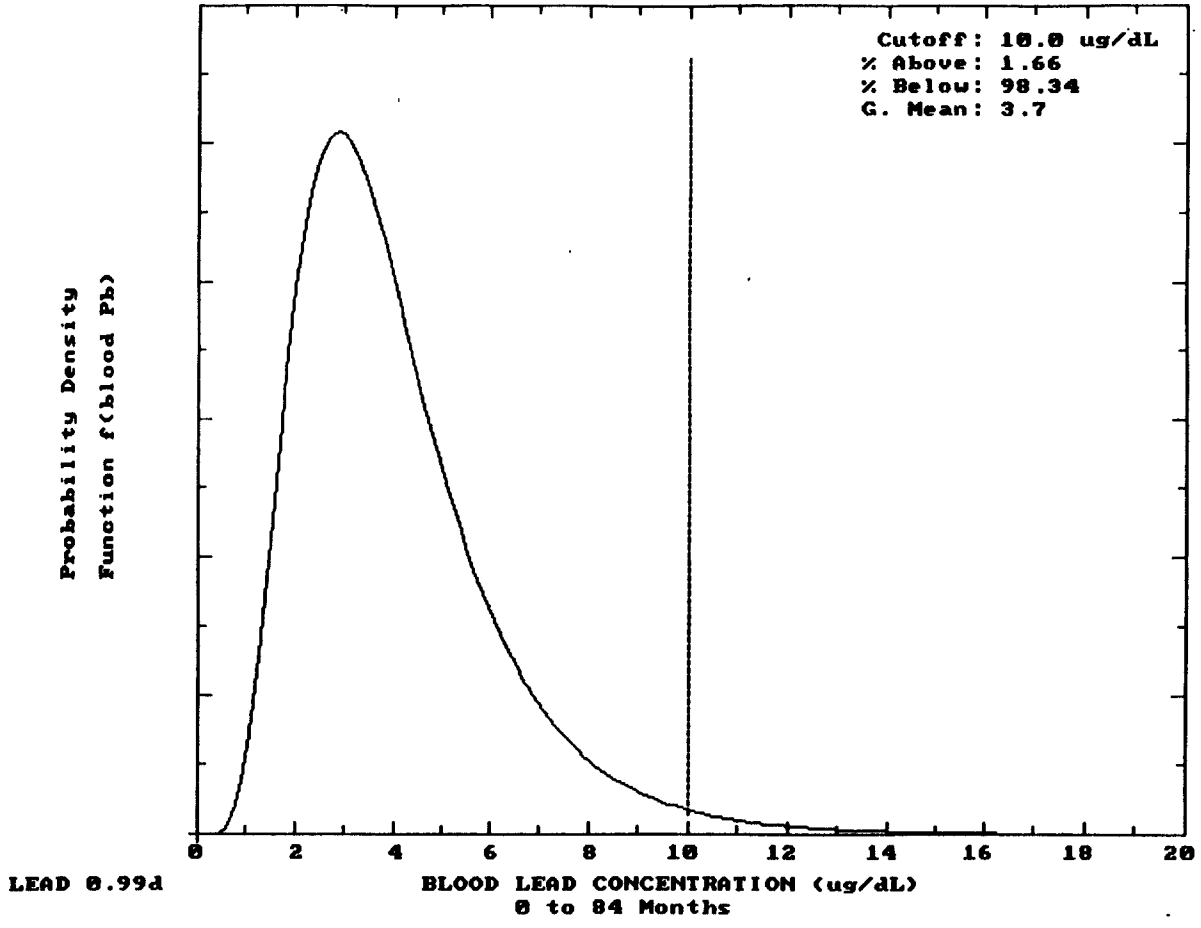
TABLE VIII-25
Area Average and Maximum Location Cancer Risks and Noncancer Hazard Indices for Indirect Exposure to Fugitive Ash Emissions

Quadrant	Adult	Child	School-Age Child
Area Average			
Indirect Cancer Risk			
Eastern	8×10^{-12}	4×10^{-11}	1×10^{-11}
Southern	4×10^{-12}	2×10^{-11}	6×10^{-12}
Western	8×10^{-12}	4×10^{-11}	1×10^{-11}
Northern	6×10^{-12}	4×10^{-11}	9×10^{-12}
Indirect Noncancer Hazard Index			
Eastern	1×10^{-6}	5×10^{-6}	3×10^{-6}
Southern	7×10^{-7}	3×10^{-6}	1×10^{-6}
Western	1×10^{-6}	5×10^{-6}	3×10^{-6}
Northern	1×10^{-6}	4×10^{-6}	2×10^{-6}
Maximum Location			
Indirect Cancer Risk	4×10^{-11}	2×10^{-10}	6×10^{-11}
Indirect Noncancer Hazard Index	8×10^{-6}	3×10^{-5}	2×10^{-5}

TABLE VIII-26
Key Assumptions for Chapter VIII
(Risk Characterization)

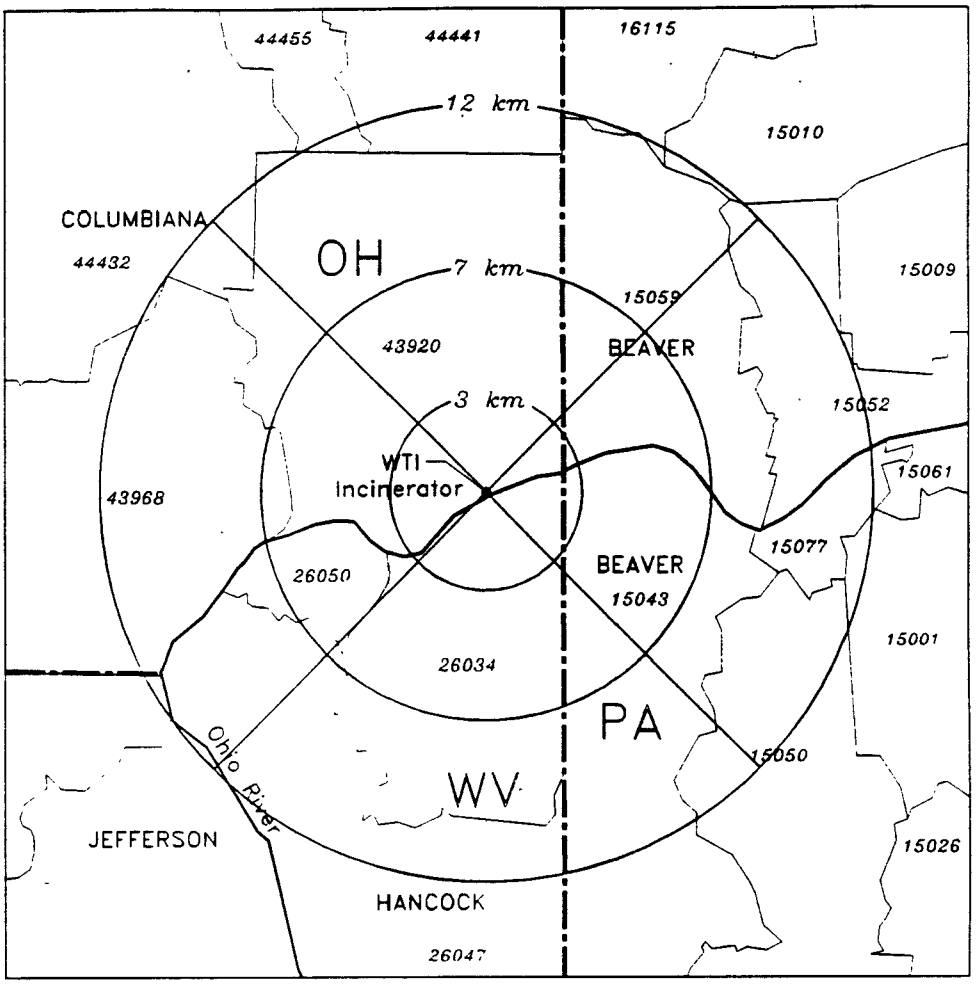
Assumption	Basis	Magnitude of Effect	Direction of Effect
Risks for individual chemicals and exposure pathways are summed to estimate overall risk	EPA (1989) guidance assuming no synergistic or antagonistic effects, and assuming exposure via multiple pathways.	low	overestimate
A resident or farmer is located at the point of maximum impact so risks at that point can be assessed	Conservative assumption based on professional judgment.	high	overestimate
The Ohio River, Little Beaver Creek, and Tomlinson Run Lake are the main bodies of water where fishing occurs	The other water bodies in the study area that could be used for fishing are small, privately owned ponds with limited public access.	low	unknown
PAHs in fish are not evaluated because of extensive metabolism	The literature presents data showing that PAHs are rapidly metabolized	low	possible underestimate
Noncancer health effects due to infant ingestion of breast milk are not considered	EPA (1994a) does not include this pathway due to the substantial uncertainty associated with it.	medium	underestimate
In estimating subarea populations, even distribution of population across a ZIP code area is assumed	Professional judgment on best available data	low	unknown
Population risks are reasonable because the populations and sub-groups have been adequately quantitated (e.g., the farming population comprises 2.5% of the total population)	Professional judgment on best available data.	low	unknown
In estimating population risks, the estimated cancer risk for children from ages 1 to 6 is applied to children from ages 1 to 12	Professional judgment.	low	unknown

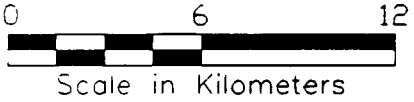
Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten



PROBABILITY DENSITY FUNCTION FOR CHILDHOOD EXPOSURE TO LEAD EMITTED FROM THE WTI FACILITY

Figure
VIII-1





Volume V

ZIP CODE BOUNDARIES
IN THE VICINITY OF
THE WTI INCINERATOR FACILITY

External Review Draft
Do Not Cite or Quote

Figure
VIII-2

IX. UNCERTAINTY ANALYSIS

A. Introduction

As noted in the preceding chapters, there are various sources of uncertainty and variability throughout the risk assessment process. These are inherent in risk assessments of this nature and are not unique to this assessment. Uncertainty represents incomplete knowledge about certain parameters, and the values of the parameters generally depend upon model predictions or limited data. Variability, on the other hand, represents heterogeneity and inherent differences within a population, across geographic regions, and throughout a given time period. While the level of uncertainty often can be reduced with a more complete knowledge base, the level of variability cannot.

The level of uncertainty present in the various phases of the risk assessment, and the manner by which the uncertainty can be addressed, was discussed extensively by the Peer Review Panel, who generally agreed that a comprehensive approach was needed to quantify the degree of uncertainty and its impact on the final risk estimates. This chapter discusses types and sources of uncertainty, as they apply to the risk assessment process in general and the WTI incinerator in particular, and outlines and presents the results of a tiered approach to uncertainty analysis for the risk assessment.

1. Types and Sources of Uncertainty and Variability

As part of the risk assessment process, risks associated with emissions from the WTI incinerator are estimated as a function (f) of a number of input variables ($x_1, \cdots, x_k$), as follows:

$$y = f(x_1, x_2, \cdots, x_k, t) \qquad \text{(IX-1)}$$

where y represents the output variable (i.e., risk estimate). The input parameters include the waste composition and feed rate into the incinerator, chemical-specific emissions from the incinerator stack, meteorological and geological conditions, exposure parameters, and toxicological data. Because some of these input parameters vary with time, the risk estimate y will also be a function of time, t. In the context of risk assessment, *uncertainty analysis* involves the determination of the variation or imprecision in the final risk estimate that results from the collective variation in the input parameters (McKone and Bogen 1991).

Generally, several categories of uncertainty can be identified in the risk assessment process—measurement uncertainty, model uncertainty, and data gaps. Measurement uncertainty results from inherent errors that accompany most analytic measurements, such as random sampling errors or systematic biases (nonrandom errors). Examples of parameters subject to measurement uncertainty include chemical-specific parameters such as Henry's constant, stack concentrations, and diffusion coefficients.

Model uncertainty arises as a result of gaps in scientific knowledge or simplifying assumptions used in models to predict chemical and physical process behavior. For example, the uncertainties associated with modeling the dispersion and deposition of chemical constituents must be included in the uncertainty analysis.

Throughout the HHRA, an effort is made to use chemical- and site-specific data wherever possible. However, when these data are incomplete or not available, default assumptions or generic/surrogate data are used to compensate for these data gaps. This introduces additional uncertainty into the risk assessment. For example, site-specific data are used for crop yields and meteorological conditions, but nationwide data are used to estimate food intake rates. The range of values for certain chemical and physical properties of 2,3,4,7,8-PeCDF, such as the vapor/particle partitioning factor, is estimated from measured values for other PeCDF congeners or other dioxin and furan congeners.

In addition to these categories of uncertainty, another issue that must be addressed is variability—across space, in time, and among individuals. Variability occurs when a quantity that could be described as a single value consists in reality of a distribution of values depending on time, location, or other factors (Hoffman and Hammonds 1994; Finkel 1990). For this risk assessment, variability is encountered when describing emission rates and composition, exposure populations and scenarios, and human susceptibility to adverse health effects, among other processes. Examples of parameters that have variable quantities include body weight and food intake rates.

2. Uncertainty and the Risk Assessment Process

The need to address uncertainty in risk assessment is discussed in the 1983 National Research Council (NRC) report *Risk Assessment in the Federal Government* (NRC 1983), which states that:

> "The dominant analytic difficulty [in decision-making based on risk assessments] is pervasive uncertainty....there is often great uncertainty in estimates of the types, probability, and magnitude of health effects associated with a chemical agent, of the economic effects of a proposed

regulatory action, and of the extent of current and possible future human exposures."

Expanding on this general statement, NRC (1994) identifies generic sources of uncertainty and uncertainty-related issues to be addressed at each step of the risk assessment process:

- Hazard Identification: What do we know about the capacity of an environmental agent for causing cancer or other adverse effects in laboratory animals and in humans?

  - the nature, reliability, and consistency of the particular studies in humans and in laboratory animals;

  - the available information on the mechanistic basis for activity; and

  - experimental animal responses and their relevance to human outcomes.

- Dose-Response Assessment: What do we know about the biological mechanisms and dose-response relationships underlying any effects observed in the laboratory or epidemiology studies providing data for the assessment?

  - the relationship between extrapolation models selected and available information on biological mechanisms;

  - the basis for selecting interspecies dose scaling factors to account for scaling dose from experimental animals to humans; and

  - correspondence between the expected route(s) of exposure and the exposure route(s) utilized in the hazard studies, as well as the interrelationships of potential effects from different exposure routes.

- Exposure Assessment: What do we know about the paths, patterns, and magnitudes of human exposure and number of persons likely to be exposed?

  - the basis for the values and input parameters used in each exposure scenario;

- the major factor(s) thought to account for the greatest uncertainty in the exposure estimate, due to either sensitivity or lack of data; and

- the link of the exposure information to the risk descriptors (e.g., highly exposed or highly susceptible groups or individuals).

- Risk Characterization: What are the strengths and limitations of the assessment?

  - descriptive information summarizing the assumptions and uncertainties that are associated with the numerical estimates of risk; and

  - consideration of alternative approaches involves examining selected plausible options for addressing a given uncertainty.

In order to determine how these general types and sources of uncertainty apply specifically to the HHRA, the processes of chemical transport from the incinerator to human receptors must be evaluated in greater detail. Each process step is accompanied by a body of data and specifically developed models. These processes and potential sources of uncertainty include the following:

- Source Emissions—Data from trial burns, quarterly performance tests, and predicted waste feed information are used as the primary basis for estimating the source emissions. Because these data may not necessarily represent long-term emissions from the WTI incinerator, and are subject to fluctuations in feed composition and quantities and incinerator operation, the emission rate and stack gas composition can be uncertain and variable.

- Atmospheric Dispersion and Deposition—Once substances have been emitted to the atmosphere, their transport and dispersion to receptor sites will be dictated by meteorological conditions, physical and chemical processes, and land use and geological conditions. Since many of the heavy metals of concern are particle-bound, their wet and dry deposition rates will depend on the size distribution of the emitted particulate matter. The degree of uncertainty introduced into the risk assessment will depend on the accuracy of dispersion models and the quality of the input data (e.g., wind speed and direction, vapor/particle partition factor) used.

- Intermedia Transfer—Additional models are necessary to determine the fate of atmospheric materials that deposit to the ground surface—including direct deposition to crop plants and deposition to surface soils and waters, with subsequent transport in environmental media and incorporation in the food chain. These models rely upon numerous site- and chemical-specific parameters, including site-specific parameters such as crop yields and soil properties, and chemical-specific parameters such as soil/water distribution coefficients and soil degradation rates. The uncertainty resulting from the use of these models depends on the quality of the data used for these parameters.

- Human Exposure Patterns—Numerous assumptions are required to estimate direct exposure via inhalation of ambient air, and indirect exposures through food and drinking water intake. There is uncertainty and variability associated with individual behavior patterns and the exposure factors used in the assessment. While some nationwide surveys are available to characterize the general variability in human behavior patterns, uncertainty is introduced when applying these data to a certain subpopulation of interest.

- Dose-Response Relationships—In most cases, toxicity factors for assessing human health risk must be derived from laboratory animal studies. Even when data on actual human responses to chemical exposures are available, these data usually correspond to high dose conditions and must be extrapolated to the lower doses more typical of routine environmental exposures. The reliance on toxicity data from animal studies or high dose human exposures introduces additional uncertainty into the risk assessment.

Each of these major potential sources of uncertainty is considered in developing the quantitative methodology for uncertainty analysis described in this chapter.

B. A Three-Tiered Approach to Uncertainty Analysis

The uncertainty analysis for the risk assessment consists of three tiers, or levels of analysis.

- Tier I—Quantification and analysis of input parameter variances
  Where possible, input parameters used in the risk assessment are accompanied by the estimation error or the experimental standard deviation associated with the

parameters. A summary and justification of the assumptions used for each input parameter range are included.

- Tier II—Sensitivity analysis
  This analysis assesses how model predictions are affected by model reliability and data precision. The goal of a sensitivity analysis is to rank the input parameters on the basis of their contribution to variance in the output.

- Tier III—Variance propagation
  This final tier involves quantifying how the overall accuracy of risk estimates is related to the variability and uncertainties associated with the models, inputs, and exposure scenarios.

Recent examples of applications of this type of approach to uncertainty in risk assessment include the estimation of human health risks associated with exposure to hexachlorobenzene and benzo(a)pyrene (BaP) through the consumption of homegrown food (McKone 1994); exposure to perchloroethylene (PCE) in California ground water (McKone and Bogen 1991); risks to children playing in soils contaminated with benzene and BaP (Thompson et al. 1992); and carcinogenic health risks due to the emissions of a coal-fired power plant (Seigneur et al. 1994). A more detailed description of each tier and the associated implications is discussed below.

1. Tier I—Quantification of Input Parameter Variances

The first tier in the uncertainty analysis quantifies ranges for the input parameters, reflecting uncertainties and variances in their values. For those parameters that are experimentally determined, the experimental standard deviation is provided. Other parameters that are calculated from regression equations are accompanied by the standard error of the estimator.

Associated with the fate and transport models are a number of partition and biotransfer factors, some of which may be uncertain by several orders of magnitude. Input parameters likely to have uncertainty factors greater than a factor of five include octanol-water partition coefficients (K_{ow}), organic-carbon partition coefficients (K_{oc}), Henry's law constant (H), and steady-state biotransfer factors (Ba). Each of these parameters is chemical-specific. Available literature is used to determine appropriate "most likely" values and ranges for these parameters.

The output variables from some models serve as input variables to other models. For each model used, an estimate is made of the uncertainty associated with that model.

For example, the output variables from atmospheric dispersion models are ambient air concentrations of the emitted species. These calculated concentrations are used to determine exposure levels at the receptor site. Therefore, it is necessary to estimate the level of accuracy of the model in order to quantify the uncertainty of the model outputs. For example, at this site, the atmospheric dispersion model ISC-COMPDEP simulates atmospheric dispersion to within a factor of approximately four (Chapter V of Volume IV).

2. Tier II—Sensitivity Analysis

Some parameters have a more significant effect on the estimates of health risks calculated by the models than others. Therefore, to reduce the computational burden to a reasonable level, the uncertainty analysis focused on those *influential parameters* to which the calculated health risks are most sensitive. These influential parameters are identified through a *sensitivity analysis*.

The goal of a sensitivity analysis is to rank the input variables on the basis of their contribution to variance in the output. Sensitivity analyses can be either global or local. A *global* sensitivity analysis quantifies the effects of variation in parameters over their entire range of values. A *local* sensitivity analysis is used to examine the effects of small changes in parameter values at some defined point in the range of outcome values.

The process for identifying the influential parameters involves computing several dimensionless parameters for each input variable. The first required parameter is the local sensitivity index (LSI_i), which describes the effect on a model output for a small perturbation in an input parameter (Seigneur et al. 1994). The advantage of local sensitivity analysis is the relative ease in application, since the range of parameter values is not required.

It is important, however, that the model output not only be a sensitive function of an input variable (i.e., high LSI_i values), but also that the input variable has a significant range of expected values to allow the input variable to influence the model output. For example, if a model output exhibits strong local sensitivity to a particular input variable that has a relatively constant and well known value, this input variable will not be a particularly influential parameter. Thus, to determine the global sensitivity of an input parameter, another dimensionless parameter that provides a measure of the expected variation of an input variable over its range of probable values is needed. The coefficient of variation (CV_i) is used for this purpose, and is calculated as follows:

$$CV_i = \frac{\sigma_i}{\bar{x}_i} \qquad \text{(IX-2)}$$

where σ_i is the standard deviation of the parameter distribution and $\bar{x}_i$ is the mean value of the input parameter x_i.

Given the assumptions of this analysis, the product of the local sensitivity index, LSI_i, and the coefficient of variation, CV_i, is directly related to a global sensitivity index, GSI_i, defined as follows:

$$GSI_i = \frac{(\Delta y_i)_{max}}{\bar{y}} \qquad \text{(IX-3)}$$

where $(\Delta y_i)_{max}$ is the maximum range in risk estimates resulting from the maximum variation in an input parameter, and $\bar{y}$ is the risk estimate using typical values for all input parameters. The result is a representative measure of the impact that an individual parameter may have on the risk model. By computing and comparing values of GSI_i for all of the input parameters, the influential parameters can be identified and ranked in importance of affecting the risk outcome. This approach to sensitivity analysis is similar to that applied by U.S. EPA (1994b,c).

For the influential parameters identified, it is also useful to determine the probability distribution functions (PDFs) for these parameters. The PDF provides a measure of a parameter's central tendency and allows the estimation of extreme values. Knowledge of the PDF is also useful for modeling the parameter as a random variable. While available data may be adequate to determine the shape of the PDF for some parameters, subjective PDFs might need to be estimated for other parameters based on scientific judgment (Haimes et al. 1994). For example, measured values for parameters such as partition coefficients and biotransfer factors generally follow lognormal distribution functions (McKone 1994). Therefore, for a particular chemical, if only limited data are available for characterizing distributions for these parameters, a lognormal PDF is assumed to apply. For other parameters where only minimum, maximum, and most likely values are known, either triangular or uniform distributions are used (Haimes et al. 1994; Finley et al. 1994).

3. Tier III—Variance Propagation

After the input parameter variances have been determined (Tier I) and the most influential parameters and their PDFs identified (Tier II), the final step in the uncertainty analysis is to evaluate the combined effect of the identified uncertainties on the output

variable (i.e., risk to human health). Risks to human health are estimated using a series of models, with the output variables from some models serving as input variables to other models. The process for ascertaining the cumulative effect of input parameter and individual model uncertainties on the ultimate risk estimates is known as *variance propagation*. One of the results of the variance propagation is a probability distribution for the model output. Once this PDF is estimated, the expected likelihood or probabilities of the risk predictions are known and confidence levels can be established for various levels of risk.

A widely used variance propagation method is through Monte Carlo analysis (Hoffman and Hammonds 1994; Thompson et al. 1992). In a Monte Carlo method, each of the influential input parameters is represented by a PDF that defines both the range of values for the parameter and the likelihood that the parameter has a value in any subinterval of that range. The model is iterated, selecting each member of the input parameter set by random sampling. Iterations are continued until a variance of the output can be determined. This variance reflects the combined impact of the variances in the input parameter set as propagated through the model.

An alternative to the Monte Carlo method is Latin hypercube sampling (LHS), which is a modified Monte Carlo method. LHS uses stratified random sampling to ensure an even selection of input parameter values across the range of possible values. If the output is a monotonic function of the input, LHS has been shown to be more efficient than an unmodified Monte Carlo method (Iman and Helton 1988). LHS is also preferable when parameter values in the low- or high-end tails of the PDF are important.

In both Monte Carlo and LHS analyses, sample values for each input parameter generally are selected independently of the values of other input parameters. However, some of the input parameters may be correlated. For example, values of body weight and ingestion rates are not expected to be independent of each other. For pairs of correlated variables, the random sampling methodology should be modified to preserve these relationships.

C. Implementation of Tiered Approach to Uncertainty Analysis

As discussed in previous chapters of this report, exposures to a variety of chemicals released from several on-site sources may occur through numerous direct and indirect pathways. The application of all three tiers of uncertainty analysis for *all* chemicals and *every* exposure pathway would be an enormous undertaking. Therefore, a more focused approach is adopted for this risk assessment.

The uncertainty analysis for the HHRA addresses source emissions, atmospheric dispersion, and exposure assessment components of the risk assessment. The toxicity criteria

(i.e., slope factors and reference doses) are not treated as input variables in the uncertainty analysis, however, because it is generally not possible to quantify the uncertainty in developing the criteria. For example, the uncertainty in developing a slope factor for dioxins and furans from laboratory animal data cannot be reliably estimated. Furthermore, the uncertainty associated with the slope factor for certain dioxin and furan congeners, such as 2,3,4,7,8-PeCDF, is greater than for congeners that have been studied more extensively, such as 2,3,7,8-TCDD.

Some of the steps in the uncertainty analysis can be eliminated based on prior knowledge of the fate, transport, and toxicity of the chemicals. For example, the greatest risk has been determined to occur through indirect exposure pathways (Chapter VIII). In order for a chemical to pose a significant threat to human health via indirect exposure pathways, the chemical must be relatively persistent in environmental media, bioconcentrate in human or animal tissues, or both. For these reasons, there are a relatively limited number of chemicals that contribute significantly to the risk posed by indirect exposures. Screening of chemicals and exposure pathways of greatest concern is performed to focus the application of the second and third tiers of the uncertainty analysis.

The uncertainty analysis adopted for the HHRA consists of the following elements:

1. Tier I and II analyses are performed for the exposure assessment for the following specific cases:

   - The organic chemical estimated to pose the greatest carcinogenic health risk to the most highly exposed subgroup via indirect exposure pathways (i.e., indirect exposure to 2,3,4,7,8-PeCDF by adult subsistence farmers); and

   - The metal estimated to pose the greatest carcinogenic health risk to the most highly exposed subgroup via indirect exposure pathways (i.e, indirect exposure to arsenic by adult subsistence farmers).

   For each of these cases, the uncertainty analysis is performed on the risks at the location where risk posed by the chemical is greatest. For 2,3,4,7,8-PeCDF, the route of indirect exposure that poses the greatest risk is associated with vapor-phase uptake by vegetation. Thus, the uncertainty analysis for this chemical and pathway focuses on the location where vapor uptake is greatest. For arsenic, the greatest risk is associated with particulate-phase wet deposition. Thus, the uncertainty analysis for this chemical and pathway focuses on the location where wet deposition is greatest. Both of these locations are situated in subarea E1.

As discussed in Chapter VIII, none of the chemicals analyzed in this risk assessment are determined to result in a hazard index (HI) value exceeding 1.0, indicating a very low potential for noncancer health effects. For this reason, the quantitative uncertainty analysis addresses carcinogenic risk only.

2. A Tier I analysis is performed for the emissions characterization step and the atmospheric dispersion model for 2,3,4,7,8-PeCDF and arsenic, so that uncertainties associated with these separate components are identified. This Tier I analysis consists of the identification of ranges for these variables and an estimation of the PDF. These components are also included in the Tier II sensitivity analysis.

3. Steps 1 and 2 above are combined in a Tier III analysis. This consists of a modified Monte Carlo (i.e., Latin hypercube sampling) simulation using the estimated uncertainties and variabilities for the influential parameters identified in the sensitivity analysis.

Using the approach outlined above, this focused application quantifies the uncertainties for the chemicals and exposure pathways of greatest concern. This approach is consistent with EPA's recent risk characterization guidance, which recommends that uncertainty analyses for risk assessments be focused, rather than including the evaluation and assessment of "every conceivable exposure scenario for every possible pollutant" (U.S. EPA 1992a, 1995a).

D. Results

1. Estimation of Input Parameter Ranges

Point estimates of risk developed using typical values for each of the input parameters required by the model equations summarized in Chapter VI and in Appendix V-7 are presented in Chapter VIII. In order to estimate the uncertainty associated with this risk estimate, ranges of the possible values for the input parameters are determined, and are summarized in Table IX-1. The rationale for the selection of each of the ranges are discussed in Appendix V-21. While ranges are defined based on available data or guidance to the extent possible, scientific judgment is used to estimate conservative ranges where appropriate data or guidance are unavailable.

2. Sensitivity Analysis

The next step in the uncertainty analysis is to determine which of the input parameters have the ability and the range in values to influence the model output. To

determine these influential parameters, global sensitivity index (GSI) values are calculated for each input parameter using equation (IX-3).

The results of the sensitivity analysis are summarized in Table IX-2. The "primary" influential parameters that are retained for the uncertainty propagation are those with an absolute GSI greater than 0.25. This corresponds to the parameters for which the range of possible output values (i.e., the range of risk estimates) are greater than 25% of the average output value (i.e., the typical risk estimate). To determine whether the "primary" influential parameter retention criterion of GSI>0.25 is sufficient to represent the total output variability, a group of "secondary" influential parameters is also selected. This group includes parameters with GSI values between 0.05 and 0.25. A variance propagation using both the primary and secondary influential parameters will be compared to the results using only the primary influential parameters.

The influential parameters identified in the sensitivity analysis are summarized below, in order of decreasing influence:

Indirect exposure to 2,3,4,7,8-PeCDF

Primary influential parameters:

- Henry's constant (H)
- Octanol/water partition coefficient (K_{ow})
- Dispersion factor
- Emission rate
- Beef intake rate (IR_{beef})
- Vapor/particle partitioning factor (ϕ)
- Animal tissue bioconcentration factors (BCF)
- Fraction of milk that is fat (fat_{milk})
- Body weight (BW)
- Fraction of beef that is fat (fat_{beef})
- Milk intake rate (IR_{milk})
- Diet of beef cattle (DF_{beef})
- Diet of dairy cattle (DF_{dairy})

Secondary influential parameters:

- Pork intake rate (IR_{pork})
- Leafy vegetable intake rate (IR_{leaf})
- Fraction of pork that is fat (fat_{pork})
- Diet of hogs (DF_{hogs})

Indirect exposure to arsenic

Primary influential parameters:

- Plant/soil bioconcentration factor (reproductive) (Br)
- Beef biotransfer factor (Ba_{beef})
- Wet deposition factor
- Soil/water distribution coefficient (Kd_s)
- Emission rate
- Beef intake rate (IR_{beef})
- Pork biotransfer factor (Ba_{pork})
- Environmental half-life on plant surfaces ($t_{1/2}$)
- Milk biotransfer factor (Ba_{milk})
- Chicken biotransfer factor ($Ba_{chicken}$)
- Body weight (BW)
- Pork intake rate (IR_{pork})
- Aboveground exposed vegetable intake rate (IR_{AGexpo})
- Egg biotransfer factor (Ba_{egg})
- Leafy vegetable intake rate (IR_{leaf})
- Exposed fruit intake rate (IR_{Fexpo})
- Protected fruit intake rate (IR_{Fprot})

Secondary influential parameters:

- Root vegetable intake rate (IR_{root})
- Diet of beef cattle (DF_{beef})
- Milk intake rate (IR_{milk})
- Average annual irrigation (I)
- Forage crop yield (YP_{forage})
- Chicken intake rate ($IR_{chicken}$)
- Aboveground protected vegetable intake rate (IR_{AGprot})
- Soil intake rate (IR_{soil})
- Plant/soil bioconcentration factor (vegetative) (Bv)
- Egg intake rate (IR_{egg})
- Average annual precipitation (P)
- Average annual evapotranspiration (Ev)
- Soil bulk density (BD)

As discussed in detail in Appendix V-21, the parameters K_{ow} and H are used for estimating several other parameters, including the organic carbon adsorption coefficient (K_{oc}):

$$\log K_{oc} = \log K_{ow} - 0.21 \quad \text{(IX-4)}$$

soil/water distribution coefficient (Kd_s):

$$Kd_s = (K_{oc})(OC_{soil}) \quad \text{(IX-5)}$$

plant/soil bioconcentration factor (Br):

$$\log Br = 1.588 - 0.578 \log K_{ow} \quad \text{(IX-6)}$$

root concentration factor (RCF):

$$\log RCF = 0.77 \log K_{ow} - 1.52 \quad \text{(IX-7)}$$

and volumetric air-to-leaf biotransfer factor (B_{vol}):

$$\log B_{vol} = 1.065 \log K_{ow} - \log \left[\frac{H}{RT} \right] - 1.654 \quad \text{(IX-8)}$$

where OC_{soil} is the fraction of organic carbon in the soil, R is the gas constant, and T is the temperature. Because these five parameters are estimated using equations (IX-4) through (IX-8), the parameters themselves are not included in the sensitivity analysis. The uncertainty in these parameters is dependent on the uncertainty in K_{ow} and H, both of which are identified as primary influential parameters. Thus, while these five parameters are not explicitly evaluated in Tiers II and III of the uncertainty analysis, they are evaluated implicitly through the inclusion of K_{ow} and H in Tiers II and III.

3. Variance Propagation

For each influential parameter, the "most likely" value is assumed to be equivalent to its expected value, E(x), which is also the mean, μ, defined in terms of its probability distribution, p(x), as follows (Ott 1995):

$$E(x) = \int_{-\infty}^{\infty} x\, p(x)\, dx = \mu \quad \text{(IX-9)}$$

The probability distributions and their associated parameters are summarized in Table IX-3. Each parameter is modeled using one of the following three probability distributions:

Lognormal:

$$p(x) = \frac{1}{x\sigma_{ln}\sqrt{2\pi}} \exp\left[-\frac{(\ln x - \mu_{ln})^2}{2\sigma_{ln}^2}\right] \quad \text{(IX-10)}$$

where the parameters μ_{ln} and σ_{ln} are related to the mean, μ, and standard deviation, σ, by:

$$\mu = \exp\left[\mu_{ln} + \frac{\sigma_{ln}^2}{2}\right] \quad \text{(IX-11)}$$

$$\sigma = \sqrt{[\exp(2\mu_{ln} + \sigma_{ln}^2)]\ [\exp(\sigma_{ln}^2) - 1]} \quad \text{(IX-12)}$$

The geometric mean (GM) and geometric standard deviation (GSD) of x are $\exp(\mu_{ln})$ and $\exp(\sigma_{ln})$, respectively.

Triangular:

$$p(x) = \frac{2(x-a)}{(b-a)(c-a)} \qquad a \le x \le b$$

$$p(x) = \frac{2(c-x)}{(c-a)(c-b)} \qquad b < x \le c \quad \text{(IX-13)}$$

where a is the minimum value of x, b is the most likely value, and c is the maximum value. This distribution is used primarily for parameters with uncertain values and little measurement data.

Uniform:

$$p(x) = \frac{1}{c-a} \qquad \text{(IX-14)}$$

where a is the minimum value of x, and c is the maximum value. This distribution is used primarily for parameters for which a range is known and either no most likely value is known or the data are evenly distributed across the range.

Because many physical parameters are non-negative and have been found to follow positively skewed distributions, the lognormal distribution is commonly used to represent such parameters (McKone 1994; CalEPA 1993; McKone and Bogen 1991; Finkel 1990; McKone and Ryan 1989). Lognormal distributions are often used when uncertainties are expressed on a multiplicative order-of-magnitude basis (e.g., factor of 2). This multiplicative uncertainty factor is related to the geometric standard deviation.

When a likely range of values for a parameter has been specified or estimated, this range is assumed to represent the upper and lower bounds of a 95 percent confidence interval. Thus, the possibility of the value of a parameter falling outside the specified range exists, but is assumed to be unlikely. For all estimated ranges, professional judgment is used to select a conservative estimate that corresponds to *at least* a 95 percent confidence interval. Specifying these upper and lower bounds (as opposed to other upper and lower bounds, such as a 90th percent upper bound and a 10th percent lower bound confidence level) allows a convenient relationship between these bounds and the statistical parameters of the distribution. For a lognormal distribution, the geometric standard deviation relates the geometric mean (GM) with the upper and lower bounds of a 68 percent confidence interval (x_{68UB} and x_{68LB}) and the upper and lower bounds of a 95 percent confidence interval (x_{95UB} and x_{95LB})[1] as follows (Ott 1995):

$$GSD = \frac{x_{95UB}}{x_{68UB}} = \frac{x_{68UB}}{GM} = \frac{GM}{x_{68LB}} = \frac{x_{68LB}}{x_{95LB}} \qquad \text{(IX-15)}$$

[1]The upper and lower bounds of a 68 percent confidence interval correspond to the 84 and 16 percentile levels of the cumulative probability distribution, respectively. The upper and lower bounds of a 95 percent confidence interval correspond to the 97.5 and 2.5 percentile levels of the cumulative probability distribution, respectively.

Therefore, the GSD can be determined from the upper and lower bounds of a 95 percent confidence interval (x_{95UB} and x_{95LB}) as follows:

$$\frac{x_{95UB}}{x_{95LB}} = \left[\frac{x_{95UB}}{x_{68UB}}\right]\left[\frac{x_{68UB}}{GM}\right]\left[\frac{GM}{x_{68LB}}\right]\left[\frac{x_{68LB}}{x_{95LB}}\right] = (GSD)^4 \qquad \text{(IX-16)}$$

Similarly, for parameters for which a most likely value and an uncertainty factor are known (e.g., the air concentration is uncertain by a factor of four), the uncertainty factor (UF) is assumed to represent the square of the GSD, and the upper bound is estimated to be the product of the geometric mean and the uncertainty factor:

$$x_{95UB} = (GM)(UF) \qquad \text{(IX-17)}$$

$$UF = \frac{x_{95UB}}{GM} = \left[\frac{x_{95UB}}{x_{68UB}}\right]\left[\frac{x_{68UB}}{GM}\right] = (GSD)^2 \qquad \text{(IX-18)}$$

In each case, professional judgment is used to ensure this upper bound is a reasonable approximation of the 95th percent confidence interval upper bound.

Most parameters in this uncertainty analysis are modeled as lognormal distributions; however, if appropriate data are limited to the point where variances cannot be estimated accurately, triangular distributions are used (Finley et al. 1994; Haimes et al. 1994). Use of such a distribution does not mean that the actual distribution is triangular; rather, it is used as a reasonable way to represent the currently available data (Finley et al. 1994; Haimes et al. 1994).

The primary influential parameters identified in the sensitivity analysis, their most likely values, and PDFs are summarized below. Estimates of correlation coefficients between parameters expected to be related are also provided. Except where noted otherwise, all of the following parameters are modeled as lognormal.

a. Indirect exposure to 2,3,4,7,8-PeCDF:

- **Henry's constant (H)**
  The Henry's Law constant of 6.2×10^{-6} atm-m^3/mol for 2,3,4,7,8-PeCDF (U.S. EPA 1994b), which is calculated from the chemical's vapor pressure/water solubility (VP/WS) ratio (Lyman et al. 1990), is used for the most likely value of H. Vapor pressures estimated for PeCDF congeners

range from 1.5×10^{-9} to 4.3×10^{-9} mm Hg (U.S. EPA 1994b), spanning a factor of about three. Only one value is reported for the water solubility of PeCDFs; however, values for other dioxin and furan congeners have ranges spanning about one order of magnitude (U.S. EPA 1994b). Therefore, the Henry's constant for 2,3,4,7,8-PeCDF is assumed to be accurate over a factor of approximately 30, which corresponds to a GSD of 2.34. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated from equation (IX-11) to be 4.4×10^{-6} atm-m^3/mol, with the 95 percent confidence interval ranging from 8.0×10^{-7} to 2.4×10^{-5} atm-m^3/mol.

- **Octanol/water partition coefficient (K_{ow})**
  The only value of log K_{ow} reported by U.S. EPA (1994b) for 2,3,4,7,8-PeCDF is 6.92 (Sijm et al. 1989), which corresponds to a value for K_{ow} of 8.3×10^{6}; this value is used for the most likely value of K_{ow}. Values have been reported for log K_{ow} for other PeCDF congeners ranging from 6.19 to 6.79 (Sijm et al. 1989). Thus, the range of log K_{ow} values for all PeCDF congeners ranges over one unit, which corresponds to a range of about an order of magnitude for K_{ow} values. Because the value of log K_{ow} for 2,3,4,7,8-PeCDF is the upper limit of the range of values for all PeCDF congeners, the value of K_{ow} for 2,3,4,7,8-PeCDF is conservatively estimated to range over two orders of magnitude, which corresponds to a GSD of 3.16. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated from equation (IX-11) to be 4.2×10^{6} (which corresponds to a log K_{ow} of 6.6), ranging from 4.2×10^{5} to 4.2×10^{7} (which corresponds to values of log K_{ow} ranging from 5.6 to 7.6).

- **Dispersion factor**
  At the point of maximum vapor uptake, the most likely value for the dispersion factor for 2,3,4,7,8-PeCDF is 0.914 (μg/m^3)/(g/sec). A series of sensitivity tests of the model predictions to a range of inputs was performed to assess the response of the model to uncertainties in the model input parameters (Chapter V of Volume IV). Based on an analysis of these sensitivity tests and the performance of other similar steady-state Gaussian models, it is estimated that the uncertainty of the annual average concentration predictions from ISC-COMPDEP is a factor of 4, which

corresponds to a GSD of 2. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated from equation (IX-11) to be 0.72 ($\mu g/m^3$)/(g/sec), ranging from 0.18 to 2.9 ($\mu g/m^3$)/(g/sec).

- **Emission rate**

  Based on data collected during the February 1994 trial burn (four test runs) and the 22 performance test runs conducted between August 1993 and August 1994, the average emission rate of 2,3,4,7,8-PeCDF is 4.7×10^{-10} g/sec, with values ranging from 9.0×10^{-11} to 1.5×10^{-9} g/sec. These data from the trial burn and performance tests are used to determine a cumulative probability distribution for the emission rate.

  Studies by Zacharewski et al. (1988) and Mason et al. (1987) have shown selected brominated and brominated-chlorinated dioxins to be comparable in toxicity to chlorinated dioxins in certain short-term toxicity assays. Because EPA-approved methods for analyzing brominated and brominated-chlorinated dioxins and furans are not available, the presence of brominated compounds in the stack emissions was not determined. However, since brominated aromatics are not as widely used as chlorinated aromatics, only a small fraction of the total halogenated dioxins and furans that form during hazardous waste incineration are expected to be brominated. Based on an initial examination of the waste profiles for the first nine months of operation, the amount of bromine in the waste stream is less than one-twentieth of the amount of chlorine. In order to account for the potential impact of the brominated compounds, the dioxin and furan emissions are prorated by an uncertainty factor in this uncertainty analysis. The 2,3,4,7,8-PeCDF emission rate is multiplied by this uncertainty factor, which is defined to have a minimum value of 1.0, a most likely value of 1.05 (i.e., a one-twentieth increase), and a maximum value of 1.5. The maximum value for the uncertainty factor of 1.5 reflects professional judgment that brominated aromatics will not likely exceed one third of the chlorinated aromatics in waste feeds. Because of the lack of available data for this parameter, a triangular distribution is assumed (Finley et al. 1994).

- **Vapor/particle partitioning factor (ϕ)**

  No specific data for ϕ were found for 2,3,4,7,8-PeCDF. Therefore, using the theoretical approach of Bidleman (1988), the most likely value for ϕ is

estimated to be 0.61 for 2,3,4,7,8-PeCDF . Because extremely limited 2,3,4,7,8-PeCDF-specific data are available for this parameter, a triangular distribution is assumed (Finley et al. 1994). For the maximum and minimum values, the range of 15 measurements from six studies of ϕ for PeCDF congeners, 0.0 to 0.71, is used (U.S. EPA 1994b,c).

- **Bioconcentration factors (BCF)**
  McLachlan et al. (1990) reported the only measured value of BCF for 2,3,4,7,8-PeCDF, 3.1, which is used for the most likely value. Values are reported for other dioxin-like compounds in beef and milk fat ranging from 0.05 to 5.7 (U.S. EPA 1994b; McLachlan et al. 1990; Fries and Paustenbach 1990; Jensen and Hummel 1982; Jensen et al. 1981; Arstilla et al. 1981; Parker et al. 1980; Firestone et al. 1979), with lower chlorinated congeners generally having higher values of BCF than higher chlorinated congeners. Taking this association of decreasing bioconcentration ratios with increasing chlorination into consideration, the range of BCF values reported for tetra-, penta-, and hexa-chlorinated dioxins and furans, from 0.73 to 5.7, is selected to represent the estimated uncertainty in the BCF value for 2,3,4,7,8-PeCDF in the fat content of beef, milk, pork, chicken, and eggs. Because extremely limited 2,3,4,7,8-PeCDF-specific data are available for this parameter, a triangular distribution is assumed (Finley et al. 1994).

- **Beef intake rate (IR_{beef})**
  The site-specific most likely value for IR_{beef} is 81 g/day. This value and the cumulative distribution function were extrapolated from a 1987-88 USDA national food consumption survey (USDA 1993, 1982), as summarized in Chapter VI. Based on this survey, the upper and lower bounds of the 95 percent confidence interval for beef intake rates are 321 and 14 g/day, respectively. The ingestion rate of beef is expected to be related to body weight. To account for this relationship, a correlation coefficient between IR_{beef} and BW of 0.9 is assumed.

- **Fraction of milk that is fat (fat_{milk})**
  The most likely value for the fat content of milk is assumed to be 0.02 (U.S. EPA 1994b). According to data reported by Pennington (1989), the value of fat_{milk} ranges from 0.002 (skim milk) to 0.037 (whole milk).

Because the data are fairly evenly distributed across this range, a uniform distribution is assumed to apply for this parameter.

- **Body weight (BW)**
  Data and cumulative probability distributions for adult (ages 18 to 75) body weights were collected during the second National Health and Nutrition Examination Survey (NHANES II), conducted between 1976 and 1980. Over 20,000 individuals in the United States ranging in age from 6 months to 74 years participated in this survey. Based on this survey, the 5th and 95th percentile body weights are 52 and 97 kg, respectively. The cumulative PDF from this survey (AIHC 1994, U.S. EPA 1990b) is used in this uncertainty analysis.

- **Fraction of beef that is fat (fat_{beef})**
  According to data reported by Pennington (1989), the average fat content of beef (including brisket, chuck, flank, ground, ribs, round, shank, short loin, and wedge-bone sirloin) is 0.23, ranging from 0.12 to 0.35. Because the data are fairly evenly distributed across this range, a uniform distribution is assumed to apply for this parameter.

- **Milk intake rate (IR_{milk})**
  The site-specific most likely value for IR_{milk} is 184 g/day. This value and the cumulative distribution function were extrapolated from a 1987-88 USDA national food consumption survey (USDA 1993, 1982), as summarized in Chapter VI. Based on this survey, the upper and lower bounds of the 95 percent confidence interval for milk intake rates are 918 and 10 g/day, respectively. The ingestion rate of milk is expected to be related to body weight. To account for this relationship, a correlation coefficient between IR_{milk} and BW of 0.9 is assumed.

- **Diet of beef cattle (DF_{forage}, DF_{grain}, DF_{silage}, DF_{soil})**
  For beef cattle, reported soil ingestion rates range from 1 to 18% of dry matter intake, which is 1 to 15% of total intake, with a typical value of 3% (U.S. EPA 1990a, Thorton and Abrams 1983). Therefore, forage, grain, and silage comprise the remaining portion of the diet. Typical total intake for beef cattle reportedly consists of 72% forage, 4% grain, and 21% silage (U.S. EPA 1990a, Ensminger 1976).

Generally, soil ingestion is inversely related to the availability of forage (Fries and Paustenbach 1990). The higher soil ingestion rates likely occur under poor pasture conditions with sparse vegetation, whereas periods of lush plant growth are associated with low soil intake. Because beef cattle often subsist on diets that are largely forage (Fries and Paustenbach 1990), the upper limit of the forage diet fraction is assumed to be 99%, with a soil diet fraction of 1%, in which case the lower limits of the silage and grain diet fractions would both be 0%. Under poor pasture conditions or for various dietary considerations, the lower limit of the forage diet fraction is estimated based on professional judgment to be one third (33%), approximately a factor of two lower than the typical value of 72%, with the soil ingestion increasing to its maximum value of 15%, and the balance of the diet comprised of an increase from the most likely value in either the silage or grain fractions (i.e., either 4% grain and 48% silage or 31% grain and 21% silage). The higher silage diet fraction corresponds to periods of short growing seasons and low rainfall; the higher grain diet fraction corresponds to periods of beef cattle fattening (Fries and Paustenbach 1990, NRC 1984).

In summary, for beef cattle, the diet fractions are assumed to range from 33 to 99% forage, 1 to 15% soil, 0 to 31% grain, and 0 to 48% silage. Because of the limited data availability, triangular distributions are assumed for the forage, grain, and soil diet fractions; the silage fraction is defined by a mass balance with the other three diet components. To account for the inverse relationship between soil and forage intake, a correlation coefficient of -0.9 between DF_{forage} and DF_{soil} is assumed.

- **Diet of dairy cattle (DF_{forage}, DF_{grain}, DF_{silage}, DF_{soil})**

  Dairy cattle generally do not graze to the extent that beef cattle do, partly because high-producing cows are unable to meet their energy requirements when pasture is their main food source (Bath et al. 1985). Therefore, a 99% upper bound forage diet fraction for dairy cattle is not likely. Typical total intake for dairy cattle reportedly consists of 64% forage, 15% grain, and 19% silage, with the remaining 2% intake being soil (U.S. EPA 1990a).

  Reported soil ingestion rates range from 1 to 7% of total intake, with a typical value of 1% for lactating dairy cows and 4% for nonlactating cattle (U.S. EPA 1990a, Fries et al. 1982a). Because of the low cost of pasture

grass and the high nutritive value of grain, it is unlikely that the diets of dairy cattle are completely devoid of either roughage or grain (Bath et al. 1985, NRC 1978). Therefore, based on professional judgment, the lower limits of the forage and grain diet fractions are estimated to be 30% and 7%, respectively, approximately a factor of two lower than the typical values. For nutritional reasons, grain does not generally exceed 50% of the total diet (Stallings 1995). The maximum forage diet fraction is estimated to be 92% by assuming all other diet components are at their minimum values. The maximum silage diet fraction is estimated to be 56% by assuming forage and grain are at their minimum values and soil is at its maximum value (assuming soil and forage ingestion are inversely related).

In summary, for dairy cattle, the diet fractions are assumed to range from 30 to 92% forage, 1 to 7% soil, 7 to 50% grain, and 0 to 56% silage. Because of the limited data availability, triangular distributions are assumed for the forage, grain, and soil diet fractions; the silage fraction is defined by a mass balance with the other three diet components. To account for the inverse relationship between soil and forage intake, a correlation coefficient of -0.9 between DF_{forage} and DF_{soil} is assumed.

b. Indirect exposure to arsenic:

- **Plant/soil bioconcentration factor (Br)**

  For arsenic, Baes et al. (1984) report the most likely values of the plant/soil bioconcentration factors for nonvegetative/reproductive portions of food crops and feed plants to be 0.006. Available plant and product elemental concentration data for arsenic (Baes et al. 1984, Shacklette et al. 1978, Vinogradov 1959) show values of Br ranging from approximately 0.002 to 0.78. Assuming this range the 95 percent confidence interval of a lognormal distribution, the GSD is estimated from equation (IX-16) to be 4.44, and the geometric mean is estimated from equation (IX-11) to be 0.002.

- **Beef biotransfer factor (Ba_{beef})**

  Baes et al. (1984) and Ng (1982) provided the only available estimates of the ingestion-to-beef biotransfer factor for arsenic of 0.002 day/kg, which is used for the most likely value for Ba_{beef}. The GSD of the arsenic biotransfer factors was not reported, however, GSDs for other elements

range from 1.3 to 3.8. Therefore, the GSD of Ba_{beef} for arsenic is conservatively estimated to be 3.8, which corresponds to a geometric mean of 8.2×10^{-4} and values for Ba_{beef} ranging from 5.7×10^{-5} to 0.012.

- **Wet deposition factor**

  At the point of maximum wet deposition, the most likely value of the maximum wet deposition factor is 0.22 $(g/m^2\text{-}yr)/(g/sec)$ (Chapter II of Volume IV). The actual peak values could range to as low as one tenth this value, or 0.022 $(g/m^2\text{-}yr)/(g/sec)$. For reasons discussed in Chapter IV of Volume IV, the wet deposition algorithm is likely to overestimate near-field wet removal rates and, therefore, wet deposition fluxes. This is due to the use of scavenging coefficients that implicitly include the effects of both below-cloud and in-cloud scavenging, whereas, near the stack, only below-cloud scavenging occurs under most conditions. To estimate an upper limit for this maximum wet deposition factor, the uncertainty in the ISC-COMPDEP model (factor of four) is used, which corresponds to an upper limit of 0.884 $(g/m^2\text{-}yr)/(g/sec)$. However, this is considered very conservative because the wet deposition algorithm is likely to have a bias toward overprediction of wet deposition fluxes in the near field, where the peak deposition is predicted to occur. Because no information is available regarding of the probability distribution of this parameter, a triangular distribution is assumed (Finley et al. 1994).

- **Soil/water distribution factor (Kd_s)**

  The most likely value for Kd_s for arsenic is 200 L/kg (Baes et al. 1984). This value of Kd_s is estimated by Baes et al. (1984) to be uncertain over three orders of magnitude, which corresponds to a GSD of 5.62. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated from equation (IX-11) to be 45 L/kg, ranging from 1.4 to 1,400 L/kg.

- **Emission rate**

  The most likely value for the emission rate of arsenic is 3.7×10^{-5} g/sec (Chapter III of Volume III). Observed variations in the system removal efficiencies (SRE) for arsenic were low, therefore the variation in the emission rate of arsenic will be primarily due to variability in the waste feed composition. As discussed in Appendix III-1, the waste feed

composition could vary by as much as an order of magnitude for metals. Therefore, the arsenic emission rate is assumed to vary over an order of magnitude, which corresponds to a GSD of 1.78. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated from equation (IX-11) to be 2.7×10^{-5} g/sec, ranging from 8.4×10^{-6} to 8.4×10^{-5} g/sec.

- **Beef intake rate (IR_{beef})**
  The same probability distribution for beef ingestion rates used for the 2,3,4,7,8-PeCDF uncertainty analysis is used.

- **Pork biotransfer factor (Ba_{pork})**
  Belcher and Travis (1989) provided the only available estimate of the ingestion-to-pork biotransfer factor for arsenic of 0.0037 day/kg, which is used for the most likely value for Ba_{pork}. Because the GSD of the arsenic biotransfer factors was not reported, the value of 3.8 used for the GSD of Ba_{beef} for arsenic is assumed, which corresponds to a geometric mean of 0.0015 and values for Ba_{pork} ranging from 1.1×10^{-4} to 0.022. Lognormal distributions have been used to represent biotransfer factors by CalEPA (1993), McKone and Ryan (1989), and Ng (1982).

- **Environmental half life on plant surfaces ($t_{1/2}$)**
  The most likely value for $t_{1/2}$ is assumed to be 14 days (U.S. EPA 1994b,c), which is the value used by the U.S. Nuclear Regulatory Commission (USNRC 1977). Miller and Hoffman (1983) analyzed 54 measurements of $t_{1/2}$ from 25 studies, covering various categories of depositing substances and vegetation growth forms. Values for these measurements range from 2.8 to 34 days, with a geometric mean of 10 days and a GSD of 1.7

- **Milk biotransfer factor (Ba_{milk})**
  Baes et al. (1984) and Ng (1982) provided the only available estimates of the ingestion-to-milk biotransfer factor for arsenic of 6.0×10^{-5} day/kg, which is used for the most likely value for Ba_{milk}. Because the GSD of the arsenic biotransfer factors was not reported, the value of 3.8 used for the GSD of Ba_{beef} for arsenic is assumed, which corresponds to a geometric mean of 2.5×10^{-5} and values for Ba_{milk} ranging from 1.7×10^{-6} to

3.6×10^{-4}. Lognormal distributions have been used to represent biotransfer factors by CalEPA (1993), McKone and Ryan (1989), and Ng (1982).

- **Chicken biotransfer factor ($Ba_{chicken}$)**
  Belcher and Travis (1989) provided the only available estimate of the ingestion-to-chicken biotransfer factor for arsenic of 0.2011 day/kg, which is used for the most likely value for $Ba_{chicken}$. Because the GSD of the arsenic biotransfer factors was not reported, the value of 3.8 used for the GSD of Ba_{beef} for arsenic is assumed, which corresponds to a geometric mean of 0.082 and values for $Ba_{chicken}$ ranging from 0.0057 to 1.2. Lognormal distributions have been used to represent biotransfer factors by CalEPA (1993), McKone and Ryan (1989), and Ng (1982).

- **Body weight (BW)**
  The same probability distribution for adult body weights used for the 2,3,4,7,8-PeCDF uncertainty analysis is used.

- **Pork intake rate (IR_{pork})**
  The site-specific most likely value for IR_{pork} is 34 g/day. This value and the cumulative distribution function were extrapolated from a 1987-88 USDA national food consumption survey (USDA 1993, 1982), as summarized in Chapter VI. Based on this survey, the upper and lower bounds of the 95 percent confidence interval for pork intake rates are 169 and 3 g/day, respectively. The ingestion rate of pork is expected to be related to body weight. To account for this relationship, a correlation coefficient between IR_{pork} and BW of 0.9 is assumed.

The most likely values and PDFs of the secondary influential parameters are summarized in Appendix V-21.

The fate and transport model is coupled with the software package *@RISK* (Palisade Corporation, Version 3.1), which is used to perform the propagation of the input parameter uncertainties through the model. A Latin hypercube sampling analysis is performed to estimate the uncertainties associated with the risk assessment of indirect exposure to 2,3,4,7,8-PeCDF and arsenic for adult subsistence farmers. The LHS model is iterated until it converges on a stable output distribution, defined as a change of less than 1.5% in the average percentile values, the mean of the distributions, and the standard deviations.

For indirect exposure to 2,3,4,7,8-PeCDF, the maximum point estimate of risk to adult subsistence farmers in subarea E1 is 1.9×10^{-6} (Chapter VIII), which is estimated to be at approximately the 60th percent confidence level of the derived probability distribution. The statistical parameters of this distribution are:

- Percent Confidence Levels:

5th	5.8×10^{-8}
10th	1.1×10^{-7}
25th	3.3×10^{-7}
50th	1.2×10^{-6}
75th	4.5×10^{-6}
90th	1.6×10^{-5}
95th	3.2×10^{-5}

Convergence to this output distribution occurred after 3,200 iterations.

For indirect exposure to arsenic, the maximum point estimate of risk to adult subsistence farmers in subarea E1 is 9.9×10^{-9}, which is estimated to be at approximately the 70th percent confidence level of the derived probability distribution. The statistical parameters of this distribution are:

- Percent Confidence Level:

5th	7.2×10^{-10}
10th	1.1×10^{-9}
25th	2.4×10^{-9}
50th	5.6×10^{-9}
75th	1.4×10^{-8}
90th	3.0×10^{-8}
95th	5.1×10^{-8}

Convergence to this output distribution occurred after 2,700 iterations.

To assess the potential impact of parameters not included in the variance propagation, the output distribution is recalculated for 2,3,4,7,8-PeCDF and arsenic using both the primary and secondary influential parameters. For the secondary parameters, uniform distributions are assumed, using the ranges specified in Table IX-1. The resulting output distributions for 2,3,4,7,8-PeCDF and arsenic risks do not differ significantly from the output distributions derived using only the primary input parameters. The 50 percent confidence levels do not differ by more than 3% for

2,3,4,7,8-PeCDF and 3% for arsenic; the 95 percent confidence levels do not differ by more than 7% for 2,3,4,7,8-PeCDF and 2% for arsenic. The location of the maximum point estimates of risk in the derived probability distributions is not affected by the secondary input parameters. Therefore, the parameters not included in the variance propagation are not expected to affect the output distributions by more than approximately 10%.

E. Major Assumptions and Limitations

The accuracy of this uncertainty analysis is dependent on several key assumptions. These assumptions must be taken into consideration when determining the validity and limitations of the results presented in this chapter. The major assumptions of the uncertainty analysis are summarized in Table IX-4.

F. Conclusions

A three-tiered approach to uncertainty analysis is applied to determine the impact of uncertainty and variability on the HHRA. The uncertainty analysis focuses on two of the chemicals and exposure pathways identified to pose the greatest carcinogenic health risks. The resulting probability distributions offer a means of estimating the degree of certainty that the risk will be below a particular level. Also, by understanding which input parameters have the greatest impact on the output variables, additional data gaps and research needs can be identified for improving the accuracy of risk assessments.

Based on the results of this uncertainty analysis, the 95th percent confidence level cancer risk estimate for indirect exposures to 2,3,4,7,8-PeCDF for the subsistence farmer subgroup in subarea E1 is approximately 3×10^{-5}. This value is about 15-fold higher than the point estimate of risk at the point of maximum impact (1.9×10^{-6}), as presented in Chapter VIII. Accordingly, based on available information and data regarding the key input parameters, there is only a small probability that cancer risks to 2,3,4,7,8-PeCDF through indirect exposure pathways for subsistence farmers in subarea E1 are greater than 3×10^{-5}. Given the contribution of 2,3,4,7,8-PeCDF to overall risks through all pathways, it can also be concluded that it is unlikely that the total cancer risk for subsistence farmers in subarea E1 for all chemicals combined would exceed 1×10^{-4}.

The sensitivity analysis for 2,3,4,7,8-PeCDF indicates that the parameters that have the greatest influence on the cancer risk estimate for this chemical are Henry's constant (H) and the octanol/water partition coefficient (K_{ow}). Both of these parameters are used for estimating the values of other parameters, such as the root concentration factor (RCF), soil/water distribution coefficient (Kd_s), and volumetric air-to-leaf biotransfer factor (B_{vol}), among others. The primary influence of H on the risk estimate is through the estimate of

B_{vol}, which is a key parameter for determining the vapor-phase uptake of 2,3,4,7,8-PeCDF into vegetation. K_{ow} is also a key parameter for estimating B_{vol}, as well as determining the bioaccumulation potential of 2,3,4,7,8-PeCDF in animal tissue. Therefore, the most effective approach to reducing the uncertainty in the risk estimate for 2,3,4,7,8-PeCDF would be to develop improved data for H and K_{ow}.

Similarly, for arsenic, the 95th percent confidence level cancer risk estimate for indirect exposures (5.1×10^{-8}) is calculated to be approximately 5-fold higher than the point estimate of risk at the point of maximum impact (9.9×10^{-9}), as presented in Chapter VIII. Based on the estimated 95th percent confidence level risk, it can be concluded that it is unlikely that indirect exposures to arsenic would contribute significantly to overall risks associated with stack emissions.

The sensitivity analysis for arsenic indicated that the parameters that have the greatest influence on the cancer risk estimate for this metal are the plant/soil bioconcentration factor (reproductive portion) (Br) and the beef biotransfer factor (Ba_{beef}). The location of maximum risk due to arsenic is the region of maximum wet deposition. Thus, Br, which determines the bioconcentration of arsenic in the reproductive portions of vegetation, and Ba_{beef}, which determines the subsequent biotransfer of arsenic into animal tissue, would be expected to have a major influence on the uncertainty in the risk estimate. Therefore, the most effective approach to reducing the uncertainty in the risk estimate for arsenic would be to develop improved data for Br and Ba_{beef}.

TABLE IX-1
Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis[a]

Input parameter		Typical Value	Range	Reference
Emissions and Atmospheric Transport				
emission rate (g/s)	2,3,4,7,8-PeCDF	4.7×10^{-10}	9.0×10^{-11} to 1.5×10^{-9}	Chapter III of Volume III
	arsenic	3.7×10^{-5}	9.8×10^{-6} to 9.8×10^{-5}	Chapter III of Volume III
dispersion factor, $(\mu g/m^3)/(g/s)$	2,3,4,7,8-PeCDF	0.914	0.23 to 3.66	Chapter V of Volume IV
	arsenic	0.0155	0.0039 to 0.062	Chapter V of Volume IV
dry deposition factor, $(g/m^2\text{-}yr)/(g/s)$	2,3,4,7,8-PeCDF	0.00515	0.00103 to 0.026	Chapter IV of Volume IV
	arsenic	0.00012	2.4×10^{-5} to 6.0×10^{-4}	Chapter IV of Volume IV
wet deposition factor, $(g/m^2\text{-}yr)/(g/s)$	2,3,4,7,8-PeCDF	0.0245	0.00245 to 0.098	Chapter IV of Volume IV
	arsenic	0.221	0.0221 to 0.884	Chapter IV of Volume IV
vapor/particle partition factor (ϕ)	2,3,4,7,8-PeCDF	0.61	0.0 to 0.71	Bidleman (1988); U.S. EPA (1994b,c)
	arsenic	1.0	1.0	Chapter V of Volume IV
wind speed (m/s)	u	4.1	1 to 10	Vreeland (1994)
air temperature (K)	T	293	265 to 301	USDA SCS (1968, 1974, 1981, 1982, 1983, 1989); USDOC (1993)
viscosity of air (g/cm-s)	μ_a	1.82×10^{-4}	1.68×10^{-4} to 1.86×10^{-4}	Perry and Green (1984)
density of air (g/cm^3)	ρ_a	1.20×10^{-3}	1.18×10^{-3} to 1.33×10^{-3}	Perry and Green (1984)
Soil Concentration				
soil bulk density (g/cm^3)	BD	1.31	1.10 to 1.55	USDA SCS (1982, 1983, 1989)

TABLE IX-1 (continued)
Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis[a]

Input parameter		Typical Value	Range	Reference
organic carbon fraction in soil	OC_{soil}	0.013	0.010 to 0.016	USDA SCS (1968, 1974, 1981, 1982, 1983, 1989)
average annual precipitation (cm/yr)	P	95	87 to 101	USDA SCS (1982, 1983, 1989)
average annual irrigation (cm/yr)	I	28	11 to 40	Jarrett (1994)
average annual runoff (cm/yr)	RO	25	12 to 38	Geraghty et al. (1973)
average annual evapotranspiration (cm/yr)	Ev	44	30 to 45	Geraghty et al. (1973)
soil volumetric water content (mL/cm^3)	θ_s	0.25	0.10 to 0.30	Seibert (1994); U.S. EPA (1993a)
enrichment ratio	E	3	1 to 5	U.S. EPA (1994b,c, 1993a)
erosivity factor	R	125	50 to 400	Moyer (1994); U.S. EPA (1994b,c, 1993a)
erodability factor (yr^{-1})	K	0.34	0.15 to 0.49	USDA SCS (1982, 1983, 1989)
slope length factor	LS	0.179	0.1 to 2.0	U.S. EPA (1994b,c, 1993a)
cover management factor	C	0.3	0.1 to 1.0	U.S. EPA (1994b,c, 1993a)
supporting practice factor	P_s	1.0	1.0	U.S. EPA (1994b,c, 1993a)
Constituent Concentrations in Meat, Eggs, and Milk				
soil bioavailability	Fs	0.65	0.5 to 0.8	U.S. EPA (1994b,c)
fraction of beef that is fat	fat_{beef}	0.23	0.12 to 0.35	Pennington (1989)
fraction of milk that is fat	fat_{milk}	0.02	0.002 to 0.04	U.S. EPA (1994b,c); Pennington (1989)

TABLE IX-1 (continued)
Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis[a]

Input parameter			Typical Value	Range	Reference
fraction of pork that is fat		fat_{pork}	0.23	0.05 to 0.35	Pennington (1989)
fraction of chicken that is fat		$fat_{chicken}$	0.058	0.015 to 0.12	Pennington (1989)
fraction of eggs that is fat		fat_{eggs}	0.08	0.05 to 0.11	CalEPA (1993); Pennington (1989); Goldman et al. (1989)
diet of beef cattle (kg DW/day)	grain	QP_{grain}	0.47	0 to 4.4	Fries and Paustenbach (1990); NRC (1984); Thorton and Abrams (1983); Ensminger (1976)
	forage	QP_{forage}	8.8	4.7 to 12.0	
	silage	QP_{silage}	2.5	0 to 6.8	
	soil	QP_{soil}	0.39	0.12 to 2.2	
diet fraction of beef cattle	grain	DF_{grain}	0.04	0 to 0.31	
	forage	DF_{forage}	0.72	0.33 to 0.99	
	silage	DF_{silage}	0.21	0 to 0.48	
	soil	DF_{soil}	0.03	0.01 to 0.15	
diet of dairy cattle (kg DW/day)	grain	QP_{grain}	2.6	0.85 to 7.6	Stallings (1995); Fries and Paustenbach (1990); Bath et al. (1985); Fries et al. (1982a); NRC (1978)
	forage	QP_{forage}	11.0	4.5 to 11.2	
	silage	QP_{silage}	3.3	0 to 8.5	
	soil	QP_{soil}	0.41	0.17 to 3.1	
diet fraction of dairy cattle	grain	DF_{grain}	0.15	0.07 to 0.50	
	forage	DF_{forage}	0.64	0.30 to 0.92	
	silage	DF_{silage}	0.19	0 to 0.56	
	soil	DF_{soil}	0.02	0.01 to 0.07	

TABLE IX-1 (continued)
Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis[a]

Input parameter			Typical Value	Range	Reference
diet of hogs (kg DW/day)	grain	QP_{grain}	3.0	1.5 to 3.4	U.S. EPA (1993a); Fries and Paustenbach (1990); NRC (1988); Fries et al. (1982b)
	silage	QP_{silage}	1.3	0.84 to 2.8	
	soil	QP_{soil}	0.34	0.086 to 0.34	
diet fraction of hogs	grain	DF_{grain}	0.65	0.33 to 0.78	
	silage	DF_{silage}	0.28	0.18 to 0.64	
	soil	DF_{soil}	0.07	0.02 to 0.07	
diet of chicken (kg DW/day)	grain	QP_{grain}	0.08	0.080 to 0.087	U.S. EPA (1993a)
	soil	QP_{soil}	0.0024	0.0 to 0.0024	
diet fraction of chicken	grain	DF_{grain}	0.97	0.97 to 1.00	
	soil	DF_{soil}	0.03	0.00 to 0.03	
Vegetation Concentration					
crop yield, above ground exposed vegetables (kg DW/m^2)		Yp_{AGexpo}	0.09	0.01 to 0.25	Belcher and Travis (1989)
crop yield, leafy vegetables (kg DW/m^2)		Yp_{leaf}	0.18	0.09 to 0.35	Belcher and Travis (1989)
crop yield, forage (kg DW/m^2)		Yp_{forage}	0.449	0.29 to 0.57	USDC (1993a,b,c)
crop yield, silage (kg DW/m^2)		Yp_{silage}	2.989	2.5 to 3.4	USDC (1993a,b,c)
fraction of wet deposition that adheres to plant surface		Fw	0.60 (organics) 0.46 (metals)	0.32 to 0.79 0.32 to 0.60	U.S. EPA (1995c); Hoffman et al. (1992)
length of exposure to deposition, exposed vegetables (yr)		Tp_{AGexpo}	0.226	0.123 to 0.329	PDA (1994)

TABLE IX-1 (continued) Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis[a]				
Input parameter		**Typical Value**	**Range**	**Reference**
length of exposure to deposition, leafy vegetables (yr)	Tp_{leaf}	0.288	0.247 to 0.329	PDA (1994)
length of exposure to deposition, forage (yr)	Tp_{forage}	0.315	0.27 to 0.36	PDA (1994)
length of exposure to deposition, silage (yr)	Tp_{silage}	0.082	0.042 to 0.122	PDA (1994)
environmental half life on plant surfaces (days)	$t_{1/2}$	14	2.8 to 34	Fries and Paustenbach (1990); Miller and Hoffman (1983)
Dose				
beef intake (g/day)	IR_{beef}	81	14 to 321	USDA (1993, 1982)
milk intake (g/day)	IR_{milk}	184	10 to 918	USDA (1993, 1982)
pork intake (g/day)	IR_{pork}	34	3 to 169	USDA (1993, 1982)
chicken intake (g/day)	$IR_{chicken}$	48	9 to 164	USDA (1993, 1982)
egg intake (g/day)	IR_{eggs}	22	4 to 77	USDA (1993, 1982)
above ground exposed vegetable intake (g/day)	IR_{AGexpo}	68	11 to 330	USDA (1993, 1982)
above ground protected vegetable intake (g/day)	IR_{AGprot}	33	5 to 160	USDA (1993, 1982)
leafy vegetable intake (g/day)	IR_{leaf}	27	4 to 130	USDA (1993, 1982)
root vegetable intake (g/day)	IR_{root}	78	12 to 380	USDA (1993, 1982)
exposed fruit intake (g/day)	IR_{Fexpo}	58	9 to 279	USDA (1993, 1982)
protected fruit intake (g/day)	IR_{Fprot}	79	12 to 386	USDA (1993, 1982)

TABLE IX-1 (continued)
Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis[a]

Input parameter		Typical Value	Range	Reference
soil intake (g/day)	IR_{soil}	0.063	0.025 to 0.100	LaGoy (1987)
body weight (kg)	BW	70	52 to 97	AIHC (1994); U.S. EPA (1990b)
Chemical-Specific Parameters: 2,3,4,7,8-PeCDF				
octanol/water partition coefficient	K_{ow}	8.3×10^{6}	4.2×10^{5} to 4.2×10^{7}	U.S. EPA (1994b,c); Sijm et al. (1989)
Henry's constant (atm-m^3/mol)	H	6.2×10^{-6}	8.0×10^{-7} to 2.4×10^{-5}	U.S. EPA (1994b,c)
animal tissue bioconcentration factor	BCF	3.1	0.73 to 5.7	U.S. EPA (1994b,c); McLachlan et al. (1990)
soil degradation (yr^{-1})	ksg	0.0693	0.0347 to 0.139	U.S. EPA (1994b,c)
diffusivity in air (cm^2/s)	D_a	0.05	0.023 to 0.10	U.S. EPA (1994b,c); Thibodeaux (1979)
Chemical-Specific Parameters: Arsenic				
soil/water distribution coefficient (L/kg)	Kd_s	200	6.3 to 6,300	U.S. EPA (1994b,c)
plant/soil bioconcentration factor	Bv (leafy)	0.04	0.013 to 0.12	Baes et al. (1984); Shacklette et al. (1978); Vinogradov (1959)
	Br (all others)	0.006	0.002 to 0.018	
root concentration factor	RCF	0.008	0.0025 to 0.025	U.S. EPA (1994a)
beef biotransfer factor (day/kg)	Ba_{beef}	0.002	0.0002 to 0.02	Baes et al. (1984); Ng (1982)
milk biotransfer factor (day/kg)	Ba_{milk}	6.0×10^{-5}	6.0×10^{-4} to 6.0×10^{-6}	Baes et al. (1984); Ng (1982)

TABLE IX-1 (continued)
Summary of Typical Values and Ranges of Input Parameters Evaluated in Sensitivity Analysis[a]

Input parameter		Typical Value	Range	Reference
pork biotransfer factor (day/kg)	Ba_{pork}	0.0037	0.00037 to 0.037	Belcher and Travis (1989)
chicken biotransfer factor (day/kg)	$Ba_{chicken}$	0.2011	0.0201 to 2.01	Belcher and Travis (1989)
eggs biotransfer factor (day/kg)	Ba_{eggs}	0.2615	0.0262 to 2.62	Belcher and Travis (1989)

Notes:
a Parameters that were calculated from correlations (e.g., K_{oc}, B_{vol}) were not included in this table.

TABLE IX-2
Summary of Sensitivity Analysis Results

Input Parameter[a]		Overall Model GSI	
		2,3,4,7,8-PeCDF	Arsenic
Emissions and Atmospheric Transport			
emission rate		**3.0**	**2.4**
dispersion factor		**3.7**	---
dry deposition factor		3.4×10^{-3}	1.6×10^{-3}
wet deposition factor		8.5×10^{-3}	**3.9**
vapor/particle partition factor	ϕ	**-1.8**	---
wind speed	u	1.8×10^{-2}	---
viscosity of air	μ_a	-7.3×10^{-4}	---
density of air	ρ_a	8.6×10^{-4}	---
Soil Concentration			
soil bulk density	BD	-4.9×10^{-3}	-5.6×10^{-2}
organic carbon fraction in soil	OC_{soil}	5.7×10^{-5}	---
average annual precipitation	P	-2.4×10^{-5}	-6.6×10^{-2}
average annual irrigation	I	-4.9×10^{-5}	-1.4×10^{-1}
average annual runoff	RO	0.0	0.0
average annual evapotranspiration	Ev	2.5×10^{-5}	6.0×10^{-2}
soil volumetric water content	Θ_s	1.8×10^{-9}	2.8×10^{-4}
enrichment ratio	E	-8.6×10^{-4}	-7.0×10^{-3}
erosivity factor	R	-1.7×10^{-3}	-1.4×10^{-2}
erodability factor	K	-6.5×10^{-4}	-5.3×10^{-3}
slope length factor	LS	-5.1×10^{-3}	-5.0×10^{-2}
cover management factor	C	-1.8×10^{-3}	-1.6×10^{-2}
Constituent Concentrations in Meat, Eggs, and Milk			
soil bioavailability	Fs	6.7×10^{-3}	---
fraction of beef that is fat	fat_{beef}	$\mathbf{5.2\times10^{-1}}$	---
fraction of milk that is fat	fat_{milk}	$\mathbf{7.9\times10^{-1}}$	---
fraction of pork that is fat	fat_{pork}	5.4×10^{-2}	---
fraction of chicken that is fat	$fat_{chicken}$	1.6×10^{-3}	---

TABLE IX-2 (continued)
Summary of Sensitivity Analysis Results

Input Parameter[a]		Overall Model GSI	
		2,3,4,7,8-PeCDF	Arsenic
fraction of eggs that is fat	fat_{eggs}	3.3×10^{-4}	---
diet of beef cattle	QP_{grain}	---	1.9×10^{-1}
	DF_{grain}	**-3.2×10^{-1}**	---
	QP_{forage}	---	-1.9×10^{-1}
	DF_{forage}	**3.2×10^{-1}**	---
	QP_{silage}	---	2.0×10^{-1}
	DF_{silage}	-2.4×10^{-1}	---
	QP_{soil}	---	1.9×10^{-1}
	DF_{soil}	**-3.2×10^{-1}**	---
diet of dairy cattle	QP_{grain}	---	3.5×10^{-2}
	DF_{grain}	**-3.1×10^{-1}**	---
	QP_{forage}	---	-3.5×10^{-2}
	DF_{forage}	**3.1×10^{-1}**	---
	QP_{silage}	---	3.7×10^{-2}
	DF_{silage}	-2.0×10^{-1}	---
	QP_{soil}	---	3.5×10^{-2}
	DF_{soil}	**-3.1×10^{-1}**	---
diet of hogs	QP_{grain}	---	-4.9×10^{-2}
	DF_{grain}	-5.5×10^{-2}	---
	QP_{forage}	---	-4.1×10^{-2}
	DF_{forage}	5.6×10^{-2}	---
	QP_{soil}	---	4.9×10^{-2}
	DF_{soil}	-5.6×10^{-2}	---
diet of chicken	QP_{grain}	---	-3.9×10^{-4}
	DF_{grain}	-1.3×10^{-3}	---
	QP_{soil}	---	6.1×10^{-2}
	DF_{soil}	1.3×10^{-3}	---

TABLE IX-2 (continued)
Summary of Sensitivity Analysis Results

Input Parameter[a]		Overall Model GSI	
		2,3,4,7,8-PeCDF	Arsenic
Vegetation Concentration			
crop yield, aboveground exposed vegetables	Yp_{AGexpo}	-9.6×10^{-8}	-2.8×10^{-4}
crop yield, leafy vegetables	Yp_{leaf}	-8.5×10^{-8}	-2.5×10^{-4}
crop yield, forage	Yp_{forage}	-2.0×10^{-3}	-1.2×10^{-1}
crop yield, silage	Yp_{silage}	-3.6×10^{-5}	-2.3×10^{-3}
fraction of wet deposition that adheres to a plant surface	Fw	1.4×10^{-5}	4.4×10^{-2}
length of exposure to deposition, exposed vegetables	Tp_{AGexpo}	2.7×10^{-6}	7.8×10^{-3}
length of exposure to deposition, leafy vegetables	Tp_{leaf}	6.9×10^{-8}	2.0×10^{-4}
length of exposure to deposition, forage	Tp_{forage}	3.7×10^{-5}	2.2×10^{-3}
length of exposure to deposition, silage	Tp_{silage}	7.3×10^{-5}	4.7×10^{-3}
environmental half life on plant surfaces	$t_{1/2}$	1.2×10^{-2}	**9.2×10^{-1}**
Dose			
beef intake	IR_{beef}	**2.0**	**1.7**
milk intake	IR_{milk}	**4.4×10^{-1}**	1.9×10^{-1}
pork intake	IR_{pork}	2.0×10^{-1}	**3.2×10^{-1}**
chicken intake	$IR_{chicken}$	2.2×10^{-3}	1.1×10^{-1}
egg intake	IR_{eggs}	1.4×10^{-3}	6.9×10^{-2}
above ground exposed vegetable intake	IR_{AGexpo}	4.4×10^{-3}	**3.1×10^{-1}**
above ground protected vegetable intake	IR_{AGprot}	2.9×10^{-5}	1.1×10^{-1}
leafy vegetable intake	IR_{leaf}	9.4×10^{-2}	**2.9×10^{-1}**
root vegetable intake	IR_{root}	7.8×10^{-5}	2.1×10^{-1}
exposed fruit intake	IR_{Fexpo}	3.7×10^{-3}	**2.6×10^{-1}**
protected fruit intake	IR_{Fprot}	7.0×10^{-5}	**2.6×10^{-1}**
soil intake	IR_{soil}	3.1×10^{-4}	1.1×10^{-1}
body weight	BW	**-6.3×10^{-1}**	**-6.3×10^{-1}**
Chemical-Specific Parameters			
octanol/water partition coefficient	K_{ow}	**5.2**	---

TABLE IX-2 (continued)
Summary of Sensitivity Analysis Results

Input Parameter[a]		Overall Model GSI	
		2,3,4,7,8-PeCDF	Arsenic
Henry's constant	H	**-7.3**	---
diffusivity in air	D_a	1.1×10^{-2}	---
animal tissue bioconcentration factors	BCF	**1.6**	---
plant/soil bioconcentration factor (vegetative)	Bv	---	7.2×10^{-2}
plant/soil bioconcentration factor (reproductive)	Br	---	**17**
root concentration factor	RCF	---	4.6×10^{-5}
beef biotransfer factor	Ba_{beef}	---	**6.6**
milk biotransfer factor	Ba_{milk}	---	$\mathbf{6.9\times10^{-1}}$
pork biotransfer factor	Ba_{pork}	---	$\mathbf{9.2\times10^{-1}}$
chicken biotransfer factor	$Ba_{chicken}$	---	$\mathbf{6.4\times10^{-1}}$
egg biotransfer factor	Ba_{eggs}	---	$\mathbf{3.0\times10^{-1}}$
soil degradation	ksg	-1.3×10^{-2}	---
soil/water distribution coefficient	Kd_s	---	**2.6**

Notes:
a Ranges and typical values of input parameters used for calculating GSI summarized in Table IX-1. Primary influential parameters with GSI values in bold were included in the variance propagation.

TABLE IX-3
Probability Distributions for Influential Parameters

Input Parameter		Probability Distribution	
		Type	Parameters[a]
Non-chemical specific parameters			
body weight	BW	lognormal	cumulative: 5%=52.3, 15%=57.6, 50%=68.7, 85%=84.4, 95%=97
fat fraction in beef	fat_{beef}	uniform	a=0.12, c=0.35
fat fraction in milk	fat_{milk}	uniform	a=0.002, c=0.037
intake rate of beef	IR_{beef}	lognormal	cumulative: 5%=27, 25%=52, 50%=81, 75%=138, 90%=203, 95%=251, 99%=364
intake rate of milk	IR_{milk}	lognormal	cumulative: 5%=20, 25%=87, 50%=184, 75%=333, 90%=552, 95%=712, 99%=1,042
intake rate of pork	IR_{pork}	lognormal	cumulative: 5%=5, 25%=14, 50%=34, 75%=61, 90%=95, 95%=127, 99%=195
diet of beef cattle	DF_{forage}	triangular	a=0.33, b=0.72, c=0.99
	DF_{grain}	triangular	a=0.0, b=0.04, c=0.31
	DF_{soil}	triangular	a=0.01, b=0.03, c=0.15
diet of dairy cattle	DF_{forage}	triangular	a=0.30, b=0.64, c=0.92
	DF_{grain}	triangular	a=0.07, b=0.15, c=0.50
	DF_{soil}	triangular	a=0.01, b=0.02, c=0.07
2,3,4,7,8-PeCDF			
emission rate		lognormal	cumulative: 5%=9×10^{-11}, 19%=1.3×10^{-10}, 34%=1.7×10^{-10}, 48%=2.7×10^{-10}, 59%=4×10^{-10}, 70%=5.3×10^{-10}, 88%=1.2×10^{-9}, 95%=1.5×10^{-9}
emission rate correction factor[b]		triangular	a=1.0, b=1.05, c=1.5
dispersion factor		lognormal	GM=0.72, GSD=2.0
vapor/particle partition factor	ϕ	triangular	a=0, b=0.61, c=0.71
octanol/water partition coefficient	K_{ow}	lognormal	GM=4.2×10^{6}, GSD=3.16
Henry's constant	H	lognormal	GM=4.4×10^{-6}, GSD=2.34
animal tissue bioconcentration factors	BCF	triangular	a=0.73, b=3.1, c=5.7

TABLE IX-3 (continued)
Probability Distributions for Influential Parameters

Input Parameter		Probability Distribution	
		Type	Parameters[a]
Arsenic			
emission rate		lognormal	GM=2.7×10^{-5}, GSD=1.78
wet deposition factor		triangular	a=0.0221, b=0.221, c=0.884
soil/water distribution factor	Kd_s	lognormal	GM=45, GSD=5.62
beef biotransfer factor	Ba_{beef}	lognormal	GM=8.2×10^{-4}, GSD=3.8
milk biotransfer factor	Ba_{milk}	lognormal	GM=2.5×10^{-5}, GSD=3.8
pork biotransfer factor	Ba_{pork}	lognormal	GM=0.0015, GSD=3.8
chicken biotransfer factor	$Ba_{chicken}$	lognormal	GM=0.082, GSD=3.8
egg biotransfer factor	Ba_{eggs}	lognormal	GM=0.11, GSD=3.8
plant/soil bioconcentration factor (reproductive portions)	Br	lognormal	GM=0.002, GSD=4.44
environmental half life	$t_{1/2}$	lognormal	GM=10, GSD=1.7

Notes:
a Lognormal distributions: GM=geometric mean, GSD=geometric standard deviation
Triangular distributions: a=minimum, b=most likely value, c=maximum
Uniform distributions: a=minimum, c=maximum
b Emission rate of 2,3,4,7,8-PeCDF prorated by this correction factor to account for the presence of unmeasured brominated furans.

TABLE IX-4
Key Assumptions for Chapter IX
(Uncertainty Analysis)

Assumption	Basis	Magnitude of Effect	Direction of Effect
The uncertainty analysis is performed for a population subgroup assumed to reside at the location of maximum impact to facility emissions.	Conservative assumption based on professional judgment.	high	overestimate
The uncertainty analysis is limited to two specific cases: the organic chemical and the metal estimated to pose the greatest carcinogenic health risks to the most highly exposed subgroup via indirect exposure pathways (i.e., indirect exposure to 2,3,4,7,8-PeCDF and arsenic by adult subsistence farmers in subarea E1). The analyses of these two cases are assumed to be representative of the overall uncertainty associated with the HHRA, and may serve as a basis for reasonable approximations of the uncertainty associated with the overall risk estimates.	In accordance with EPA guidance (U.S. EPA 1995a), a detailed quantitative uncertainty analysis is not performed for the *entire* HHRA; i.e., the uncertainty in the risk estimates for exposure to *every* chemical to *every* population subgroup through *every* exposure pathway at *every* location is not quantitatively assessed. As discussed in Chapter VIII, indirect exposure to 2,3,4,7,8-PeCDF represents approximately 32% of the total risk to subsistence farmers. Total dioxins and furans represent approximately 67% of the total risk. Based on these results, 2,3,4,7,8-PeCDF can be expected to be a reasonable indicator of the uncertainty in the total risk estimate.	low	unknown
For the specific cases evaluated in the uncertainty analysis, a variance propagation is performed using a limited subset of the input parameters (i.e., the "primary" influential parameters). The input parameters not selected in the sensitivity analysis were assumed to have a small impact on the results of the variance propagation.	The "primary" influential parameters are selected based on the results of a sensitivity analysis. This assumption is validated by repeating the variance propagation including an addition set of "secondary" influential parameters. The inclusion of the secondary input parameters does not change the output distributions by more than approximately 7%. Therefore, the exclusion from the variance propagation of all the input parameters that are not selected in the sensitivity analysis is not expected to change the output distributions by more than 10%.	low	underestimate

TABLE IX-4 (continued)
Key Assumptions for Chapter IX
(Uncertainty Analysis)

Assumption	Basis	Magnitude of Effect	Direction of Effect
The emissions data collected during the February 1994 trial burn and 22 performance test runs (August 1993 to August 1994) are assumed to represent the expected range of long term operating conditions and waste feeds from the WTI incinerator.	The performance tests were conducted using actual facility waste feeds and a wide range of operating conditions. Therefore, provided future waste feed compositions do not contain substantially greater quantities of any particular constituent, the emission rates are expected to be within the range used in this uncertainty analysis.	low	overestimate
Brominated compounds are assumed not to exceed one third of the chlorinated aromatics in the waste feed.	Based on a review of the waste profiles for WTI's first nine months of operation, quantities of brominated compounds in the waste feed are approximately one twentieth of the chlorinated compounds. Therefore, this is expected to be a conservative assumption, resulting in an overestimate of the quantity of halogenated compounds being emitted from the facility.	medium	overestimate
Lognormal distributions are assumed for most of the input parameters. In particular, parameters that are modeled in the variance propagation by lognormal distributions include intake rates, emission rates, dispersion factor, H, K_{ow}, Kd_s, Ba, Br, and $t_{1/2}$.	Based on published data for most of these parameters, this is considered to be a reasonable assumption, and has been adopted in several other uncertainty analyses (McKone 1994; CalEPA 1993; McKone and Ryan 1989).	low to medium	unknown

TABLE IX-4 (continued)
Key Assumptions for Chapter IX
(Uncertainty Analysis)

Assumption	Basis	Magnitude of Effect	Direction of Effect
Triangular distributions are assumed for input parameters with uncertain values and little measurement data. In particular, parameters that are modeled in the variance propagation by triangular distributions include farm animal diets, ϕ, *BCF*, and the wet deposition factor. Uniform distributions are assumed for input parameters for which a range is known and either no "most likely" value is known or the data are evenly distributed across the range. In particular, parameters that are modeled in the variance propagation by uniform distributions include fat fractions in beef and milk.	The use of triangular and uniform distributions are expected to be conservative assumptions.	low to medium	overestimate
For parameters assumed to follow lognormal distributions, the estimated or measured range of values for each parameter represents the 95 percent confidence interval.	Professional judgment is used to select conservative estimates for the upper and lower bounds that correspond to *at least* a 95 percent confidence interval.	low to medium	overestimate

X. SUMMARY AND CONCLUSIONS

This volume of the WTI Risk Assessment presents a site-specific, multipathway assessment of human risks posed by emissions from the WTI facility. The primary processes that generate chemical emissions at the facility include:

- The incineration process, where hazardous waste is combusted in a rotary kiln incinerator, and chemical constituents generated during combustion are released along with the flue gases from the incinerator stack; and

- The waste feed handling and storage process, where some of the volatile constituents present in the waste feed may be released into the atmosphere in the form of fugitive emissions.

As discussed in Volume III, emissions from the incinerator stack are estimated primarily by conducting stack measurements. Dioxins and furans are identified as the constituents of primary concern in stack emissions. Fugitive emission rates of volatile constituents in the waste feed are estimated using conservative assumptions and models that likely overstate emissions, and are based on the waste feed composition, as determined from an analysis of wastes received during WTI's first year of operation.

As discussed in Volume IV, the ISC-COMPDEP model is used to simulate the atmospheric transport of facility emissions, and to predict vapor concentrations and particle deposition in the vicinity of the site. The ISC-COMPDEP model was modified to incorporate local meteorological conditions that are influenced by the complex terrain in which the site is located. Chapter VI of this volume discusses the appropriate fate and transport models that are used to estimate concentrations in environmental media to which individuals in the site vicinity may be exposed. These media include air, soil, water, and food products such as vegetables and meat.

A study area for the risk assessment is defined to extend over a 12 kilometer (km) radius from the facility, which encompasses the area most affected by stack emissions. The study area is divided into 12 subareas, three subareas in each north, south, east and west direction. The boundaries of the subareas are defined by concentric rings surrounding the facility at radii of 3 km, 7 km, and 12 km.

Subgroups of the populations in the site vicinity are identified to adequately reflect exposures to the entire population within the study area. The population subgroups include adult and child residents and farmers, as well as subgroups such as subsistence farmers and school children that may be susceptible to higher exposures as a result of their particular activity patterns.

Risk to the identified subgroups are estimated by evaluating the potential for cancer risks and noncancer effects from exposure to facility-related chemicals. Population risks are also evaluated based on estimates of the number of individuals in each subgroup, taking into consideration the differing levels of exposure of the individual subgroups based on their particular activity patterns and locations with respect to the site.

The uncertainty associated with individual steps of the risk assessment process are combined in a Monte Carlo analysis, to provide estimates of the likely range of cancer risks for the most highly exposed subgroup, the subsistence farmer, and the probability of individual subsistence farmers experiencing risks at different levels within this risk range.

The following is a summary of the Human Health Risk Assessment results.

Stack Emissions

- Dioxins and furans are identified as the primary constituents of concern in stack emissions, based on the levels of measured emissions, the likely extent of accumulation in food, and the toxicity of this class of chemicals.

- The expected dioxin and furan emissions from the facility expressed as toxicity equivalents is estimated to be 1.3×10^{-9} g/s.

- Use of the air dispersion model, the ISC-COMPDEP model, is considered a reasonable means of predicting the off-site impacts of facility emissions with modifications made to the model to allow incorporation of meteorological data collected at multiple heights at the WTI facility and at another location within the Ohio River Valley approximately 10 miles away.

- Particle emissions consist of fine particles less than 10 micrometers (μm) in diameter, with 70 percent of the particles less than 1 μm in diameter. These emissions are not predicted to result in exceedances of the National Ambient Air Quality Standards (NAAQS).

- The air dispersion model predicts the highest impacts to occur within one kilometer of the facility, primarily in the east-west direction. Particle deposition as a result of precipitation scavenging (wet deposition) is predicted to be the principal deposition mechanism.

- The consumption of meat (beef, pork, and poultry) and eggs from locally raised livestock, and consumption of milk and dairy products (cheese, milk desserts, yogurt, cream, and butter) from locally raised cows are determined to be the principal pathways of exposure to WTI stack-related chemicals. In addition, consumption of mother's milk is a significant pathway of exposure for breast-feeding infants.

- The subsistence farmer and child are identified as the subgroups with the highest estimated risks.

Cancer Risks

- The estimated average total cancer risk (direct and indirect) for each of the population subgroups is less than 1×10^{-5}, or 1 in 100,000. The highest subarea cancer risk of 1×10^{-6} is estimated in subarea E1 (the nearest subarea to the east of the site) for the subsistence farmer. The estimated average cancer risk for the subsistence farmer child in subarea E1 is also 1×10^{-6}.

- The cancer risks for the adult and child farmer are estimated to be approximately 2 to 3-fold lower than the subsistence farmer adult and child. The cancer risks for the adult and child resident are estimated to be approximately 10-fold and 3-fold lower than the subsistence farmer adult and child, respectively.

- The compound 2,3,4,7,8-PeCDF (a chlorinated furan) is identified as the chemical primarily contributing to the estimated cancer risk for the indirect pathways, with the exception of breast milk ingestion. Approximately 38 percent of the risk to the subsistence farmer is accounted for by 2,3,4,7,8-PeCDF. Dioxins and furans account for approximately 76 percent of the estimated risk to the subsistence farmer.

- High-end (approximately 90 percentile) exposure for the subsistence farmer is estimated to provide a measure of the possible variation in behavioral characteristics (e.g., inhalation rates) of individuals in this subgroup. The high-end cancer risk to the subsistence farmer is 7×10^{-6} for this subgroup in subarea E1, more than five times higher than the average risk.

- To provide an estimate of the variability in exposures within a subarea due to differences in exposure concentrations with location within the subarea, an evaluation of the risk at the point of maximum impact within each subarea is estimated. In general, this risk is approximately three to four times higher than the average risk, i.e., a cancer risk of 4×10^{-6} is estimated for the subsistence farmer in subarea E1. The likelihood, however, of a subsistence farmer being located at the point of maximum impact is extremely small. The risks at the point of maximum impact, therefore, are hypothetical and presented for illustrative purposes only.

- An uncertainty analysis is performed for 2,3,4,7,8-PeCDF, which is the most significant contributor to the estimated cancer risk for the subsistence farmer subgroup at the point of maximum impact in subarea E1. Based on the results of this uncertainty analysis, there is an approximately 95 percent likelihood that the cancer risk estimate for indirect exposures to 2,3,4,7,8-PeCDF for a subsistence farmer in subarea E1 is below 3×10^{-5}. This value is about 15-fold higher than the point estimate of 2×10^{-6} for the subsistence farmer. Accordingly, based on available information and data regarding the key input parameters, there is only a small probability that cancer risks due to exposure to 2,3,4,7,8-PeCDF through indirect exposure pathways for subsistence farmers in subarea E1 are greater than 3×10^{-5}.

Noncancer Effects

- The estimated average noncancer hazard indices (HIs) are below 1.0 for all population subgroups. The total average noncancer HI values (direct plus indirect) estimated in subarea E1 for the subsistence farmer and the subsistence farmer child are 0.02 and 0.07, respectively.

- Similar to the cancer risk estimates, the noncancer HI values for the adult and child farmer are estimated to be lower than the subsistence farmer adult and

child, approximately 1 to 2-fold. The noncancer HI values for the adult and child resident are estimated to be also approximately 1 to 2-fold lower than the subsistence farmer adult and child.

- Hexachlorophene is estimated as the chemical primarily contributing to the estimated noncancer HI value. Approximately 38 percent of the estimated noncancer HI value for the subsistence farmer child is accounted for by this compound. Of the total estimated hexachlorophene HI value, meat and dairy ingestion account for almost the entire value (50 percent each).

- The estimated high-end HI value for the subsistence farmer child in subarea E1 is approximately one to two times the average HI value (i.e., the estimated high-end HI value for the child is 0.1 in subarea E1).

Other Subgroups

- The estimated average cancer risks for breast feeding infants of subsistence farmers in subarea E1 is 2×10^{-6}. The non-dioxin organic chemicals contribute approximately 66 percent of the total estimated risk with benzo(a)pyrene accounting for 37 percent of the total risk. Dioxins and furans account for approximately 34 percent of the total estimated risk.

- Extremely low cancer risks and noncancer HI values are estimated for subsistence fishermen fishing in the Ohio River and Little Beaver Creek, which is located in subarea N2. The maximum risk and HI value are estimated to be less than 6×10^{-8} and less than 4×10^{-3}, respectively. A noncancer HI value of 0.004 is estimated for the subsistence fisherman fishing Tomlinson Run Lake located in subarea S3.

Other Pollutants

- The predicted concentrations of priority pollutants such as sulfur dioxide, nitrogen oxides, hydrogen chloride, particles and lead are substantially below the National Ambient Air Quality Standards (NAAQS).

Fugitive Emissions

- The average cancer risks from inhalation exposure to organic vapor fugitive emissions for residents within a radius of 2,000 feet from the site is estimated to be in the range of 5×10^{-7} to 2×10^{-6}. These cancer risk estimates are based on very conservative (overstates actual) estimates of emissions from the identified sources of fugitive emissions, particularly the wastewater tank and leakages within from the organic waste feed tank building.

- The estimated noncancer HI values are similarly overstated and range between 0.01 and 0.07.

- Average inhalation cancer risks associated with fugitive ash emissions are estimated to be below 5×10^{-8}. HI values do not exceed 7×10^{-4}.

- Average indirect cancer risks associated with fugitive ash emissions are estimated to be below 4×10^{-11}. HI values for indirect exposure do not exceed 5×10^{-6}.

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APPENDIX V-1

Summary of Log K_{ow} Values

Summary of Log K_{ow} Values		
Substance	**Log K_{ow}**	**Source**
PICs and Residual Organic Compounds		
Acenaphthene	3.92	a
Acenaphthylene	4.07	b
Acetaldehyde	0.43	b
Acetone	-0.24	a
Acetophenone	1.64	a
Acrolein	-	c
Acrylonitrile	0.25	a
Anthracene	4.55	a
Benzaldehyde	-	c
Benzene	2.13	a
Benzoic acid	1.86	a
Benzotrichloride	2.92	b
Benzo(a)anthracene	5.70	a
Benzo(a)pyrene	6.11	a
Benzo(b)fluoranthene	6.20	a
Benzo(e)pyrene	-	c
Benzo(g,h,i)perylene	6.70	a
Benzo(j)fluoranthene	-	c
Benzo(k)fluoranthene	6.20	a
Benzyl chloride	-	c
Biphenyl	-	c
Bis(2-chloroethoxy)methane	1.26	b
Bis(2-chloroethyl)ether	1.21	a
Bis(2-chloroisopropyl)ether	2.58	a
Bis(2-ethylhexyl)phthalate	7.30	a
Bromochloromethane	-	c
Bromodichloromethane	2.10	a
Bromoethene	-	c
Bromoform	2.35	a
Bromomethane	1.19	a
Bromodiphenyl ether, p-	5.00	a
Butadiene, 1,3-	-	c
Butanone, 2- (MEK)	0.28	a
Butylbenzylphthalate	4.84	a

Summary of Log K_{ow} Values (continued)		
Substance	**Log K_{ow}**	**Source**
Carbon disulfide	2.00	a
Carbon tetrachloride	2.73	a
Chlordane	6.32	a
Chloro-3-methylphenol, 4-	3.10	b
Chloroacetophenone, 2-	-	c
Chloroaniline, p-	1.85	a
Chlorobenzene	2.86	a
Chlorobenzilate	4.38	a
Chloroethane	1.54	b
Chloroform	1.92	a
Chloromethane	0.91	a
Chloronaphthalene, beta	4.12	b
Chlorophenol, 2-	2.15	a
Chlorodiphenyl ether, 4-	4.95	a
Chloropropane, 2-	-	c
Chrysene	5.70	a
Cresol, m-	1.97	a
Cresol, o-	1.99	a
Cresol, p-	1.95	a
Crotonaldehyde	0.63	b
Cumene	3.58	a
D, 2,4-	2.70	a
DDE, 4,4'-	6.76	a
Dibenz(a,h)anthracene	6.69	a
Dibenz(a,h)fluoranthene	d	d
Dibromo-3-chloropropane, 1,2-	-	c
Dibromochloromethane	2.24	b
Dichloro-2-butene, cis-1,4-	-	c
Dichloro-2-butene, trans-1,4-	-	c
Dichlorobenzene, 1,2-	3.43	a
Dichlorobenzene, 1,3-	3.72	b
Dichlorobenzene, 1,4-	3.42	a
Dichlorobenzidine, 3,3'-	3.51	a
Dichlorobiphenyl	5.58	b
Dichlorodifluoromethane	2.16	a

Summary of Log K_{ow} Values (continued)		
Substance	**Log K_{ow}**	**Source**
Dichloroethane, 1,1-	1.79	a
Dichloroethane, 1,2-	1.47	a
Dichloroethene, 1,1-	2.13	a
Dichloroethene, trans-1,2-	2.07	a
Dichlorofluoromethane	-	c
Dichlorophenol, 2,4-	3.08	a
Dichloropropane, 1,2-	1.97	a
Dichloropropene[e], cis-1,3-	2.00	a
Dichloropropene[e], trans-1,3-	2.00	a
Diethylphthalate	2.50	a
Dimethoxybenzidine, 3,3'-	1.81	a
Dimethylphenol, 2,4-	2.36	a
Dimethylphthalate	1.57	a
Di-n-butylphthalate	4.61	a
Dinitrotoluene, 2,6-	1.87	a
Dinitro-2-methylphenol, 4,6-	2.85	b
Dinitrobenzene, 1,2-	-	c
Dinitrobenzene, 1,3-	-	c
Dinitrobenzene, 1,4-	-	c
Dinitrophenol, 2,4-	1.55	a
Dinitrotoluene, 2,4-	2.01	a
Dioxane, 1,4-	-0.39	a
Di(n)octylphthalate	8.06	a
Ethyl methacrylate	1.59	a
Ethylbenzene	3.14	a
Ethylene dibromide	1.75	a
Ethylene oxide	-0.22	b
Ethylene thiourea	-0.66	a
Fluoranthene	5.12	a
Fluorene	4.21	a
Formaldehyde	-0.05	a
Furfural	0.41	b
Heptachlor	6.26	a
Heptachlorobiphenyl	7.70	f
Hexachlorobenzene	5.89	a

Summary of Log K_{ow} Values (continued)		
Substance	**Log K_{ow}**	**Source**
Hexachlorobiphenyl	7.17	f
Hexachlorobutadiene	4.81	a
Hexachlorocyclohexane, alpha-	-	c
Hexachlorocyclohexane, beta-	-	c
Hexachlorocyclohexane, gamma- (Lindane)	3.73	a
Hexachlorocyclopentadiene	5.39	a
Hexachloroethane	4.00	a
Hexachlorophene	7.54	a
Hexane, n-	-	c
Hexanone, 2-	1.38	b
Hexanone, 3-	-	c
Indeno(1,2,3-cd)pyrene	6.65	a
Isophorone	1.70	a
Maleic hydrazide	-0.32	b
Methoxychlor	5.08	a
Methyl-tert-butyl ether	1.24	b
Methyl-2-pentanone, 4- (MIBK)	1.19	a
Methylene bromide	-	c
Methylene chloride	1.25	a
Methylnaphthalene, 2-	4.11	b
Monochlorobiphenyl	6.04	b
Naphthalene	3.36	a
Nitroaniline, 2-	1.85	b
Nitroaniline, 3-	1.37	b
Nitroaniline, 4-	1.39	b
Nitrobenzene	1.84	a
Nitrophenol, 2-	1.79	b
Nitrophenol, 4-	2.04	b
N-Nitroso-di-n-butylamine	2.41	a
N-Nitroso-di-n-propylamine	1.40	a
N-Nitrosodiphenylamine	3.16	a
Nonachlorobiphenyl	6.04	b
Octachlorobiphenyl	6.04	b
Pentachlorobenzene	5.26	a
Pentachlorobiphenyl	7.12	f

Summary of Log K_{ow} Values (continued)		
Substance	**Log K_{ow}**	**Source**
Pentachloronitrobenzene	4.64	a
Pentachlorophenol	5.09	a
Phenanthrene	4.55	a
Phenol	1.48	a
Phosgene	-	c
Propionaldehyde	-	c
Pyrene	5.11	a
Quinoline	-	c
Quinone	-	c
Safrole	2.66	a
Styrene	2.94	a
Tetrachlorobenzene, 1,2,4,5-	-	c
Tetrachlorobiphenyl	6.21	f
Tetrachloroethane, 1,1,1,2-	2.63	a
Tetrachloroethane, 1,1,2,2-	2.39	a
Tetrachloroethene	2.67	a
Tetrachlorophenol, 2,3,4,6-	4.10	b
Toluene	2.75	a
Toluidine, o-	-	c
Toluidine, p-	-	c
Trichloro-1,2,2-TFE, 1,1,2-	3.16	a
Trichlorobenzene, 1,2,4-	4.01	a
Trichlorobiphenyl	5.58	b
Trichloroethane, 1,1,1-	2.48	a
Trichloroethane, 1,1,2-	2.05	a
Trichloroethene	2.71	a
Trichlorofluoromethane	2.53	a
Trichlorophenol, 2,4,5-	3.90	a
Trichlorophenol, 2,4,6-	3.70	a
Trichloropropane, 1,2,3-	-	c
Vinyl acetate	0.73	a
Vinyl chloride	1.50	a
Xylene, m-	3.20	a
Xylene, o-	3.13	a
Xylene, p-	3.17	a

Summary of Log K_{ow} Values (continued)		
Substance	**Log K_{ow}**	**Source**
Dioxin and Furan Congeners		
2,3,7,8-TCDD	6.64	f
1,2,3,7,8-PeCDD	6.64	f
1,2,3,4,7,8-HxCDD	7.79	f
1,2,3,6,7,8-HxCDD	7.30	f
1,2,3,7,8,9-HxCDD	7.79	f
1,2,3,4,6,7,8-HpCDD	8.20	f
OCDD	7.59	f
2,3,7,8-TCDF	6.53	f
1,2,3,7,8-PeCDF	6.79	f
2,3,4,7,8-PeCDF	6.92	f
1,2,3,4,7,8-HxCDF	7.30	f
1,2,3,6,7,8-HxCDF	7.30	f
2,3,4,6,7,8-HxCDF	7.30	f
1,2,3,7,8,9-HxCDF	7.30	f
1,2,3,4,6,7,8-HpCDF	7.90	f
1,2,3,4,7,8,9-HpCDF	7.90	f
OCDF	8.80	f

Notes:

a - Recommended value in U.S. EPA 1995.

b - Maximum value from Howard 1993, Hazardous Substance Data Bank (HSDB), Montgomery and Welkom 1990, U.S. EPA 1990, and Verschueren 1983.

c - Log K_{ow} value not needed because an emission rate could not be estimated for this chemical.

d - A value could not be found for this chemical.

e - The isomer was not specified, so the value is assumed to apply to both forms.

f - U.S. EPA 1994.

MEK - methyl ethyl ketone

MIBK - methyl isobutyl ketone

TFE - trifluoroethane

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APPENDIX V-2

Physical/Chemical Parameter Values and Toxicity Values Used in Selection of Surrogate Organic Chemicals (Stack Emissions)

Table 1 Results of Stack Chemical Surrogate Selection

CHEMICAL	CAS Number	Average Emission Rate (g/s)	High-end Emission Rate (g/s)	source	SF	RfD	Kow	Average QCB Score	Average QNB Score	Chemical Retained? Cancer Effects	Chemical Retained? Non-cancer Effects
Acenaphthene	83-32-9	6.69E-06	6.69E-06	MRI estimate	NA	6.0E-02	8.32E+03	No SF	9.27E-01		
Acenaphthylene	208-96-8	6.69E-06	6.69E-06	MRI estimate	NA	6.0E-02	1.17E+04	No SF	1.31E+00		
Acetaldehyde	75-07-0	3.01E-04	3.01E-04	MRI estimate	NA	2.6E-03	2.69E+00	No SF	3.15E-01		
Acetone	67-64-1	2.90E-03	2.90E-03	MRI estimate	NA	1.0E-01	5.75E-01	No SF	1.67E-02		
Acetophenone	98-86-2	2.93E-04	2.93E-04	MRI estimate	NA	1.0E-01	4.37E+01	No SF	1.28E-01		
Acrylonitrile	107-13-1	2.02E-04	2.02E-04	MRI estimate	5.40E-01	5.7E-04	1.78E+00	1.94E-04	6.29E-01		
Anthracene	120-12-7	5.50E-06	1.10E-05	8/94 PIC test	NA	3.0E-01	3.55E+04	No SF	6.50E-01		
Benzene	71-43-2	1.47E-05	2.63E-05	8/94 PIC test	2.90E-02	NA	1.35E+02	5.76E-05	No RfD		
Benzoic acid	65-85-0	1.13E-05	1.13E-05	MRI estimate	NA	4.0E+00	7.24E+01	No SF	2.05E-04		
Benzotrichloride	98-07-7	3.20E-05	3.20E-05	MRI estimate	1.30E+01	NA	8.32E+02	3.46E-01	No RfD		
Benzo(a)anthracene	56-55-3	5.50E-06	1.10E-05	8/94 PIC test	7.30E-01	NA	5.01E+05	2.01E+00	No RfD		
Benzo(a)pyrene	**50-32-8**	**5.50E-06**	**1.10E-05**	**8/94 PIC test**	**7.30E+00**	**NA**	**1.29E+06**	**5.17E+01**	**No RfD**	**C**	
Benzo(b)fluoranthene	**205-99-2**	**5.50E-06**	**1.10E-05**	**8/94 PIC test**	**7.30E-01**	**NA**	**1.58E+06**	**6.36E+00**	**No RfD**	**C**	
Benzo(g,h,i)perylene	191-24-2	5.50E-06	1.10E-05	8/94 PIC test	NA	NA	5.01E+06	No SF	No RfD		
Benzo(k)fluoranthene	207-08-9	5.50E-06	1.10E-05	8/94 PIC test	7.30E-02	NA	1.58E+06	6.36E-01	No RfD		
Bis(2-chloroethoxy) methane	111-91-1	6.69E-06	6.69E-06	MRI estimate	NA	NA	1.82E+01	No SF	No RfD		
Bis(2-chloroethyl)ether	111-44-4	1.33E-05	1.33E-05	MRI estimate	1.10E+00	NA	1.62E+01	2.37E-04	No RfD		
Bis(2-chloroisopropyl)ether	108-60-1	6.69E-06	6.69E-06	MRI estimate	NA	4.0E-02	3.80E+02	No SF	6.36E-02		
Bis(2-ethylhexyl)phthalate	**117-81-7**	**3.72E-05**	**5.23E-05**	**8/94 PIC test**	**1.40E-02**	**2.0E-02**	**2.00E+07**	**1.04E+01**	**3.71E+04**	**C**	**NC**
Bromodichloromethane	75-27-4	1.03E-04	1.53E-04	8/94 PIC test	6.20E-02	2.0E-02	1.26E+02	8.05E-04	6.49E-01		
Bromoform	75-25-2	5.50E-06	1.10E-05	8/94 PIC test	7.90E-03	2.0E-02	2.24E+02	9.73E-06	6.16E-02		
Bromomethane	74-83-9	4.90E-04	9.80E-04	8/94 PIC test	NA	1.4E-03	1.55E+01	No SF	5.42E+00		
Bromophenyl phenylether	101-55-3	6.69E-06	6.69E-06	MRI estimate	NA	NA	1.00E+05	No SF	No RfD		
Butanone, 2- (Methyl ethyl ketone)	78-93-3	5.14E-05	7.40E-05	8/94 PIC test	NA	2.9E-01	1.91E+00	No SF	3.43E-04		
Butylbenzylphthalate	85-68-7	5.50E-06	1.10E-05	8/94 PIC test	NA	2.0E-01	6.92E+04	No SF	1.90E+00		
Carbon disulfide	75-15-0	8.91E-05	9.46E-05	8/94 PIC test	NA	2.9E-03	1.00E+02	No SF	3.12E+00		
Carbon tetrachloride	**56-23-5**	**1.58E-04**	**2.75E-04**	**8/94 PIC test**	**1.30E-01**	**7.0E-04**	**5.37E+02**	**1.11E-02**	**1.21E+02**		**NC**
Chlordane	57-74-9	5.50E-07	1.10E-06	8/94 PIC test	1.30E+00	6.0E-05	2.09E+06	1.49E+00	1.92E+04		
Chloro-3-methylphenol, 4-	59-50-7	6.69E-06	6.69E-06	MRI estimate	NA	NF	1.26E+03	No SF	No RfD		
Chloroaniline, p- (4-Chloroaniline)	106-47-8	6.69E-06	6.69E-06	MRI estimate	NA	4.0E-03	7.08E+01	No SF	1.18E-01		
Chlorobenzene	108-90-7	5.50E-06	1.10E-05	8/94 PIC test	NA	5.7E-03	7.24E+02	No SF	6.97E-01		
Chlorobenzilate	510-15-6	3.68E-05	3.68E-05	MRI estimate	2.70E-01	2.0E-02	2.40E+04	2.38E-01	4.41E+01		
Chloroethane (Ethyl chloride)	75-00-3	4.90E-04	9.80E-04	8/94 PIC test	NA	2.9E+00	3.47E+01	No SF	5.95E-03		
Chloroform	67-66-3	2.66E-04	4.07E-04	8/94 PIC test	8.10E-02	1.0E-02	8.32E+01	1.79E-03	2.21E+00		
Chloromethane	74-87-3	2.45E-04	4.90E-04	8/94 PIC test	1.30E-02	NA	8.13E+00	2.59E-05	No RfD		
Chloronaphthalene, 2-	91-58-7	6.69E-06	6.69E-06	MRI estimate	NA	8.0E-02	1.32E+04	No SF	1.10E+00		
Chlorophenol, 2-	95-57-8	5.50E-06	1.10E-05	8/94 PIC test	NA	5.0E-03	1.41E+02	No SF	1.55E-01		
Chlorophenyl-phenyl ether, 4-	7005-72-3	6.69E-06	6.69E-06	MRI estimate	NA	NF	8.91E+04	No SF	No RfD		
Chrysene	218-01-9	5.50E-06	1.10E-05	8/94 PIC test	7.30E-03	NA	5.01E+05	2.01E-02	No RfD		
Cresol, m-	108-39-4	5.50E-06	1.10E-05	8/94 PIC test	NA	5.0E-02	9.33E+01	No SF	1.03E-02		
Cresol, o- (2-Methylphenol)	95-48-7	5.50E-06	1.10E-05	8/94 PIC test	NA	5.0E-02	9.77E+01	No SF	1.07E-02		
Cresol, p-	106-44-5	5.50E-06	1.10E-05	8/94 PIC test	NA	5.0E-03	8.91E+01	No SF	9.80E-02		
Crotonaldehyde	4170-30-3	1.39E-04	1.39E-04	MRI estimate	1.90E+00	NA	4.27E+00	1.13E-03	No RfD		
Cumene	98-82-8	5.50E-06	1.10E-05	8/94 PIC test	NA	2.6E-03	3.80E+03	No SF	8.13E+00		
DDE, 4,4'-	72-55-9	5.50E-07	1.10E-06	8/94 PIC test	3.40E-01	NA	5.75E+06	1.08E+00	No RfD		

Table 1 Results of Stack Chemical Surrogate Selection

CHEMICAL	CAS Number	Average Emission Rate (g/s)	High-end Emission Rate (g/s)	source	SF	RfD	Kow	Average QCB Score	Average QNB Score	Chemical Retained? Cancer Effects	Chemical Retained? Non-cancer Effects
Dibenz(a,h)anthracene	**53-70-3**	**5.50E-06**	**1.10E-05**	**8/94 PIC test**	**7.30E+00**	**NA**	**4.90E+06**	**1.97E+02**	**No RfD**	**C**	
Dibromochloromethane	124-48-1	2.63E-05	2.63E-05	MRI estimate	8.40E-02	2.0E-02	1.74E+02	3.84E-04	2.29E-01		
Dichlorobenzene, 1,2-	95-50-1	5.50E-06	1.10E-05	8/94 PIC test	NA	5.7E-02	2.69E+03	No SF	2.59E-01		
Dichlorobenzene, 1,3-	541-73-1	5.50E-06	1.10E-05	8/94 PIC test	NA	NA	5.25E+03	No SF	No RfD		
Dichlorobenzene, 1,4-	106-46-7	5.50E-06	1.10E-05	8/94 PIC test	2.40E-02	2.3E-01	2.63E+03	3.47E-04	6.33E-02		
Dichlorobenzidine, 3,3'-	91-94-1	3.33E-05	3.33E-05	MRI estimate	4.50E-01	NA	3.24E+03	4.85E-02	No RfD		
Dichlorodifluoromethane	75-71-8	2.45E-04	4.90E-04	8/94 PIC test	NA	5.7E-02	1.45E+02	No SF	6.20E-01		
Dichloroethane, 1,1- (Ethylidene dichloride)	75-34-3	1.25E-05	2.50E-05	8/94 PIC test	NA	1.0E-01	6.17E+01	No SF	7.71E-03		
Dichloroethane, 1,2-	107-06-2	1.25E-05	2.50E-05	8/94 PIC test	9.10E-02	NA	2.95E+01	3.36E-05	No RfD		
Dichloroethene, 1,1- (Vinylidine chloride)	75-35-4	1.25E-05	2.50E-05	8/94 PIC test	1.20E+00	9.0E-03	1.35E+02	2.02E-03	1.87E-01		
Dichloroethylene (trans), 1,2-	156-60-5	1.25E-05	2.50E-05	8/94 PIC test	NA	2.0E-02	1.17E+02	No SF	7.34E-02		
Dichlorophenol, 2,4-	120-83-2	5.50E-06	1.10E-05	8/94 PIC test	NA	3.0E-03	1.20E+03	No SF	2.20E+00		
Dichloropropane, 1,2- (Propylene dichloride)	78-87-5	1.25E-05	2.50E-05	8/94 PIC test	6.80E-02	1.1E-03	9.33E+01	7.93E-05	1.02E+00		
Dichloropropene (cis), 1,3-	542-75-6	1.25E-05	2.50E-05	8/94 PIC test	1.80E-01	3.0E-04	1.00E+02	2.25E-04	4.17E+00		
Dichloropropene (trans), 1,3-	10061-02-6	1.25E-05	2.50E-05	8/94 PIC test	1.80E-01	3.0E-04	1.00E+02	2.25E-04	4.17E+00		
Diethylphthalate	84-66-2	1.69E-05	3.60E-05	8/94 PIC test	NA	8.0E-01	3.16E+02	No SF	6.66E-03		
Dimethoxybenzidine, 3,3'-	119-90-4	1.15E-04	1.15E-04	MRI estimate	1.40E-02	NA	6.46E+01	1.04E-04	No RfD		
Dimethylphenol, 2,4-	105-67-9	5.50E-06	1.10E-05	8/94 PIC test	NA	2.0E-02	2.29E+02	No SF	6.30E-02		
Dimethylphthalate	131-11-3	5.50E-06	1.10E-05	8/94 PIC test	NA	NA	3.72E+01	No SF	No RfD		
Di-n-Butylphthalate	84-74-2	1.57E-05	2.04E-05	8/94 PIC test	NA	1.0E-01	4.07E+04	No SF	6.38E+00		
Dinitritoluene, 2,6-	606-20-2	5.50E-06	1.10E-05	8/94 PIC test	6.80E-01	1.0E-03	7.41E+01	2.77E-04	4.08E-01		
Dinitro-2-methylphenol, 4,6-	534-52-1	5.50E-06	1.10E-05	8/94 PIC test	NA	NF	7.08E+02	No SF	No RfD		
Dinitrophenol, 2,4-	51-28-5	5.50E-06	1.10E-05	8/94 PIC test	NA	2.0E-03	3.55E+01	No SF	9.76E-02		
Dinitrotoluene, 2,4-	121-14-2	5.50E-06	1.10E-05	8/94 PIC test	6.80E-01	2.0E-03	1.02E+02	3.83E-04	2.81E-01		
Dioxane, 1,4-	123-91-1	4.94E-04	4.94E-04	MRI estimate	1.10E-02	NA	4.07E-01	2.21E-06	No RfD		
Di(n)octyl phthalate	**117-84-0**	**5.50E-06**	**1.10E-05**	**8/94 PIC test**	**NA**	**2.0E-02**	**1.15E+08**	**No SF**	**3.16E+04**		**NC**
D, 2,4-	94-75-7	3.88E-05	3.88E-05	MRI estimate	NA	1.0E-02	5.01E+02	No SF	1.94E+00		
Ethyl methacrylate	97-63-2	2.45E-04	4.90E-04	8/94 PIC test	NA	9.0E-02	3.89E+01	No SF	1.06E-01		
Ethylbenzene	100-41-4	4.98E-04	7.53E-04	8/94 PIC test	NA	1.0E-01	1.38E+03	No SF	6.88E+00		
Ethylene dibromide	106-93-4	1.15E-04	1.15E-04	MRI estimate	8.50E+01	5.7E-05	5.62E+01	5.50E-01	1.13E+02		
Ethylene oxide	75-21-8	3.05E-05	3.05E-05	MRI estimate	1.02E+00	NA	6.03E-01	1.87E-05	No RfD		
Ethylene thiourea	96-45-7	1.46E-10	1.46E-10	MRI estimate	1.10E-01	8.0E-05	2.19E-01	3.51E-12	3.99E-07		
Fluoranthene	206-44-0	5.50E-06	1.10E-05	8/94 PIC test	NA	4.0E-02	1.32E+05	No SF	1.81E+01		
Fluorene	86-73-7	6.69E-06	6.69E-06	MRI estimate	NA	4.0E-02	1.62E+04	No SF	2.71E+00		
Formaldehyde	50-00-0	6.07E-04	6.07E-04	MRI estimate	4.50E-02	2.0E-01	8.91E-01	2.43E-05	2.70E-03		
Furfural	98-01-1	5.50E-06	1.10E-05	8/94 PIC test	NA	3.0E-03	2.57E+00	No SF	4.71E-03		
Heptachlor	**76-44-8**	**5.50E-07**	**1.10E-06**	**8/94 PIC test**	**4.50E+00**	**5.0E-04**	**1.82E+06**	**4.50E+00**	**2.00E+03**	**C**	
Hexachlorobenzene	**118-74-1**	**5.50E-06**	**1.10E-05**	**8/94 PIC test**	**1.60E+00**	**8.0E-04**	**7.76E+05**	**6.83E+00**	**5.34E+03**	**C**	
Hexachlorobutadiene	**87-68-3**	**1.01E-04**	**1.01E-04**	**MRI estimate**	**7.80E-02**	**2.0E-04**	**6.46E+04**	**5.09E-01**	**3.26E+04**		**NC**
Hexachlorocyclohexane, g- (Lindane)	58-89-9	5.48E-05	5.48E-05	MRI estimate	1.30E+00	3.0E-04	5.37E+03	3.83E-01	9.81E+02		
Hexachlorocyclopentadiene	**77-47-4**	**5.50E-06**	**1.10E-05**	**8/94 PIC test**	**NA**	**2.0E-05**	**2.45E+05**	**No SF**	**6.75E+04**		**NC**
Hexachloroethane	67-72-1	5.50E-06	1.10E-05	8/94 PIC test	1.40E-02	1.0E-03	1.00E+04	7.70E-04	5.50E+01		
Hexachlorophene	**70-30-4**	**3.20E-05**	**3.20E-05**	**MRI estimate**	**NA**	**3.0E-04**	**3.47E+07**	**No SF**	**3.70E+06**		**NC**
Hexanone, 2-	591-78-6	6.43E-05	6.43E-05	MRI estimate	NA	NF	2.40E+01	No SF	No RfD		
Indeno(1,2,3-cd)pyrene	**193-39-5**	**5.50E-06**	**1.10E-05**	**8/94 PIC test**	**7.30E-01**	**NA**	**4.47E+06**	**1.79E+01**	**No RfD**	**C**	

Table 1 Results of Stack Chemical Surrogate Selection

CHEMICAL	CAS Number	Average Emission Rate (g/s)	High-end Emission Rate (g/s)	source	SF	RfD	Kow	Average QCB Score	Average QNB Score	Chemical Retained? Cancer Effects	Chemical Retained? Non-cancer Effects
Isophorone	78-59-1	6.69E-06	6.69E-06	MRI estimate	9.50E-04	2.0E-01	5.01E+01	3.19E-07	1.68E-03		
Maleic hydrazide	123-33-1	1.15E-04	1.15E-04	MRI estimate	NA	5.0E-01	4.79E-01	No SF	1.10E-04		
Methoxychlor	72-43-5	5.50E-07	1.10E-06	8/94 PIC test	NA	5.0E-03	1.20E+05	No SF	1.32E+01		
Methyl t-butyl ether	1634-04-4	1.25E-05	2.50E-05	8/94 PIC test	NA	8.6E-01	1.74E+01	No SF	2.53E-04		
Methyl-2-Pentanone, 4- (MIBK)	108-10-1	1.25E-05	2.50E-05	8/94 PIC test	NA	NF	1.55E+01	No SF	No RfD		
Methylene chloride	75-09-2	3.96E-04	6.19E-04	8/94 PIC test	7.50E-03	6.0E-02	1.78E+01	5.28E-05	1.17E-01		
Methylnaphthalene, 2-	91-57-6	4.18E-05	4.18E-05	MRI estimate	NA	NF	1.29E+04	No SF	No RfD		
Naphthalene	91-20-3	5.50E-06	1.10E-05	8/94 PIC test	NA	NA	2.29E+03	No SF	No RfD		
Nitroaniline, 2-	88-74-4	6.69E-06	6.69E-06	MRI estimate	NA	5.7E-05	7.08E+01	No SF	8.29E+00		
Nitroaniline, 3-	99-09-2	6.69E-06	6 69E-06	MRI estimate	NA	NF	2.34E+01	No SF	No RfD		
Nitroaniline, 4-	100-01-6	6.69E-06	6.69E-06	MRI estimate	NA	NF	2.45E+01	No SF	No RfD		
Nitrobenzene	98-95-3	5.50E-06	1.10E-05	8/94 PIC test	NA	5.0E-04	6.92E+01	No SF	7.61E-01		
Nitrophenol, 2-	88-75-5	6.69E-06	6.69E-06	MRI estimate	NA	NF	6.17E+01	No SF	No RfD		
Nitrophenol, 4-	100-02-7	5.50E-06	1.10E-05	8/94 PIC test	NA	NF	1.10E+02	No SF	No RfD		
N-Nitroso-di-n-butylamine	924-16-3	1.21E-04	1.21E-04	MRI estimate	5.40E+00	NA	2.57E+02	1.68E-01	No RfD		
N-Nitroso-di-n-propylamine	621-64-7	6.69E-06	6.69E-06	MRI estimate	7.00E+00	NA	2.51E+01	1.18E-03	No RfD		
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	6.69E-06	6.69E-06	MRI estimate	4.90E-03	NA	1.45E+03	4.74E-05	No RfD		
Pentachlorobenzene	608-93-5	4.76E-05	4.76E-05	MRI estimate	NA	NA	1.82E+05	No SF	No RfD		
Pentachloronitrobenzene	82-68-8	3.37E-05	3.37E-05	MRI estimate	2.60E-01	3.0E-03	4.37E+04	3.82E-01	4.90E+02		
Pentachlorophenol	87-86-5	5.50E-06	1.10E-05	8/94 PIC test	1.20E-01	3.0E-02	1.23E+05	8.12E-02	2.26E+01		
Phenanthrene	85-01-8	6.69E-06	6.69E-06	MRI estimate	NA	NA	3.55E+04	No SF	No RfD		
Phenol	108-95-2	5.50E-06	1.10E-05	8/94 PIC test	NA	6.0E-01	3.02E+01	No SF	2.77E-04		
Pyrene	129-00-0	5.50E-06	1.10E-05	8/94 PIC test	NA	3.0E-02	1.29E+05	No SF	2.36E+01		
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	94-59-7	1.15E-04	1.15E-04	MRI estimate	NA	NF	4.57E+02	No SF	No RfD		
Styrene	100-42-5	2.25E-05	4.04E-05	8/94 PIC test	NA	2.0E-01	8.71E+02	No SF	9.80E-02		
Tetrachloroethane, 1,1,1,2-	630-20-6	5.50E-06	1.10E-05	8/94 PIC test	2.60E-02	3.0E-02	4.27E+02	6.10E-05	7.82E-02		
Tetrachloroethane, 1,1,2,2-	79-34-5	5.50E-06	1.10E-05	8/94 PIC test	2.00E-01	NA	2.45E+02	2.70E-04	No RfD		
Tetrachloroethene	127-18-4	5.13E-05	8.02E-05	8/94 PIC test	5.20E-02	1.0E-02	4.68E+02	1.25E-03	2.40E+00		
Tetrachlorophenol, 2,3,4,6-	58-90-2	6.80E-06	6.80E-06	MRI estimate	NA	3.0E-02	1.26E+04	No SF	2.85E+00		
Toluene	108-88-3	6.13E-04	1.03E-03	8/94 PIC test	NA	1.1E-01	5.62E+02	No SF	3.01E+00		
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	3.30E-04	3.30E-04	MRI estimate	NA	8.6E+00	1.45E+03	No SF	5.56E-02		
Trichlorobenzene, 1,2,4-	120-82-1	5.50E-06	1.10E-05	8/94 PIC test	NA	1.0E-02	1.02E+04	No SF	5.63E+00		
Trichloroethane, 1,1,1- (Methyl chloroform)	71-55-6	1.25E-05	2.50E-05	8/94 PIC test	NA	NA	3.02E+02	No SF	No RfD		
Trichloroethane, 1,1,2-	79-00-5	1.25E-05	2.50E-05	8/94 PIC test	5.70E-02	4.0E-03	1.12E+02	7.99E-05	3.51E-01		
Trichloroethene	79-01-6	1.86E-05	3.09E-05	8/94 PIC test	1.10E-02	NA	5.13E+02	1.05E-04	No RfD		
Trichlorofluoromethane	75-69-4	2.45E-04	4.90E-04	8/94 PIC test	NA	2.0E-01	3.39E+02	No SF	4.15E-01		
Trichlorophenol, 2,4,5-	95-95-4	5.50E-06	1.10E-05	8/94 PIC test	NA	1.0E-01	7.94E+03	No SF	4.37E-01		
Trichlorophenol, 2,4,6-	88-06-2	5.50E-06	1.10E-05	8/94 PIC test	1.10E-02	NA	5.01E+03	3.03E-04	No RfD		
Vinyl acetate	108-05-4	6.43E-05	6.43E-05	MRI estimate	NA	5.7E-02	5.37E+00	No SF	6.04E-03		
Vinyl chloride	75-01-4	2.45E-04	4.90E-04	8/94 PIC test	1.90E+00	NA	3.16E+01	1.47E-02	No RfD		
Xylene, m- (m-Dimethyl benzene)	108-38-3	3.80E-04	5.64E-04	8/94 PIC test	NA	2.0E+00	1.58E+03	No SF	3.01E-01		
Xylene, o- (o-Dimethyl benzene)	95-47-6	5.50E-06	1.10E-05	8/94 PIC test	NA	2.0E+00	1.35E+03	No SF	3.71E-03		
Xylene, p- (p-Dimethyl benzene)	106-42-3	3.80E-04	5.64E-04	8/94 PIC test	NA	NA	1.48E+03	No SF	No RfD		
Monochlorobiphenyl	NA	1.67E-08	2.99E-08	8/94 PIC test	7.70E+00	NA	1.10E+06	1.41E-01	No RfD		
Dichlorobiphenyl	NA	4.68E-08	8.22E-08	8/94 PIC test	7.70E+00	NA	3.80E+05	1.37E-01	No RfD		

Table 1 Results of Stack Chemical Surrogate Selection

CHEMICAL	CAS Number	Average Emission Rate (g/s)	High-end Emission Rate (g/s)	source	SF	RfD	Kow	Average QCB Score	Average QNB Score	Chemical Retained? Cancer Effects	Non-cancer Effects
Trichlorobiphenyl	NA	3.02E-08	5.80E-08	8/94 PIC test	7.70E+00	NA	3.80E+05	8.85E-02	No RfD		
Tetrachlorobiphenyl	**NA**	**1.40E-08**	**2.80E-08**	**8/94 PIC test**	**7.70E+00**	**NA**	**1.62E+06**	**1.75E-01**	**No RfD**	**C**	
Pentachlorobiphenyl	NA	1.40E-08	2.80E-08	8/94 PIC test	7.70E+00	NA	1.32E+07	1.42E+00	No RfD		
Hexachlorobiphenyl	**NA**	**1.40E-08**	**2.80E-08**	**8/94 PIC test**	**7.70E+00**	**NA**	**1.48E+07**	**1.59E+00**	**No RfD**	**C**	
Heptachlorobiphenyl	**NA**	**1.40E-08**	**2.80E-08**	**8/94 PIC test**	**7.70E+00**	**NA**	**5.01E+07**	**5.40E+00**	**No RfD**	**C**	
Octachlorobiphenyl	NA	1.40E-08	2.80E-08	8/94 PIC test	7.70E+00	NA	1.10E+06	1.18E-01	No RfD		
Nonachlorobiphenyl	NA	1.40E-08	2.80E-08	8/94 PIC test	7.70E+00	NA	1.10E+06	1.18E-01	No RfD		
2,3,7,8-TCDD	**1746-01-6**	**1.08E-11**	**2.16E-11**	**26 post-ECIS runs**	**1.50E+05**	**NA**	**4.37E+06**	**7.07E+00**	**No RfD**	**C**	
1,2,3,7,8-PeCDD	**40321-76-4**	**6.78E-11**	**9.46E-11**	**26 post-ECIS runs**	**7.50E+04**	**NA**	**4.37E+06**	**2.22E+01**	**No RfD**	**C**	
1,2,3,4,7,8-HxCDD	**39227-28-6**	**8.95E-11**	**1.25E-10**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**6.17E+07**	**8.28E+01**	**No RfD**	**C**	
1,2,3,6,7,8-HxCDD	**57653-85-7**	**1.66E-10**	**2.18E-10**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**2.00E+07**	**4.96E+01**	**No RfD**	**C**	
1,2,3,7,8,9-HxCDD	**19408-74-3**	**1.09E-10**	**1.55E-10**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**6.17E+07**	**1.01E+02**	**No RfD**	**C**	
1,2,3,4,6,7,8-HpCDD	**35822-46-9**	**1.24E-09**	**1.69E-09**	**26 post-ECIS runs**	**1.50E+03**	**NA**	**1.58E+08**	**2.95E+02**	**No RfD**	**C**	
OCDD	**3268-87-9**	**6.15E-09**	**9.80E-09**	**26 post-ECIS runs**	**1.50E+02**	**NA**	**3.89E+07**	**3.59E+01**	**No RfD**	**C**	
2,3,7,8-TCDF	**51207-31-9**	**8.77E-11**	**1.15E-10**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**3.39E+06**	**4.46E+00**	**No RfD**	**C**	
1,2,3,7,8-PeCDF	**57117-41-6**	**3.45E-10**	**4.35E-10**	**26 post-ECIS runs**	**7.50E+03**	**NA**	**6.17E+06**	**1.59E+01**	**No RfD**	**C**	
2,3,4,7,8-PeCDF	**57117-31-4**	**4.67E-10**	**6.04E-10**	**26 post-ECIS runs**	**7.50E+04**	**NA**	**8.32E+06**	**2.91E+02**	**No RfD**	**C**	
1,2,3,4,7,8-HxCDF	**70648-26-9**	**1.43E-09**	**1.85E-09**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**2.00E+07**	**4.27E+02**	**No RfD**	**C**	
1,2,3,6,7,8-HxCDF	**57117-44-9**	**1.33E-09**	**1.71E-09**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**2.00E+07**	**4.00E+02**	**No RfD**	**C**	
2,3,4,6,7,8-HxCDF	**60851-34-5**	**1.50E-09**	**1.96E-09**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**2.00E+07**	**4.50E+02**	**No RfD**	**C**	
1,2,3,7,8,9-HxCDF	**72918-21-9**	**2.93E-10**	**3.85E-10**	**26 post-ECIS runs**	**1.50E+04**	**NA**	**2.00E+07**	**8.77E+01**	**No RfD**	**C**	
1,2,3,4,6,7,8-HpCDF	**67562-39-4**	**9.30E-09**	**1.30E-08**	**26 post-ECIS runs**	**1.50E+03**	**NA**	**7.94E+07**	**1.11E+03**	**No RfD**	**C**	
1,2,3,4,7,8,9-HpCDF	**55673-89-7**	**1.22E-09**	**1.80E-09**	**26 post-ECIS runs**	**1.50E+03**	**NA**	**7.94E+07**	**1.45E+02**	**No RfD**	**C**	
OCDF	**39001-02-0**	**1.89E-08**	**3.62E-08**	**26 post-ECIS runs**	**1.50E+02**	**NA**	**6.31E+08**	**1.79E+03**	**No RfD**	**C**	
						TOTAL SUM =		5.63E+03	3.90E+06		
						TOTAL COUNT =				27	6

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APPENDIX V-3

Physical/Chemical Values Used to Estimate Partitioning onto Particles

Table 1 Vapor/Particle Partitioning Factors for Stack Surrogate Chemicals

Chemical	Vapor Pressure mm Hg	Melting Point degree C (a)	Partitioning Factor (b)
2,3,7,8-TCDD	7.40E-10	306	0.449
1,2,3,7,8-PCDD	9.48E-10	241	0.741
1,2,3,4,7,8-HxCDD	1.01E-10	274	0.925
1,2,3,6,7,8-HxCDD	3.60E-11	286	0.964
1,2,3,7,8,9-HxCDD	4.90E-11	244	0.981
1,2,3,4,6,7,8-HpCDD	3.21E-11	265	0.980
OCDD	8.25E-13	326	0.998
2,3,7,8-TCDF	8.96E-09	228	0.291
1,2,3,7,8-PCDF	2.72E-09	226	0.583
2,3,4,7,8-PCDF	3.29E-09	196	0.697
1,2,3,4,7,8-HxCDF	2.40E-10	226	0.941
1,2,3,6,7,8-HxCDF	2.20E-10	233	0.936
1,2,3,7,8,9-HxCDF	2.80E-10	248	0.892
2,3,4,6,7,8-HxCDF	2.00E-10	240	0.933
1,2,3,4,6,7,8-HpCDF	1.33E-10	237	0.957
1,2,3,4,7,8,9-HpCDF	1.07E-10	222	0.975
OCDF	3.75E-12	259	0.998
Tetrachlorobiphenyl	2.80E-10	453	0.066
Hexachlorobiphenyl	1.50E-06	414	0.000
Heptachlorobiphenyl	3.00E-07	431	0.000
Benzo(a)pyrene	5.49E-09	179	0.673
Benzo(b)fluoranthene	5.00E-07	168	0.028
Bis(2-ethylhexyl)phthalate	1.50E-07	-50	0.751
Carbon tetrachloride	1.14E+02	-23	0.000
Dibenz(a,h)anthracene	1.00E-10	266	1.000 (c)
Di(n)octyl phthalate	1.40E-04	-25	0.003
Heptachlor	4.00E-04	95.5	0.000
Hexachlorobenzene	1.90E-05	231	0.000
Hexachlorobutadiene	1.50E-01	-21	0.000
Hexachlorocyclopentadiene	8.00E-02	-9	0.000
Hexachlorophene	not signif (d)	164	1.000
Indeno(1,2,3-cd)pyrene	1.00E-10	530	1.000 (c)
Antimony	(e)	NR	1.000
Arsenic	(e)	NR	1.000
Barium	(e)	NR	1.000
Beryllium	(e)	NR	1.000
Cadmium	(e)	NR	1.000
Chromium (hexavalent)	(e)	NR	1.000
Lead	(e)	NR	1.000
Mercury	2.00E-03	NR	0.000
Nickel	(e)	NR	1.000
Selenium	(e)	NR	1.000
Silver	(e)	NR	1.000
Thallium	(e)	NR	1.000
Zinc	(e)	NR	1.000

NOTES:
NR = Not required to estimate the partitioning factor.
(a) = The melting point is used in estimating the partitioning factor if it is greater than ambient temperature (20 degree C).
(b) = Fraction partitioning onto particle.
(c) = PAHs with very low vapor pressures are assumed to be emitted as particles.
(d) = The literature qualitatively states that the vapor pressure for this chemical is "not significant." The vapor pressure is assumed to equal 0.
(e) = All inorganic chemicals except mercury are assumed to be emitted as particles, therefore, a vapor pressure is not required.
Other constants needed to estimate the partitioning factor:

St =	3.5E-06	cm^2/cm^3
c =	1.7E-04	atm-cm
delta Sf/R =	6.79	unitless
T =	293	K

APPENDIX V-4

Physical/Chemical Parameter Values and Toxicity Values Used in Selection of Surrogate Organic Chemicals (Fugitive Emissions)

Waste Stream Constituent	Feed Rate (lb/yr)	Molecular Weight	Vapor Pressure		Temp (°C)	Slope Factor	Reference Dose
Acetone	555858	58.1	231	a	25	na	1.0E-01
Acetonitrile	78284	41.1	88.8	a	25	na	1.4E-02
Acetophenone	66350	120.1	0.397	a	25	na	1.0E-01
Acetylaminofluorene, 2-	71943	223.3	–			na	na
Acrylonitrile	54259	53.1	107.8	a	25	2.4E-01	5.7E-04
Alcohols	338208	53.9	30			na	na
Aliphatic hydrocarbons	3208730	114.0	14.1	a		na	na
Aniline	36020	93.1	0.489	a	25	na	2.9E-04
Benzene	174406	78.1	95.2	a	25	2.9E-02	na
Benzenedicarboxylic acid, 1,2-	40427	166.1	–			na	1.0E+00
Benzidine	55116	184.2	0.83	c	20	2.3E+02	3.0E-03
Benzoquinone, para-	32012	108.1	–			na	na
Benzo(a)pyrene	33257	252.3	5.5E-09	c	25	na	na
Butanol	464645	74.1	7	a	25	na	1.0E-01
Butyl acetate	39330	116.2	12.5	a	25	na	5.0E-02
Calcium chromate	54606	156.0	1E-06			na	na
Carbon	149376	12.0	1E-06			na	na
Carbon disulfide	45647	76.1	297	a	25	na	3.0E-03
Carbon tetrachloride	104285	153.8	113.8	a	25	5.3E-02	7.0E-04
Chlorobenzene	76207	112.6	11.9	a	25	na	5.7E-03
Chloroform	90589	119.4	246	a	25	8.1E-02	1.0E-02
Chlor. paraffin, oil, wax	141435	623.0	1E-06			na	na
Chrysene	33256	228.2	6.3E-09	c	25	na	na
Creosote (coal tar)	110180	184.4	1E-06			na	na
Cresol	1177104	108.1	0.31	a	25	na	5.0E-03
Crotonaldehyde	37304	70.1	19	b	20	na	na
Cumene	99450	120.2	10	b	38.3	na	2.6E-03
Cyclohexane	144739	84.2	97.6	a	25	na	na
Cyclohexanone	482451	98.2	4.8	a	25	na	5.0E+00
Dibenz(a,h)anthracene	32012	278.4	1E-10	b	25	na	na
Dibromoethane	33724	187.9	14	c	25	7.6E-01	5.7E-05
Dichlorobenzene	206838	147.0	2.3	a	25	na	5.7E-02
Dichlorodifluoroethane	49180	135.0	–			na	na
Dichlorodifluoromethane	58810	102.9	5013	c	25	na	5.7E-02
Dichloroethane (ethylidene dichloride	36854	99.0	227	a	25	9.1E-02	1.4E-01
Dichloroethene	49317	97.0	591	a	25	1.2E+00	9.0E-03
Diethyl stilbestrol	31397	268.3	–			4.9E+02	na
Diethylphthalate	122429	222.2	1.65E-03	a	25	na	8.0E-01
Dimethyl sulfate	37304	126.1	–			na	na
Dimethylamine	44654	45.1	–			na	na
Dimethylbenzidine, 3,3'-	32012	212.3	–			na	na
Dimethylhydrazine	34261	60.1	20.93	b	25	na	na
Dimethylphenol	53872	122.2	0.098	a	25	na	6.0E-04
Dimethylphthalate	93352	194.2	1.65E-03	a	25	na	na
Dinitrotoluene	79191	182.1	3.5E-04	a	20	na	1.0E-03
Dioxane, 1,4-	107045	88.1	38	a	25	na	na

Waste Stream Constituent	Feed Rate (lb/yr)	Molecular Weight	Vapor Pressure		Temp (°C)	Slope Factor	Reference Dose
Epichlorohydrin	52628	92.5	16.44	a	25	4.2E-03	2.0E-03
Ethanol	98523	46.7	59	a	25	na	na
Ethoxyethanol, 2-	351715	90.1	5.3	b	25	na	5.7E-02
Ethyl acrylate	466761	100.1	29.3	b	20	na	na
Ethylbenzene	364159	106.2	9.53	a	25	na	2.9E-01
Fluoranthene	32012	202.3	5E-06	c	25	na	4.0E-02
Formaldehyde	100677	30.0	3883	a	25	4.5E-02	2.0E-01
Formic acid	69352	46.0	35	b	20	na	2.0E+00
Furfural	57915	96.1	2.5	a	25	na	1.4E-02
Heptane	178323	100.2	45.8	a	25	na	na
Hydrazine	38412	32.1	14.4	b	25	1.7E+01	na
Indeno(1,2,3-cd)pyrene	32012	276.3	1E-10	c	25	na	na
Isobutanol	238633	74.1	10.4	a	25	na	3.0E-01
Isopropanol	72266	60.1	43	a	25	na	na
Isosafrole	35777	162.2	–			na	na
Maleic anhydride	59443	98.1	0.41	a	25	na	1.0E-01
MEK (2-Butanone)	676259	72.1	90.6	a	25	na	2.9E-01
Methanol	586938	32.0	92	a	25	na	5.0E-01
Methyl methacrylate	71012	100.1	38.4	a	25	na	2.3E-02
Methylbutadiene, 1-	32012	68.0	–			na	na
Methylcholanthrene, 3-	32012	268.4	–			na	na
MIBK (2-Methyl-4-pentanone)	422393	100.2	14.5	a	20	na	8.0E-02
Naphthalene	92408	128.2	0.082	a	25	na	4.0E-02
Naphthylamine, 1-	36583	143.2	–			na	na
Naphthylamine, 2-	38548	143.2	–			na	na
Nitrobenzene	382090	123.1	0.15	a	25	na	5.7E-04
Nitrophenol (para)	32012	139.1	–			na	na
Nitropropane, 2-	321555	89.1	20	b	25	9.4E+00	5.7E-03
N-nitrosodiethanolamine	51860	134.1	5E-04	b	20	na	na
N-nitrosodiethylamine	33339	102.1	0.86	b	20	1.5E+02	na
N-nitrosodi-n-butylamine	32482	158.3	0.03	b	20	5.4E+00	na
N-nitrosopyrolidine	38548	100.1	0.01	b	25	2.1E+00	na
Phenol	84824	94.1	0.524	a	25	na	6.0E-01
Phthalic anhydride	44878	148.1	2E-04	a	20	na	3.4E-02
Picoline, 2-	32012	93.1	–			na	na
Pyridine	354015	79.1	20	a	25	na	1.0E-03
Resorcinol	57438	110.1	–			na	na
Tetrachlorobenzene	410043	220.0	4.5E-02	d	25	na	3.0E-04
Tetrachloroethane	50480	167.9	12	a	25	2.0E-01	3.0E-02
Tetrachloroethene	88399	165.8	18.5	a	25	5.2E-02	1.0E-02
Tetrahydofuran	125396	72.1	162.3	a	25	na	na
Toluene	770291	92.1	28.4	a	25	na	1.1E-01
Toluene diisocyanate	50350	174.2	–			na	na
Toluenediamine	51594	122.2	5.2E-05	a	20	na	na
Trichloro-1,2,2,-trifluoroethane, 1,1,2	85377	187.4	362.5	a	25	na	8.6E+00
Trichlorobenzene	44001	181.5	5.8E-01	a	25	na	5.7E-02

Waste Stream Constituent	Feed Rate (lb/yr)	Molecular Weight	Vapor Pressure		Temp (°C)	Slope Factor	Reference Dose
Trichloroethane, 1,1,1-	153251	133.4	123.7			na	na
Trichloroethylene	100350	131.4	69	a	25	1.1E-02	na
Trichlorofluoromethane	69874	137.4	803	a	25	na	2.0E-01
Xylene	448321	106.2	8.7	a	25	na	2.0E+00

Notes:

a - Howard 1993; b - HSDB; c - Montgomery & Welcom 1990; d - calculated based on Grayson 1984; e - assumed to be insignificant, 1E-6

Feed rates estimated from first year of operation, as described in Appendix III-1

Slope factors and reference doses obtained from IRIS (1995) and U.S. EPA (1994)

-- For substances without a slope factor or reference dose, a vapor pressure was not necessarily identified

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APPENDIX V-5

Evaluation of Additional High-end Subgroups

INTRODUCTION

The WTI Risk Assessment Project Plan identifies a number of subgroups of the population that may be exposed directly or indirectly to emissions from the facility, including:

- Adult non-farming residents living in homes with gardens;
- Child non-farming residents living in homes with gardens;
- Adult non-farming residents living in homes without gardens;
- Child non-farming residents living in homes without gardens;
- Adult farmers whose diet consists partially of homegrown food products (e.g., meat, milk, vegetables);
- Farm children whose diet consists partially of homegrown food products;
- Adult farmers whose entire diet is homegrown (referred to as subsistence farmers); and,
- Subsistence farm children.

In addition to these subgroups, groups of individuals are identified as members of a special population segment or individuals who may be highly exposed because of their particular activity patterns. These groups include:

- Children (7 to 12 years old) who attend school in the area;
- Breast-feeding infants (assumed to be all children under 1 year old); and,
- Subsistence fishermen (recreational fishermen who obtain a significant portion of their diet from fish in local bodies of water).

During the peer review process conducted for the WTI Risk Assessment Project Plan, the Exposure Assessment Work Group identified a number of additional subgroups of the exposed population that may be at a higher risk due to behavior patterns, proximity to the facility, or sensitivity. The purpose of this appendix is to evaluate each of the potential subgroups identified by the Exposure Assessment Work Group and provide a rationale for omitting or including each subgroup in the exposure assessment for the WTI Risk Assessment.

EVALUATION OF ADDITIONAL HIGH-END SUBGROUPS

The Exposure Assessment Work Group of the peer review committee indicated that the following subgroups should be evaluated for inclusion in the WTI Risk Assessment:

- Children who live near the facility and attend school near the facility;
- Individuals who work at WTI;
- Adults who live and work near WTI;
- Elderly individuals in the study area;
- Hunters of deer and waterfowl; and,
- Other potentially high-end exposure subgroups.

The rationale for including or omitting each of these subgroups is provided in the following sections.

Children Who Live and Attend School Near the Facility

As noted earlier, the proposed methodology for estimating exposure accounts for varying activity and behavior patterns by dividing the exposed population into 11 subgroups and accounts for location with respect to the WTI facility by identifying isoconcentration subareas. One of the subgroups of the exposed population identified in the WTI Project Plan is children (7 to 12 years old) who attend school in the area. This exposure subgroup was developed to include children living and attending school in the study area and will include children in subareas near the facility and farther away. Therefore, this additional subgroup is already included in the subgroups identified in the Project Plan.

Individuals Who Work at WTI

It is possible that individuals who work at the WTI facility may be exposed to chemicals in the workplace which may result in incidental transport of contaminants to off-site locations, resulting in potential exposures to off-site individuals (e.g., family members). Quantitative evaluation of worker exposure and transport of chemicals off-site by workers is beyond the scope of the WTI Risk Assessment, however, WTI worker exposure and migration of contaminants by workers are addressed qualitatively in the uncertainty section of the WTI Risk Assessment.

Adults Who Work and Live Near WTI

Adult residents living and working in the study area are one of the population subgroups identified in the WTI Project Plan. Exposure factors for this subgroup reflect the possibility that an individual may be exposed to emissions from the WTI facility either at home or at a place of employment. Therefore, this subgroup is already included in the subgroups identified in the Project Plan.

Elderly Individuals

The peer reviewers noted that the population in the vicinity of the WTI facility has a higher than expected concentration of elderly individuals; therefore, the reviewers recommended that this subgroup be considered for inclusion in the WTI Risk Assessment. Based on a review of 1990 census data for the counties in the vicinity of the WTI facility, elderly populations do not appear to be above average.

In addition, based solely on activity patterns or location, there is no reason to believe that elderly individuals will necessarily be on the high-end of the exposure distribution, unless specific activities (e.g., subsistence fishing, subsistence farming) cause them to be exposed to a greater degree than other population subgroups. These types of potentially high-exposure activities are considered in the WTI Project Plan; therefore, a specific subgroup for elderly individuals is not warranted.

It is possible that elderly individuals may be on the high-end of the risk distribution because of a higher than expected sensitivity to contaminants to which they may be exposed. Toxicological data are not available, however, to effectively evaluate elevated sensitivity to chemicals by elderly individuals as a separate analysis. Consequently, estimates of toxicological potency incorporate safety factors to account for the presence of sensitive individuals in the population (e.g., elderly people). Therefore, this subgroup is not considered separately in the WTI Risk Assessment.

Hunters of Deer and Waterfowl

It is possible that deer and waterfowl that live in the study area may be exposed to contaminants emitted from the WTI facility. Potential effects to such species are be addressed in the Sceening Ecological Risk Assessment for the WTI facility. As part of the exposure assessment for the WTI Risk Assessment, hunters who may be exposed indirectly to facility emissions due to consumption of exposed deer or waterfowl are evaluated qualitatively to estimate the likelihood that this type of exposure is significant (i.e., more

significant than exposure by other food consumption pathways, such as subsistence beef or fish consumption). For example, estimates of deer hunting in the vicinity of the WTI facility are developed to evaluate the likelihood that deer meat consumption may be of a greater concern than beef consumption. It is unlikely, however, that this subgroup will be exposed to a significantly greater degree than other high-end subgroups such as the subsistence farmer.

Other Potentially High-end Exposure Subgroups

No additional potential exposure subgroups were identified that may be exposed significantly but were not adequately represented by subgroups considered in the WTI Risk Assessment. It is believed that the exposure subgroups evaluated in the WTI Risk Assessment largely reflect the population in the study area and addition of other groups would not substantially alter the results of the assessment.

SUMMARY

Based on the peer review of the WTI Project Plan, several possible additional high-end exposure subgroups were identified. Each of the recommended subgroups were evaluated regarding possible inclusion in the WTI Risk Assessment, with the following results:

1) Children who live and attend school near the facility - This subgroup is already considered in the WTI Project Plan.
2) Adults who work at WTI - Quantitative assessment of exposure to workers at the WTI facility itself is beyond the scope of the WTI Risk Assessment, but is discussed qualitatively in the WTI Risk Assessment.
3) Adults who work and live near WTI - Adult residents are identified in the Project Plan and exposure to emissions from WTI, regardless of location (i.e., work, home, or school), is evaluated for this subgroup.
4) Elderly individuals - Elderly individuals are not necessarily at the high-end of the exposure distribution, and although elderly people may be at the high-end of the risk distribution due to increased toxicological sensitivity, such increased sensitivity is accounted for in the Toxicological Assessment.
5) Hunters of deer and waterfowl - It is possible that hunters who kill and consume deer or waterfowl from the study area may be exposed to emissions from the WTI facility. It is unlikely, however, that this type of exposure will be greater than exposure from

other potentially high-end activities (e.g., subsistence fishing or farming). Nonetheless, a qualitative analysis is performed as part of the WTI Risk Assessment to evaluate the possible addition of this subgroup.

6) Other potentially high-end exposure subgroups - No additional potential high-end exposure population subgroups were identified. The subgroups identified in the WTI Project Plan are believed to include a significant fraction of the exposed population in the study area.

APPENDIX V-6

Evaluation of Residential Exposure to Locally Caught Fish

RECREATIONAL FISHING DATA

The state Departments of Natural Resources (DNR) in Ohio, West Virginia, and Pennsylvania were contacted to obtain recreational fishing data. Two recently conducted recreational fishing studies were identified: 1) a joint study conducted in 1992 by the Ohio DNR and West Virginia DNR (ODNR 1994a); and 2) a study being conducted for the Pennsylvania DNR (Terrestrial Environmental Systems 1994). Sufficient data to estimate the number of anglers or typical fish harvest in this area were not available from the Pennsylvania study at the time of this assessment.

The joint Ohio/West Virginia DNR recreational fishing study (ODNR 1994a) was conducted to identify the amount of fishing and the types of fish being caught along the Ohio River between the Ohio/Pennsylvania border (Ohio River Mile 40.1) and Greenup Dam, 300 miles downstream (ORM 341). This 300-mile study area was subdivided into 32 survey areas, which include survey points (embayments and tailwaters), and pools. Four of the 32 survey areas (locations #1 to #4) are in the general vicinity (30-kilometer radius) of the WTI facility (located at ORM 41.5). These four survey areas are assumed to be representative of the Ohio River in the vicinity of the WTI facility. The four survey areas cover the entire stretch of the Ohio River from the Ohio/Pennsylvania border to Steubenville, Ohio (ORM 40.1 to ORM 69.5). Data from survey areas located farther down river (ORM 69.5 to ORM 341) are also evaluated as a basis for comparison.

The DNR study was conducted between April and November 1992. Very little fishing occurs between December and March; therefore, the data collected in this study are assumed to reflect annual data. Table 1 summarizes the recreational fishing data obtained from the Ohio/West Virginia DNR study (ODNR 1994a).

RESULTS

Although the Ohio/West Virginia DNR study provides significant data concerning the types of fish being caught and kept along the Ohio River, sufficient data are not available to characterize the relationship between fishing practices and fish consumption by the local population. However, data contained in the Ohio/West Virginia DNR study and information

TABLE 1
Summary of Ohio River Recreational Fishing Study Data

Parameter	WTI Facility Vicinity[b]	Farther Downstream of WTI[c]
Estimated Number of Fish Caught[a]	400,000	2,800,000
Estimated Number of Fish Kept[a]	63,000	300,000
Estimated Number of Angler Hours[a]	180,000	1,600,000
Fish Type and Size Data for Survey Locations in WTI Vicinity		
Types of Fish	% of Fish Kept	Avg. Size[d] (inches)
Bass	88%	7 - 13
Percids	8%	11 - 13
Catfish	1%	12 - 17
Carp	<0.1%	17 - 18
Other	3%	6 - 16

Notes:
a - Values extrapolated by ODNR (1994a) from raw data. The number of angler hours were estimated based on a count of anglers on the Ohio River over a specified time period.
b - Represents data collected in ODNR (1994a) study from survey areas #1 to #4 (Ohio River Mile (ORM) 40.1 to 69.5). The WTI facility is at ORM 41.5.
c - Represents data collected in ODNR (1994a) study from survey areas #5 to #32 (ORM 69.5 to 341).
d - Approximated from fish length data compiled by ODNR (1994a).

obtained from local fish and wildlife agencies indicate that fish raised in the vicinity of the WTI facility are not a significant source of food for the typical local resident[1]. Information used to support this assessment include the following:

- No commercial fishing operations operate in the vicinity of the WTI facility. Fish and wildlife agencies in Ohio, West Virginia, and Pennsylvania were contacted regarding the presence of commercial fishing (i,e., operations or individuals that catch fish and distribute to local supermarkets and restaurants) in the vicinity of the WTI facility (ODNR 1994b; West Virginia Fisheries 1994; PFBC 1994a). Although several fish farms are located in the general vicinity of WTI, the fish and wildlife officers contacted indicated that the fish raised in these operations are not sold for consumption, but are used as stock fish in local water bodies. None of the officials contacted had any knowledge of any commercial fishing operations in the WTI area; therefore, all local fish consumption must be derived from fish caught by individual fishermen.

- Only a small fraction of the resident population in the vicinity of WTI fish. Agencies in Ohio (ODNR 1994c), West Virginia (WVDNR 1994), and Pennsylvania (PFBC 1994b) responsible for fishing licenses were contacted for information regarding the number of fishing licenses sold in counties surrounding the WTI facility. Based on data provided by these agencies, the total number of annual resident fishing licenses in the 11 counties surrounding the WTI facility is approximately 180,000. The total population in these 11 counties is over 2.5 million, based on 1990 census data. Therefore, approximately seven percent of the population in the WTI area is legally permitted to fish. Although it is possible that some individuals may fish without a license, survey data collected in the Ohio/West Virginia DNR fishing study (ODNR 1994a) indicate that only 3 percent of the anglers surveyed did not have licenses. Although these individuals who fish will be exposed, these data indicate that a significant fraction of the entire local population does not fish; therefore, it is unlikely that a significant fraction of their fish diet is derived from local sources (i.e., an average individual's fish diet does not contain a significant fraction of locally caught fish). As noted earlier, risks to the fishing population are represented in this assessment by the subsistence fisherman scenario.

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[1] This is not meant to imply that subsistence fishing is or is not occurring in this area. Subsistence fishermen are considered separately from local residents in the WTI ~~Phase II~~ Risk Assessment.

- The amount of fish caught locally and kept is unlikely to be significant.
  According to the results of the Ohio/West Virginia DNR study (ODNR 1994a), approximately 400,000 fish were caught and 63,000 fish were kept along the 30 miles of the Ohio River between the Ohio/Pennsylvania border and Steubenville, Ohio during 1992. As indicated in Table 1, almost 90 percent of the fish kept by anglers were of the bass family, which are generally relatively small fish (fish size data collected during the ODNR study indicates an average bass length of between 7 and 13 inches). The Ohio River Valley Sanitation Commission (ORSANCO) conducted an electrofishing survey (between ORM 21.6 and ORM 55.5) during 1991 to 1993 (ORSANCO 1994) that provides the average weight of fish from the Ohio River corresponding to various size ranges. Based on these data, it is estimated that fish in the size ranges provided in Table 1 range from 50 to 650 g (0.1 to 1.4 pounds) with an average of 180 g (0.4 pounds). As a conservative estimate, it is assumed that the average fish caught along the Ohio River yields no more than 0.4 pound of fish for consumption. The 63,000 fish caught along the 30 miles of the Ohio River (survey locations #1 to #4) in the vicinity of WTI in 1992, therefore, resulted in no more than 25,000 pounds of fish per year available for consumption. Even if the high-end of the weight range is assumed, no more than 90,000 pounds of fish per year from the Ohio River is available for consumption. The 25,000 pounds of fish caught locally, therefore, corresponds to less than 0.2 grams of fish consumed per day for the fishing population (based on the number of fishing licenses and assuming the fish is not distributed amongst a larger population). Furthermore, the 25,000 pounds of fish corresponds to less than 0.01 g/day of locally caught fish for local residents (assuming the fish is distributed evenly amongst all local residents in the 11-county area near WTI). These consumption rates of locally caught fish are insignificant compared to the average fish consumption rate of 11 g/day for residents.

It should be noted that fishing is likely to occur at locations throughout the area around the facility (i.e., other than the Ohio River), including smaller rivers, lakes, and ponds. Discussions with local fish and wildlife officers (ODNR 1994b; West Virginia Fisheries 1994; PFBC 1994a) indicate, however, that the Ohio River is likely to be the most significant source of fishing in the area. Therefore, considering the approximate size of the fishing population (180,000) and the local population (approximately 2.5 million), it does not appear that a significant fraction of local residents' fish diet comes from fish caught locally.

In summary, the data available from the Ohio/West Virginia DNR fishing study (ODNR 1994a) and the information obtained from discussions with fish and wildlife officials familiar with fishing practices in the vicinity of the WTI facility indicate that fish from local

waters are unlikely to contribute a significant fraction of the fish diet for local residents. Therefore, exposure to contaminants that are released from the WTI facility and bioaccumulate in fish are not considered in the WTI Risk Assessment as a potential exposure pathway for the typical local resident. However, because individuals may exist in the study area who represent high-end exposure to contaminants in fish, a subsistence fisherman scenario is considered in the Risk Assessment. Uncertainties associated with not including the resident fish consumption exposure pathway are discussed in the uncertainties section of the Risk Assessment. An additional source of uncertainty may arise because this assessment is not designed to estimate contaminant exposure to individuals who consume a specific species of fish (e.g., carp) as a predominant portion of their diet. Although certain species (e.g., carp) may have a relatively greater lipid content, resulting in relatively higher contaminant concentrations, this assessment estimates concentrations of contaminants in fish based upon a reasonable estimate of several factors, including the lipid content of fresh water fish.

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APPENDIX V-7

Fate and Transport Model Equations and Parameter Values

APPENDIX V-7
Fate and Transport Model Equations and Parameters Values

Overview

Receptors are exposed to stack gas chemicals by both direct and indirect pathways. Direct exposure occurs through inhalation of vapors and particles in the air. Indirect exposure occurs as a result of dry and wet deposition of particles and vapor onto the soil, migration of chemicals into vegetation, animals, and surface water, and subsequent human ingestion of soil, vegetation, animal products, fish, and surface water that has been affected by stack gas emissions. Exposure concentrations in affected media are estimated using fate and transport models that simulate the transport of stack gas chemicals in the environment. These models are based on U.S. EPA (1990a, 1993, and 1994a) guidance; however, it should be noted that, in several cases, the chemical fate and transport models are based on limited data. The uncertainties in applying these models to a broad spectrum of chemicals are discussed in the uncertainty section of the Human Health Risk Assessment.

This appendix presents the fate and transport model equations and inputs used to estimate environmental concentrations. Site-specific values are used wherever possible, otherwise, U.S. EPA recommended default parameters are used. This appendix is divided into six sections, corresponding to the six different media for which concentrations are needed to estimate indirect human health risks: 1) soil, 2) vegetation, 3) meat, eggs, and milk, 4) surface water, 5) fish, and 6) mothers' milk. Physical/chemical values for the chemicals of concern and site-specific parameters are presented in Tables 1 to 4. It should be noted that because mercury is assumed to exist as a vapor, additional parameters are required to evaluate its fate and transport. These parameters are listed in the footnote in Table 3.

As discussed in Volume II, the key assumptions that are used in performing the WTI Risk Assessment are identified. Table 38 summarizes the key assumptions that are used in developing estimates of exposure concentrations in the various media. The table indicates the basis for the assumptions listed, the estimated relative magnitude of the assumption's effect on the overall risk assessment, and the direction of the effect, if known.

Table 1
Chemical-specific Parameters for Dioxin-like Compounds

Compound	TEF	Molecular Formula	Molecular Weight	log Kow	Koc[1] L/kg or cm^3/g	H atm-m^3/mol	Animal Fat BCF	BSAF	Vapor P mm Hg	Melting Point °C	RCF L/kg
2,3,7,8-TCDD	1.0 a	$C_{12}H_4Cl_4O_2$	321.98 a	6.64 a	2.7×10^6 a	1.6×10^{-5} a	4.32 a	0.09 a	7.40×10^{-10} a	306 a	3.9×10^3 a
1,2,3,7,8-PeCDD	0.5 a	$C_{12}H_3Cl_5O_2$	356.42 a	6.64 a	2.7×10^6 a	2.6×10^{-6} a	4.16 a	0.09 a	9.48×10^{-10} a	240 a	3.9×10^3 a
1,2,3,4,7,8-HxCDD	0.1 a	$C_{12}H_2Cl_6O_2$	390.87 a	7.79 a	3.8×10^7 a	1.2×10^{-5} a	2.02 a	0.04 a	1.01×10^{-10} a	274 a	3.0×10^4 a
1,2,3,6,7,8-HxCDD	0.1 a	$C_{12}H_2Cl_6O_2$	390.87 a	7.30 a	1.2×10^7 a	1.2×10^{-5} a	1.74 a	0.04 a	3.6×10^{-11} a	286 a	1.3×10^4 a
1,2,3,7,8,9-HxCDD	0.1 a	$C_{12}H_2Cl_6O_2$	390.87 a	7.79 a	1.2×10^7 a	1.2×10^{-5} a	2.24 a	0.04 a	4.9×10^{-11} a	244 a	1.3×10^4 a
1,2,3,4,6,7,8-HpCDD	0.01 a	$C_{12}HCl_7O_2$	425.31 a	8.20 a	9.8×10^7 a	7.5×10^{-6} a	0.36 a	0.005 a	3.21×10^{-11} a	264 a	6.2×10^4 a
OCDD	0.001 a	$C_{12}Cl_8O_2$	460.76 a	7.59 a	2.4×10^7 a	7.0×10^{-9} a	0.52 a	0.0001 a	8.25×10^{-13} a	325 a	2.1×10^4 a
2,3,7,8-TCDF	0.1 a	$C_{12}H_4Cl_4O_1$	305.98 a	6.53 a	2.1×10^6 a	8.6×10^{-6} a	0.94 a	0.09 a	8.96×10^{-9} a	228 a	3.2×10^3 a
1,2,3,7,8-PeCDF	0.05 a	$C_{12}H_3Cl_5O_1$	340.42 a	6.79 a	3.8×10^6 a	6.2×10^{-6} a	0.73 a	0.09 a	2.72×10^{-9} a	226 a	5.1×10^3 a
2,3,4,7,8-PeCDF	0.5 a	$C_{12}H_3Cl_5O_1$	340.42 a	6.92 a	5.1×10^6 a	6.2×10^{-6} a	3.10 a	0.09 a	3.29×10^{-9} a	196 a	6.4×10^3 a
1,2,3,4,7,8-HxCDF	0.1 a	$C_{12}H_2Cl_6O_1$	374.87 a	7.30 a	1.2×10^7 a	1.4×10^{-5} a	2.34 a	0.04 a	2.4×10^{-10} a	226 a	1.3×10^4 a
1,2,3,6,7,8-HxCDF	0.1 a	$C_{12}H_2Cl_6O_1$	374.87 a	7.30 a	1.2×10^7 a	6.1×10^{-6} a	2.00 a	0.04 a	2.2×10^{-10} a	233 a	1.3×10^4 a

Table 1 (continued)
Chemical-specific Parameters for Dioxin-like Compounds

Compound	TEF	Molecular Formula	Molecular Weight	log Kow	Koc[1] L/kg or cm^3/g	H atm-m^3/mol	Animal Fat BCF	BSAF	Vapor P mm Hg	Melting Point °C	RCF L/kg
1,2,3,7,8,9-HxCDF	0.1 a	$C_{12}H_2Cl_6O_1$	374.87 a	7.30 a	1.2×10^7 a	1.0×10^{-5} a	2.00 a	0.04 a	2.8×10^{-10} a	248 a	1.3×10^4 a
2,3,4,6,7,8-HxCDF	0.1 a	$C_{12}H_2Cl_6O_1$	374.87 a	7.30 a	1.2×10^7 a	1.0×10^{-5} a	1.78 a	0.04 a	2.0×10^{-10} a	240 a	1.3×10^4 a
1,2,3,4,6,7,8-HpCDF	0.01 a	$C_{12}HCl_7O_1$	409.31 a	7.90 a	4.9×10^7 a	5.3×10^{-5} a	0.41 a	0.005 a	1.33×10^{-10} a	236 a	3.7×10^4 a
1,2,3,4,7,8,9-HpCDF	0.01 a	$C_{12}HCl_7O_1$	409.31 a	7.90 a	4.9×10^7 a	5.3×10^{-5} a	0.99 a	0.005 a	1.07×10^{-10} a	222 a	3.7×10^4 a
OCDF	0.001 a	$C_{12}Cl_8O_1$	444.76 a	8.80 a	3.9×10^8 a	1.9×10^{-6} a	0.20 a	0.0001 a	3.75×10^{-12} a	259 a	1.8×10^5 a
Tetachlorobiphenyl	-	$C_{12}H_6Cl_4$	291.99 a	6.21 a	8.46×10^4 b	9.4×10^{-5} a	5.9 a	0.92 a	2.8×10^{-10} a	453 a	1.8×10^3 c
Hexachlorobiphenyl	-	$C_{12}H_4Cl_6$	360.88 a	7.17 a	3.21×10^6 b	5.8×10^{-4} a	2.2 a	2.64 a	1.5×10^{-6} a	414 a	1.0×10^4 c
Heptachlorobiphenyl	-	$C_{12}H_3Cl_7$	396.33 a	7.7 a	1.41×10^6 b	6.6×10^{-5} a	2.3 a	2.0 a	3.0×10^{-7} a	431 a	2.6×10^4 c

Table 1 (continued)
Chemical-specific Parameters for Dioxin-like Compounds

Compound	TEF	Molecular Formula	Molecular Weight	log Kow	Koc[1] L/kg or cm^3/g	H atm-m^3/mol	Animal Fat BCF	BSAF	Vapor P mm Hg	Melting Point °C	RCF L/kg

NOTES:
half-life of dioxin in adults (h) = 2,555 days for 2,3,7,8-TCDD (d) and assumed for all other dioxin-like compounds.
proportion of ingested dioxin-like compound stored in fat (f_1) = 0.9 for 2,3,7,8-TCDD (d) and assumed for all other dioxin-like compounds.
proportion of mother's weight that is fat (f_2) = 0.3 kg fat/kg BW for 2,3,7,8-TCDD (d) and assumed for all other dioxin-like compounds.
below ground vegetation correction factor (VG_{bg}) = 0.01 for 2,3,7,8-TCDD (d) and assumed for all other dioxin-like compounds.
half-life on plant surfaces ($t_{1/2}$) = 14 days for all dioxin-like compounds (a).
soil degradation constant (ksg) = 0.0693 yr^{-1} for all dioxin-like compounds (a).
air diffusion coefficient (D_a) = 0.05 cm^2/sec for 2,3,7,8-TCDD and 2,3,7,8-TCDF (a) and for all other dioxin-like compounds (e).

a U.S. EPA 1994a.
b U.S. EPA 1983.
c calculated by ENVIRON.
d U.S. EPA 1993.
e calculated by the FSG method in Lyman et al. 1992.

Kow octanol/water partition coefficient
Koc organic carbon adsorption coefficient
H Henry's law constant
BCF bioconcentration factor
BSAF biota to sediment accumulation factor
Vapor P vapor pressure
RCF root concentration factor

[1] soil/water partition coefficient (Kd_s) = Koc x fraction organic carbon in soil (OC_{soil}, see Table 4)
suspended sediment/water partition coefficient (Kd_{sed}) = Koc x fraction organic carbon in suspended sediment (OC_{sed}, see Table 27)

Table 2
Chemical-specific Parameters for Organic Compounds

Compound	CAS #	Molecular Formula	Molecular Weight	log Kow	Koc[1] L/kg or cm^3/g	H atm-m^3/mol	Fish BAF[2] (L/kg)		soil $t_{½}$ [a] (hr) ksg[d] (yr^{-1})	D_a [1] cm^2/sec	Vapor P mm Hg
							BCF	FCM[c]			
Benzo(a)pyrene	50-32-8	$C_{20}H_{12}$ c	252.32 c	6.11 j	3.95×10^6 e	1.55×10^{-6} f	3,208 m	17.783	1,368 - 12,720 1.46	0.0513	5.49×10^{-9} c
Benzo(b)fluoranthene	205-99-2	$C_{20}H_{12}$ c	252.32 c	6.2 j	5.50×10^5 c	1.19×10^{-5} h	3,208 n	19.907	8,640 - 14,640 0.540	0.0513	5×10^{-7} e
Bis(2-ethylhexyl) phthalate	117-81-7	$C_{24}H_{38}O_4$ b	390.54 b	7.3 j	1.2×10^7 k	2.7×10^{-7} l	886 p	22.856	120 - 550 23.6	0.0373	1.5×10^{-7} l
Carbon tetrachloride	56-23-5	CCl_4 b	153.84 b	2.73 j	110 b	3.04×10^{-2} b	30 q	1.005	4,320 - 8,640 0.994	0.0818	113.8 b
Dibenz(a,h)anthracene	53-70-3	$C_{22}H_{14}$ c	278.36 c	6.69 j	1.66×10^6 c	7×10^{-8} e	51,000 e	26.363	8,664 - 22,560 0.434	0.0479	1×10^{-10} e
Di(n)octyl phthalate	117-84-0	$C_{24}H_{38}O_4$ e	390.56 e	8.06 j	19,000 e	2.2×10^{-4} e	9,400 m	6.726	168 - 672 18.1	0.0373	1.4×10^{-4} c
Heptachlor	76-44-8	$C_{10}H_5Cl_7$ b	373.35 b	6.26 j	30,200 b	1.48×10^{-3} b	23,814 m	20.963	23.1 - 129.4 111	0.0488	4×10^{-4} b
Hexachlorobenzene	118-74-1	C_6Cl_6 b	284.80 b	5.89 j	10,000 b	1.3×10^{-3} b	39,000 m	13.964	23,256 - 50,136 0.18	0.0573	1.9×10^{-5} b
Hexachlorobutadiene	87-68-3	C_4Cl_6 b	260.76 b	4.81 j	5,181 b	1.03×10^{-2} b	17,000 r	1.871	672 - 4,320 3.56	0.0594	0.15 b
Hexachlorocyclo-pentadiene	77-47-4	C_5Cl_6 e	272.77 e	5.39 j	4,265 e	2.7×10^{-2} e	448 e	5.821	168 - 672 18.1	0.0872	0.080 e
Hexachlorophene	70-30-4	$C_{13}H_6Cl_6O_2$ e	406.92 e	7.54 j	91,000 h	5.48×10^{-13} e	278 m	18.080	6,000 - 7,872 0.884	0.0454	no significant volatilization e
Indeno(1,2,3-cd) pyrene	193-39-5	$C_{22}H_{12}$ c	276.34 c	6.65 j	1.6×10^6 h	6.86×10^{-8} h	59,407 e	26.004	14,400 - 17,520 0.382	0.0499	1.0×10^{-10} e

Table 2 (continued)
Chemical-specific Parameters for Organic Compounds

Compound	CAS #	Molecular Formula	Molecular Weight	log Kow	Koc[1] L/kg or cm^3/g	H atm-m^3/mol	Fish BAF[2] (L/kg)		soil $t_{½}$ [a] (hr) ksg[d] (yr^{-1})	D_a [i] cm^2/sec	Vapor P mm Hg
							BCF	FCM[e]			

NOTES:

a Howard et al. 1991.
b Howard 1989-1991.
c Montgomery & Welkom 1990.
d calculated from the geometric mean of the soil half-lives and ksg = ln $2/t_{½}$ (g) unless otherwise noted.
e HSDB.
f U.S. EPA 1990a.
g U.S. EPA 1994a.
h U.S. EPA 1990b.
i calculated by the FSG method in Lyman et al. 1992.
j U.S. EPA 1995a.
k calculated as $10^{(\log Kow - 0.21)}$ (U.S. EPA 1993).
l Mackay et al. 1995.
m U.S. EPA AQUIRE data base.
n No data so value for benzo(a)pyrene conservatively applied.
o U.S. EPA 1995b.
p U.S. EPA 1980a.
q U.S. EPA 1980b.
r U.S. EPA 1980c.

plant $t_{½}$ plant-surface loss coefficient = 14 days for all compounds (g).
Kow octanol/water partition coefficient
Koc organic carbon adsorption coefficient
H Henry's law constant
BAF bioaccumulation factor
BCF bioconcentration factor
FCM food-chain multiplier
soil $t_{½}$ half-life in soil
ksg soil degradation rate
D_a air diffusion coefficient
vapor P vapor pressure

melting point in °C (needed only for the following compounds)

benzo(a)pyrene	179 (e)
benzo(b)fluoranthene	168 (e)
heptachlor	95.5 (b)
hexachlorobenzene	231 (b)

Table 2 (continued)
Chemical-specific Parameters for Organic Compounds

Compound	CAS #	Molecular Formula	Molecular Weight	log Kow	Koc[1] L/kg or cm^3/g	H atm-m^3/mol	Fish BAF[2] (L/kg)		soil $t_{½}$ [a] (hr) ksg[d] (yr^{-1})	D_e [f] cm^2/sec	Vapor P mm Hg
							BCF	FCM[e]			

Notes (continued)
[1] soil/water partition coefficient (Kd_s) = Koc x fraction organic carbon in soil (OC_{soil}, see Table 4)
suspended sediment/water partition coefficient (Kd_{sed}) = Koc x fraction organic carbon in suspended sediment (OC_{sed}, see Table 27)
[2] Fish BAF = BCF x FCM

Table 3
Chemical-specific Parameters for Inorganic Compounds

Compound	RCF L/kg	Bv[1]	Br[1]	Ba beef day/kg	Ba milk day/kg	Ba pork day/kg	Ba chicken day/kg	Ba eggs day/kg	Kd L/kg or ml/g	Fish BAF L/kg
Aluminum	0.1 g	0.004 a	6.5×10^{-4} a	0.0015 a	2.0×10^{-4} a	0.28 g	7.92 g	7.92 g	1,500 a	36 d
Antimony	0.03 c	0.20 a	0.030 a	0.001 a	1.0×10^{-4} a	0.007 e	0.006 e	0.07 e	45 a	1 c
Arsenic	0.008 c	0.04 a	0.006 a	0.002 a	6.0×10^{-5} a	0.0037 b	0.2011 b	0.2615 b	200 a	44 c
Barium	0.015 c	0.15 a	0.015 a	1.5×10^{-4} a	3.5×10^{-4} a	0.01 e	5.0×10^{-4} e	0.4 e	60 a	4 m
Beryllium	0.0015 c	0.010 a	0.0015 a	0.001 a	9.0×10^{-7} a	0.002 b	0.011 b	0.013 b	650 a	20 c
Cadmium	0.032 c	0.55 a	0.15 a	1.6×10^{-4} o	1.0×10^{-3} o	2.6×10^{-4} o	0.11 o	0.0026 o	6.5 a	2,213 d
Chromium (hexavalent)	0.0045 c	0.0075 a	0.0045 a	0.0055 a	0.0015 a	0.015 b	0.024 b	0.039 b	850 a	16 c
Copper	0.1 g	0.40 a	0.25 a	0.010 a	0.0015 a	0.005 e	0.002 e	0.2 e	35 a	290 h
Lead	0.1 g	0.045 a	0.009 a	3.0×10^{-4} a	2.5×10^{-4} a	0.0018 b	7.92 b	7.92 b	900 a	160 d
Mercury [2]	0.007 c	0.90 a	0.20 a	8.0×10^{-5} o	1.0×10^{-4} o	0.0022 o	0.031 o	0.0026 o	10 a	4,994 c 85,700 c
Nickel	0.004 c	0.060 a	0.060 a	0.006 a	0.001 a	0.15 b	0.024 b	0.039 b	150 a	61 k
Selenium	0.02 c	0.025 a	0.025 a	0.0030 o	0.045 o	0.28 o	1.17 o	1.17 o	300 a	78 l
Silver	0.1 c	0.40 a	0.10 a	0.003 a	0.020 a	9.0×10^{-4} e	9.0×10^{-4} e	0.018 e	45 a	0.5 c

Table 3 (continued) Chemical-specific Parameters for Inorganic Compounds										
Compound	**RCF L/kg**	**Bv[1]**	**Br[1]**	**Ba beef day/kg**	**Ba milk day/kg**	**Ba pork day/kg**	**Ba chicken day/kg**	**Ba eggs day/kg**	**Kd L/kg or ml/g**	**Fish BAF L/kg**
Thallium	0.0004 c	4.0×10^{-4} a	4.0×10^{-4} a	0.040 a	0.002 a	0.28 g	7.92 g	7.92 g	1,500 a	120 c
Zinc	0.1 g	1.5 a	0.90 a	1.2×10^{-4} o	3.0×10^{-5} o	1.8×10^{-4} o	0.0091 o	0.0091 o	40 a	432 p

Table 3 (continued)
Chemical-specific Parameters for Inorganic Compounds

Compound	RCF L/kg	Bv[1]	Br[1]	Ba beef day/kg	Ba milk day/kg	Ba pork day/kg	Ba chicken day/kg	Ba eggs day/kg	Kd L/kg or ml/g	Fish BAF L/kg

NOTES:
ksg = 0 for all inorganic compounds (professional judgement).
plant $t_{1/2}$ = 14 days for all compounds (n).
1 The units for Bv and Br are [mg/kg plant DW]/[mg/kg soil]
2 Because mercury is assumed to exist as a vapor, the following additional parameters are required to evaluate its fate and transport (these parameters are assumed to equal zero for all other inorganic compounds):
air-to-leaf biotransfer factor (Bv) = 1000 [mg Hg/kg plant tissue DW]/[mg Hg/kg air] (c)
air diffusion coefficient (Da) = 0.1423 cm^2/sec (Lugg 1968)
Vapor Pressure = 0.002 mm Hg (f)
a Baes et al. 1984.
b Belcher and Travis 1989.
c U.S. EPA 1994c.
d U.S. EPA AQUIRE data base.
e Baker et al. 1976.
f U.S. EPA 1990b.
g Because a literature value for this inorganic compound could not be located, the maximum value for this parameter for any inorganic compound on this list is conservatively applied.
h U.S. EPA 1985a.
i U.S. EPA 1985b. First value is for inorganic mercury, second value is for methylated mercury (midpoint of range of values).
j U.S. EPA 1985c.
k U.S. EPA 1980d.
l U.S. EPA 1980e.
m The bioaccumulation factor (BAF) provided in (c) is assumed to apply.
n U.S. EPA 1994a.
o U.S. EPA 1995b.
p U.S. EPA 1980f

RCF	root concentration factor
Bv	soil/plant transfer factor for vegetative crops (i.e., leafy vegetables)
Br	soil/plant transfer factor for nonvegetative (reproductive) crops
Ba	animal tissue biotransfer factor
Kd	soil/water and suspended sediment/water distribution coefficient
BAF	bioaccumulation factor

Table 4 Site-specific Parameters				
	Parameter	**Value**	**Media**	**Basis**
OC_{soil}	Fraction of organic carbon in soil (unitless)	0.013	plant, soil	average of organic matter values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), Butler (USDA SCS 1989), and Allegheny counties, PA (USDA SCS 1981); Brooke, Hancock, & Ohio counties, WV (USDA SCS 1974); and Columbiana county, OH (USDA SCS 1968) and assumption that the organic matter is comprised of 40-50% carbon (Foth and Turk 1972)
BD	Bulk density of soil (g/cm^3)	1.31	soil	average of values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), and Butler counties, PA (USDA SCS 1989)
P	Precipitation (cm/yr)	95	soil	average of values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), Butler (USDA SCS 1989), and Allegheny counties, PA (USDA SCS 1981); Brooke, Hancock, & Ohio counties, WV (USDA SCS 1974); and Columbiana county, OH (USDA SCS 1968)
I	Irrigation (cm/yr)	28	soil	PA average (personal communication, Jarrett 1994)
RO	Runoff (cm/yr)	25	soil	PA average (personal communication, Jarrett 1994)
Ev	Evapotranspiration (cm/yr)	44	soil	based on meteorological data from Columbus, OH (personal communication, Reinke 1994)
θ_s	Soil volumetric water content (mL/cm^3)	0.25	soil	regional average (personal communication, Seibert 1994)
R	USLE erosivity (yr^{-1})	125	soil	constant for Allegheny county, PA (personal communication, Moyer 1994)

Table 4 (continued) Site-specific Parameters				
	Parameter	**Value**	**Media**	**Basis**
K	USLE erodability (tons/acre)	0.34	soil	average of values provided in the Soil Conservation Service soil surveys of Beaver & Lawrence (USDA SCS 1982), Greene & Washington (USDA SCS 1983), and Butler counties, PA (USDA SCS 1989)
u	Wind speed (m/sec)	4.1	soil	based on meteorological data from Pittsburgh, PA (personal communication, Vreeland 1994)
T	Air temperature (K)	293	plant, soil	average air temperature during summer months (USBC 1993)
μ_a	Viscosity of air (g/cm-sec)	1.82×10^{-4}	soil	calculated from the air temperature (Munson et al. 1990)
ρ_a	Density of air (g/cm^3)	1.20×10^{-3}	soil, plant	calculated from the air temperature (Munson et al. 1990)
Tp	Length of exposure to deposition per harvest of the edible portion (yr)	0.226 ag exposed 0.288 leafy 0.315 forage 0.082 silage	plant	time of harvesting activity (PDA 1994)
Yp	Standing crop biomass (kg DW/m^2)	0.09 ag exposed 0.18 leafy 0.449 forage 2.989 silage	plant	literature values for aboveground exposed and leafy vegetable (Belcher and Travis 1989), average 1987 and 1992 grain, forage, and silage values from Census of Agriculture (USDC 1993a, 1993b, 1993c)
F	Fraction of feed from on-site sources	0.9 for grain and silage for dairy cows, 1.0 for all else	animal	personal communication, Miller 1993

Table 4 (continued)
Site-specific Parameters

	Parameter	Value	Media	Basis
A_w	Effective watershed area (m^2)	5.57×10^7 (TR L.) 1.3×10^9 (LBC) 4×10^9 (Ohio R.)	lake river	CES 1994 USGS 1993 professional judgement
A_{wat}	Surface area of water body (m^2)	1.2×10^5 (TR L.) 2.4×10^5 (LBC) varies by subarea (Ohio R.)	lake river	CES 1994 30 m avg width and 8,050 m length (professional judgement) 450 m avg width and lengths of 3.5, 3, 2, 2, 3, and 6.5 river miles in the E3, E2, E1, S1, W2, and W3 subareas, respectively (professional judgement)
V_{wat}	Volume of water (L/yr)	1.46×10^{10} (TR L.) 4.7×10^{11} (LBC) 3.4×10^{13} (Ohio R.)	lake river	CES 1994 USGS 1993 personal communication, Fraser 1995
TSS	Total suspended solids (mg/L)	19 (TR L.) 12 (LBC) 20 (Ohio R.)	lake river	avg of bimonthly samples at three locations (CES 1994) personal communication, Davic 1995 average of 10/89 to 6/92 monthly measurements from East Liverpool Station, Ohio River (personal communication, Fraser 1995)
PER	Particle emission rate (g/s)	0.07 0.07	lake river	average of 35 runs from the trial burns and performance tests

ag exposed = above ground exposed fruit and vegetables
TR L. = Tomlinson Run Lake
LBC = Little Beaver Creek
Ohio R. = Ohio River

1. Estimation of Soil Concentrations

It is assumed that a portion of each of the stack gas chemicals is deposited on surficial soils in the study area due to dry and wet deposition of particles and vapor. The concentration of chemicals in surficial soil is required to estimate human exposure to chemicals in soil through soil ingestion and dermal contact with soil, to predict uptake in vegetation for human consumption and grazing animals, and to estimate the concentration in surface water. Tables 5 to 11 are used to estimate chemical concentrations in soil. Soil concentrations are estimated for surface (one centimeter) soils and root zone (20 centimeters) soil (U.S. EPA 1990a). In addition, soil concentrations within the upper 10 centimeters are estimated as an input to estimating surface water concentrations (U.S. EPA 1994a), assuming an agricultural watershed, which could have some tilled and some untilled soils. These soil concentrations are based on deposition rates of chemicals of concern assuming complete mixing within the soil layer of interest (surface, root zone, or average) and continuous operation of the facility over a period of 30 years.

As presented in Table 5, various parameter values are needed to estimate soil concentrations. Deposition rates and vapor-phase air concentrations used in the equation are determined from air dispersion modeling. The deposition flux of vapor is estimated using the equation in Table 6. The soil loss constant (kse) is determined as the sum of four independent processes: leaching, soil erosion, surface runoff, and degradation (abiotic and biotic) (Table 7). Losses due to leaching (ksl), soil erosion (kse) and surface runoff (ksr) are estimated using the equations presented in Tables 7, 8, and 10, respectively. Losses due to degradation (ksg) are empirical and are determined from a review of the literature. It is conservatively assumed that additional losses due to volatilization do not occur because given all the opportunity for volatilization to occur during atmospheric transport, once deposited, additional volatilization losses from the soil are not expected.

Table 5
Estimation of Soil Concentration (CS)[a]

$$CS = \frac{(Dyd + Dyw + L_{DIF})\left[1 - e^{-(ks)(Tc)}\right](100)}{(Z)(BD)(ks)}$$

Parameter	Definition	Value
CS	Chemical concentration in soil, mg/kg	Calculated value
Dyd	Dry deposition rate, g/m^2-yr	Based on dry deposition model
Dyw	Wet deposition rate, g/m^2-yr	Based on wet deposition model
L_{DIF}	Atmospheric diffusion flux to soil, g/m^2-yr	See Table 6
ks	Soil loss constant, yr^{-1}	See Table 7
Tc	Total time of deposition, yr	30[a]
Z	Soil depth, cm	1 for soil contact[a] 10 for surface water[b] 20 for plant uptake[a]
BD	Soil bulk density, g/cm^3	1.31[c]
100	Units conversion, $(10^{-4}\ m^2/cm^2)(10^3\ mg/g)(10^3\ g/kg)$	100

Notes:
a - U.S. EPA 1993.
b - U.S. EPA 1994a.
c - See Table 4.

Table 6
Estimation of Atmospheric Diffusion Flux to Soil (L_{DIF})[a]

$$L_{DIF} = (0.31536)\ (Kt)\ (Cy)$$

Parameter	Definition	Value
L_{DIF}	Atmospheric diffusion flux to soil, g/m^2-yr	Calculated value
Kt	Gas phase mass transfer coefficient, cm/s	See Table 11
Cy	Vapor-phase chemical concentration in air due to direct emissions, $\mu g/m^3$	Based on air dispersion model
0.31536	Units conversion, $(10^{-2}$ m/cm$)(10^{-6}$ g/μg$)(3.1536 \times 10^7$ s/yr)	0.31536

Notes:
a - U.S. EPA 1993.

Table 7
Estimation of Soil Loss Constant (ks) and Soil Loss Due to Leaching (ksl)[a]

$$ks = ksl + kse + ksr + ksg$$

$$ksl = \frac{P + I - RO - Ev}{(\theta_s)(Z)\left[1 + (BD)\left(\frac{Kd_s}{\theta_s}\right)\right]}$$

Parameter	Definition	Value
ks	Soil loss constant, yr^{-1}	Calculated value
ksl	Soil loss due to leaching, yr^{-1}	Calculated value
kse	Soil loss due to soil erosion, yr^{-1}	See Table 8
ksr	Soil loss due to surface runoff, yr^{-1}	See Table 10
ksg	Soil loss due to degradation, yr^{-1}	Chemical-specific
P	Average annual precipitation, cm/yr	95[b]
I	Average annual irrigation, cm/yr	28[b]
RO	Average annual runoff, cm/yr	25[b]
Ev	Average annual evapotranspiration, cm/yr	88[b]
θ_s	Soil volumetric water content, mL/cm^3	0.25[b]
Z	Soil depth of leaching, cm	1, 10, or 20
BD	Soil bulk density, g/cm^3	1.31[b]
Kd_s	Soil/water partition coefficient, mL/g	Chemical-specific

Notes:
a - U.S. EPA 1993.
b - See Table 4.

Table 8
Soil Loss Due to Soil Erosion (kse)[a]

$$kse = \left[\frac{(X_e)\ (SD_w)\ (E)\ (0.1)}{(BD)\ (Z)}\right]\left[\frac{(Kd_s)\ (BD)}{\theta_s + (Kd_s)\ (BD)}\right]$$

Parameter	Definition	Value
kse	Soil loss due to soil erosion, yr^{-1}	Calculated value
X_e	Unit soil loss, kg/m^2-yr	See Table 9
BD	Soil bulk density, g/cm^3	1.31[b]
SD_w	Sediment delivery ratio for watershed, unitless	See Table 30
E	Enrichment ratio, unitless	3[c]
Z	Watershed mixing zone depth, cm	1, 10, or 20
Kd_s	Soil/water partition coefficient, mL/g or cm^3/g	Chemical-specific
θ_s	Soil volumetric water content, unitless or cm^3/cm^3	0.25[b]
0.1	Units conversion, $(m^2/10^4\ cm^2)(10^3\ g/kg)$	0.1

Notes:
a - U.S. EPA 1993.
b - See Table 4.
c - U.S. EPA 1994a.

Table 9
Unit Soil Loss (X_e)[a]

$$X_e = (R)\ (K)\ (LS)\ (C)\ (P_s) \left(907.18 \frac{kg}{ton}\right) \left(\frac{acre}{4.07 \times 10^{-3}\ km^2}\right) \left(10^{-6} \frac{km^2}{m^2}\right)$$

Parameter	Definition	Value
X_e	Unit soil loss, kg/m^2-yr	Calculated value
R	"Erosivity" factor, yr^{-1}	125[b]
K	"Erodability" factor, tons/acre	0.34[b]
LS	"Topographic or slope length" factor, unitless	0.179[c]
C	"Cover management" factor, unitless	0.3[d]
P_s	"Supporting practice" factor, unitless	1.0[c]

Notes:
a - U.S. EPA 1990a.
b - See Table 4.
c - U.S. EPA 1993.
d - Default value for a rural setting (U.S. EPA 1994a)

Table 10
Soil Loss Due to Surface Runoff (ksr)[a]

$$ksr = \left[\frac{RO}{(\theta_s)\ (Z)}\right]\left[\frac{1}{1 + \frac{(Kd_s)\ (BD)}{\theta_s}}\right]$$

Parameter	Definition	Value
ksr	Soil loss due to surface runoff, yr^{-1}	Calculated value
RO	Average annual runoff cm/yr	25[b]
θ_s	Soil volumetric water content, unitless or cm^3/cm^3	0.25[b]
Z	Watershed mixing zone depth, cm	1, 10 or 20
Kd_s	Soil/water partition coefficient, mL/g or cm^3/g	Chemical-specific
BD	Soil bulk density, g/cm^3	1.31[b]

Notes:
a - U.S. EPA 1993.
b - See Table 4.

Table 11
Estimation of Gas Phase Mass Transfer Coefficient (K_t)[a]

$$K_t = (0.482)\ (u^{0.78})\ (S_{ca}^{-0.67})\ (d_e^{-0.11})$$

$$S_{ca} = \frac{\mu_a}{(\rho_a)\ (D_a)}$$

Parameter	Definition	Value
K_t	Gas phase mass transfer coefficient, cm/s	Calculated value
u	Wind speed, m/s	4.1[b]
S_{ca}	Schmidt number for gas phase, unitless	Calculated value
d_e	Effective diameter of contaminated area, m	200[a]
μ_a	Viscosity of air, g/cm-sec	1.82×10^{-4} [b]
ρ_a	Air density, g/cm^3	1.20×10^{-3} [b]
D_a	Diffusion coefficient of chemical in air, cm^2/sec	Chemical-specific

Notes:
a - U.S. EPA 1990a.
b - See Table 4.

2. Estimation of Vegetation Concentrations

The chemical concentration in vegetation is necessary to estimate human exposure to chemicals through ingestion of vegetation (i.e., vegetables and fruit) as well as to estimate the uptake of chemicals by animals that feed on the vegetation (i.e., grain, forage, and silage). Stack gas chemicals may bioaccumulate in plants through three mechanisms: uptake by roots, direct deposition on exposed plant tissues, and air-to-plant transfer of vapor-phase chemicals. These mechanisms are discussed more fully by U.S. EPA (1990a and 1994a).

The magnitude of chemical uptake by vegetables is dependent on the type of vegetable and its potential for exposure to the atmosphere. For example, contaminant deposition onto leafy vegetables is more likely to occur than onto vegetables that are protected from the atmosphere, such as corn or root vegetables. Similarly, the uptake of chemicals from the soil will differ for below ground and aboveground vegetables. Therefore, four types of vegetable classes are considered in the Human Health Risk Assessment: leafy vegetables (e.g., lettuce, broccoli); aboveground protected vegetables (e.g., corn, peas); aboveground exposed (e.g., tomatoes, green peppers); and root vegetables (e.g., carrots, onions). Assumptions for each of these classes of vegetables are used in Tables 12 to 22 to estimate concentrations of chemicals in vegetables.

The total concentration of a chemical in a given plant (CV) is due to root uptake (Pr_i), direct deposition (Pd_i), and air-to-plant transfer (Pv_i) as shown in Table 12. Concentrations of leafy, aboveground exposed and aboveground protected vegetables are calculated in dry weight. Because ingestion rates are based on fresh weight, the dry weight vegetable concentration is converted to a wet weight concentration by multiplying by (1-water fraction), as shown in Table 12. The concentration in root vegetables is calculated in wet weight so a similar conversion is not necessary. Additionally, dry weight concentrations are needed for grain, forage, and silage precluding the need for a comparable conversion.

Calculation of the total plant concentration is different for aboveground and below ground vegetation and is described below. As shown in Table 13, chemical concentration from root uptake (Pr_i) for aboveground vegetation (i.e., aboveground exposed and protected vegetables, and leafy vegetables) is dependent on the soil concentration (CS) and a chemical-specific plant/soil bioconcentration factor (Br_i). Baes et al. (1984) presents bioconcentration factors for all the metals. For organic chemicals, the bioconcentration factors are calculated using an equation developed by Travis and Arms (1988) and presented in Table 14.

For below ground vegetation (i.e., root vegetables), Pr_i is estimated by the method developed by Briggs (1982) and shown in Table 15. Briggs (1982) developed a regression equation dependent on the octanol/water partition coefficient (K_{ow}) to calculate root concentration factor (RCF_i) values. This equation is presented in Table 16. VG_{bg} is a factor

introduced into the calculation of contaminant concentrations to reflect the reduced translocation of compounds in bulky, below ground vegetables, such as carrots and potatoes (U.S. EPA 1994a). In general, the contaminant concentrations measured in the barley roots of the Briggs (1982) experiments would be representative of the levels of compounds in the outer few millimeters of below ground vegetation, but much higher than the average concentration in the whole vegetable. Thus, a VG_{bg} value of 0.01 is used for all compounds (U.S. EPA 1994c).

The factors related to the plant concentration attributable to direct deposition on exposed plant tissues (Pd_i) are presented in Table 17. The site-specific parameters are presented in Table 17. The wet and dry deposition rates are obtained from the air dispersion modeling. Fw is the fraction of wet deposition that adheres to plant surfaces and is assumed to equal 0.6 for all organics and 0.46 for all metals, according to recommendations by U.S. EPA (1995c). Equations to calculate the interception fraction of the edible portion of plant tissue (Rp_i) and the plant surface loss coefficient (kp) are presented in Tables 18 and 19, respectively. Values of the length of a plant's exposure to deposition per harvest (Tp_i) and the yield or standing crop biomass (Yp_i) are obtained from the PA Agricultural Statistics Service (PASS 1994) and the Census of Agriculture (USDC 1993a, 1993b, 1993c), respectively. This route of exposure for plants is not considered for aboveground protected vegetables and root vegetables.

Plant concentrations attributable to air-to-plant transfer are dependent on the vapor-phase air concentration and an air-to-plant biotransfer factor, as can be seen in Table 20. This type of transfer applies only to aboveground leafy and exposed plants (i.e., does not include root or aboveground protected vegetables). The site-specific parameters are presented in Table 20. These factors are related to various physical and chemical properties of the chemicals. Table 21 presents equations used to estimate the air-to-plant biotransfer factor (Bv_i). The vapor-phase concentration due to direct emissions (Cy) is obtained from the air dispersion modeling. VG_{ag} is a correction factor similar to VG_{bg} that is introduced to reflect the difference between the concentration in the outer few millimeters and the average concentration in the whole vegetable. Based on U.S. EPA's (1994a) recommendations, VG_{ag} should be set equal to 0.01 for unspecified aboveground fruits and vegetables, 1.0 for leafy vegetables and forage, 0.5 for silage, and 0 for grain. These recommendations are based, in part, on the reduction of chemical concentrations in unspecified fruits and vegetables as a result of cleaning and peeling; the direct analogy of leafy vegetables and forage to azalea leaves, the experimental leaves on which the equation was based; the assumption that silage can be considered part leafy and part protected; and the assumption that grain is fully protected.

Table 12
Estimation of Plant Concentration (CV)[a]

$$CV_i = Pr_i + Pd_i + Pv_i$$

for dry-to-wet weight conversion:

$$CV(wet\ weight)_i = \left[CV(dry\ weight)_i\right]\left(1 - Fwater_i\right)$$

Parameter	Definition	Value
CV_i[b]	Total chemical concentration in the i^{th} plant group, mg/kg	Calculated value
Pr_i	Chemical concentration in i^{th} plant group due to root uptake, mg/kg	See Tables 13 and 15
Pd_i	Chemical concentration in i^{th} plant group due to direct deposition, mg/kg	See Table 17
Pv_i	Chemical concentration in i^{th} plant group due to air-to-plant transfer, mg/kg	See Table 20
$Fwater_i$	Water fraction in i^{th} plant group[c], unitless	0.93 leafy[d] 0.87 aboveground exposed[d] 0.78 aboveground protected[d]

Notes:
a - U.S. EPA 1990a.
b - Uptake via direct deposition and air-to-plant transfer is assumed to be insignificant for aboveground protected and root vegetables. All three uptake pathways are assumed to be significant for aboveground exposed and leafy vegetables and grain, forage, and silage.
c - Root vegetables are calculated in wet weight, and dry weight concentrations are needed for grain, forage, and silage, so water fractions are not provided for these plant categories.
d - Baes et al. 1984.

Table 13
Plant Chemical Concentration Due to Root Uptake in Aboveground Plants (Pr_i)[a]

$$Pr_i = (CS)\ (Br_i)$$

Parameter	Definition	Value
Pr_i	Chemical concentration in i^{th} plant group due to root uptake, mg chemical/kg plant tissue, dry weight [DW]	Calculated value
CS	Soil chemical concentration after the total period of deposition, mg chemical/kg soil	See Table 5
Br_i[b]	Plant/soil bioconcentration factor for the i^{th} plant group, [mg chemical/kg plant tissue DW]/[mg chemical/kg soil]	Chemical-specific, see Baes et al. (1984) for metals and Table 14 for organics

Notes:
a - U.S. EPA 1990a.
b - For uptake of metals by aboveground leafy vegetables, Bv is used in place of Br. Values of Bv are listed in Baes et al. (1984).

Table 14
Plant/Soil Bioconcentration Factor for Organic Chemicals for Aboveground Plants (Br_i)[a]

$$Log\,Br_i = 1.588 - (0.578)\,(Log\,K_{ow})$$

Parameter	Definition	Value
Br_i	Plant/soil bioconcentration factor for organic chemicals for aboveground plants, [mg chemical/kg plant tissue DW]/[mg chemical/kg soil]	Calculated value
K_{ow}	Octanol/water partition coefficient, unitless	Chemical-specific

Notes:
a - U.S. EPA 1990a.

Table 15
Plant Chemical Concentration Due to Root Uptake in Below Ground Plants (Pr_{bg})[a]

$$Pr_{bg} = \frac{(CS)\ (RCF)\ (VG_{bg})}{Kd_s}$$

Parameter	Definition	Value
Pr_{bg}	Chemical concentration in i^{th} plant group due to root uptake, mg chemical/kg plant tissue, wet weight [WW]	Calculated value
CS	Soil chemical concentration after the total period of deposition, mg chemical/kg soil	See Table 5
RCF	Root concentration factor, L soil water/kg plant tissue	See Table 16
VG_{bg}	Empirical correction factor, unitless	0.01[a]
Kd_s	Soil/water partition coefficient, L soil water/kg soil	Chemical-specific

Notes:
a - U.S. EPA 1994c.

Table 16
Root Concentration Factor for Organic Chemicals for Below Ground Plants (RCF)[a]

$$Log\,RCF = (0.77)\,(Log\,K_{ow}) - 1.52$$

Parameter	Definition	Value
RCF	Root concentration factor for organic chemicals for below ground plants, L soil water/kg plant tissue, fresh weight	Calculated value
K_{ow}	Octanol/water partition coefficient, unitless	Chemical-specific

Notes:
a - U.S. EPA 1994a.

Table 17
Aboveground Plant Chemical Concentration Due to Direct Deposition (Pd_i)[a]

$$Pd_i = \frac{(1000)\,[Dyd + (Fw)\,(Dyw)]\,(Rp_i)\left[1 - e^{-(kp)\,(Tp_i)}\right]}{(Yp_i)\,(kp)}$$

Parameter	Definition	Value
Pd_i	Chemical concentration due to direct deposition in the i^{th} plant group, mg chemical/kg plant tissue DW	Calculated value
1000	Conversion factor, (10^{-3} kg/g)(10^{6} mg/kg)	1000
Dyd	Yearly dry deposition rate, g chemical/m^2-yr	Based on dry deposition model
Fw	Fraction of wet deposition that adheres to plant surfaces, unitless	0.6 for organics[c] 0.46 for metals[c]
Dyw	Yearly wet deposition rate, g chemical/m^2-yr	Based on wet deposition model
Rp_i	Interception fraction of the edible portion of plant tissue for the i^{th} plant group, unitless	See Table 18
kp	Plant surface loss coefficient, yr^{-1}	See Table 19
Tp_i	Length of plant's exposure to deposition per harvest of the edible portion of the i^{th} plant group, yr	0.226 aboveground exposed[b] 0.288 leafy[b] 0.315 forage[b] 0.082 silage[b]
Yp_i	Yield or standing crop biomass of the edible portion of the i^{th} plant group, kg DW/m^2	0.09 aboveground exposed[b] 0.18 leafy[b] 0.449 forage[b] 2.989 silage[b]

Notes:
a - U.S. EPA 1993.
b - See Table 4.
c - U.S. EPA 1995c.

Table 18
Interception Fraction for Aboveground Plants (Rp_i)

Forage[a]:	$Rp_f = 1 - e^{(-2.88 \times Yp_i)}$
Silage[b,c]:	$Rp_s = 1 - e^{(-0.769 \times Yp_i)}$
Leafy Vegetables[a]:	$Rp_{lv} = 1 - e^{(-0.0846 \times Yp_i)}$
Exposed Vegetables[a]:	$Rp_e = 1 - e^{(-0.0524 \times Yp_i)}$

Parameter	Definition	Value
Rp_f	Interception fraction for forage, unitless	Calculated value
Yp_i	Standing crop biomass for i^{th} plant group, kg DW/m^2	See Table 17
Rp_s	Interception fraction for silage, unitless	Calculated value
Rp_{lv}	Interception fraction for leafy vegetables, unitless	Calculated value
Rp_e	Interception fraction for exposed produce, unitless	Calculated value

Notes:
a - U.S. EPA 1990a.
b - U.S. EPA 1994a.
c - Silage includes grains; leafy vegetables include brassica vegetables; exposed vegetables include legumes, fruiting vegetables and fruits. Potatoes and root vegetables are assumed to have interception fractions equal to zero.

Table 19
Plant-Surface Loss Coefficient (kp)[a]

$$kp = \left(\frac{\ln 2}{t_{1/2}}\right)\left(\frac{365\,days}{yr}\right)$$

Parameter	Definition	Value
kp	Plant-surface loss coefficient, yrs^{-1}	Calculated value
$t_{1/2}$	Environmental half-time on plant surfaces, days	Chemical-specific (assume 14 for all chemicals[b])

Notes:
a - U.S. EPA 1990a.
b - U.S. EPA 1994a.

Table 20
Aboveground Plant Chemical Concentration Due to Air-to-Plant Transfer (Pv_i)[a]

$$Pv_i = \frac{(Cy)\ (Bv_i)\ (VG_{ag})}{(\rho_a)\ (10^3)}$$

Parameter	Definition	Value
Pv_i	Chemical concentration due to air-to-plant transfer in the i^{th} plant group, mg chemical/kg plant tissue DW	Calculated value
Cy	Vapor-phase chemical concentration in air due to direct emissions, μg chemical/m^3 air	Based on air dispersion model
Bv_i	Air-to-plant biotransfer factor for the i^{th} plant group, [mg chemical/kg plant tissue DW]/[mg chemical/kg air]	Calculated value, see Table 21
VG_{ag}	Aboveground plant correction factor, unitless	0.01 aboveground vegetable[a] 1.0 leafy[a] 1.0 forage[a] 0.5 silage[a] 0 grain[a]
ρ_a	Density of air, kg/m^3	1.247 at 10° C
10^3	Units conversion, mg/$10^3\mu$g	10^3

Notes:
a - U.S. EPA 1994a.

Table 21
Air-to-Plant Biotransfer Factors (Bv)[a]

$$Bv_i = \frac{(\rho_a)\ (B_{vol})}{(0.15)\ (770)\ (40)}$$

Parameter	Definition	Value
Bv_i	Air-to-leaf biotransfer, [mg/kg DW]/[mg/kg air]	Calculated value
ρ_a	Density of air kg/m^3	1.247 at 10° C
B_{vol}	Bacci volumetric air-to-leaf biotransfer factor, [mg/kg WW]/[mg/kg air]	See Table 22
0.15	Fraction of grass that is dry weight, 85%	0.15[a]
770	Grass leaf density, g/L	770[a]
40	Empirical correction factor	40[a]

Notes:
a - U.S. EPA 1994a.

Table 22
Bacci Volumetric Air-to-Leaf Biotransfer Factors (B_{vol})[a]

$$\log B_{vol} = (1.065)\ (\log K_{ow}) - \log\left(\frac{H}{R\ T}\right) - 1.654$$

Parameter	Definition	Value
B_{vol}	Bacci volumetric air-to-leaf biotransfer factor, [mg/kg WW]/[mg/kg air]	Calculated value
K_{ow}	Octanol/water partition coefficient, unitless	Chemical-specific
H	Henry's constant, atm-m^3/mole	Chemical-specific
R	Universal gas constant, atm-m^3/mole-K	8.206×10^{-5}
T	Temperature, K	293[b]

Notes:
a - U.S. EPA 1993.
b - See Table 4.

3. Estimation of Chemical Concentrations in Meat, Eggs, and Milk

Stack gas chemicals in soil and plants may accumulate in animals that ingest these media while grazing. The chemical concentration in animals is required to estimate human exposure to chemicals via consumption of meat products, eggs, and milk from livestock that have grazed on soils containing chemicals emitted from the stack. U.S. EPA (1993; 1994a) presents a food chain model to estimate concentrations of stack gas chemicals in beef, milk, pork, poultry, eggs, and deer meat. This model considers the chemical concentration in plants and soil, the quantity of plants and soil that animals consume, and the biotransfer (Ba) or bioconcentration (BCF) factor for each type of animal tissue. Uptake of chemicals via inhalation and ingestion of contaminated water is assumed to be insignificant and not considered in this assessment (U.S. EPA 1994a).

Table 23 presents the algorithm used to estimate chemical concentrations in animal tissues. This equation includes uptake from ingestion of plants and soil as well as a biotransfer or bioconcentration factor. Estimation of the chemical concentration in plants was described previously. Information in Table 24 provides additional input parameters of the type and amount of plants and soil consumed by various animals.

Table 25 presents regression equations for non-dioxin-like organic chemicals that relate biotransfer factors to a chemical-specific octanol/water partition coefficient (K_{ow}). It should be noted, however, that the regression equations for beef and milk, which were developed by Travis and Arms (1988), may contain residual error (personal communication, McKone 1995) and a recent study suggests that the biotransfer factor may be independent of K_{ow} over a broad range (McLachlan 1994).

Considerable scientific evidence exists to indicate that bis(2-ethylhexyl)phthalate is readily metabolized and excreted, so that very little tissue accumulation occurs in mammalian species (Ikeda 1980; Daniel and Bratt 1974; Astill 1989). In rats, there is very little tissue accumulation following repeated dietary treatment with ^{14}C-BEHP. Significant uptake was found only in liver and fat, and tissue half-lives for BEHP and its metabolites were estimated to be 3 to 5 days for fat and 1 to 2 days for other tissues (Daniel and Bratt 1974). In cynomolgus monkeys, the rate of excretion of label was 50 to 80 percent in the first 24 hours. The average 24-hour excretion of label was lower in dogs (67 percent) and miniature pigs (37 percent) (Astill 1989). A comparative study of BEHP absorption and excretion in rats, dogs, and pigs showed that the rate of clearance was rapid in all these species. Less than 3 percent of the administered dose was found to remain in the body tissues after 96 hours , with most remaining in the intestines, and less than1 percent retained in muscle and fat(Ikeda 1980).

Metabolism of BEHP has been verified in several species including man (Schmid and Schlatter 1985). These studies collectively indicate that there is very low potential for significant bioaccumulation of BEHP in the human food chain (ATSDR 1993a). Based on the work of Ikeda et al. (1980), a conservative "metabolism factor" (MF) of 0.01 (to represent an upper limit of 1 percent remaining in fat and muscle) was used to modify the biotransfer factor derived from Travis and Arms (1988) (see Table 23). Metabolism factors for all other compounds were conservatively assumed to be 1.0.

Egg concentrations are assumed to be related to K_{ow} by a regression equation developed by California EPA for their CalTOX exposure model (CalEPA 1993). The uncertainties associated with the use of these equations are discussed more fully in the uncertainty section of the Human Health Risk Assessment. These regression equations are all based on experimental data that relate the chemical concentration in feed to the chemical concentration in animal tissue (fresh weight). For dioxin-like compounds (i.e., conservatively includes chlorinated biphenyl compounds in addition to dioxin and furan compounds) in beef, milk, pork, chicken, egg, and deer meat, however, an empirical BCF is used that relates the concentration of the ingested feed to the concentration in animal fat. This BCF is congener-specific but is based on a study with one animal (U.S. EPA 1994a). The uncertainty section of the Human Health Risk Assessment discusses this uncertainty more fully. The concentration in animal fat is converted to fresh weight by multiplying by the fat fraction, as shown in Table 23. For metals, biotransfer factors reported in the literature are used to estimate concentrations in animal tissue (fresh weight). Specifically, biotransfer factors for cadmium, mercury, selenium, and zinc are presented in U.S. EPA (1995c). For the other metals, the source of the biotransfer factor is found in Table 3.

To account for the fraction of the vegetation ingested by the animal that is grown near the farm site and thus could be impacted by incinerator emissions, an F_i factor is introduced. A value for F_i is assigned based on local data on the fraction of grain, silage, etc. that is imported into the area. Consumption of forage by the various livestock is assumed to have an F_i of 1.0. Consumption of grain and silage by the various livestock also has an F_i of 1.0 except for dairy cattle ingestion of grain and silage, which has an F_i of 0.9. These site-specific values were estimated based on a discussion with a local agricultural extension agent (personal communication, Miller 1993).

To correct for the differences in transfer efficiency of soil as compared to feed, a B_s factor is added to the equation in Table 23. Because the BCF was developed based on vegetative intake, it must be reduced to account for the fact that soil is a less efficient vehicle of transfer as compared to feed. A B_s of 0.65, therefore, is used as suggested by U.S. EPA (1994a).

It should be noted that feed lot fattening of beef cattle is not considered in this assessment because discussion with local agricultural agents indicated that no feed lots are present in this area. If for some reason, however, beef cattle are fattened prior to slaughter (e.g., a farmer has a special diet for his cattle or beef cattle are sent to feed lots outside the area and return to the area as beef), the concentration in beef could be overestimated by about a factor of two. This overestimation does not apply for the subsistence farmer scenario, however, because it is reasonable to assume that feed lot fattening does not occur (U.S. EPA 1994a).

Chicken and egg concentrations may be similarly overestimated if chickens are raised in cages because the equations to estimate chicken concentrations are based on free-ranging chickens. Caged chickens would not have access to contaminated soil like free-ranging chickens, so their soil intake would be reduced. However, because soil intake is assumed to make up only 3% of a chicken's total intake, this overestimation is likely to be small.

Table 23
Estimation of Chemical Concentration in Animal Tissues (CB)[a]

$$CB = \left[\sum_{i=1}^{n} (Qp_{ij})\,(CV_{ij})\,(F_{ij}) + (Qs_j)\,(CS)\right](Ba_j)\,(MF)$$

or for dioxin-like compounds[b]:

$$CB = \left[\sum_{i=1}^{n} (DFp_{ij})\,(CV_{ij})\,(F_{ij}) + (DFs_j)\,(CS)\,(B_s)\right](BCF)\,(fat_j)$$

Parameter	Definition	Value
CB	Chemical concentration in the j^{th} animal tissue group, mg chemical/kg animal tissue fresh weight	Calculated value
Qp_{ij} or DFp_{ij}	Quantity of the i^{th} plant tissue eaten by the j^{th} animal each day or fraction of diet that is the i^{th} plant tissue, kg plant tissue DW/day or unitless	See Table 24
CV_{ij}	Total chemical concentration in the i^{th} plant group eaten by the j^{th} animal, mg chemical/kg plant tissue DW	See Table 12
F_{ij}	Additional adjustment factor to account for grain or silage that is imported from outside areas, unitless	0.9 for dairy cattle grain and silage 1.0 for all else[c]
Qs_j or DFs_j	Quantity of soil eaten by the j^{th} animal each day or fraction of diet that is soil, kg soil/day or unitless	See Table 24
CS	Soil concentration, mg chemical/kg soil	See Table 5 (1 cm depth)
B_s	Soil bioavailability term, unitless	0.65[b]
Ba_j	Biotransfer factor for the j^{th} animal tissue group, d/kg	Chemical-specific, see Baes et al. (1984) for metals and Table 25 for organics
MF	Metabolism factor, unitless	Chemical-specific (0.01 for BEHP and 1.0 for all other chemicals)
BCF	Bioconcentration ratio of contaminant, unitless	Congener-specific
fat_j	Fraction of j^{th} animal tissue that is fat, unitless	See Table 25

a - modified from U.S. EPA 1993.
b - U.S. EPA 1994a.
c - See Table 4.

Table 24
Feed and Soil Consumption Rates for Various Animals

Animal	Quantity of Plants Consumed by Animals (Qp_{ij}), kg DW/day	Quantity of Soil Consumed by Animals (Qs_j), kg/day
Beef cattle	12[a]	0.39[a] (3%[c])
grain	0.47[a] (4%[c])	
forage	8.8[a] (72%[c])	
silage	2.5[a] (21%[c])	
Dairy cattle	17[a]	0.41[a] (2%[c])
grain	2.6[a] (15%[c])	
forage	11[a] (64%[c])	
silage	3.3[a] (19%[c])	
Hogs	4.3[a]	0.34[b] (7%[c])
grain	3.0[a] (65%[c])	
silage	1.3[a] (28%[c])	
Chickens (grain)	0.08[a] (97%[c])	0.0024[b] (3%[c])
Deer (forage)	1.6[d] (99%[c])	0.0185[e] (1%[c])

Notes:
a - U.S. EPA 1990a.
b - U.S. EPA 1993.
c - Percent of diet (DF x 100%)
d - Dee 1991.
e - Arthur and Aldredge 1979.

Table 25
Biotransfer Factors (Baj) for Non-dioxin-like Compounds and Fat Fractions

$$\log Ba(beef) = -7.6 + \log K_{ow} \qquad (a)$$

$$\log Ba(milk) = -8.1 + \log K_{ow} \qquad (a)$$

$$Ba(pork) = [Ba(beef)]\left(\frac{fat_{pork}}{fat_{beef}}\right) \qquad (b)$$

$$Ba(chicken) = [Ba(beef)]\left(\frac{fat_{chicken}}{fat_{beef}}\right) \qquad (b)$$

$$\log Ba(eggs) = -5.1 + \log K_{ow} \qquad (c)$$

Parameter	Definition	Value
Ba	Biotransfer factor, d/kg	Calculated value
K_{ow}	Octanol/water partition coefficient, unitless	Chemical-specific
fat_{beef}	Fraction of beef that is fat, unitless	0.23[d]
fat_{milk}	Fraction of milk that is fat, unitless	0.02[e]
fat_{pork}	Fraction of pork that is fat, unitless	0.23[d]
$fat_{chicken}$	Fraction of chicken that is fat, unitless	0.058[d]
fat_{egg}	Fraction of egg that is fat, unitless	0.08[c]
fat_{deer}	Fraction of deer meat that is fat, unitless	0.04[d]

a - U.S. EPA 1990a.
b - Professional judgement.
c - CalEPA 1993.
d - Pennington 1993.
e - USDA 1994.

4. Estimation of Surface Water Concentration

Surface water bodies may receive stack gas chemicals from direct deposition, from runoff of contaminated soils in the vicinity of the WTI facility, and from eroded soils. The chemical concentration in surface water is required to estimate human exposure through surface water ingestion and dermal contact, and to estimate the uptake of chemicals from the surface water by fish. U.S. EPA (1994a) presents a model to estimate chemical concentrations in surface water bodies, shown in Tables 26 to 33. This model, and not other models suggested by U.S. EPA (e.g., U.S. EPA 1990a; 1993) is used because it was developed specifically for dioxin-like compounds, the class of chemicals that present the greatest health effects in this assessment. Additionally, this model contains fewer uncertain parameters than the other models. The assumptions contained in this algorithm include the following:

- The impact to the water body is correlated to concentrations on watershed soils and particles that deposit on the water body,
- Soil concentrations within a watershed and impacts to the water body are uniform,
- Sorption of compounds onto surface soil, suspended solids, and bottom sediments is principally a function of the contaminant's organic carbon partition coefficient (K_{oc}) and the organic carbon content of soils and sediment,
- Chemicals enter into a surface water body via soil erosion, surface runoff, and direct deposition,
- The concentration of contaminants on eroding soil is "enriched" due to the preferential erosion of lighter and higher organic matter material and the preferential binding of contaminants to these lighter and higher organic matter material,
- The concentration of contaminants sorbed to suspended matter is "enriched" compared to bottom sediments for similar reasons, that is, contaminants will preferentially bind to particles that remain in suspension because they tend to be lighter and have higher organic matter material as compared to particles that settle to the bottom,
- Steady state is achieved between the concentration in the dissolved phase in the water column, the concentration in the suspended sediment, and the concentration in bottom sediments,
- A mass balance is maintained between the soil reaching the water body via erosion and direct deposition, the suspended sediment, and the bottom sediment, and

- Volatilization out of and degradation in the water body are not modeled, nor is resuspension of bottom sediment.

To determine surface water concentrations, the concentration on the suspended sediment must be estimated. The suspended sediment concentration is calculated with the total load of chemical to the water body (ρ) and the annual amount of suspended sediment (ϕ), as presented in Table 28. The values for ρ and ϕ are determined by the equations in Tables 29 to 33.

Once the suspended sediment concentration is determined, the dissolved concentration is estimated by calculating a mass balance between the mass of contaminants entering the water body and the amount that partitions to the three compartments in the water body, a) dissolved in the water column, b) sorbed to suspended material, and c) sorbed to particles settling to the bottom. Specifically, the dissolved concentration is estimated by assuming that equilibrium is maintained between the sorbed and dissolved phases (Table 26). The bottom sediment concentration is determined by the relationship with the concentration on the suspended sediment shown in Table 27. This relationship assumes that suspended sediment concentrations are enriched in comparison to bottom sediment concentrations, according to the organic carbon content.

Table 26
Estimation of Surface Water Concentration (CW)[a]

$$CW = \frac{C_{ssed}}{Kd_{ssed}}$$

Parameter	Definition	Value
CW	Dissolved-phase concentration in water column, mg/L	Calculated value
C_{ssed}	Concentration on suspended sediment, mg/kg	See Table 28
Kd_{ssed}	Suspended sediment/water partition coefficient for contaminant in suspended sediment, L/kg	Chemical-specific

Notes:
a - U.S. EPA 1994a.

Table 27
Concentration on Sediment (C_{sed})[a]

$$C_{sed} = (C_{ssed})\left(\frac{OC_{sed}}{OC_{ssed}}\right)$$

Parameter	Definition	Value
C_{sed}	Concentration on sediment, mg/kg	Calculated value
C_{ssed}	Concentration on suspended sediment, mg/kg	See Table 28
OC_{sed}	Fraction organic carbon in bottom sediment, unitless	0.03[a]
OC_{ssed}	Fraction organic carbon in suspended sediment, unitless	0.05[a]

Notes:
a - U.S. EPA 1994a.

Table 28
Concentration on Suspended Sediment (C_{ssed})[a]

$$C_{ssed} = \frac{\rho}{\phi}$$

Parameter	Definition	Value
C_{ssed}	Concentration on suspended sediment, mg/kg	Calculated value
ρ	Annual contaminant entry via erosion + direct deposition, mg/yr	See Table 29
ϕ	Annual amount of suspended sediment, kg/yr	See Table 32

Notes:
a - U.S. EPA 1994a.

Table 29
Annual Contaminant Entry via Erosion + Direct Deposition (ρ)[a]

$$\rho = (CS_{wb})(ER_w) + DEP_c$$

$$CS_{wb} = (CS)(E)$$

$$ER_w = (X_e)(A_w)(SD_w)$$

Parameter	Definition	Value
ρ	Annual contaminant entry via erosion + deposition, mg/yr	Calculated value
CS_{wb}	Concentration on soil entering water body, mg/kg	Calculated value
ER_w	Total watershed erosion, kg/yr	Calculated value
DEP_c	Annual deposition of contaminant on water body, mg/yr	See Table 31
CS	Average soil concentration in effective area of watershed, mg/kg	See Table 5
E	Enrichment ratio, unitless	3[a]
X_c	Unit soil loss, kg/m^2-yr	See Table 9
A_w	Effective drainage area of watershed, m^2	See Table 4
SD_w	Sediment delivery ratio for watershed, unitless	See Table 30

Notes:
a - U.S. EPA 1994a.

Table 30
Sediment Delivery Ratio for Watershed (SD_w)[a]

$$SD_w = (a)\,(A_w)^{-0.125}$$

Parameter	Definition	Value
SD_w	Sediment delivery ratio for watershed, unitless	Calculated value
a	Empirical intercept coefficient, unitless	See below
A_w	Effective drainage area of watershed, m^2	See Table 4

Notes:
a - U.S. EPA 1993.

Watershed Area (square miles)	"a" Coefficient
≤ 0.1	2.1
1	1.9
10	1.4
100	1.2
1000	0.6

Table 31
Annual Deposition of Contaminant on Water Body (DEP_c)[a]

$$DEP_c = (Dyd + Dyw)\,(A_{wat})\,(1000)$$

Parameter	Definition	Value
DEP_c	Annual deposition of contaminant on water body, mg/yr	Calculated value
Dyd	Dry deposition rate, g/m^2-yr	Based on dry deposition model
Dyw	Wet deposition rate, g/m^2-yr	Based on wet deposition model
A_{wat}	Surface area of water body, m^2	See Table 4
1000	Units conversion, 10^3 mg/g	1000

Notes:
a - U.S. EPA 1994a.

Table 32
Annual Amount of Suspended Sediment (ϕ)[a]

$$\phi = \frac{V_{wat}}{Kd_{ssed}} + (f_s)(ER_w) + (f_{sd})(DEP_p) + \frac{OC_{sed}}{OC_{ssed}}\left[(1 - f_s)(ER_w) + (1 - f_{sd})(DEP_p)\right]$$

Parameter	Definition	Value
ϕ	Annual amount of suspended sediment, kg/yr	Calculated value
V_{wat}	Water body annual volume, L/yr	See Table 4
Kd_{ssed}	Suspended sediment/water partition coefficient, L/kg	Chemical-specific
f_s	Fraction of annual erosion remaining as suspended materials, unitless	See Table 33
ER_w	Total watershed erosion, kg/yr	See Table 29
f_{sd}	Fraction of annual deposition remaining as suspended materials, unitless	1.0[a]
DEP_p	Total annual direct deposition of particles, kg/yr	See Table 33
OC_{sed}	Fraction organic carbon in bottom sediment, unitless	0.03[a]
OC_{ssed}	Fraction organic carbon in suspended sediment, unitless	0.05[a]

Notes:
a - U.S. EPA 1994a.

Table 33
Fraction of Annual Erosion Remaining as Suspended Materials (f_s) and Total Annual Direct Deposition of Particles (DEP_p)[a]

$$f_s = \frac{(TSS)\ (V_{wat})\ (10^{-6})}{ER_w}$$

$$DEP_p = (PER)\ (RDEP_p)\ (A_{wat})\ (10^{-3})$$

Parameter	Definition	Value
f_s	Fraction of annual erosion remaining as suspended materials, unitless	Calculated value (not to exceed 1.0)
TSS	Total suspended solids, mg/L	See Table 4
V_{wat}	Water body annual volume, L/yr	See Table 4
ER_w	Total watershed erosion, kg/yr	See Table 29
DEP_p	Total annual direct deposition of particles, kg/yr	Calculated value
PER	Particle emission rate, g/s	0.07[b]
$RDEP_p$	Rate of particle deposition, g/m^2-yr	Based on dry + wet deposition model
A_{wat}	Area of water body, m^2	See Table 4
10^{-6}	Units conversion, 10^{-6} kg/mg	10^{-6}
10^{-3}	Units conversion, 10^{-3} kg/g	10^{-3}

Notes:
a - U.S. EPA 1994a.
b - See Table 4.

5. Estimation of Chemical Concentrations in Fish

Stack emissions may enter local surface water bodies through both direct deposition and deposition onto watershed soils followed by runoff and erosion into the surface water bodies. Once in the water body, these stack gas chemicals may be incorporated into fish. The chemical concentration in fish is required to estimate human exposure to chemicals via ingestion of fish. U.S. EPA (1990a) presents a model to estimate chemical concentrations in fish. This model, which calculates chemical concentrations by considering the water concentration and a bioconcentration factor (BCF), is generally appropriate for chemicals with high water solubility and low affinity for sediments. This equation relates the concentration of chemicals in the fish to the dissolved concentration in water but does not consider uptake from other sources such as diet. The equation was modified, therefore, to include a bioaccumulation factor (BAF) instead of a BCF. Bioaccumulation refers to uptake of a chemical from all sources such as diet and bottom sediments as well as the ambient water. This equation is presented in Table 34. Estimation of water concentrations were described previously. BAFs are calculated as the product of a BCF and a food-chain multiplier (FCM) (U.S. EPA 1995b). U.S. EPA (1995b) presents FCMs for various trophic levels based on log Kow. The FCMs for the piscivorous fish trophic level 4 are used in this assessment. BCF values for specific substances of concern are compiled from the scientific literature and other sources, e.g., the U.S. EPA AQUIRE data base.

It should be noted that the BCF for mercury differs depending on its form (e.g., methyl mercury or inorganic mercury) in the water column, with methyl mercury incorporated by fish nearly ten times as much as inorganic mercury. The rate of methylation in the water column is affected by microbial action and abiotic processes and generally results in no more than 25% of the total mercury in a water column existing as a methyl mercury complex. In reality, less than 10% is typically observed (U.S. EPA 1994d). This assessment, however, conservatively assumes that 25% of the total mercury in the water column exists as a methy mercury complex. Additionally, it should be noted that the accumulation of PAHs in fish is conservatively evaluated in this assessment. Despite their high lipid solubility, these compounds are readily metabolized (ATSDR 1993b, Eisler 1987), so significant bioaccumulation is not expected. This conclusion is further substantiated by West et al. (1984) who observed that higher molecular weight PAHs, which include the largest class of chemical carcinogens and those selected as surrogate organic chemicals in this assessment, do not appear to accumulate in fish. However, for the purposes of this assessment, PAHs are assumed to not metabolize in fish, and they are evaluated in the same manner as the other chemicals.

Because dioxin-like compounds have a low water solubility and high affinity to sediments, U.S. EPA (1994a) suggests an alternative equation, which is also provided in Table 34. Estimation of bottom sediment concentrations (C_{sed}) was described previously. The biota to sediment accumulation factor (BSAF) is a congener-specific value that relates the chemical concentration in the organic carbon of the bottom sediment to the concentration in the lipid of the fish. It is an empirical value derived from the literature. The lipid concentration is converted to a whole fish concentration by multiplying by the fraction lipid content of fish (f_{lipid}), assumed to be 0.07 (U.S. EPA 1994a).

Table 34
Estimation of Chemical Concentration in Fish (CF)[a]

$$CF = (CW)\ (BAF)$$

or for dioxin-like chemicals[b]:

$$CF = \left(\frac{C_{sed}}{OC_{sed}}\right)\ (BSAF)\ (f_{lipid})$$

Parameter	Definition	Value
CF	Concentration in fish, mg/kg	Calculated value
C_{wat}	Dissolved water concentration, mg/L	See Table 26
BAF	Bioaccumulation factor, L/kg	Chemical-specific
C_{sed}	Bottom sediment total concentration, mg/kg	See Table 27
OC_{sed}	Fraction organic carbon in bottom sediment, unitless	0.03[b]
BSAF	Biota to sediment accumulation factor, unitless	Congener-specific
f_{lipid}	Fraction lipid content of fish, unitless	0.07[b]

Notes:
a - U.S. EPA 1995b.
b - U.S. EPA 1994a.

6. Estimation of Chemicals in Mothers' Milk

Constituents in breast milk provide an exposure pathway to infants, a potentially sensitive population sub-group. Travis et al. (1988) presents a generic methodology to estimate breast milk concentrations of organic compounds. This methodology is summarized in Table 35. The mothers' total daily intake is summarized in Table 36. Biotransfer factors are a function of the octanol/water partition coefficient (K_{ow}) and can be calculated by the modified Travis et al. (1988) equation shown in Table 37. As noted in Section 3 of this appendix, a metabolism factor, MF, is applied to account for the metabolism of bis(2-ethylhexyl)phthalate in mammals. Based on studies on the metabolism of bis(2-ethylhexyl)phthalate in the human food chain (Ikeda et al. 1980; Daniel and Bratt 1974), a metabolism factor of 0.01 is applied for this compound. For all other compounds, the value of MF is 1.0 (i.e., no metabolism is assumed to occur). Inorganic compounds, including metals, are not generally lipophilic and thus accumulation in mother's milk is not anticipated.

Smith (1987) developed an alternative approach to estimating concentrations in breast milk for dioxin-like compounds. This approach is based on the half-life of dioxins within the human body, estimated as five to seven years (U.S. EPA 1994a), and can be seen in Table 35.

The lifetime average maternal intake relevant to the infant's exposure is the mother's average daily dose during her lifetime, rather than the dose during the period of exposure. The LT over ED factor is added to correct for the lifetime averaging of maternal intake (i.e., to estimate an average daily dose during the period of exposure) as represented in Table 36.

Table 35
Concentrations in Mothers' Milk (C_{mm})[a]

$$C_{mm} = (M_{ti})\,(F_{mm})\left(\frac{LT}{ED}\right)(MF)$$

or for dioxin-like compounds[b]:

$$C_{mm} = \frac{(m)\,(h)\,(f_1)\,(f_3)}{(0.693)\,(f_2)}\left(\frac{LT}{ED}\right)$$

Parameter	Definition	Value
C_{mm}	Chemical concentration in mothers' milk, mg/kg	Calculated value
M_{ti}	Maternal total daily intake from all routes of exposure, mg/day	See Table 36
F_{mm}	Mothers' milk biotransfer factor, day/kg	See Table 37
MF	Metabolism factor, unitless	Chemical-specific (0.01 for bis(2-ethylhexyl)phthalate and 1.0 for all other chemicals)
m	Lifetime average maternal intake of dioxin-like compound, mg/kg of body weight/day	M_{ti}/70 kg, See Table 36
h	Half-life of dioxin in adults, days	2555 assumed for all dioxin-like compounds[b]
f_1	Proportion of ingested compound stored in fat	0.9[c]
f_2	Proportion of mother's weight that is fat, kg maternal fat/kg total body weight	0.3[c]
f_3	Fraction of lipid content in breast milk	0.04[c]
LT/ED	Lifetime over exposure duration, unitless	Population-specific

Notes:
a - U.S. EPA 1993.
b - U.S. EPA 1994a.
c - Smith 1987.

Table 36
Maternal Total Daily Intake (M_{ti})

$$M_{ti} = M_s + M_{sw} + M_p + M_a + M_f + M_{air}$$

Parameter	Definition	Value
M_{ti}	Maternal total daily intake from all routes of exposure, mg/day	Calculated value
M_s	Maternal total daily intake from exposure to soil, mg/day	Calculated value[a]
M_{sw}	Maternal total daily intake from exposure to surface water, mg/day	Calculated value[a]
M_p	Maternal total daily intake from exposure to ingestion of plants, mg/day	Calculated value[a]
M_a	Maternal total daily intake from exposure to ingestion of animals, mg/day	Calculated value[a]
M_f	Maternal total daily intake from exposure to ingestion of fish, mg/day	Calculated value[a]
M_{air}	Maternal total daily intake from exposure to air, mg/day	Calculated value[a]

Notes:
a - This value is estimated by multiplying the appropriate estimated concentration by the exposure assumptions.

Table 37
Organic Chemical Biotransfer Factors (F_{mm})[a]

$$F_{mm} = (6.2 \times 10^{-4})\ (K_{ow})\ (f_3)$$

Parameter	Definition	Value
F_{mm}	Mothers' milk biotransfer factor, day/kg	Calculated value
K_{ow}	Octanol/water partition coefficient, unitless	Chemical-specific
f_3	Fraction of lipid content in breast milk	0.04[b]

Note:
a - modified from U.S. EPA 1993.
b - Smith 1987.

TABLE 38 (continued) Key Assumptions in Fate and Transport Modeling			
Assumption	**Basis**	**Magnitude of Effect**	**Direction of Effect**
Fate and transport modeling accurately reflects reality	The U.S. EPA-recommended (U.S. EPA 1990a, 1993, 1994a) models used in this assessment are based on the best available data (although somewhat limited). To account for potenital uncertainty associated with the use of these data, conservative assumptions are generally applied in developing these models.	high	likely overestimate
Chemical-specific inputs are appropriate	Professional judgment on best available data.	high	likely overestimate
Site-specific inputs are appropriate	Professional judgment on best available data.	low	unknown
The surrounding area in an agricultural watershed that has a soil mixing zone of 10 cm	U.S. EPA (1994a) guidance assuming an agricultural watershed has some tilled and some untilled soils.	low	overestimate
The chemicals mix completely within the soil layer of interest (1, 10, or 20 cm)	U.S. EPA (1990a) guidance assuming tilling in agricultural lands.	low	overestimate
The facility operates continuously for 30 years	Conservative assumption although it is highly unlikely that the facility will operate 100% of the time for 30 years. The facility only operated 53% of the time in the first year.	low	likely overestimate
Volatilization losses do not occur once the chemical is deposited	Conservative assumption based on professional judgment.	low	overestimate
Degradation of organic contaminants in soil is first-order	Simplifying assumption to explain a complex process that is not necessarily first-order.	low	overestimate
Fruits and vegetables are modeled as four types of vegetable classes	U.S. EPA (1990a and 1993) guidance.	low	unknown

TABLE 38 (continued)
Key Assumptions in Fate and Transport Modeling

Assumption	Basis	Magnitude of Effect	Direction of Effect
Exposure to contaminants for aboveground protected vegetables and root vegetables occurs only through root uptake (i.e., does not occur via direct deposition and air-to-plant transfer)	U.S. EPA (1990a) guidance based on the likelihood that these classes of vegetation are not exposed to contaminants on depositing particles or in vapor form.	low	possible underestimate
Uptake transfer factors for root uptake and air-to-leaf uptake are based on K_{ow}	U.S. EPA (1990a, 1993) guidance.	medium	unknown
Inhalation and surface water ingestion by animals are not evaluated	These pathways are considered insignificant compared to fodder and soil ingestion (U.S. EPA 1994a) based on a review of the literature.	low	underestimate
Meat biotransfer (Ba) and bioconcentration (BCF) factors are appropriate	U.S. EPA (1990a and 1994a) guidance and review of available models.	high	unknown
All chlorinated biphenyl compounds are considered to be transported in the same manner as the dioxin and furan congeners	Conservative assumption based on professional judgment.	low	underestimate
For surface water: -Soil concentrations within a watershed are uniform -Steady-state is achieved between concentrations in the dissolved phase, suspended sediment, and bottom sediment	U.S. EPA (1994a) guidance.	low	unknown
Of the total mercury in the water column, 25% exists in the methyl mercury form	U.S. EPA (1994d) guidance that concludes that no more than 25% of the total mercury in the water column exists in the methyl mercury form and typically, less than 10% is observed.	low	overestimate
PAHs are evaluated as if no metabolism occurs in fish	Conservative assumption since the literature (ATSDR 1993b; Eisler 1987) suggests that PAHs are readily metabolized in fish.	low	possible overestimate

TABLE 38 (continued)
Key Assumptions in Fate and Transport Modeling

Assumption	Basis	Magnitude of Effect	Direction of Effect
Inorganic compounds do not accumulate in mother's milk	Inorganic compounds are generally not lipophilic and would not tend to accumulate in mother's milk.	low	underestimate

Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten

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APPENDIX V-8

Estimation of Exposure Factors

A. Introduction

This appendix identifies the typical and high-end exposure factor values that are used in estimating dose in the risk assessment (Chapter VII) and conducting the sensitivity analysis (Chapter VIII) for the WTI hazardous waste incinerator. In this appendix, typical refers to values that represent the mean or median of the distribution of possible values. As noted in the *Exposure Assessment Guidelines* (U.S. EPA 1992a), for skewed or truncated distributions, the median may be more representative of the central tendency value than the mean. Most exposure factor distributions are skewed or truncated; therefore, when possible, the median value is used. The term "high end" refers to the values toward the upper end of the distribution, generally 90th percentile and greater.

As discussed in Volume II, the key assumptions that are used in performing the risk assessment have been identified. Table 34 at the end of this appendix summarizes the key assumptions that are used in developing exposure factors. The table of key assumptions indicates the basis for the assumptions listed, the estimated relative magnitude of effect each assumption is estimated to have on the overall risk assessment, and the direction of the effect, if known. It is not anticipated that any of the assumptions made in estimating exposure factors would have a significant (high[1]) effect on overall results.

B. Exposure Factors

This appendix summarizes the values and the sources of these values for exposure factors specific to the exposure pathways. A number of exposure factors, however, are not expected to change between exposure pathways, such as exposure duration, body weight, and averaging time. Exposure duration is based on the estimated length of time that an individual resides at one location. For adult residential exposure, U.S. EPA (1990a) recommends typical (50th percentile) and high-end (90th percentile) values of 9 and 30 years, respectively, based on U.S. census data. For both the typical and high-end exposure duration estimates for children, exposure duration is assumed to be six years (corresponding to the assumed age range of the child, 1 to 6 years). The subgroup of school-age children is assumed to have an exposure duration of six years for both the typical and high-end exposure duration estimates, corresponding to the typical period of school for an elementary school child. For the exposed farming subgroup, U.S. EPA (1990a) recommends "typical" and "worst case" exposure durations of 20 and 40 years, respectively. These values are used as

[1] A "high" effect is estimated to be equal to a potential over- or underestimate of total risks by a factor of ten or more.

typical and high-end exposure durations, respectively, for adult farmers and subsistence farmers. These exposure durations are presented in the tables of exposure factor values provided later in this appendix.

Body weight is a second exposure factor that is specific to each exposure group but does not change from one exposure pathway to another. The adult exposure subgroups (i.e., resident, farmer, and subsistence farmer) are assumed to have a body weight of 70 kilograms (typical and high-end). The child resident exposure subgroup is assumed to be pre-school age children (i.e., 1 to 6 years-old). Based on U.S. EPA (1990a) guidance, the average body weight for a child in this age range is approximately 15 kg (average of male and female children). For the school-age children, who are assumed to be in the age range of 7 to 12 years, a body weight of 31 kg is assumed, based on data presented by U.S. EPA (1990a).

In an exposure assessment, it is generally necessary to provide two different estimates of the exposure dose (for each pathway), one for substances with noncancer effects, which is referred to as the average daily dose (ADD), and a second for substances with carcinogenic effects, referred to as the lifetime average daily dose (LADD). The ADD is the dose that an individual is likely to receive on any day during the period of exposure. In cases where the exposure is intermittent, it is generally appropriate to average the dose over the period of exposure; therefore, the averaging time is equal to the exposure duration in units of days (ED in years x 365 days/year). For carcinogens, the LADD is estimated by averaging the total cumulative dose received by an individual over a lifetime, which is estimated by U.S. EPA (1989) to be 70 years (25,550 days).

All other remaining exposure factors vary based on the exposure group and the route of exposure. The values used to determine doses for each of the routes of exposure are discussed below for the remaining factors.

1. Inhalation of Ambient Air

Direct exposure to chemicals released from the WTI facility stack may occur to individuals living in the vicinity of the facility. The following factors must be considered when estimating exposure via this pathway: 1) the concentration of chemical in the air; 2) the inhalation rate; and 3) the frequency and duration of exposure. Values of the exposure factors for this pathway are presented in Tables 1 and 2.

U.S. EPA (1990a) recommends an adult inhalation rate of 20 m^3/day (0.833 m^3/hr). This value is used for the typical and high-end inhalation rate for all adult subgroups. For school-age children, an inhalation rate of 20 m^3/day (0.833 m^3/hr) is also used for the typical and high-end values based on age-specific inhalation rates compiled by U.S. EPA (1990a). For children in all other subgroups (not including

school-age children), a value of 16 m^3/day (0.667 m^3/hr) is estimated, based on age-specific inhalation rate data presented by U.S. EPA (1990a). This value is used for both the typical and high-end values.

2. Soil Ingestion

Exposure to chemicals in soil is assumed to occur through incidental ingestion of soil by adult and child residents, farmers (including subsistence farmers), and school-age children. The following factors must be considered when estimating exposure via this pathway: 1) the chemical concentration in soil; 2) the rate of soil ingestion; and 3) the period of time over which ingestion occurs. The exposure factors for this pathway are provided in Tables 3 and 4. The values used for the period of exposure, body weight, and averaging time were discussed earlier. The remaining factors are the soil ingestion rate, and the exposure frequency.

a. Soil Ingestion Rate

The soil ingestion rates used in the WTI Risk Assessment are based on various sources of U.S. EPA guidance. Very limited data are available to estimate the incidental ingestion of soil by adults. A value of 25 mg/day for an "average adult" is cited by U.S. EPA (1990b), based on work performed by LaGoy (1987). This value is used for the typical soil ingestion rate for adult residents. U.S. EPA (1991) recommends a value of 100 mg/day for individuals older than six years of age as an "upper bound" value. This value is used as the high-end estimate of soil ingestion for adult residents.

For children under six years, U.S. EPA (1990b) recommends a high-end value of between 100 and 200 mg/day for ingestion of soil. The lower and upper ends of this range are used as the typical and high-end ingestion rates for children, respectively.

The soil ingestion rate for school-age children is based on soil ingestion data presented by U.S. EPA (1990a). Soil ingestion rates divided between indoor (3 mg/day) and outdoor (50 mg/day) are presented by U.S. EPA (1990a), based on a study by Hawley (1985). These values are prorated based on the assumption that indoor exposure would occur year round (365 days/year) and outdoor exposure would only occur during warmer months (estimated to be 200 days/year, based on the number of days that the maximum daily temperature exceeds 50 F°). The resulting typical ingestion rate for school-age children is estimated to be 30 mg/day.

For the high-end ingestion rate for school-age children, the same method is used, but it is assumed that the outdoor soil ingestion rate is 100 mg/day (for 200 days/year). The indoor soil ingestion rate is still assumed to be 3 mg/day. The resulting prorated high-end soil ingestion rate is estimated to be approximately 60 mg/day.

The soil ingestion rates for farmers are based on U.S. EPA (1991) guidance for outdoor workers and residential ingestion rates. It is assumed that farmers would ingest significantly greater amounts of soil during periods of outdoor field work. For the high-end ingestion rate, a value of 480 mg/day, recommended by U.S. EPA (1991) for outdoor workers, is applied to farmers working in the field. The typical soil ingestion rate for farmers working in the field is assumed to be 100 mg/day, an upper-bound estimate for typical residential exposure (U.S. EPA 1991). During non-field activities, it is assumed that farmers would have the same soil ingestion rates as adult residents, 25 mg/day and 100 mg/day for the typical and high-end values, respectively.

b. Exposure Frequency

An exposure frequency for soil ingestion of 350 days/year recommended by U.S. EPA (1991) is used for the typical and high-end estimate for all exposure subgroups. This assumes that incidental soil ingestion occurs both indoors and outside.

For the farmer, the exposure frequency is divided between outdoor field work and non-field work. Site-specific data are not available; therefore, a reasonable period of exposure is estimated. It is assumed that exposure frequency is divided equally between field and non-field activities.

3. Dermal Contact with Soil

Dermal exposure to chemicals in soil in the vicinity of the facility may occur when residents (children and adults), school-age children, and farmers come into contact with soils. The following factors must be taken into account when evaluating this potential route of exposure: 1) the chemical concentration in soil; 2) the skin surface area exposed to the soil; 3) the amount of soil deposited on the skin; 4) the frequency and duration of exposure; and 5) the extent to which chemicals adsorbed to the soil are subsequently absorbed through the skin. The exposure factors for this pathway are presented in Tables 5 and 6. Those not discussed previously are presented below.

a. Skin Area Exposed

The amount of skin available for exposure to soil is estimated based on the expected activities and types of clothing worn during the exposure period. For the typical value of skin area exposed, it is assumed for all exposure subgroups that on average, exposure would primarily occur to hands and forearms. Age-specific skin surface areas of these body parts derived from U.S. EPA (1990a) guidance are summed to estimate the typical values.

For the high-end value, it is assumed that the area of exposure is the hands, forearms, and half the head and legs. Age-specific skin surface area values compiled by U.S. EPA (1990a) for these body parts are added to estimate high-end values.

b. Soil to Skin Adherence Factor

The amount of soil that adheres to the skin affects the amount of chemical that is available for absorption through the skin. U.S. EPA (1992b) recommends a typical value of 0.2 mg/cm^2 and a high-end value of 1.0 mg/cm^2.

c. Absorption Factor

Limited data are available to estimate chemical-specific absorption factors for the constituents being considered in the risk assessment. For 2,3,7,8-TCDD, U.S. EPA (1992b) recommends a range of 0.001 to 0.03 (0.1 to 3 percent) for the dermal absorption fraction. Data for other dioxin-like compounds are not available; therefore, the upper end of this range, 0.03, is used as the dermal absorption fraction for all dioxins, furans, and dioxin-like compounds considered in the risk assessment. For other organic compounds, a value of 0.06 (6 percent) is used, based on the upper end of the range of values (0.006 to 0.06) estimated by U.S. EPA (1992b) for trichlorobenzene. Similarly, for metals, a value of 0.01 (1 percent) is used, based on the range of absorption fractions (0.001 to 0.01) estimated by U.S. EPA (1992b) for cadmium.

d. Exposure Frequency

It is assumed that dermal contact with soil would occur at the same frequency as soil ingestion. Therefore, the exposure frequencies for dermal contact with soil for all subgroups are assumed to be the same as the exposure frequencies for soil ingestion.

As noted earlier, the period of exposure for farmers is divided between outdoor field work and non-field activities for farmers. It is assumed that exposure frequency is divided equally between field and non-field activities.

4. Consumption of Meat and Eggs from Locally Raised Livestock

Exposure to contaminated meat and eggs may occur when residents and local farmers consume meat (beef, pork, and poultry) from livestock raised in the vicinity of the facility. The extent of exposure to chemicals through this pathway is dependent on: 1) the chemical concentration in the meat or eggs; 2) the meat or egg ingestion rate; 3) the fraction of meat or eggs ingested that comes from a local source; and 4) the frequency and duration of exposure. Exposure factors used in this pathway are presented in Table 7 and 8 and are discussed below.

a. Consumption Rate

Age-specific consumption rates for meats (including beef, pork, and poultry) and eggs are estimated based on a 1987-88 national food consumption survey performed by the U.S. Department of Agriculture (USDA 1993a). For children, median food consumption rates are estimated based on a weighted average of food consumption rates for 1 to 2-year-old and 3 to 5-year-old children (based on the percentage of the survey population in each group). Food consumption rates for school-age children are based on weighted averages for 6 to 11-year-old girls and 6 to 11-year-old boys. Adult food consumption rates are based on the weighted average of adult (older than 20 years) males and females.

USDA (1993a) reports consumption data in several categories of meat products (e.g., lunch meats, sausages, etc.); therefore, consumption rates of specific meats (e.g., beef, pork, chicken) were developed from a combination of data for several food types. Specifically, age-specific meat consumption data are presented by USDA (1993a) in several categories including: (1) beef, (2) pork, (3) lamb/veal/game, (4) organ meats, (5) frankfurters/sausages/lunch meats, (6) chicken, (7) other poultry, (8) fish/shellfish, and (9) meat mixtures. Consumption rates of lamb/veal/game (3 listed above) and organ meats (4) are relatively insignificant and are not considered further in this analysis. Meat consumption included in the frankfurters/sausages/lunch meat category (5) is proportionally divided between the beef (1), pork (2), chicken (6), and other poultry categories (7), based on the consumption rate data for these individual meat types reported by USDA (1993a). Similarly, the meat mixtures category

(9) is divided proportionally between the beef (1), pork (2), chicken (6), other poultry (7), and fish/shellfish (8) categories. The resulting meat consumption estimates are summarized in Table 9.

High-end meat consumption rates are not available from the USDA (1993a) data. Therefore, high-end consumption rates are estimated by the product of median consumption rates presented in Table 9 and the ratio of 90th percentile to median of individual food consumption rates estimated from consumption rate distributions developed by Pao et al. (USDA 1982). The 90th percentile to median ratios for the foods in Table 9 are presented in Table 10. Estimated high-end meat consumption rates are presented in Table 9.

b. Exposure Frequency

The USDA consumption data are based on daily consumption; therefore, the exposure frequency is assumed to be 350 days per year as recommended by U.S. EPA (1991).

c. Fraction Ingested from Contaminated Source

Although no data are available that directly measure the fraction of meat consumption in the area of the WTI facility that is derived from locally raised livestock, statistics concerning the raising, marketing, and slaughter of livestock in the region surrounding the WTI facility are available. The following description provides a summary of the cattle-raising data that are available and the methodology used to estimate the fraction of beef consumed that is from locally raised cattle. A similar process is used for the other types of meat commodities.

The primary source of information on beef farming statistics is agricultural data compiled by the Agricultural Statistics Service associated with the Departments of Agriculture in each of the three states (Ohio, Pennsylvania, West Virginia) located in the vicinity of WTI (ODA 1994; PDA 1994; WVDA 1994). Summaries of livestock data are published annually and include such parameters as the total number of cattle/calves in the state and the number of calves born annually. Table 11 summarizes state-wide beef farming statistics for Ohio, Pennsylvania, and West Virginia. The value for total cattle/calves in Table 11 is the number of cattle related to beef and dairy farming that were reported in the state as of January 1, 1993. In addition, the number of calves born in each state annually is provided in Table 11.

Information on the disposition of beef cattle and calves is also provided in the Agricultural Statistics Service summaries. The number of cattle and calves that are slaughtered in registered slaughtering facilities in each state is shown in Table 11. The source of the slaughtered animals, however, is not available because processing facilities are not required to keep records on the origin/owner of the cattle sold for slaughter. A report on the state of the slaughtering industry in Ohio (Distad 1992) indicates that Ohio does not have any "large" capacity cattle slaughtering facilities, but does have many smaller operations with slaughtering capacities of less than 1,000 head per year. Furthermore, the report indicates that Ohio is a net exporter of beef for slaughter. Based on slaughter data published by the West Virginia Department of Agriculture (1994), the same situation would appear to hold true for West Virginia.

Pennsylvania, on the other hand, is home to two of the largest cattle slaughtering facilities in the country (10th and 12th largest overall) with a total annual slaughtering capacity of approximately 740,000 head (Distad 1992), of which a large fraction are likely to be imported from out of state. Because of these two very large plants (both of which are located in the eastern part of the state), Pennsylvania is a net importer of beef cattle for slaughter. For the present analysis, it is necessary to estimate the number of cattle that are raised in Pennsylvania and are slaughtered in Pennsylvania. Including the data from these plants would significantly overestimate this value. To obtain an estimate of Pennsylvania-bred cattle slaughtered in the state, therefore, the 740,000 head slaughtered at the large slaughtering houses in eastern Pennsylvania are subtracted from the state total slaughter. The resulting estimate, 229,000 head, is more consistent with the other states in the area and with the 220,000 beef steers raised in the state (PDA 1994). This value, therefore, is used to estimate the number of Pennsylvania-bred cattle slaughtered in the state.

County-specific beef farming data available from the Agricultural Statistics Service data summaries are limited. It is necessary, therefore, to estimate a number of parameters based on state-wide data. Published data (ODA 1994; PDA 1994; WVDA 1994) on the total cattle herd in each of the three counties (Columbiana, Ohio; Beaver, Pennsylvania; and Hancock, West Virginia) that are included in the risk assessment study area are provided in Table 12. In addition, the calf crop in each of these three counties, and the cattle and calf slaughter are estimated based on the fraction of the state herd in each county and the state-wide statistics in Table 12.

This methodology assumes that beef raising and slaughter practices are similar across all parts of a state, which may not necessarily be true. To address this uncertainty, agricultural extension agents for the counties located in the vicinity of the WTI facility were interviewed regarding local beef cattle raising practices. Although no actual data were obtained from these sources, judgments concerning local farming practices proved to be a valuable resource to supplement the state-wide data.

For example, the primary type of beef farming performed in the eastern Ohio/western Pennsylvania area involves cow/calf operations that raise cows to produce calves. These calves are raised locally for 6 to 9 months, weaned, and generally sold to feedlots out of state (personal communication, county agricultural extension agents, August 1994). In other portions of these states (Ohio, Pennsylvania, West Virginia), this practice may not be as commonplace.

The state-wide statistics, therefore, may not accurately represent local beef farming practices. For example, according to the state-wide data (ODA 1994; PDA 1994; WVDA 1994), the fraction of calves born that are marketed ranges from 0.23 for Ohio to 0.51 for West Virginia. Discussions with local agricultural extension agents indicate, however, that 60 to 70 percent of a local calf crop in any given year is marketed (sold at auction to feedlots in western Ohio or the western U.S.) and may range as high as 80 to 90 percent of the local calf crop, but is rarely below 50 percent. It is likely, therefore, that estimates of local slaughter provided in Table 12 overestimate actual local slaughter in these counties.

Based on the limited data available, the following methodology is used to estimate the availability of locally raised beef in the vicinity of the WTI facility:

- Beef slaughter in counties included within the study area is estimated based on state-wide cattle slaughter data, as presented in Table 13.

- It is assumed that beef cattle slaughtered within the three-county area is consumed within the same area.

- The amount of beef derived from each head of slaughtered cattle is estimated to be 50 percent of the average live weight of cattle slaughtered in the state (1,100 pounds for Ohio, 1,200 pounds for

Pennsylvania, and 1,000 pounds for West Virginia per: ODA 1994; PDA 1994; WVDA 1994).

- The amount of beef derived from calf slaughter is estimated similarly based on average live weights for calves of 500 pounds in Ohio and 400 pounds in Pennsylvania (ODA 1994; PDA 1994). West Virginia calves are assumed to have an average live weight of 450 pounds.

Table 13 provides an estimate of locally raised beef available for consumption within each county in study area. Based on age-specific population within the three-county area (CACI 1992), presented in Table 14. and age-specific beef consumption rates (Table 9), the total annual beef consumption in the three-county area is 19.8 million pounds. Therefore, locally raised beef accounts for approximately 15 percent. It is likely that this methodology overestimates the fraction of beef consumed that is raised locally, based on the type of beef raising performed in the area surrounding WTI.

For other types of meat products (i.e., pork, chicken, turkey) and eggs, a similar analysis of available livestock-raising statistics was conducted. For pork, the number of hogs slaughtered in each of the three counties is estimated based on the product of the fraction of the total state hog herd in each county and the total state hog slaughter. Assuming one-half of a hogs live-weight is used for consumption, the total pork available for consumption is estimated as 1.53 million pounds, as shown in Table 15. Based on the age-specific population within the three-county area (14) and age-specific pork consumption rates (Table 9), the total annual pork consumption in the three-county area is 8.63 million pounds. Therefore, pork from locally raised livestock accounts for approximately 15 percent of the pork diet for residents in the vicinity of WTI.

For chickens, agricultural census data (USDC 1993a,b,c) indicate that very few chicken farms (for meat) are located in the three counties located within the study area. According to the agricultural census data, the total number of broilers within the three-county area was less than 400 birds in 1992. It is estimated, therefore, that locally raised chicken would comprise an insignificant portion of a typical resident's diet. A similar conclusion was developed for turkey.

The fraction of egg diet for residents that is derived from locally raised chickens is estimated based on the number of eggs produced locally and the

local population. Table 15 summarizes the egg data for the three counties surrounding the WTI facility and presents the estimated amount of eggs from locally raised chickens. Total egg consumption in the three-county area surrounding the WTI facility is approximately 20.6 million pounds. Based on the age-specific population (Table 14) and age-specific egg consumption rates (Table 9), the total annual egg consumption in the three-county area surrounding the WTI facility is approximately 5.5 million pounds. Therefore, locally raised eggs account for approximately 16 percent of the egg diet for local residents.

The high-end values for the fraction of meat (or eggs) consumed by residents that is from locally raised livestock are estimated to be two times the average values.

For farm families, limited data are available to estimate the fraction of meat and eggs that are derived from locally raised livestock. The fraction of meat and eggs consumed that is local is estimated based on information provided by U.S. EPA (1990a) for consumption of beef by farm families. The estimated central tendency and high-end values, therefore, are estimated to be 0.44 and 0.75, respectively, as indicated in Table 7 and 8.

It is also assumed that a subgroup of farmers may exist that derive all their meat from their own farm (subsistence farmers). A value of 1 (i.e., 100 percent) is applied for this exposure subgroup of subsistence farmers.

5. Consumption of Milk and Milk Products from Locally Raised Cows

Exposure to contaminated milk and milk products may occur when residents and local farmers consume milk and milk products from cows that have been raised in the vicinity of the facility. The extent of exposure to chemicals through this pathway is dependent on: 1) the chemical concentration in the milk and milk products; 2) the consumption rate of milk and milk products; 3) the fraction of milk and milk products ingested that comes from a local source; and 4) the frequency and duration of exposure. Exposure factors used in this pathway are presented in Tables 16 and 17 and are discussed in the following sections.

a. Milk and Milk Products Consumption Rate

Age-specific consumption rates for milk and milk products are estimated based on a 1987-88 national food consumption survey performed by the U.S. Department of Agriculture (USDA 1993a). For children, median food consumption rates are estimated based on a weighted average of

consumption rates for 1 to 2-year-old and 3 to 5-year-old children (based on the percentage of the survey population in each group). Consumption rates for school-age children are based on weighted averages for 6 to 11-year-old girls and 6 to 11-year-old boys. Adult consumption rates are based on the weighted average of adult (older than 20 years) males and females.

USDA (1993a) reports milk and dairy products consumption data in several categories including: (1) total milk products, (2) milk and milk drinks (subdivided into (2a) fluid milk and (2b) yogurt), (3) milk desserts, and (4) cheese. Consumption rates for cheese (category 4), milk desserts (3), and yogurt (2b) listed by USDA (1993a) are used and are presented in Table 18. The consumption rate of "milk and milk drinks" listed in Table 18 is the total milk and milk drinks (category 2) consumption rate reported by USDA (1993a) minus the yogurt (2b) consumption rate. The cream consumption rate in Table 18 is estimated by subtracting the identified categories (i.e., milk and milk drinks [2], milk desserts [3], and cheese [4]) from the total milk products consumption rate reported by USDA (1993a). The resulting consumption rates for the various age groups considered in the risk assessment are summarized in Table 18.

It should also be noted that the butter consumption rate shown in Table 18 is based on the consumption rate for "table fats" reported by USDA (1993a). Because the table fats category listed by USDA includes margarine and butter substitutes, it is likely that the butter consumption rate in Table 18 is overstated; however, the butter consumption rate is relatively low and will likely not have a significant effect on food consumption risks.

High-end milk and milk product consumption rates are estimated as described earlier for beef. The upper end of the consumption distribution is estimated as the product of median consumption rates presented in Table 18 and the ratio of 90th percentile to median of individual food consumption rates estimated from consumption rate distributions developed by Pao et al. (USDA 1982). The 90th percentile to median ratios for the foods in Table 18 are presented in Table 10. Estimated high-end milk and milk product consumption rates are presented in Table 18.

b. Exposure Frequency

The USDA consumption data are based on daily consumption; therefore, the exposure frequency is assumed to be 350 days per year as recommended by U.S. EPA (1991).

c. Fraction Ingested from Contaminated Source

Table 19 summarizes the available milk cow, production, and marketing data available from the Agricultural Statistics Services for Ohio, Pennsylvania, and West Virginia (ODA 1994; PDA 1994; WVDA 1994).

Agricultural extension agents representing counties in the vicinity of the WTI facility were contacted to provide a local characterization of dairy farming practices (personal communication, county agricultural extension agents, August 1994). In general, the extension agents reported that dairy farming in the eastern Ohio/western Pennsylvania area is not significantly different from other parts of Ohio and Pennsylvania, and that state-wide statistics are likely applicable. Table 20 provides estimates of county-specific milk cow herd size and milk production statistics, and estimates of milk marketing, based on the state-wide data for the three counties surrounding the WTI facility. The milk marketing data include information on milk marketing to plants/dealers and direct sales to consumers. Discussions with the agricultural extension agents indicate that the milk marketing to plants and dealers is divided between large processing facilities that are not generally located in the area and smaller, local processing facilities that generally service communities within 5 to 10 miles of the processing facility.

To estimate the distribution of milk between the large processing facilities and the local handlers, a USDA (1988) milk marketing report that summarizes county-by-county and state contributions to federally inspected milk processing plants (these are the large processing facilities referred to above) was reviewed. Federally inspected milk processing plants are assigned to "milk marketing areas" under the Federal Milk Marketing Order. In general, milk produced within a milk marketing area stays within the area (USDA 1994). However, these marketing areas are generally very large. For example, the Eastern Ohio-Western Pennsylvania milk marketing area covers the eastern third of Ohio, the western third of Pennsylvania, and the West Virginia panhandle, as shown in Figure 1. USDA milk marketing data for this area were reviewed to estimate the fraction of milk produced in the area surrounding the WTI facility that is sent to the large, federally inspected milk processing facilities contained within the Eastern Ohio-Western Pennsylvania milk marketing area.

Based on milk marketing data for Beaver County, Pennsylvania (USDA 1988) and milk production data for the same year (PDA 1994), it is estimated that approximately 85 percent of the milk produced in Beaver County in

December 1988 was processed in the federally inspected plants (i.e., 15 percent remains local). No data were available for the other two counties (Columbiana and Hancock); therefore, Beaver County data are assumed to apply to the entire three-county area. Table 21 presents the estimated amount of milk that is produced and remains in the three-county area surrounding the WTI facility.

To estimate the amount of locally derived milk that is available for consumption in the area surrounding the WTI facility, the milk that remains local (including milk consumed on farm, milk sold directly to consumers, and milk processed locally) was compared to the total annual consumption in the three-county area surrounding the facility. The amount of milk that remains local is estimated in Table 21 as 32.3 million pounds. However, the Pennsylvania Department of Agriculture statistics (PDA 1994) indicate that approximately 50 percent of the fluid milk produced is used in the production of dairy products. Therefore, from Table 21, a total of 16.2 million pounds of locally produced fluid milk is available for consumption annually in the three-county area surrounding the WTI facility.

Based on age-specific population data within the three-county area (Table 14) and age-specific milk consumption rates (Table 18), the total annual milk consumption in the three-county area is 57.9 million pounds. Therefore, an additional 41.7 million pounds of milk are required from the large, non-local processing plants to make up the shortfall (i.e., 57.9 million pounds minus 16.2 million pounds). USDA (1988) data indicate that the three counties surrounding the WTI facility accounted for approximately five percent of the total milk processed in the non-local, federally inspected milk processing plants in the Eastern Ohio-Western Pennsylvania milk marketing area. Therefore, the total amount of milk that is produced locally and is available for local consumption is 18.3 million pounds (i.e., 16.2 million lbs + [0.05 x 41.7 million lbs]).

The total amount of milk from locally raised cows represents 32 percent of the total milk consumption for the area surrounding the WTI facility (i.e., 18.3 million lbs/57.9 million lbs). Because data on milk products (cheese, butter, etc) production are very limited for the three-county area surrounding the WTI facility, the fraction of milk products consumed that is derived from locally raised cows was also assumed to be 0.32. The high-end value of the fraction of milk consumed that is derived from locally raised cows is assumed to be twice the average value.

For farmers, typical and high-end values for the fraction of milk and milk products ingested from a local source of 0.44 and 0.75, respectively, are derived from U.S. EPA (1990a) guidance, and are based on data for farm families. It was also assumed that a subgroup of farmers may exist that derive all their milk and milk products from their own farm (subsistence farmers). A value of 1 (i.e., 100 percent) is applied for this exposure subgroup of subsistence farmers.

6. Consumption of Locally-Grown Vegetables and Fruits

Exposure to chemicals may occur through the consumption of vegetables grown in the vicinity of the facility. The extent of exposure to chemicals through this pathway is dependent on: 1) the chemical concentration in the vegetables; 2) the vegetable ingestion rate; 3) the fraction of vegetables ingested that comes from a local source; and 4) the frequency and duration of exposure. Exposure factors for this pathway are presented in Tables 22 and 23 and are discussed below.

Based on data collected by the East Liverpool Board of Health for the area surrounding the facility, approximately 30 percent of the local residents have home gardens. This exposure pathway applies only to that portion of the residential subgroup. Exposure is also assessed for local farmers.

a. Vegetable and Fruit Consumption Rate

Median total fruit and total vegetable consumption rates for children (1 to 6 years old), school children (7 to 12 years old), and adults, obtained from the 1987-88 USDA (1993a) survey are summarized in Table 24. For children, median total fruit and total vegetable consumption rates are estimated based on a weighted average of consumption rates for 1 to 2-year-old and 3 to 5-year-old children (based on the percentage of the survey population in each group). Total fruit and total vegetable consumption rates for school-aged children are based on weighted averages for 6 to 11-year-old girls and 6 to 11-year-old boys. Adult consumption rates are based on the weighted average of adult (older than 20 years) males and females.

Vegetable consumption was assumed to be divided among four vegetable types:

1) Root vegetables - including below ground vegetables, such as carrots, potatoes, and onions;

2) Leafy vegetable - including vegetables with leafy, edible surfaces exposed to the atmosphere, such as lettuce and broccoli;

3) Above ground protected - including vegetables with the edible surface not exposed to the atmosphere, such as corn; and,

4) Above ground exposed - including non-leafy vegetables with edible surfaces exposed to the atmosphere, such as tomatoes and green peppers.

The distribution of consumption rates for these different categories of vegetables and fruits are estimated based on consumption rates (in units of g food/kg body weight/day) for more than 100 fruits and vegetables in the Dietary Risk Evaluation System (DRES) compiled by U.S. EPA. DRES was developed by the Office of Pesticide Programs (OPP) based on a 1977-78 USDA (1982) food consumption survey. A copy of these data were obtained from OPP and were analyzed to estimate the relative consumption rates of the total fruit and total vegetable categories. Based on these data, an individual's vegetable diet is estimated to be comprised of 38 percent root vegetables, 13 percent leafy vegetables, 16 percent protected vegetables, and 33 percent exposed vegetables. For fruits, only two types are identified: protected and exposed. The distribution of fruit consumption between these two types is estimated to be 58 percent protected and 42 percent exposed, based on an evaluation of DRES.

High-end fruit and vegetable consumption rates are not available from the USDA (1993a) data. Therefore, to estimate the upper end of the fruit and vegetable consumption distributions, a method recommended by FDA (1993) is applied in which the estimated median consumption rates are multiplied by an estimated 90th percentile consumption rate to median consumption rate ratio. Actual total fruit or total vegetable consumption distributions are not available; however, FDA (1993) estimates that the 90th percentile to median ratios for foods, in general, are typically in the range of 2.0 to 3.0. In addition, a review Pao et al. (USDA 1982) consumption rate distribution data for several individual fruits and vegetables (i.e., not all fruits and vegetables combined), indicated that the 90th percentile to median ratio for these individual fruits and vegetables generally fell in this range. For total fruits and total vegetables, therefore, a 90th percentile to median ratio of 2.5 is used. The estimated

high-end total fruit and total vegetable consumption rates are shown in Table 24.

b. Exposure Frequency

The USDA consumption data are based on daily consumption of vegetables; therefore, the exposure frequency is assumed to be 350 days per year as recommended by U.S. EPA (1991).

c. Fraction Ingested from Contaminated Source

The fraction of an individual's vegetable diet that is homegrown is estimated based on data collected by the East Liverpool Board of Health in a local vegetable garden survey. These data indicate that typically 25 percent of a gardening individual's total vegetable diet is homegrown (50th percentile of respondents). A high-end estimate based on the 90th percentile of respondents indicates that 50 percent of a gardening individual's total vegetable diet is homegrown.

For fruits, more that 90 percent of the respondents indicated that less than 25 percent of their fruit diet was homegrown; therefore, a value of 25 percent is used for the high-end value. For the typical value, it is estimated that 12.5 percent (i.e., half of the high-end value) of an individual's fruit diet is locally grown.

No data for farm families are available; therefore, the values cited above for families with gardens are used. It is also assumed that a subgroup of farmers may exist that derive all their vegetables from their own farm. A value of 1 (i.e., 100 percent) is applied for this exposure subgroup of subsistence farmers.

7. Ingestion of Fish

As indicated in the HHRA (Chapter VII, Section C.2), it is unlikely that local residents are exposed to fish caught locally to a significant degree; however, a subgroup within the local population that derives 100 percent of their fish diet from locally caught fish (referred to as subsistence fishermen) may exist. It should be noted; however, that no data or information are available to confirm the existence of this subgroup.

The following factors must be considered when estimating exposure to this subgroup: 1) the chemical concentration in fish; 2) the rate of fish ingestion 3) the fraction of fish consumed that were caught locally; and 4) the frequency and duration

of exposure. Values of the exposure factors for this pathway are presented in Table 25. The fish ingestion rate for this subgroup is based on consumption values for recreational fishermen presented by U.S. EPA (1990a). A fish consumption rate of 30 mg/day is used for the typical value, 140 mg/day as the high-end value. In addition, it is assumed that 100 percent of fish consumed are from the study area.

8. Ingestion of Surface Water During Swimming

It is possible that local residents and farmers may ingest surface water while swimming in local surface water bodies. This water may be contaminated and may, therefore, be a source of exposure to chemicals. The extent of exposure to contaminated surface water depends upon: 1) the concentration of chemical in the surface water; 2) water ingestion rate; and 3) the exposure time, frequency, and duration. The values of the exposure factors for this pathway are presented in Tables 26 and 27 and are discussed below.

a. Ingestion Rate

U.S. EPA (1990a) provides limited data concerning ingestion of surface water during swimming. A value of 0.05 L/hr (50 mL/hr) is assumed to apply. This value is applied as both the typical and high-end surface water ingestion rate for all exposure subgroups.

b. Exposure Time and Frequency

U.S. EPA (1992b) recommends typical and high-end exposure time values of 0.5 hr/day and 1 hr/day, respectively. In addition, typical and high-end exposure frequency values of 5 days/year and 150 days/year are suggested (U.S. EPA 1992b). The U.S. EPA document notes, however, that these data are based on judgment. As indicated in Chapter VIII, this pathway does not appear to present significant risk. No further effort, therefore, to collect site-specific data was put forth.

9. Dermal Contact with Surface Water During Swimming

It is possible that local residents and farmers may swim in local bodies of surface water and be exposed to chemicals from the water through dermal contact. The extent of exposure to contaminated surface water depends upon: 1) the dose per swimming event (which is based on the chemical concentration in surface water, the permeability coefficient of the chemical, and the duration of the swimming event); 2) skin surface area; and 3) the exposure frequency and duration. The values of the

exposure factors for this pathway are presented in Tables 28 and 29 and are discussed below.

a. Absorbed Dose per Event

U.S. EPA (1992b) recommends two methods for estimating the absorbed dose associated with dermal exposure to substances during swimming. For inorganic compounds, a steady-state approach is recommended using the following equation:

$$DA_{event} = (K_p)(CW)(ET) \qquad \text{(V-9-1)}$$

where:

DA_{event}	=	absorbed dose per swimming event, mg/cm^2-event
K_p	=	permeability coefficient from water, cm/hr
CW	=	concentration in surface water, mg/cm^3
ET	=	exposure time of event, hr/event

The value of K_p is estimated to be 0.001 cm/hr, as recommended by U.S. EPA (1992b). The concentration in surface water is estimated as described in Appendix V-7. U.S. EPA (1992b) recommends typical and high-end exposure time values of 0.5 hr/day and 1 hr/day, respectively.

For organic compounds, U.S. EPA (1992b) recommends a non-steady-state method of estimating DA_{event}, as described in, *Dermal Exposure Assessment: Principles and Applications* (U.S. EPA 1992b). This methodology is used in the HHRA. The value of the permeability coefficient, K_p, for organic compounds is chemical-specific. Non-steady state values of K_p are estimated based on a methodology suggested by U.S. EPA (1992b) and are presented in Table 30 for the substances of potential concern. The use of the non-steady-state methodology is recommended by U.S. EPA because of the generally brief duration of exposure events.

b. Skin Surface Area

It is assumed that during swimming, the entire body surface would be exposed to the surface water. Age-specific body surface areas of 18,150 cm^2 for adults, 7,200 cm^2 for children, and 10,400 cm^2 for school-age children, were compiled from U.S. EPA (1990a) guidance.

c. **Exposure Frequency**

Typical and high-end exposure frequency values of 5 days/year and 150 days/year are recommended (U.S. EPA 1992b). As indicated in Chapter VIII, this pathway does not appear to present significant risk. No further effort, therefore, to collect site-specific data was put forth.

10. Ingestion of Breast Milk

It is possible that breast-feeding infants living in the vicinity of the facility may be exposed indirectly to chemical emissions from the stack through ingestion of contaminated breast milk. The magnitude of exposure for this pathway is based on the following: 1) concentration of chemical in breast milk; 2) ingestion rate; 3) the exposure duration; and 4) the body weight of the infant. Based on Smith (1987), typical and high-end ingestion rates of breast milk of 700 g/day and 850 g/day were estimated. Typical and high-end exposure durations for breast feeding of 90 days and 365 days, respectively, are estimated. Average and high-end body weights for an infant are estimated to be 6 kilograms and 9 kilograms, respectively. Values of the exposure factors for this pathway are presented in Table 31.

11. Ingestion of Meat from Locally Hunted Deer

It is possible that individuals hunting in the area surrounding the WTI facility and consuming meat from deer hunted in these areas may be indirectly exposed to substances released from the WTI facility stack. The magnitude of exposure for this pathway is based on the following: 1) concentration of chemical in deer meat; 2) ingestion rate; and 3) the exposure duration. Values of the exposure factors for this pathway are presented in Table 32.

An ingestion rate of 15 g/day is estimated based on the deer harvest (ODNR 1994; PDNR 1994; WVDNR 1994a, personal communication) in the three counties (Columbiana, Beaver, and Hancock) surrounding the WTI facility, the number of hunting licenses issued (ODNR 1994; PDNR 1994; WVDNR 1995; personal communication) in each of these three counties, and an estimate of 40 pounds of meat per deer (WVDNR 1994). Table 33 summarizes these values and the estimated amount of available deer meat in the three county area. Assuming that the amount of deer meat available is divided equally amongst all hunters with licenses, the average deer meat consumption rate is 15 g/day. A high-end value of 100 g/day is estimated based on the assumption that an individual hunter might consume the meat from two deer over the period of a year. The exposure duration for a resident, 9 and 30 years for the average and high-end, respectively, is assumed to apply to the hunter.

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TABLE 1
Typical Exposure Assumptions for Inhalation of Air

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CA = Chemical Concentration in Air (mg/m^3)	Chemical-Specific				
IR = Inhalation Rate (m^3/hr)	0.833[b]	0.667[b]	0.833[b]	0.833[b]	0.667[b]
ET = Exposure Time (hr/day)	24	24	24	24	24
EF = Exposure Frequency (days/yr)	350	350	350	350	350
ED = Exposure Duration (yrs)	9[b]	6	6	20[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190

Notes:
a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).
b - Source: U.S. EPA 1990a

TABLE 2
High-End Exposure Assumptions for Inhalation of Air

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CA = Chemical Concentration in Air (mg/m^3)	Chemical-Specific				
IR = Inhalation Rate (m^3/hr)	0.833[b]	0.667[b]	0.833[b]	0.833[b]	0.667[b]
ET = Exposure Time (hr/day)	24	24	24	24	24
EF = Exposure Frequency (days/yr)	350	350	350	350	350
ED = Exposure Duration (yrs)	30[b]	6	6	40[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190

Notes:
a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).
b - Source: U.S. EPA 1990a

TABLE 3
Typical Exposure Assumptions for Soil Ingestion

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CS = Chemical Concentration in Soil (mg/kg)	Chemical-Specific				
IR = Ingestion Rate (mg/day)	25[b]	100[c]	30[d]	100[c]/25[e]	100[c]
EF = Exposure Frequency (days/yr)	350[f]	350[f]	350[f]	175/175[f,g]	350[f]
ED = Exposure Duration (yrs)	9[h]	6	6	20[h]	6
BW = Body Weight (kg)	70[h]	15[h]	31[h]	70[h]	15[h]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190

Notes:

a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).

b - Source: LaGoy 1987 as cited in U.S. EPA 1990b

c - U.S. EPA 1990b provides a range of soil ingestion rates for children of 100 mg/day to 200 mg/day. The lower bound of this range is used for typical value.

d - Based on indoor and outdoor soil ingestion values for "older children" cited by U.S. EPA (1990a). The method used for estimating value in table is provided in text.

e - Exposure for a farmer is divided between field work and non-field work. The typical soil ingestion rate for field work was assumed to be equivalent to high-end adult residential ingestion rate. The typical non-field work soil ingestion rate was assumed to be equivalent to the typical adult residential soil ingestion rate.

f - Because soil ingestion was assumed to occur both indoors and outdoors, an exposure frequency of 350 days/year was assumed to apply.

g - Exposure frequency was divided equally between outdoor field work and non-field work; therefore, the average soil ingestion rate for a farmer over the period of at least a year is 62.5 g/day, based on the field and non-field ingestion rates and exposure frequencies.

h - Source: U.S. EPA 1990a

TABLE 4
High-End Exposure Assumptions for Soil Ingestion

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CS = Chemical Concentration in Soil (mg/kg)	Chemical-Specific				
IR = Ingestion Rate (mg/day)	100[b]	200[c]	60[d]	480[e]/100[e]	200[c]
EF = Exposure Frequency (days/yr)	350[f]	350[f]	350[f]	175/175[f,g]	350[f]
ED = Exposure Duration (yrs)	30[h]	6	6	40[h]	6
BW = Body Weight (kg)	70[h]	15[h]	31[h]	70[h]	15[h]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190

Notes:

a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).

b - "Upper bound" cited in U.S. EPA 1991

c - U.S. EPA 1990b provides a range of soil ingestion rates for children of 100 mg/day to 200 mg/day.. The upper bound of this range was used for the high-end value.

d - Based on indoor and outdoor soil ingestion values for "older children" cited by U.S. EPA (1990a). The method used for estimating value in table is provided in text.

e - Exposure for a farmer is divided between field work and non-field work. The high-end estimate of soil ingestion for field work is based on U.S. EPA guidance for outdoor workers (U.S. EPA 1991). The high-end non-field work soil ingestion rate was assumed to be equivalent to the high-end residential soil ingestion rate.

f - Because soil ingestion was assumed to occur both indoors and outdoors, an exposure frequency of 350 days/year was assumed to apply.

g - Exposure frequency was divided equally between outdoor field work and non-field work; therefore, the high-end soil ingestion rate for a farmer over the period of at least a year is 290 g/day, based on the field and non-field ingestion rates and exposure frequencies.

h - Source: U.S. EPA 1990a

TABLE 5
Typical Exposure Assumptions for Dermal Contact with Soil

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CS = Chemical Concentration in Soil (mg/kg)	Chemical-Specific				
SA = Skin Surface Area Available for Contact (cm^2)	1,890[b]	970[b]	1,330[b]	1,890[b]	970[b]
AF = Soil to Skin Adherence Factor (mg/cm^2-day)	0.2[c]	0.2[c]	0.2[c]	0.2[c]/1.0[d]	0.2[c]
ABS = Absorption Factor (unitless)	0.01[c] for metals; 0.03[c] for dioxin-like compounds; 0.06[c] for organic compounds				
EF = Exposure Frequency (day/yr)	350[e]	350[e]	350[e]	175/175[e,f]	350[e]
ED = Exposure Duration (yr)	9[g]	6	6	20[g]	6
BW = Body Weight (kg)	70[g]	15[g]	31[g]	70[g]	15[g]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190

Notes:

a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).

b - Assumed typical skin surface area based on exposure to hands and forearms (U.S. EPA 1990a).

c - Source: U.S. EPA 1992b

d - The high-end soil to skin adherence factor was assumed to apply to a farmer working in the field.

e - The exposure frequency for dermal contact was assumed to be the same as for soil ingestion.

f - Exposure frequency was equally divided between outdoor field work and non-field work; therefore the average value of the adherence factor over the period of at least a year is 0.6 mg/cm^2-day.

g - Source: U.S. EPA 1990a

TABLE 6
High-End Exposure Assumptions for Dermal Contact with Soil

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CS = Chemical Concentration in Soil (mg/kg)	Chemical-Specific				
SA = Skin Surface Area Available for Contact (cm^2)	4,950[b]	2,440[b]	3,700[b]	4,950[b]	2,440[b]
AF = Soil to Skin Adherence Factor (mg/cm^2-day)	1.0[c]	1.0[c]	1.0[c]	1.0[c]	1.0[c]
ABS = Absorption Factor (unitless)	0.01[c] for metals; 0.03[c] for dioxin-like compounds; 0.06[c] for organic compounds				
EF = Exposure Frequency (days/yr)	350[d]	350[d]	350[d]	350[d]	350[d]
ED = Exposure Duration (yr)	30[e]	6	6	40[e]	6
BW = Body Weight (kg)	70[e]	15[e]	31[e]	70[e]	15[e]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190

Notes:
a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).
b - Assumed high-end based on exposure to hands, forearms, and half the head and legs (U.S. EPA 1990a).
c - Source: U.S. EPA 1992b
d - The exposure frequency for dermal contact was assumed to the same as for soil ingestion.
e - Source: U.S. EPA 1990a

TABLE 7
Typical Exposure Assumptions for Consumption of Locally Raised Meat and Eggs

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer	Child of Farmer	Subsistence Farmer Adult	Subsistence Farmer Child
CB = Chemical Concentration in Meat (mg/kg)	Chemical-Specific						
IR = Ingestion Rate (g/day)	See Table 9						
FI = Fraction of Meat Ingested from Contaminated Source[a] (unitless)							
Beef	0.15	0.15	0.15	0.44[b]	0.44[b]	1	1
Pork	0.18	0.18	0.18	0.44	0.44	1	1
Chicken	0	0	0	0.44	0.44	1	1
Other Poultry	0	0	0	0.44	0.44	1	1
Eggs	0.16	0.16	0.16	0.44	0.44	1	1
EF = Exposure Frequency (days/yr)	350	350	350	350	350	350	350
ED = Exposure Duration (yrs)	9[b]	6	6	20[b]	6	20[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190	7,300	2,190

Notes:
a - Method used to estimate fraction of meat ingested from contaminated source, FI, for residential population subgroups is outlined in text.
b - Source: U.S. EPA 1990a.

TABLE 8
High-End Exposure Assumptions for Consumption of Locally Raised Meat and Eggs

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer	Child of Farmer	Subsistence Farmer Adult	Subsistence Farmer Child
CB = Chemical Concentration in Meat (mg/kg)	Chemical-Specific						
IR = Ingestion Rate (g/day)	See Table 9						
FI = Fraction of Meat Ingested from Contaminated Source[a] (unitless)							
Beef	0.30	0.30	0.30	0.75[b]	0.75[b]	1	1
Pork	0.36	0.36	0.36	0.75	0.75	1	1
Chicken	0	0	0	0.75	0.75	1	1
Other Poultry	0	0	0	0.75	0.75	1	1
Eggs	0.32	0.32	0.32	0.75	0.75	1	1
EF = Exposure Frequency (days/yr)	350	350	350	350	350	350	350
ED = Exposure Duration (yrs)	30[b]	6	6	40[b]	6	40[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190	14,600	2,190

Notes:
a - Method used to estimate the fraction of meat ingested from contaminated source, FI, for residential population subgroups is outlined in text.
b - Source: U.S. EPA 1990a.

TABLE 9
Meat and Eggs Consumption Rates

Food	Typical Consumption Rate (g/day)[a]			High-End Consumption Rate (g/day)[b]		
	Child[c]	School-Age Child	Adult[d]	Child[c]	School-Age Child	Adult[d]
Beef	27	57	81	62	137	203
Pork	23	27	34	64	68	95
Chicken	31	48	48	68	106	106
Other Poultry	5	7	13	11	15	29
Eggs	12	15	22	26	35	51

Notes:
a - Based on USDA 1993a
b - Based on USDA 1982
c - Applies to children of residents, farmers, and subsistence farmers
d - Applies to residents, farmers, and subsistence farmers

TABLE 10
90th Percentile to Median Food Consumption Ratios

Food	Child	School-Age Child	Adult
Meat and Eggs			
Beef	2.3	2.4	2.5
Pork	2.8	2.5	2.8
Chicken	2.2	2.2	2.2
Other Poultry	2.2	2.2	2.2
Eggs	2.2	2.3	2.3
Milk Products			
Milk and Milk Drinks	2.0	1.9	3.0
Cheese	2.8	2.8	2.4
Milk Desserts	2.2	2.3	2.4
Yogurt	2.5[a]	2.5[a]	2.3
Cream	NA	4.3[b]	4.3
Butter	2.8	2.8	3.8
Vegetables[c]			
Vegetables	2.5	2.5	2.5
Fruits[c]			
Fruits	2.5	2.5	2.5

Notes:
NA - Not applicable. The 90th percentile to median ratio was not calculated because the food consumption rate was zero.
a - Limited distribution data for child and school-age child consumption of yogurt; a value of 2.5 was assumed.
b - No distribution data for school-age consumption of cream; adult ratio assumed to apply.
c - The 90th percentile to median ratio for total fruits and total vegetables was estimated to be 2.5 based on 90th percentile/median ratios for individual fruits and vegetables estimated by USDA (1982).

TABLE 11
State-wide Beef Statistics

Parameter	Number of Head (thousands)		
	Ohio[a]	Pennsylvania[a]	West Virginia[a]
Total Cattle/Calves (C_T)	1,610	1,850	520
Plant Cattle Slaughter (PS_{catt})	185	969 229[b] (estimate)	16
Calves Born (B)	560	780	250
Plant Calf Slaughter (PS_{calf})	62	168	NA 38[c] (estimate)

Notes:
NA - Not available
a - State-wide agricultural statistics obtained from the Agricultural Statistics Service for Ohio, Pennsylvania, and West Virginia (ODA 1994; PDA 1994; WVDA 1994). Total cattle/calves data are for January 1, 1993; all other data are for most recent calendar year available.
b - This value is an estimate of the number of Pennsylvania-bred cattle that are slaughtered in the state. 740 thousand head slaughtered annually in two large, eastern Pennsylvania slaughter houses are not included in this number.
c - Calf slaughter data were not available for West Virginia; it was assumed that 15 percent of the calves born were slaughtered, based on the average of Ohio and Pennsylvania data.

TABLE 12
Estimated County Beef Statistics

Parameter	Number of Head in County		
	Columbiana, Ohio	Beaver, Pennsylvania	Hancock, West Virginia
Total Cattle/Calves[a]	26,000	11,500	1,200
Plant Cattle Slaughter[b]	3,000	1,400	37
Calves Born[c]	9,000	4,800	580
Plant Calf Slaughter[d]	1,000	1,000	87

Note:
a - County-specific data available: ODA 1994; PDA 1994; WVDA 1994, January 1, 1993.
b - Based on state-wide data: PS_{cattle}/C_T x total cattle in county
c - Based on state-wide data: B/C_T x total cattle in county
d - Based on state-wide data: PS_{calf}/B x estimated number of calves in county

TABLE 13
Annual Availability of Beef from Locally Raised Cattle

State/County	Estimated Cattle Slaughtered[a] (head/yr)	Estimated Calves Slaughtered[a] (head/yr)	Estimated Beef from Cattle[b] (pounds/yr)	Estimated Beef from Calves[c] (pounds/yr)	Total Local Beef Available (pounds/yr)
Columbiana	3,000	1,000	1,650,000	250,000	1,900,000
Beaver	1,400	1,000	840,000	200,000	1,040,000
Hancock	37	87	18,500	19,575	38,075
		TOTAL	2,508,500	469,575	2,978,075

Notes:

a - see Table 12

b - Beef available per head of cattle was assumed to be one-half average cattle live weight. Live weights for cattle were assumed to be: 1,100 lbs Ohio, 1,200 lbs Penn., 1,000 lbs West Virginia (ODA 1994; PDA 1994; WVDA 1994).

c - Beef available per calf was assumed to be one-half average calf live weight. Live weights for calves were assumed to be: 500 Ohio, and 400 lbs Pennsylvania (ODA 1994; PDA 1994). Average live weight for West Virginia calves assumed to be 450 lbs.

TABLE 14
Age-Specific Population in Three-County Area

County	Population[a]		
	Children (1 - 6 yrs)	School-Age (7 - 12 yrs)	Adults (>13 yrs)
Columbiana, Ohio	9,225	9,485	89,566
Beaver, Pennsylvania	14,366	14,813	156,914
Hancock, West Virginia	2,325	2,692	30,216
TOTAL	25,932	27,702	276,683

Note:
a - CACI 1992

TABLE 15
Available Pork and Eggs from Locally Raised Livestock

Pork

County	Fraction of State Hog Herd[a]	Estimated Annual Hog Slaughter[b] (head)	Estimated Annual Pork Available[c] (pounds)
Columbiana, Ohio	0.003	8,457	1,074,000
Beaver, Pennsylvania	0.0017	3,744	442,000
Hancock, West Virginia	0.003	59	11,000
		TOTAL	1,527,000

Eggs

County	Estimated Number of Layers	Estimated Annual Egg Production[g] (10^3 Eggs)	Annual Eggs Available[h] (pounds)
Columbiana, Ohio	16,400[d]	4,412	552,000
Beaver, Pennsylvania	8,800[e]	2,385	298,000
Hancock, West Virginia	150[f]	32	4,000
		TOTAL	854,000

Notes:

a - Based on State Agricultural Statistics data (ODA 1994; PDA 1994; WVDA 1994).

b - Estimated based on the product of the fraction of state hog herd in each county and the number of hogs slaughtered annually in state (ODA 1994; PDA 1994; WVDA 1994)

c - Pork available per hog was assumed to be one-half average hog live weight. Live weights for hogs assumed to be: 254 lbs for Ohio, 236 lbs for Pennsylvania, 368 lbs for West Virginia (ODA 1994; PDA 1994; WVDA 1994).

d - Number of layers for Columbiana County estimated from the ratio of layers (PDA 1994) to chicken farms (USDC 1993b) in Beaver County and the number of chicken farms in Columbiana County (USDC 1993a).

e - PDA (1994).

f - Based on extrapolation of 1987 data (# of layers/# of chicken farms) for county (USDC 1993c) and 1992 census of chicken farms (USDC 1993c).

g - Estimated based on the average annual egg production per layer: 269 for Ohio, 271 for Pennsylvania, 215 for West Virginia (ODA 1994; PDA 1994; WVDA 1994).

h - Estimated based on 1.5 pounds/dozen eggs (USDA 1993b).

TABLE 16
Typical Exposure Assumptions for Consumption of Locally-Produced Milk Products

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer	Child Farmer	Subsistence Farmer Adult	Subsistence Farmer Child
CM = Chemical Concentration in Milk Product (mg/kg)	Chemical-Specific						
IR = Ingestion Rate (g/day)	See Table 18						
FI = Fraction of Milk Product Ingested from Contaminated Source	0.36[a]	0.36[a]	0.36[a]	0.40[b]	0.40[b]	1	1
EF = Exposure Frequency (days/yr)	350	350	350	350	350	350	350
ED = Exposure Duration (yrs)	9[b]	6	6	20[b]	6	20[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190	7,300	2,190

Notes:
a - Method of estimation outlined in text.
b - Source: U.S. EPA 1990a

TABLE 17
High-End Exposure Assumptions for Consumption of Locally-Produced Milk Products

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer	Child Farmer	Subsistence Farmer Adult	Subsistence Farmer Child
CM = Chemical Concentration in Milk (mg/kg)	Site-Specific						
IR = Ingestion Rate (g/day)	See Table 18						
FI = Fraction of Milk Ingested from Contaminated Source	0.72[a]	0.72[a]	0.72[a]	0.75[b]	0.75[b]	1	1
EF = Exposure Frequency (days/yr)	350	350	350	350	350	350	350
ED = Exposure Duration (yrs)	30[b]	6	6	40[b]	6	40[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190	14,600	2,190

Notes:
a - Assumed to be two times the average value
b - Source: U.S. EPA 1990a

TABLE 18
Milk and Milk Product Consumption Rates

Food	Typical Consumption Rate (g/day)			High-End Consumption Rate (g/day)		
	Child[c]	School-Age Child	Adult[d]	Child[c]	School-Age Child	Adult[d]
Milk and Milk Drinks	391	407	184	782	773	552
Cheese	8	9	16	22	25	38
Milk Desserts	17	35	20	39	81	48
Yogurt	7	5	6	18	13	14
Cream	0	2	4	0	9	17
Butter	2	4	6	6	11	23

Notes:
a - Based on USDA (1993a)
b - Based on USDA (1982)
c - Applies to children of residents, farmers, and subsistence farmers
d - Applies to residents, farmers, and subsistence farmers

TABLE 19
State-wide Milk Data[a]

	Ohio	Pennsylvania	West Virginia
Milk Cows (x 10^3 head)	315	655	23
Milk Production (x 10^6 lbs)	4,625	10,364	278
Marketing (x 10^6 lbs)	4,625	10,364	278
Fed to Calves on Farm	20	70	4
Consumed on Farm	15	30	2
Sold to Plants/Dealers	NA[b] (4,470)	9,999	NA[b] (265)
Sold to Consumers	NA[b] (120)	265	NA[b] (7)

Notes:

a - State-wide agricultural statistics obtained from the Agricultural Statistics Service for Ohio, Pennsylvania, and West Virginia (ODA 1994; PDA 1994; WVDA 1994).

b - Available Ohio and West Virginia sales data were not divided between sales to plants/dealers and direct sales to consumers. The numbers in parenthesis represent estimated values based on the distribution of sales between sales to Plants/dealers and direct sales to consumers exhibited in Pennsylvania data.

TABLE 20
Estimated County Dairy Statistics[a]

	Columbiana, Ohio	Beaver, Pennsylvania	Hancock, West Virginia
Milk Cows[b]	11,800	3,000	<50
Milk Production (x 10^3 lbs)	179,800[e]	41,700[d]	604[c]
Marketing[f] (x 10^3 lbs)			
Fed to Calves on Farm	770	280	9
Consumed on Farm	580	120	4
Sold to Plants/Dealers	173,800	40,200	576
Sold to Consumers	4,700	1,100	15

Notes:
a - County data estimated based on state data and the fraction of the total state herd in county.
b - ODA 1994; PDA 1994; WVDA 1994
c - Available Ohio agricultural statistics provide county-specific data on milk sold. Milk production was estimated based on state-wide data.
d - PDA 1994
e - Estimated based on fraction of state milk cow herd in county multiplied by the total milk produced in the state.
f - Marketing values do not necessarily sum to total production due to rounding.

TABLE 21
Availability of Milk from Locally Raised Cows

State/County	Milk Consumed on Farm[a] (x 10^3 lbs)	Milk Sold Directly to Consumer[a] (x 10^3 lbs)	Milk Processed Locally[b] (x 10^3 lbs)	Total Local Milk Available[c] (x 10^3 lbs)
Columbiana	580	4,700	20,970	26,250
Beaver	120	1,100	4,755	5,975
Hancock	4	15	63	82
			Total Milk	32,307
			Total for Fluid Milk[d]	16,154

Notes:
a - see Table 20
b - Milk (pounds) sold to Plants/Dealers (Table 20) minus [0.85 x milk production (pounds)].
c - Sum of milk that is consumed on farm, milk that is sold directly to consumers, and milk processed locally.
d - 50 percent of milk produced is assumed to go to dairy product production.

TABLE 22
Typical Exposure Assumptions for Consumption of Locally Grown Fruits and Vegetables

Parameter	Adult Resident (with Garden)	Child Resident (with Garden)	School-Age Child (with Garden)	Adult Farmer	Child Farmer	Subsistence Farmer Adult	Subsistence Farmer Child
CV = Chemical Concentration in Vegetables (mg/kg)	Chemical-Specific						
IR = Ingestion Rate (g/day)	See Table 24						
FI = Fraction of Vegetable Diet that is Homegrown[a]							
Vegetables	0.25	0.25	0.25	0.25	0.25	1	1
Fruit	0.125	0.125	0.125	0.125	0.125	1	1
EF = Exposure Frequency (days/yr)	350	350	350	350	350	350	350
ED = Exposure Duration (yrs)	9[b]	6	6	20[b]	6	20[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190	7,300	2,190

Notes:
a - Based on the median of responses from the vegetable/fruit garden survey conducted by the East Liverpool Board of Health.
b - Source: U.S. EPA 1990a

TABLE 23
High-End Exposure Assumptions for Consumption of Locally Grown Fruits and Vegetables

Parameter	Adult Resident (with Garden)	Child Resident (with Garden)	School-Age Child (with Garden)	Adult Farmer	Child Farmer	Subsistence Farmer Adult	Subsistence Farmer Child
CV = Chemical Concentration in Vegetables (mg/kg)	Chemical-Specific						
IR = Ingestion Rate (g/day)	See Table 24						
FI = Fraction of Vegetable Diet that is Homegrown[a]							
Vegetables	0.5	0.5	0.5	0.5	0.5	1	1
Fruit	0.25	0.25	0.25	0.25	0.25	1	1
EF = Exposure Frequency (days/yr)	350	350	350	350	350	350	350
ED = Exposure Duration (yrs)	30[b]	6	6	40[b]	6	40[b]	6
BW = Body Weight (kg)	70[b]	15[b]	31[b]	70[b]	15[b]	70[b]	15[b]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190	14,600	2,190

Notes:
a - Based on the high-end (90th percentile) of responses to the vegetable/fruit garden survey conducted by the East Liverpool Board of Health.
b - Source: U.S. EPA 1990a

TABLE 24
Fruit and Vegetable Consumption Rates

Food	Typical Consumption Rate[a]			High-End Consumption Rate[b]		
	Child[c]	School-Age Child	Adult[d]	Child[c]	School-Age Child	Adult[d]
Vegetables (g/day)						
Total Vegetables	83	129	206	208	323	515
Aboveground Exposed	27	43	68	68	106	170
Aboveground Protected	13	21	33	33	52	82
Leafy	11	17	27	27	42	67
Root	32	49	78	79	123	196
Fruits (g/day)						
Total Fruits	155	168	137	388	420	343
Exposed	65	71	58	163	176	144
Protected	90	97	79	225	244	199

Notes:
a - Based on USDA (1993a)
b - Based on USDA (1982)
c - Applies to children of residents, farmers, and subsistence farmers
d - Applies to residents, farmers, and subsistence farmers

TABLE 25
Typical and High-end Exposure Assumptions for Ingestion of Fish by Subsistence Fisherman

Parameter	Average Values	High-end Values
CF = Chemical Concentration in Fish (mg/kg)	Chemical-specific	
IR = Ingestion Rate (g/day)	30[a]	140[a]
FC = Fraction of Fish Caught Locally (unitless)	1.0	1.0
EF = Exposure Frequency (days/yr)	350	350
ED = Exposure Duration (yrs)	9[b]	30[b]
BW = Body Weight (kg)	70[b]	70[b]
LT = Lifetime (days)	25,550	25,550
AT = Averaging Time (days)	3,285	10,950

Notes:
a - Based on recreational fisherman consumption value presented by U.S. EPA (1990a).
b - Source: U.S. EPA 1990a

TABLE 26
Typical Exposure Assumptions for Ingestion of Surface Water During Swimming

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CW = Surface Water Concentration (mg/L)	Chemical-Specific				
IR = Ingestion Rate (L/hr)	0.05[b]	0.05[b]	0.05[b]	0.05[b]	0.05[b]
ET = Exposure Time (hr/day)	0.5[c]	0.5[c]	0.5[c]	0.5[c]	0.5[c]
EF = Exposure Frequency (days/yr)	5[c]	5[c]	5[c]	5[c]	5[c]
ED = Exposure Duration (yrs)	9[d]	6	6	20[d]	6
BW = Body Weight (kg)	70[d]	15[d]	31[d]	70[d]	15[d]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190

Notes:
a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).
b - Source: U.S. EPA 1989.
c - Source: U.S. EPA 1992b.
d - Source: U.S. EPA 1990a

TABLE 27
High-End Exposure Assumptions for Ingestion of Surface Water During Swimming

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
CW = Surface Water Concentration (mg/L)	Chemical-Specific				
IR = Ingestion Rate (L/hr)	0.05[b]	0.05[b]	0.05[b]	0.05[b]	0.05[b]
ET = Exposure Time (hr/day)	1[c]	1[c]	1[c]	1[c]	1[c]
EF = Exposure Frequency (days/yr)	150[c]	150[c]	150[c]	150[c]	150[c]
ED = Exposure Duration (yrs)	30[d]	6	6	40[d]	6
BW = Body Weight (kg)	70[d]	15[d]	31[d]	70[d]	15[d]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190

Notes:
a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).
b - Source: U.S. EPA 1989
c - Source: U.S. EPA 1992b; high-end estimate of exposure
d - Source: U.S. EPA 1990a

TABLE 28
Typical Exposure Assumptions for Dermal Contact with Surface Water During Swimming

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
DA_{event} Absorbed dose per swimming event (mg/cm^2-event)	Chemical-Specific				
CW = Surface Water Concentration (mg/cm^3)	Chemical-Specific				
K_p = Permeability Coefficient (cm/hr)	Chemical-Specific (see Table 30)				
ET = Exposure Time (hr/event)	0.5[c]	0.5[c]	0.5[c]	0.5[c]	0.5[c]
SA = Skin Surface Area Available for Contact (cm^2)	18,150[b]	7,200[b]	10,400[b]	18,150[b]	7,200[b]
EF = Exposure Frequency (events/yr)	5[c]	5[c]	5[c]	5[c]	5[c]
ED = Exposure Duration (yrs)	9[d]	6	6	20[d]	6
BW = Body Weight (kg)	70[d]	15[d]	31[d]	70[d]	15[d]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	3,285	2,190	2,190	7,300	2,190

Notes:
a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).
b - Source: U.S. EPA 1990a (entire body surface area)
c - Source: U.S. EPA 1992a
d - Source: U.S. EPA 1990a

TABLE 29
High-End Exposure Assumptions for Dermal Contact with Surface Water During Swimming

Parameter	Adult Resident	Child Resident	School-Age Child	Adult Farmer[a]	Child of Farmer[a]
DA_{event} Absorbed dose per swimming event (mg/cm^2-event)	Chemical-Specific				
CW = Surface Water Concentration (mg/cm^3)	Chemical-Specific				
K_p = Permeability Coefficient (cm/hr)	Chemical-Specific (see Table 30)				
ET = Exposure Time (hr/event)	1[c]	1[c]	1[c]	1[c]	1[c]
SA = Skin Surface Area Available for Contact (cm^2)	18,150[b]	7,200[b]	10,400[b]	18,150[b]	7,200[b]
EF = Exposure Frequency (events/yr)	150[c]	150[c]	150[c]	150[c]	150[c]
ED = Exposure Duration (yrs)	30[d]	6	6	40[d]	6
BW = Body Weight (kg)	70[d]	15[d]	31[d]	70[d]	15[d]
LT = Lifetime (days)	25,550	25,550	25,550	25,550	25,550
AT = Averaging Time (days)	10,950	2,190	2,190	14,600	2,190

Notes:
a - Exposure to subsistence farmers is the same as the exposure to farmers (children and adults).
b - Source: U.S. EPA 1990a (entire body surface area)
c - Source: U.S. EPA 1992a
d - Source: U.S. EPA 1990a

TABLE 30 Chemical-specific Kp Values	
Substance	**Permeability coefficient from water (Kp)[a] (cm/hr)**
Dioxins and Furans	
2,3,7,8-TCDD	1.07
1,2,3,7,8-PeCDD	0.66
1,2,3,4,7,8-HxCDD	2.67
1,2,3,6,7,8-HxCDD	1.20
1,2,3,7,8,9-HxCDD	2.67
1,2,3,4,6,7,8-HpCDD	3.22
OCDD	0.72
2,3,7,8-TCDF	1.12
1,2,3,7,8-PeCDF	1.06
2,3,4,7,8-PeCDF	1.31
1,2,3,4,7,8-HxCDF	1.50
1,2,3,6,7,8-HxCDF	1.50
1,2,3,7,8,9-HxCDF	1.50
2,3,4,6,7,8-HxCDF	1.50
1,2,3,4,6,7,8-HpCDF	2.47
1,2,3,4,7,8,9-HpCDF	2.47
OCDF	6.53
PICs and Residues of Organic Compounds	
Tetrachlorobiphenyl	0.81
Hexachlorobiphenyl	1.48
Heptachlorobiphenyl	2.13
Benzo(a)pyrene	1.20
Benzo(b)fluoranthene	1.39
Bis(2-ethylhexyl)phthalate	1.20
Carbon tetrachloride	0.02
Dibenz(a,h)anthracene	2.15
Di(n)octyl phthalate	4.17
Heptachlor	0.28
Hexachlorobenzene	0.53
Hexachlorobutadiene	0.13
Hexachloropentadiene	0.28

TABLE 30 Chemical-specific Kp Values	
Substance	**Permeability coefficient from water (Kp)[a] (cm/hr)**
Hexachlorophene	1.42
Indeno(1,2,3-cd)pyrene	2.06
Metals	
Aluminum	1×10^{-3}
Antimony	1×10^{-3}
Arsenic	1×10^{-3}
Barium	1×10^{-3}
Beryllium	1×10^{-3}
Cadmium	1×10^{-3}
Chromium (trivalent)	1×10^{-3}
Chromium (hexavalent)	1×10^{-3}
Copper	1×10^{-3}
Lead	1×10^{-3}
Mercury	1×10^{-3}
Nickel	1×10^{-3}
Selenium	1×10^{-3}
Silver	1×10^{-3}
Thallium	1×10^{-3}
Zinc	1×10^{-3}

Note:
a - Kp estimated based on methodology described by U.S. EPA (1992b)

TABLE 31
Typical and High-End Exposure Assumptions for Ingestion of Breast Milk

Parameter	Breast Feeding Infant	
	Typical	High-End
CM = Chemical Concentration in Breast Milk (mg/kg)	Chemical-Specific	
IR = Ingestion Rate (g/day)	700[a]	850[a]
ED = Exposure Duration (days)	90[b]	365[b]
BW = Body Weight (kg)	6[b]	9[b]
LT = Lifetime (days)	25,550	25,550
AT = Averaging Time (days)	90	365

Notes:
a - Smith (1987) provides ranges of infant breast milk intake of 677 to 922 mL/day and 723 to 751 g/day from two studies Typical and high-end values of 700 g/day and 850 g/day, respectively, are estimated based on these data.
b - Assumption.

TABLE 32
Typical and High-End Exposure Assumptions for Ingestion of Deer Meat Consumption by Hunter

Parameter	Typical	High-End
CM = Chemical Concentration in Deer Meat (mg/kg)	Chemical-Specific	
IR = Ingestion Rate (g/day)	15[a]	100[a]
EF = Exposure Frequency (days/yr)	350	350
ED = Exposure Duration (yr)	9[b]	30[b]
BW = Body Weight (kg)	70[b]	70[b]
LT = Lifetime (days)	25,550	25,550
AT = Averaging Time (days)	3,285	10,950

Notes:
a - Estimation method outlined in text
b - Source: U.S. EPA 1990a

TABLE 33
Estimation of Meat from Deer Hunted Locally

County	Annual Deer Harvest[a]	Deer Meat Available[b] (lbs)	Number of Hunters[c]
Columbiana	2,149	85,960	4,315
Beaver	4,452	178,080	17,013
Hancock	787	31,480	3,365
TOTAL	7,388	295,520	24,693

Notes:
a - ODNR 1994, PDNR 1994, WVDNR 1995
b - Deer harvest x 40 lbs per deer (WVDNR 1994a)
c - Based on the number of hunting licenses (ODNR 1994, PDNR 1994, WVDNR 1995)

TABLE 34 (continued) Key Assumptions in Estimation of Exposure Factors			
Assumption	**Basis**	**Magnitude of Effect**	**Direction of Effect**
Exposure pathways have been adequately identified and characterized	Exposure pathways are consistent with U.S. EPA guidance (e.g., U.S. EPA 1989) and site-specific evaluation.	low	underestimate
Exposure factors represent the behavior of the various populations	Site-specific values are used whenever possible, otherwise, U.S. EPA-default values are used - the 50th percentile for average exposures and the 90th percentile for high-end exposures.	medium	overestimate
The soil ingestion rate for school-age children is divided between indoor and outdoor rates and prorated because indoor exposure occurs year round and outdoor exposure only occurs during the warmer months (200 days/year with temperatures exceeding 50° F)	Conservative assumption based on professional judgment.	low	overestimate
The soil ingestion rate for farmers is prorated to include a higher ingestion rate during periods of outdoor field work and a lower rate during non-field activities	Conservative assumption based on professional judgment.	low	overestimate
The exposure frequency for soil ingestion occurs 350 days/year implying that incidental soil ingestion occurs both indoors and outdoors	Conservative assumption based on professional judgment.	low	overestimate
For dermal contact with soil, exposure occurs to the hands and forearms in the average case and includes half the head and legs in the high-end case	Conservative assumption based on professional judgment.	low	overestimate
The absorption factor for dermal contact with soil uses the upper end of the ranges recommended by U.S. EPA (1992) for dioxin-like, organic and inorganic compounds, based on one chemical in each class	Conservative assumption based on best available data.	low	overestimate

TABLE 34 (continued) Key Assumptions in Estimation of Exposure Factors			
Assumption	**Basis**	**Magnitude of Effect**	**Direction of Effect**
Consumption of lamb/veal/game and organ meats is not considered in meat ingestion rates	Consumption rates for these categories of meats are insignificant.	low	underestimate
The high end of the food consumption distribution is estimated as the product of median consumption rates and the ratio of the 90th percentile to the median of individual food consumption rates presented in USDA (1982)	Conservative assumption based on professional judgment.	low	overestimate
State-wide beef and dairy cow statistics are applied at the local level	Professional judgment on best available data.	low	overestimate
Beef cattle slaughtered within a county is consumed within the same county	Professional judgment.	low	overestimate
The amount of beef derived from each head of slaughtered cattle is 50 percent of the average live weight of cattle slaughtered in the state	Professional judgment on best available data.	low	unknown
An analysis of the data similar to the one for beef is applied to other meat products to determine the fraction that is raised locally	Professional judgment.	low	unknown
Locally raised chickens and turkey make up an insignificant portion of a typical resident's diet	Based on local agricultural census data (USDC 1993a,b,c) that indicate that very few chicken farms are located in the area	low	underestimate
Farm families derive a significant portion (0.44 and 0.75 for average and high-end exposures, respectively) of their meat and milk products from locally raised livestock	U.S. EPA (1990a) guidance	low	unknown

TABLE 34 (continued)
Key Assumptions in Estimation of Exposure Factors

Assumption	Basis	Magnitude of Effect	Direction of Effect
Subsistence farmers derive all of their meat and milk products from locally raised livestock	Conservative assumption based on professional judgment.	medium	overestimate
The butter consumption rate includes margarine and butter substitutes, items that do not contain dairy products	Conservative assumption based on professional judgment.	low	overestimate
The Beaver County milk production data apply to the whole study area	Professional judgment on best available data.	low	unknown
The East Liverpool Board of Health estimates that 30 percent of the local resident have home gardens. Their survey of 100 residents with gardens is representative of local gardening practices and provides reasonable data to estimate the fraction of diet that is homegrown.	Professional judgment on best available data.	low	unknown
The fraction ingested from contaminated sources estimated for families with gardens apply to farm families	Professional judgment, no available data.	low	unknown
Ingestion of deer meat rates is estimated based on dividing the amount of deer meat available from an annual harvest by the number of hunters with licenses (average exposure) and one hunter consuming two deer in a year (high-end exposure)	Professional judgment on best available data.	low	variable

Notes:
low = less than a factor of two
medium = a factor of two to ten
high = greater than a factor of ten

APPENDIX V-9

Review of USDA Milk Marketing Data

SUMMARY OF MILK MARKETING DATA

This appendix summarizes milk marketing data obtained from a number of sources and identifies its use in developing estimates of milk distribution in the risk assessment study area. These milk marketing/distribution data are used to develop an estimate of the fraction of milk consumed by local residents that is derived from locally raised cows. The area of interest for which data were collected was limited to the three counties (Columbiana, Ohio; Beaver, Pennsylvania; and Hancock, West Virginia) in the immediate vicinity of the WTI facility to coincide with the risk assessment study area.

Milk marketing data compiled from the Departments of Agriculture in Ohio, Pennsylvania, and West Virginia are summarized in Table 1. These data include information on local consumption (e.g., on farm) and milk marketing to plants/dealers and directly to consumers. Discussions with the agricultural extension agents in Columbiana County, Ohio; Beaver County, Pennsylvania; and Hancock County, West Virginia (personal communication), indicated that milk that is marketed to plants and dealers (shown in Table 1) is divided between large processing facilities that are not generally located in the area and smaller, local processing facilities that generally service communities within 5 to 10 miles of the processing facility.

To estimate the distribution of milk between the large processing facilities and the local handlers, a USDA (1988) milk marketing report that summarizes county-by-county and state contributions to federally inspected milk processing plants (these are the large processing facilities referred to above) was reviewed. Federally inspected milk processing plants are assigned to different "milk marketing areas" under the Federal Milk Marketing Order. In general, milk produced within a milk marketing area stays within the area (USDA 1994). However, these marketing areas are generally very large. For example, the Eastern Ohio-Western Pennsylvania milk marketing area covers the eastern third of Ohio, the western third of Pennsylvania, and the West Virginia panhandle. USDA milk marketing data for this area are reviewed to estimate the fraction of milk produced in the area surrounding the WTI facility that is sent to the large, federally inspected milk processing facilities contained within the Eastern Ohio-Western Pennsylvania milk marketing area.

Based on milk marketing data for Beaver County, Pennsylvania (USDA 1988) and milk production data for the same year (PDA 1994), it was estimated that approximately 85 percent of the milk produced in Beaver County in December 1988 was processed in the federally inspected plants (i.e., 15 percent remains local). No data were available for the

TABLE 1
Estimated County Dairy Statistics[a]

Parameter	Columbiana, Ohio	Beaver, Pennsylvania	Hancock, West Virginia
Milk Cows[b]	11,800	3,000	<50
Milk Production (x 10^3 lbs)	179,800[c]	41,700[d]	604[e]
Marketing[f] (x 10^3 lbs)			
Fed to Calves on Farm	770	280	9
Consumed on Farm	580	120	4
Sold to Plants/Dealers	173,800	40,200	576
Sold to Consumers	4,700	1,100	15

Notes:

a - County data estimated based on state data and the fraction of the total state herd in county.

b - ODA 1994; PDA 1994; WVDA 1994

c - Available Ohio agricultural statistics provide county-specific data on milk sold. Milk production was estimated based on state-wide data.

d - PDA 1994

e - Estimated based on fraction of state milk cow herd in county multiplied by the total milk produced in the state.

f - Marketing values do not necessarily sum to total production due to rounding.

TABLE 2
Availability of Milk from Locally Raised Cows

State/County	Milk Consumed on Farm[a] (x 10^3 lbs)	Milk Sold Directly to Consumer[a] (x 10^3 lbs)	Milk Processed Locally[b] (x 10^3 lbs)	Total Local Milk Available[c] (x 10^3 lbs)
Columbiana	580	4,700	20,970	26,250
Beaver	120	1,100	4,755	5,975
Hancock	4	15	63	82
			Total Milk	32,307
			Total for Fluid Milk[d]	16,154

Notes:
a - see Table 1
b - Milk (pounds) sold to Plants/Dealers (Table 1) minus 0.85 x milk production (pounds).
c - Sum of milk that is consumed on farm, milk that is sold directly to consumers, and milk processed locally.
d - 50 percent of milk produced is assumed to go to dairy product production.

other two counties (Columbiana and Hancock); therefore, Beaver County data was assumed to apply to the entire three-county area. Table 2 presents the estimated amount of milk that is produced and remains in the three-county area surrounding the WTI facility.

To estimate the amount of locally derived milk that is available for consumption in the area surrounding the WTI facility, the milk that remains local (including milk consumed on farm, milk sold directly to consumers, and milk processed locally) is compared to the total annual consumption in the three-county area surrounding the facility. The amount of milk that remains local is estimated in Table 2 as 32.3 million pounds. However, the Pennsylvania Department of Agriculture statistics (PDA 1994) indicate that approximately 50 percent of the fluid milk produced is used in the production of dairy products. Therefore, from Table 2, a total of 16.2 million pounds of locally produced fluid milk is available for consumption annually in the three-county area surrounding the WTI facility. Based on age-specific population data within the three-county area (Table 3) and age-specific milk consumption rates (Table 4), the total annual milk consumption in the three-county area is 57.9 million pounds. Therefore, an additional 41.7 million pounds of milk are required from the large, non-local processing plants to make up the shortfall (i.e., 59.7 million pounds minus 16.2 million pounds). USDA (1988) data indicate that the three counties surrounding the WTI facility accounted for approximately five percent of the total milk processed in the non-local, federally inspected milk processing plants in the Eastern Ohio-Western Pennsylvania milk marketing area. Therefore, the total amount of milk that is produced locally and is available for local consumption is 18.3 million pounds (i.e., 16.2 million lbs + [0.05 x 41.7 million lbs]). The total amount of milk from locally raised cows represents 32 percent of the total milk consumption for the area surrounding the WTI facility (i.e., 18.3 million lbs/59.7 million lbs). Because data on milk products (cheese, butter, etc) production are very limited for the three-county area surrounding the WTI facility, the fraction of milk products consumed that is derived from locally raised cows is also assumed to be 0.32.

TABLE 3
Age-Specific Population in Three-County Area

County	Population[a]		
	Children (1 - 6 yrs)	School-Age (7 - 12 yrs)	Adults (>13 yrs)
Columbiana, Ohio	9,225	9,485	89,566
Beaver, Pennsylvania	14,366	14,813	156,914
Hancock, West Virginia	2,325	2,692	30,216
TOTAL	25,932	27,702	276,683

Note:
a - CACI 1992a

TABLE 4
Milk and Milk Product Consumption Rates

Food	Typical Consumption Rate[a] (g/day)			High-End Consumption Rate[b] (g/day)		
	Child	School-Age Child	Adult	Child	School-Age Child	Adult
Milk and Milk Drinks	391	407	184	782	773	552
Cheese	8	9	16	22	25	38
Milk Desserts	17	35	20	39	81	48
Yogurt	7	5	6	18	13	14
Cream	0	2	4	0	9	17
Butter	2	4	6	6	11	23

Notes:
a - USDA (1993)
b - USDA (1982)

REFERENCES

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APPENDIX V-10

Milk Production by ZIP Code and Farm Size

State and County (by ZIP Code) Milk Production by Farm Size[a]														
ZIP Code	1 - 30,000 (lbs)		30,001 - 60,000 (lbs)		60,001 - 90,000 (lbs)		90,001 - 120,000 (lbs)		120,001 - 150,000 (lbs)		150,001 & over (lbs)		Totals by ZIP Code	
	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]
Columbiana County, OH														
43945			1	R	2	R	1	R					4	300,222
43968	2	R	2	R					2	R			6	414,535
44224					1	R							1	R
44406			1	R									1	R
44408			1	R	2	R	1	R			1	R	5	520,509
44413	2	R	1	R									3	78,452
44423	1	R	2	R	6	426,042	2	R			1	R	12	975,667
44427	1	R	1	R			1	R	2	R			5	410,468
44431			1	R	4	305,972	3	309,189	2	R	2	R	12	1,342,645
44432	4	83,674	6	276,619	2	R	1	R	1	R	1	R	15	998,270
44445	2	R	2	R	2	R					2	R	8	677,165
44451									1	R			1	R
44455			1	R									1	R
44460	8	185,661	8	375,993	9	657,352	6	604,664	1	R	5	894,511	37	2,718,181[c]
44493									1	R			1	R
44601											2	R	2	R
44609			2	R	2	R	1	R			2	R	7	805,677
44619			1	R									1	R
44625	1	R	6	286,201	4	283,836	2	R			1	R	14	1,019,904

State and County (by ZIP Code) Milk Production by Farm Size[a]														
ZIP Code	1 - 30,000 (lbs)		30,001 - 60,000 (lbs)		60,001 - 90,000 (lbs)		90,001 - 120,000 (lbs)		120,001 - 150,000 (lbs)		150,001 & over (lbs)		Totals by ZIP Code	
	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]
44634	1	R	7	321,951	1	R	1	R	3	423,750	2	R	15	1,358,969
44657			5	231,093	2	R	1	R	1	R	3	850,631	12	1,458,252
44665					1	R							1	R
Columbiana County, OH	22	492,698	48	2,188,406	38	2,793,815	20	2,008,339	14	1,929,043	22	4,769,800	164	14,182,101
Beaver County, PA														
15001					1	R							1	R
15005	1	R											1	R
15009			1	R									1	R
15010	2	R	2	R	2	R	1	R			1	R	8	533,496
15026	1	R					2	R	1	R			4	351,686
15042			2	R	2	R							4	212,322
15043	1	R	3	126,259									4	126,259[c]
15050			1	R	2	R			1	R			4	308,188
15066	1	R	4	179,774			1	R					6	300,518
15074					2	R	2	R					4	342,135
16037			1	R									1	R
16115	1	R	1	R									2	R
16117	1	R	1	R									2	R

State and County (by ZIP Code) Milk Production by Farm Size[a]														
ZIP Code	1 - 30,000 (lbs)		30,001 - 60,000 (lbs)		60,001 - 90,000 (lbs)		90,001 - 120,000 (lbs)		120,001 - 150,000 (lbs)		150,001 & over (lbs)		Totals by ZIP Code	
	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]	n	Production[b]
16120			1	R	1	R							2	R
16123	2	R	2	R	3	227,956	3	312,622	2	R			12	947,438
16141			2	R									2	R
16232					1	R							1	R
Beaver Country, PA	10	215,490	21	914,075	14	977,058	9	931,132	4	518,946	1	R	59	3,556,701[c]
Hancock County, WV														
No dairy farms listed														

Notes:

a - U.S. Department of Agriculture (USDA). 1994. Letter from J. Rourke, Market Information Branch, Dairy Division, to D. Canter, Office of Solid Waste and Emergency Response, U.S. EPA, regarding data on number of dairy farmers and milk production in Ohio, Pennsylvania, and West Virginia. December 1.

b - Production is pounds of Grade A milk that was marketed.

c - Total excludes restricted volume.

n - Number of farms

R - Restricted; pertains to the operations of fewer than three farms.

REFERENCES

U.S. Department of Agriculture (USDA). 1994. Letter from J. Rourke, Market Information Branch, Dairy Division, to D. Canter, Office of Solid Waste and Emergency Response, U.S. EPA. December 1.

APPENDIX V-11

Estimation of Environmental Media Concentrations

TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	E1 avg	2.6E-10	1.3E-10	3.3E-11	1.3E-12	1 7E-12	9 8E-12	1 5E-10	6 3E-11	9 8E-12	1 2E-10	4.0E-10	2.1E-13	1 7E-14
1,2,3,7,8-PeCDD	E1 avg	1.3E-09	2.2E-09	4 2E-10	6.0E-12	8.3E-12	1 6E-10	2.5E-09	1 1E-09	1.6E-10	2.0E-09	6.7E-09	3.5E-12	8 6E-14
1,2,3,4,7,8-HxCDD	E1 avg	1.4E-09	1.5E-09	2.7E-10	3.2E-12	4 4E-12	1 1E-10	1 7E-09	7 2E-10	1.1E-10	1 4E-09	4.5E-09	4.9E-12	2 0E-14
1,2,3,6,7,8-HxCDD	E1 avg	2.6E-09	4.0E-10	1.1E-10	4.9E-12	6 8E-12	3.0E-11	4 5E-10	1 9E-10	3.0E-11	3 7E-10	1.2E-09	1.7E-12	7 0E-14
1,2,3,7,8,9-HxCDD	E1 avg	1.6E-09	5.4E-10	1.2E-10	4.1E-12	5.6E-12	4 1E-11	6 1E-10	2.7E-10	4 1E-11	5.1E-10	1.7E-09	1.7E-12	2 3E-14
1,2,3,4,6,7,8-HpCDD	E1 avg	1.9E-08	4.2E-09	7.8E-10	7.5E-12	1.0E-11	3 2E-10	4.8E-09	2 1E-09	3.2E-10	4.0E-09	1.3E-08	7.9E-11	1.5E-13
OCDD	E1 avg	9.1E-08	7.7E-07	1.3E-07	5.2E-11	7.2E-11	5.8E-08	8 7E-07	3 8E-07	5.8E-08	7 3E-07	2.4E-06	9.8E-09	1 7E-12
2,3,7,8-TCDF	E1 avg	2.3E-09	4.0E-10	9.0E-11	2.5E-12	3.4E-12	3.1E-11	4.6E-10	2.0E-10	3.1E-11	3 8E-10	1.3E-09	2.9E-12	1 8E-13
1,2,3,7,8-PeCDF	E1 avg	7.6E-09	1.9E-09	3.7E-10	6.1E-12	8 5E-12	1.4E-10	2.1E-09	9.3E-10	1.4E-10	1.8E-09	5.9E-09	1.7E-11	4 1E-13
2,3,4,7,8-PeCDF	E1 avg	9 3E-09	1.1E-08	2 1E-09	3.2E-11	4 4E-11	8 2E-10	1 2E-08	5 3E-09	8.2E-10	1.0E-08	3.4E-08	2.4E-11	4 2E-13
1,2,3,4,7,8-HxCDF	E1 avg	2.3E-08	6.1E-09	1 5E-09	5.9E-11	8.1E-11	4.6E-10	6.9E-09	3.0E-09	4.6E-10	5 8E-09	1.9E-08	1.9E-11	6.1E-13
1,2,3,6,7,8-HxCDF	E1 avg	2.1E-08	1.1E-08	2.3E-09	4.7E-11	6 5E-11	8.4E-10	1.3E-08	5.5E-09	8.4E-10	1.1E-08	3.5E-08	3 8E-11	5 7E-13
1,2,3,7,8,9-HxCDF	E1 avg	4.9E-09	2.5E-09	5.2E-10	1.1E-11	1.5E-11	1.9E-10	2.9E-09	1.2E-09	1.9E-10	2.4E-09	7.8E-09	8.6E-12	1.3E-13
2,3,4,6,7,8-HxCDF	E1 avg	2.4E-08	7.4E-09	1 6E-09	4.7E-11	6.5E-11	5.6E-10	8.4E-09	3 6E-09	5.6E-10	7.0E-09	2.3E-08	2.9E-11	6.5E-13
1,2,3,4,6,7,8-HpCDF	E1 avg	1.4E-07	5.9E-09	1 5E-09	6.5E-11	9.0E-11	4.5E-10	6.7E-09	2.9E-09	4.5E-10	5 6E-09	1.8E-08	1.0E-10	1.8E-12
1,2,3,4,7,8,9-HpCDF	E1 avg	1.9E-08	1.2E-09	3.7E-10	2.0E-11	2 8E-11	9.1E-11	1.4E-09	5.9E-10	9 1E-11	1.1E-09	3.7E-09	9.2E-12	2 3E-13
OCDF	E1 avg	2 8E-07	6.4E-08	1.1E-08	6.2E-11	8.5E-11	4.8E-09	7.3E-08	3.2E-08	4.8E-09	6.1E-08	2.0E-07	2 1E-09	1 0E-12
Tetrachlorobiphenyl	E1 avg	2 8E-07	3.0E-08	2.2E-08	1.9E-09	2 6E-09	2.2E-09	3.3E-08	1.4E-08	2.2E-09	2 8E-08	9.1E-08	5.4E-11	4 9E-11
Hexachlorobiphenyl	E1 avg	4.5E-07	1.9E-08	1.3E-08	1.1E-09	1.5E-09	1.4E-09	2 1E-08	9.2E-09	1 4E-09	1 8E-08	5.8E-08	5 2E-11	1 5E-11
Heptachlorobiphenyl	E1 avg	4.4E-07	5.0E-07	9 5E-08	1.1E-09	1.5E-09	3 8E-08	5 7E-07	2.4E-07	3 8E-08	4.7E-07	1.5E-06	1.4E-09	7 2E-12
Benzo(a)pyrene	E1 avg	6.5E-06	4.2E-05	2.7E-06	1.3E-10	1.6E-07	1.6E-05	1 6E-05	1.6E-05	1 6E-05	1 6E-05	1.6E-05	1.7E-07	8 2E-10
Benzo(b)fluoranthene	E1 avg	2 7E-05	2 5E-05	1.9E-06	6.6E-10	8.2E-07	9.6E-06	9.6E-06	9.6E-06	9.6E-06	9.6E-06	9.6E-06	7 8E-08	3 1E-09
Bis(2-ethylhexyl)phthalate	E1 avg	2.3E-06	3.4E-03	2.2E-04	7.1E-12	8.9E-09	1.4E-03	1.4E-03	1.4E-03	1.4E-03	1.4E-03	1.4E-03	8.6E-05	6 0E-11
Carbon tetrachloride	E1 avg	1.6E-05	1.8E-09	6.9E-10	3.0E-12	3.8E-09	7.7E-10	7.7E-10	7.7E-10	7 7E-10	7.7E-10	7 7E-10	1.3E-06	2 4E-06
Dibenz(a,h)anthracene	E1 avg	1.5E-05	6 4E-06	7.0E-07	1.2E-09	1.4E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2 5E-06	2.5E-06	1 3E-08	9 1E-10
Di(n)octyl phthalate	E1 avg	6.6E-07	9.3E-03	6.0E-04	1.2E-09	1.5E-06	3.6E-03	3.6E-03	3.6E-03	3.6E-03	3.6E-03	3.6E-03	4 0E-07	6 3E-12
Heptachlor	E1 avg	1.3E-08	2.7E-08	1 9E-09	3.7E-13	4.6E-10	1.1E-08	1.1E-08	1.1E-08	1 1E-08	1.1E-08	1.1E-08	7.4E-11	1 4E-12
Hexachlorobenzene	E1 avg	2 5E-05	2.6E-07	1 7E-07	3.2E-10	4.0E-07	9.0E-08	9.0E-08	9.0E-08	9 0E-08	9.0E-08	9 0E-08	8 0E-09	1 3E-08
Hexachlorobutadiene	E1 avg	6.8E-05	4.9E-08	4 0E-08	7.6E-11	9 5E-08	1.7E-08	1.7E-08	1.7E-08	1 7E-08	1.7E-08	1 7E-08	3 4E-08	6 0E-08
Hexachlorocyclopentadiene	E1 avg	1.1E-06	3.1E-09	2.4E-09	4.4E-12	5.5E-09	1.0E-09	1 0E-09	1 0E-09	1 0E-09	1 0E-09	1 0E-09	2 3E-10	3 9E-10
Hexachlorophene	E1 avg	4.2E-05	2.5E-04	1.5E-05	2.2E-08	2.8E-05	9.7E-05	9 7E-05	9.7E-05	9.7E-05	9 7E-05	9.7E-05	7.5E-08	8 4E-10
Indeno(1,2,3-cd)pyrene	E1 avg	1.7E-05	6.0E-06	7.2E-07	1.2E-09	1.5E-06	2.3E-06	2.3E-06	2 3E-06	2 3E-06	2.3E-06	2 3E-06	1 3E-08	1 1E-09
Antimony	E1 avg	2.9E-06	2.6E-08	1 1E-08	7.7E-11	9.0E-10	3.2E-09	3.2E-09	3 2E-09	3 2E-09	3 2E-09	3.2E-09	1 5E-08	1 7E-08
Arsenic	E1 avg	1.1E-04	4 7E-07	1.5E-07	5.7E-08	7.5E-08	1.7E-08	1 7E-08	1.7E-08	1 7E-08	1.7E-08	1 7E-08	8 0E-08	5 4E-08
Barium	E1 avg	1 4E-04	1.4E-07	6.1E-07	2.3E-10	1 8E-07	4.0E-07	4 0E-07	4.0E-07	4 0E-07	4.0E-07	4 0E-07	4 0E-07	3 5E-07
Beryllium	E1 avg	2 9E-07	2.8E-10	2 0E-10	7.8E-12	9 2E-12	2.9E-13	2 9E-13	2 9E-13	2 9E-13	2 9E-13	2 9E-13	5 2E-11	1 4E-11
Cadmium	E1 avg	1.6E-06	1.4E-08	6 3E-10	2 6E-09	6.1E-11	1 1E-09	1 1E-09	1 1E-09	1 1E-09	1 1E-09	1 1E-09	5 2E-08	5 4E-08
Chromium (hexavalent)	E1 avg	7.7E-06	3 6E-08	4 0E-08	4 5E-10	7.3E-10	1.1E-08	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1.1E-08	1 5E-09	9 2E-10
Lead	E1 avg	4 9E-04	1.3E-07	3.1E-07	9.6E-06	9.6E-06	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 1E-07
Mercury	E1 avg	1.3E-03	1 2E-06	3 9E-06	7.3E-07	6 1E-08	1 9E-06	1 9E-06	1 9E-06	1 9E-06	1 9E-06	1 9E-06	3 3E-05	5 7E-05
Mercury (methyl BCF)	E1 avg	1.3E-03	1 2E-06	3 9E-06	7 3E-07	6 1E-08	1 9E-06	1 9E-06	1 9E-06	1 9E-06	1 9E-06	1 9E-06	3 3E-05	5 7E-05
Nickel	E1 avg	1.1E-05	1 9E-07	8 1E-07	1.2E-09	2 0E-09	4 0E-08	4 0E-08	4 0E-08	4 0E-08	4 0E-08	4 0E-08	4 5E-08	6 8E-08
Selenium	E1 avg	2.1E-03	9 7E-06	2 2E-04	7.2E-06	7 2E-06	1 8E-04	1 8E-04	1 8E-04	1 8E-04	1 8E-04	1 8E-04	2 4E-06	3 1E-06
Silver	E1 avg	1.0E-05	3 3E-07	7.2E-09	8.6E-11	1 7E-09	2 8E-06	2 8E-06	2 8E-06	2 8E-06	2 8E-06	2 8E-06	1 3E-07	2 0E-07
Thallium	E1 avg	5 1E-04	1 5E-05	4 9E-05	9 8E-06	9 8E-06	8 3E-07	8 3E-07	8 3E-07	8 3E-07	8 3E-07	8 3E-07	4 8E-08	4 0E-09
Zinc	E1 avg	7.3E-05	2 0E-07	5 1E-08	4 4E-08	4 4E-08	6 4E-08	6 4E-08	6 4E-08	6 4E-08	6 4E-08	6 4E-08	7 6E-06	1 3E-05

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	E2 avg	1 1E-10	6.2E-11	1.5E-11	5 5E-13	7 5E-13	4.7E-12	7 0E-11	3.0E-11	4 7E-12	5 8E-11	1.9E-10	9 7E-14	7.5E-15
1,2,3,7,8-PeCDD	E2 avg	4.9E-10	1.0E-09	2.0E-10	2 3E-12	3 2E-12	7.9E-11	1 2E-09	5 1E-10	7.9E-11	9 8E-10	3.2E-09	1.7E-12	3 3E-14
1,2,3,4,7,8-HxCDD	E2 avg	4 8E-10	7.0E-10	1.3E-10	1.1E-12	1 5E-12	5.3E-11	7 9E-10	3.4E-10	5.3E-11	6.6E-10	2.2E-09	2.3E-12	6.7E-15
1,2,3,6,7,8-HxCDD	E2 avg	8.1E-10	1.8E-10	4 3E-11	1.6E-12	2.2E-12	1.4E-11	2.0E-10	8 8E-11	1.4E-11	1.7E-10	5.6E-10	7.4E-13	2 2E-14
1,2,3,7,8,9-HxCDD	E2 avg	5.1E-10	2 5E-10	5.3E-11	1.3E-12	1.7E-12	1.9E-11	2 9E-10	1.2E-10	1 9E-11	2.4E-10	7.8E-10	7.8E-13	7 2E-15
1,2,3,4,6,7,8-HpCDD	E2 avg	5.9E-09	2.0E-09	3 6E-10	2.3E-12	3.2E-12	1.5E-10	2 3E-09	1.0E-09	1.5E-10	1.9E-09	6 3E-09	3.8E-11	4 8E-14
OCDD	E2 avg	2.8E-08	3.7E-07	6.3E-08	1.6E-11	2 2E-11	2.8E-08	4.2E-07	1.8E-07	2 8E-08	3.5E-07	1.1E-06	4.7E-09	5.1E-13
2,3,7,8-TCDF	E2 avg	1.1E-09	1.9E-10	4.3E-11	1.1E-12	1.5E-12	1.5E-11	2.2E-10	9.5E-11	1.5E-11	1.8E-10	6.0E-10	1.4E-12	8.2E-14
1,2,3,7,8-PeCDF	E2 avg	3.1E-09	9.0E-10	1.8E-10	2.5E-12	3.5E-12	6.9E-11	1.0E-09	4.5E-10	6.9E-11	8.6E-10	2.8E-09	8 3E-12	1.7E-13
2,3,4,7,8-PeCDF	E2 avg	3.7E-09	5.2E-09	9.9E-10	1.3E-11	1 7E-11	3.9E-10	5.9E-09	2.6E-09	3 9E-10	4.9E-09	1.6E-08	1.1E-11	1.7E-13
1,2,3,4,7,8-HxCDF	E2 avg	7.4E-09	2 8E-09	6 3E-10	1.9E-11	2.6E-11	2.1E-10	3.2E-09	1.4E-09	2.1E-10	2.7E-09	8.8E-09	8.5E-12	2 0E-13
1,2,3,6,7,8-HxCDF	E2 avg	6.9E-09	5.3E-09	1.0E-09	1.5E-11	2.1E-11	4.0E-10	6.0E-09	2.6E-09	4.0E-10	5.0E-09	1.6E-08	1.8E-11	1.9E-13
1,2,3,7,8,9-HxCDF	E2 avg	1.7E-09	1 2E-09	2.3E-10	3.7E-12	5.1E-12	9.1E-11	1 4E-09	5.9E-10	9.1E-11	1.1E-09	3.7E-09	4.1E-12	4 5E-14
2,3,4,6,7,8-HxCDF	E2 avg	7.8E-09	3 5E-09	7.1E-10	1 5E-11	2 1E-11	2.6E-10	3.9E-09	1.7E-09	2.6E-10	3.3E-09	1.1E-08	1.3E-11	2.1E-13
1,2,3,4,6,7,8-HpCDF	E2 avg	4.6E-08	2.7E-09	6.3E-10	2.1E-11	2 9E-11	2.1E-10	3.1E-09	1 3E-09	2.1E-10	2.6E-09	8.4E-09	4.6E-11	5 6E-13
1,2,3,4,7,8,9-HpCDF	E2 avg	5.8E-09	5.4E-10	1 4E-10	6 4E-12	8 8E-12	4.1E-11	6 1E-10	2.6E-10	4.1E-11	5.1E-10	1.7E-09	4.0E-12	7.1E-14
OCDF	E2 avg	8 5E-08	3.1E-08	5.4E-09	1.9E-11	2 6E-11	2.3E-09	3 5E-08	1.5E-08	2 3E-09	2 9E-08	9.5E-08	1.0E-09	3 1E-13
Tetrachlorobiphenyl	E2 avg	1.3E-07	1 5E-08	1 0E-08	8 9E-10	1 2E-09	1.1E-09	1.6E-08	6.9E-09	1.1E-09	1.3E-08	4.3E-08	2.6E-11	2.4E-11
Hexachlorobiphenyl	E2 avg	2.2E-07	9.4E-09	6.4E-09	5 3E-10	7 3E-10	6.8E-10	1 0E-08	4.4E-09	6.8E-10	8 5E-09	2.8E-08	2.5E-11	7.1E-12
Heptachlorobiphenyl	E2 avg	2.1E-07	2.4E-07	4.6E-08	5.4E-10	7 4E-10	1.8E-08	2 7E-07	1.2E-07	1.8E-08	2.3E-07	7.5E-07	6 9E-10	3.5E-12
Benzo(a)pyrene	E2 avg	2.6E-06	2.0E-05	1.3E-06	5.1E-11	6 4E-08	7.8E-06	7.8E-06	7 8E-06	7 8E-06	7.8E-06	7.8E-06	7.9E-08	3.3E-10
Benzo(b)fluoranthene	E2 avg	1.3E-05	1.2E-05	9.3E-07	3 2E-10	4 0E-07	4.6E-06	4.6E-06	4.6E-06	4.6E-06	4.6E-06	4.6E-06	3 8E-08	1.5E-09
Bis(2-ethylhexyl)phthalate	E2 avg	8.6E-07	1.7E-03	1.1E-04	2 6E-12	3.3E-09	6.5E-04	6.5E-04	6.5E-04	6 5E-04	6 5E-04	6 5E-04	4.2E-05	2.2E-11
Carbon tetrachloride	E2 avg	7.5E-06	8 5E-10	3.3E-10	1 5E-12	1.8E-09	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	6 5E-07	1.1E-06
Dibenz(a,h)anthracene	E2 avg	4.6E-06	2.0E-06	2.1E-07	3.5E-10	4.4E-07	7.8E-07	7 8E-07	7.8E-07	7.8E-07	7.8E-07	7.8E-07	4.2E-09	2.8E-10
Di(n)octyl phthalate	E2 avg	3.2E-07	4.5E-03	2.9E-04	5.6E-10	7.0E-07	1 8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.9E-07	3.1E-12
Heptachlor	E2 avg	6.3E-09	1.3E-08	9.3E-10	1.8E-13	2 2E-10	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	3.6E-11	6.8E-13
Hexachlorobenzene	E2 avg	1.2E-05	1.2E-07	8.4E-08	1.5E-10	1 9E-07	4.3E-08	4 3E-08	4.3E-08	4 3E-08	4.3E-08	4.3E-08	3.9E-09	6 5E-09
Hexachlorobutadiene	E2 avg	3.3E-05	2.4E-08	1.9E-08	3.7E-11	4.6E-08	8.2E-09	8 2E-09	8.2E-09	8 2E-09	8 2E-09	8.2E-09	1.7E-08	2 9E-08
Hexachlorocyclopentadiene	E2 avg	5.4E-07	1.5E-09	1.2E-09	2.1E-12	2 7E-09	5.0E-10	5 0E-10	5.0E-10	5 0E-10	5.0E-10	5.0E-10	1.1E-10	1.9E-10
Hexachlorophene	E2 avg	1.3E-05	7.8E-05	4.5E-06	6.7E-09	8.4E-06	3.1E-05	3.1E-05	3.1E-05	3 1E-05	3.1E-05	3.1E-05	2.4E-08	2.5E-10
Indeno(1,2,3-cd)pyrene	E2 avg	5.3E-06	1.9E-06	2.2E-07	3.6E-10	4.5E-07	7.2E-07	7.2E-07	7.2E-07	7.2E-07	7.2E-07	7.2E-07	4.2E-09	3.3E-10
Antimony	E2 avg	8.8E-07	8.2E-09	3.2E-09	2.4E-11	2.7E-10	1.0E-09	1.0E-09	1.0E-09	1 0E-09	1.0E-09	1 0E-09	4.7E-09	5.1E-09
Arsenic	E2 avg	3.4E-05	1.5E-07	4.6E-08	1 8E-08	2.3E-08	5.5E-09	5.5E-09	5.5E-09	5 5E-09	5.5E-09	5 5E-09	2 5E-08	1.7E-08
Barium	E2 avg	4.2E-05	4.4E-08	1.9E-07	6.9E-11	5 6E-08	1.3E-07	1.3E-07	1.3E-07	1 3E-07	1.3E-07	1.3E-07	1.3E-07	1.1E-07
Beryllium	E2 avg	9.0E-08	8.7E-11	6 2E-11	2.4E-12	2 8E-12	9 2E-14	9 2E-14	9.2E-14	9.2E-14	9 2E-14	9.2E-14	1 7E-11	4.3E-12
Cadmium	E2 avg	5.0E-07	4.4E-09	1.9E-10	7.9E-10	1 9E-11	3 4E-10	3 4E-10	3.4E-10	3.4E-10	3 4E-10	3.4E-10	1 6E-08	1.7E-08
Chromium (hexavalent)	E2 avg	2.4E-06	1.1E-08	1 2E-08	1 4E-10	2.2E-10	3 6E-09	3 6E-09	3 6E-09	3 6E-09	3 6E-09	3 6E-09	4 6E-10	2 8E-10
Lead	E2 avg	1.5E-04	3 9E-08	9 3E-08	2.9E-06	2 9E-06	3.8E-08	3 8E-08	3 8E-08	3 8E-08	3 8E-08	3 8E-08	3 8E-08	3.4E-08
Mercury	E2 avg	6.2E-04	5.7E-07	1 9E-06	3 5E-07	3 0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Mercury (methyl BCF)	E2 avg	6 2E-04	5.7E-07	1 9E-06	3.5E-07	3 0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2.7E-05
Nickel	E2 avg	3.4E-06	6.1E-08	2.5E-07	3 8E-10	6 2E-10	1.3E-08	1 3E-08	1 3E-08	1 3E-08	1 3E-08	1 3E-08	1 4E-08	2 1E-08
Selenium	E2 avg	6 4E-04	3.1E-06	6 8E-05	2 2E-06	2 2E-06	5 6E-05	5 6E-05	5 6E-05	5 6E-05	5 6E-05	5 6E-05	7 4E-07	9 4E-07
Silver	E2 avg	3.1E-06	1.0E-07	2 2E-09	2.6E-11	5 3E-10	8 7E-07	8 7E-07	8 7E-07	8 7E-07	8 7E-07	8 7E-07	4 1E-08	6 0E-08
Thallium	E2 avg	1 6E-04	4 6E-06	1 5E-05	3 0E-06	3 0E-06	2 6E-07	2 6E-07	2 6E-07	2 6E-07	2 6E-07	2 6E-07	1 5E-08	1 2E-09
Zinc	E2 avg	2.2E-05	6.1E-08	1.6E-08	1 4E-08	1 4E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 3E-06	4 0E-06

TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	E3 avg	4.9E-11	2 6E-11	6.6E-12	2.3E-13	3 2E-13	2 0E-12	3 0E-11	1.3E-11	2.0E-12	2.5E-11	8.2E-11	4 2E-14	3 2E-15
1,2,3,7,8-PeCDD	E3 avg	2.1E-10	4.4E-10	8.4E-11	9 8E-13	1.4E-12	3.4E-11	5.1E-10	2 2E-10	3.4E-11	4.2E-10	1.4E-09	7 2E-13	1.4E-14
1,2,3,4,7,8-HxCDD	E3 avg	2.0E-10	3.0E-10	5.4E-11	4 5E-13	6 3E-13	2.3E-11	3.4E-10	1.5E-10	2 3E-11	2 8E-10	9.3E-10	9 9E-13	2 9E-15
1,2,3,6,7,8-HxCDD	E3 avg	3.5E-10	7.7E-11	1.8E-11	6.7E-13	9 2E-13	5.8E-12	8.7E-11	3 8E-11	5.8E-12	7.3E-11	2.4E-10	3.2E-13	9 4E-15
1,2,3,7,8,9-HxCDD	E3 avg	2.2E-10	1.1E-10	2.3E-11	5.4E-13	7.5E-13	8.2E-12	1 2E-10	5.3E-11	8 2E-12	1 0E-10	3.3E-10	3 3E-13	3 1E-15
1,2,3,4,6,7,8-HpCDD	E3 avg	2.5E-09	8.7E-10	1.6E-10	9.9E-13	1.4E-12	6.6E-11	9 9E-10	4 3E-10	6.6E-11	8.2E-10	2.7E-09	1.6E-11	2 0E-14
OCDD	E3 avg	1.2E-08	1.6E-07	2.7E-08	6 8E-12	9.4E-12	1.2E-08	1.8E-07	7.8E-08	1.2E-08	1.5E-07	4.9E-07	2 0E-09	2 2E-13
2,3,7,8-TCDF	E3 avg	4.6E-10	8.3E-11	1.8E-11	4.8E-13	6.6E-13	6.3E-12	9 4E-11	4 1E-11	6.3E-12	7.9E-11	2.6E-10	6.0E-13	3.5E-14
1,2,3,7,8-PeCDF	E3 avg	1.3E-09	3.9E-10	7.5E-11	1.1E-12	1 5E-12	2.9E-11	4.4E-10	1 9E-10	2 9E-11	3.7E-10	1.2E-09	3 6E-12	7.2E-14
2,3,4,7,8-PeCDF	E3 avg	1.6E-09	2.2E-09	4.2E-10	5.4E-12	7.4E-12	1.7E-10	2.5E-09	1 1E-09	1.7E-10	2.1E-09	6.9E-09	4 8E-12	7 1E-14
1,2,3,4,7,8-HxCDF	E3 avg	3.2E-09	1.2E-09	2.7E-10	8.1E-12	1.1E-11	9.2E-11	1.4E-09	6.0E-10	9.2E-11	1.1E-09	3.8E-09	3.6E-12	8 6E-14
1,2,3,6,7,8-HxCDF	E3 avg	3.0E-09	2.3E-09	4 4E-10	6.5E-12	9.0E-12	1.7E-10	2.6E-09	1.1E-09	1.7E-10	2.1E-09	7.0E-09	7.6E-12	8 0E-14
1,2,3,7,8,9-HxCDF	E3 avg	7.1E-10	5.1E-10	1 0E-10	1.6E-12	2.2E-12	3.9E-11	5.8E-10	2.5E-10	3.9E-11	4.9E-10	1.6E-09	1.7E-12	1.9E-14
2,3,4,6,7,8-HxCDF	E3 avg	3.4E-09	1.5E-09	3 0E-10	6.6E-12	9.1E-12	1.1E-10	1.7E-09	7.3E-10	1.1E-10	1.4E-09	4.6E-09	5 7E-12	9.1E-14
1,2,3,4,6,7,8-HpCDF	E3 avg	2 0E-08	1.2E-09	2 7E-10	8.9E-12	1.2E-11	8.8E-11	1.3E-09	5 7E-10	8.8E-11	1.1E-09	3.6E-09	2.0E-11	2 4E-13
1,2,3,4,7,8,9-HpCDF	E3 avg	2.5E-09	2 3E-10	6 1E-11	2.7E-12	3.8E-12	1.7E-11	2.6E-10	1.1E-10	1.7E-11	2.2E-10	7.1E-10	1.7E-12	3.0E-14
OCDF	E3 avg	3.7E-08	1 3E-08	2 3E-09	8.0E-12	1 1E-11	1.0E-09	1 5E-08	6 5E-09	1.0E-09	1.2E-08	4 1E-08	4.4E-10	1.3E-13
Tetrachlorobiphenyl	E3 avg	5 7E-08	6 2E-09	4 5E-09	3.8E-10	5 3E-10	4.5E-10	6.8E-09	2 9E-09	4.5E-10	5.7E-09	1 9E-08	1.1E-11	1.0E-11
Hexachlorobiphenyl	E3 avg	9 3E-08	4 0E-09	2.8E-09	2.3E-10	3.1E-10	2.9E-10	4.4E-09	1.9E-09	2 9E-10	3.7E-09	1.2E-08	1 1E-11	3 0E-12
Heptachlorobiphenyl	E3 avg	9.1E-08	1.0E-07	2 0E-08	2.3E-10	3.2E-10	7 8E-09	1.2E-07	5.1E-08	7.8E-09	9.7E-08	3 2E-07	2 9E-10	1.5E-12
Benzo(a)pyrene	E3 avg	1.1E-06	8.6E-06	5.6E-07	2.2E-11	2.7E-08	3.4E-06	3.4E-06	3 4E-06	3.4E-06	3.4E-06	3.4E-06	3.4E-08	1 4E-10
Benzo(b)fluoranthene	E3 avg	5.5E-06	5 1E-06	4.0E-07	1.4E-10	1.7E-07	2.0E-06	2.0E-06	2.0E-06	2.0E-06	2.0E-06	2.0E-06	1 6E-08	6 3E-10
Bis(2-ethylhexyl)phthalate	E3 avg	3 7E-07	7.1E-04	4.6E-05	1.1E-12	1.4E-09	2.8E-04	2.8E-04	2 8E-04	2 8E-04	2 8E-04	2.8E-04	1.8E-05	9 5E-12
Carbon tetrachloride	E3 avg	3.2E-06	3 7E-10	1.4E-10	6.2E-13	7.8E-10	1.6E-10	1.6E-10	1 6E-10	1 6E-10	1.6E-10	1.6E-10	2 8E-07	4 9E-07
Dibenz(a,h)anthracene	E3 avg	2.0E-06	8.6E-07	9.1E-08	1.5E-10	1.9E-07	3.3E-07	3.3E-07	3.3E-07	3.3E-07	3 3E-07	3.3E-07	1 8E-09	1 2E-10
Di(n)octyl phthalate	E3 avg	1.4E-07	1.9E-03	1.2E-04	2.4E-10	3.0E-07	7.5E-04	7.5E-04	7.5E-04	7.5E-04	7.5E-04	7.5E-04	8 3E-08	1.3E-12
Heptachlor	E3 avg	2 7E-09	5.5E-09	4.0E-10	7.6E-14	9.5E-11	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2 2E-09	1 5E-11	2 8E-13
Hexachlorobenzene	E3 avg	5 2E-06	5 3E-08	3.6E-08	6.6E-11	8.3E-08	1.9E-08	1.9E-08	1 9E-08	1.9E-08	1.9E-08	1.9E-08	1 7E-09	2.8E-09
Hexachlorobutadiene	E3 avg	1.4E-05	1.0E-08	8.2E-09	1.6E-11	2.0E-08	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3 5E-09	7.1E-09	1 2E-08
Hexachlorocyclopentadiene	E3 avg	2.3E-07	6 3E-10	5.0E-10	9.1E-13	1.1E-09	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2 2E-10	2.2E-10	4 7E-11	8 1E-11
Hexachlorophene	E3 avg	5.4E-06	3.3E-05	1.9E-06	2.9E-09	3.6E-06	1.3E-05	1 3E-05	1 3E-05	1.3E-05	1.3E-05	1.3E-05	1 0E-08	1.1E-10
Indeno(1,2,3-cd)pyrene	E3 avg	2.3E-06	8 0E-07	9.4E-08	1.5E-10	1 9E-07	3.1E-07	3 1E-07	3 1E-07	3.1E-07	3.1E-07	3.1E-07	1 8E-09	1 4E-10
Antimony	E3 avg	4.0E-07	3 8E-09	1.5E-09	1.1E-11	1.3E-10	4.7E-10	4.7E-10	4 7E-10	4.7E-10	4.7E-10	4.7E-10	2 1E-09	2.3E-09
Arsenic	E3 avg	1.6E-05	6 9E-08	2 1E-08	8.1E-09	1.1E-08	2.5E-09	2.5E-09	2 5E-09	2 5E-09	2 5E-09	2 5E-09	1 2E-08	7 6E-09
Barium	E3 avg	1.9E-05	2 0E-08	8 6E-08	3 2E-11	2.6E-08	5.8E-08	5.8E-08	5 8E-08	5.8E-08	5 8E-08	5 8E-08	5 8E-08	5 0E-08
Beryllium	E3 avg	4.1E-08	4 0E-11	2 9E-11	1.1E-12	1 3E-12	4.2E-14	4 2E-14	4 2E-14	4 2E-14	4 2E-14	4 2E-14	7 6E-12	2 0E-12
Cadmium	E3 avg	2.3E-07	2.0E-09	8 9E-11	3 6E-10	8 6E-12	1.6E-10	1.6E-10	1 6E-10	1 6E-10	1 6E-10	1 6E-10	7 4E-09	7 6E-09
Chromium (hexavalent)	E3 avg	1.1E-06	5.1E-09	5 7E-09	6.4E-11	1 0E-10	1.6E-09	1.6E-09	1 6E-09	1 6E-09	1 6E-09	1 6E-09	2 1E-10	1 3E-10
Lead	E3 avg	6 9E-05	1 8E-08	4 3E-08	1.3E-06	1 3E-06	1 8E-08	1 8E-08	1 8E-08	1 8E-08	1 8E-08	1 8E-08	1 7E-08	1 6E-08
Mercury	E3 avg	2 7E-04	2 4E-07	8 0E-07	1 5E-07	1.3E-08	3 9E-07	3 9E-07	3 9E-07	3 9E-07	3 9E-07	3 9E-07	6 8E-06	1 2E-05
Mercury (methyl BCF)	E3 avg	2 7E-04	2.4E-07	8 0E-07	1 5E-07	1.3E-08	3 9E-07	3 9E-07	3 9E-07	3 9E-07	3 9E-07	3 9E-07	6 8E-06	1 2E-05
Nickel	E3 avg	1.6E-06	2.8E-08	1.1E-07	1 8E-10	2 8E-10	5 8E-09	5 8E-09	5 8E-09	5 8E-09	5 8E-09	5 8E-09	6 5E-09	9 7E-09
Selenium	E3 avg	2 9E-04	1 4E-06	3 1E-05	1 0E-06	1 0E-06	2.5E-05	2 5E-05	2 5E-05	2 5E-05	2 5E-05	2 5E-05	3 4E-07	4 3E-07
Silver	E3 avg	1 4E-06	4 8E-08	1 0E-09	1 2E-11	2 4E-10	4 0E-07	4 0E-07	4 0E-07	4 0E-07	4 0E-07	4 0E-07	1 9E-08	2 8E-08
Thallium	E3 avg	7 3E-05	2 1E-06	7 0E-06	1 4E-06	1 4E-06	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 2E-07	7 0E-09	5 7E-10
Zinc	E3 avg	1.0E-05	2 8E-08	7 2E-09	6 3E-09	6 3E-09	9 2E-09	9 2E-09	9 2E-09	9 2E-09	9 2E-09	9 2E-09	1 1E-06	1 8E-06

External Review Draft, Do Not Cite or Quote

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	N1 avg	1 3E-10	6.3E-11	1.6E-11	6 2E-13	8 5E-13	4.7E-12	7.1E-11	3 1E-11	4 7E-12	5 9E-11	1.9E-10	1 0E-13	8 5E-15
1,2,3,7,8-PeCDD	N1 avg	6.5E-10	1.0E-09	2.0E-10	3.0E-12	4 1E-12	7.9E-11	1 2E-09	5 2E-10	7 9E-11	9.9E-10	3.2E-09	1.7E-12	4 3E-14
1,2,3,4,7,8-HxCDD	N1 avg	7.3E-10	7.0E-10	1.3E-10	1.6E-12	2 3E-12	5.3E-11	8.0E-10	3.5E-10	5.3E-11	6 7E-10	2 2E-09	2.3E-12	1.0E-14
1,2,3,6,7,8-HxCDD	N1 avg	1.3E-09	1.9E-10	5.3E-11	2.5E-12	3.5E-12	1 4E-11	2.2E-10	9.4E-11	1.4E-11	1.8E-10	5 9E-10	8 1E-13	3 5E-14
1,2,3,7,8,9-HxCDD	N1 avg	8.4E-10	2.6E-10	6 1E-11	2.1E-12	2 9E-12	2.0E-11	3 0E-10	1.3E-10	2 0E-11	2.5E-10	8.1E-10	8.3E-13	1.2E-14
1,2,3,4,6,7,8-HpCDD	N1 avg	9.6E-09	2.0E-09	3.8E-10	3.8E-12	5.3E-12	1.6E-10	2.3E-09	1.0E-09	1.6E-10	1 9E-09	6.4E-09	3.8E-11	7 9E-14
OCDD	N1 avg	4.7E-08	3.7E-07	6.3E-08	2.7E-11	3.7E-11	2.8E-08	4 2E-07	1.8E-07	2.8E-08	3.5E-07	1.2E-06	4.7E-09	8.6E-13
2,3,7,8-TCDF	N1 avg	1.1E-09	2.0E-10	4.4E-11	1.2E-12	1.7E-12	1.5E-11	2.2E-10	9.6E-11	1.5E-11	1.8E-10	6.0E-10	1.4E-12	8 8E-14
1,2,3,7,8-PeCDF	N1 avg	3.7E-09	9.1E-10	1.8E-10	3.0E-12	4.2E-12	6.9E-11	1.0E-09	4.5E-10	6.9E-11	8.6E-10	2 8E-09	8 4E-12	2 0E-13
2,3,4,7,8-PeCDF	N1 avg	4.7E-09	5.2E-09	1.0E-09	1.6E-11	2.2E-11	4.0E-10	6.0E-09	2.6E-09	4.0E-10	5.0E-09	1.6E-08	1 1E-11	2 1E-13
1,2,3,4,7,8-HxCDF	N1 avg	1.2E-08	3.0E-09	7 4E-10	3.0E-11	4 1E-11	2.2E-10	3.4E-09	1.5E-09	2.2E-10	2.8E-09	9.2E-09	9.1E-12	3.1E-13
1,2,3,6,7,8-HxCDF	N1 avg	1.1E-08	5.4E-09	1.1E-09	2.4E-11	3.3E-11	4.1E-10	6.1E-09	2.6E-09	4.1E-10	5.1E-09	1.7E-08	1.8E-11	2.9E-13
1,2,3,7,8,9-HxCDF	N1 avg	2.5E-09	1.2E-09	2.5E-10	5.5E-12	7 5E-12	9.3E-11	1.4E-09	6.0E-10	9.3E-11	1.2E-09	3.8E-09	4.2E-12	6 7E-14
2,3,4,6,7,8-HxCDF	N1 avg	1.2E-08	3.6E-09	8.0E-10	2.4E-11	3 3E-11	2.7E-10	4.1E-09	1.8E-09	2.7E-10	3.4E-09	1.1E-08	1.4E-11	3 3E-13
1,2,3,4,6,7,8-HpCDF	N1 avg	7.4E-08	2.9E-09	7 5E-10	3.3E-11	4.6E-11	2.2E-10	3 3E-09	1.4E-09	2.2E-10	2.7E-09	8.9E-09	5.0E-11	9 0E-13
1,2,3,4,7,8,9-HpCDF	N1 avg	9 5E-09	5.9E-10	1.8E-10	1.0E-11	1.4E-11	4.4E-11	6.7E-10	2.9E-10	4 4E-11	5 6E-10	1 8E-09	4.5E-12	1.2E-13
OCDF	N1 avg	1 4E-07	3.1E-08	5.5E-09	3.2E-11	4.4E-11	2.3E-09	3.5E-08	1.5E-08	2 3E-09	2 9E-08	9.6E-08	1.0E-09	5 3E-13
Tetrachlorobiphenyl	N1 avg	1.3E-07	1.5E-08	1.1E-08	9.0E-10	1 2E-09	1.1E-09	1 6E-08	7.0E-09	1.1E-09	1.3E-08	4.4E-08	2 6E-11	2 4E-11
Hexachlorobiphenyl	N1 avg	2.2E-07	9.4E-09	6.4E-09	5.3E-10	7.3E-10	6.8E-10	1.0E-08	4.4E-09	6.8E-10	8 5E-09	2.8E-08	2.5E-11	7.1E-12
Heptachlorobiphenyl	N1 avg	2.1E-07	2.4E-07	4.6E-08	5 4E-10	7.4E-10	1.8E-08	2 7E-07	1.2E-07	1.8E-08	2.3E-07	7.5E-07	6.9E-10	3.5E-12
Benzo(a)pyrene	N1 avg	3.2E-06	2.0E-05	1.3E-06	6 4E-11	8.0E-08	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-06	8.0E-08	4 1E-10
Benzo(b)fluoranthene	N1 avg	1.3E-05	1.2E-05	9.3E-07	3.2E-10	4.0E-07	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06	3.8E-08	1 5E-09
Bis(2-ethylhexyl)phthalate	N1 avg	1.2E-06	1.7E-03	1.1E-04	3.5E-12	4.4E-09	6.5E-04	6.5E-04	6.5E-04	6.5E-04	6.5E-04	6 5E-04	4.2E-05	3 0E-11
Carbon tetrachloride	N1 avg	7.5E-06	8 5E-10	3.3E-10	1.5E-12	1.8E-09	3.7E-10	3 7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	6 5E-07	1.1E-06
Dibenz(a,h)anthracene	N1 avg	7.8E-06	3.2E-06	3.6E-07	5.9E-10	7.4E-07	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	6 7E-09	4.7E-10
Di(n)octyl phthalate	N1 avg	3.2E-07	4.5E-03	2.9E-04	5.6E-10	7.0E-07	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.9E-07	3 1E-12
Heptachlor	N1 avg	6.3E-09	1.3E-08	9.3E-10	1.8E-13	2.2E-10	5.1E-09	5.1E-09	5.1E-09	5 1E-09	5.1E-09	5.1E-09	3.6E-11	6 6E-13
Hexachlorobenzene	N1 avg	1.2E-05	1.2E-07	8.4E-08	1.5E-10	1.9E-07	4.3E-08	4.3E-08	4.3E-08	4.3E-08	4.3E-08	4.3E-08	3.9E-09	6.5E-09
Hexachlorobutadiene	N1 avg	3.3E-05	2.4E-08	1.9E-08	3.7E-11	4.6E-08	8.2E-09	8.2E-09	8 2E-09	8.2E-09	8 2E-09	8.2E-09	1.7E-08	2 9E-08
Hexachlorocyclopentadiene	N1 avg	5.4E-07	1.5E-09	1.2E-09	2.1E-12	2.7E-09	5.0E-10	5 0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	1.1E-10	1 9E-10
Hexachlorophene	N1 avg	2.1E-05	1.2E-04	7.6E-06	1.1E-08	1.4E-05	4.9E-05	4.9E-05	4.9E-05	4.9E-05	4 9E-05	4.9E-05	3 7E-08	4 3E-10
Indeno(1,2,3-cd)pyrene	N1 avg	8.9E-06	3.0E-06	3.7E-07	6.1E-10	7.6E-07	1.2E-06	1 2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	6.7E-09	5 6E-10
Antimony	N1 avg	1.5E-06	1.3E-08	5.3E-09	3.9E-11	4.6E-10	1.6E-09	1 6E-09	1 6E-09	1 6E-09	1.6E-09	1.6E-09	7 5E-09	8 4E-09
Arsenic	N1 avg	5.6E-05	2.4E-07	7.6E-08	2.9E-08	3.8E-08	8.6E-09	8.6E-09	8 6E-09	8 6E-09	8.6E-09	8 6E-09	4 0E-08	2.7E-08
Barium	N1 avg	6 9E-05	6.9E-08	3 1E-07	1.2E-10	9.2E-08	2.0E-07	2 0E-07	2.0E-07	2 0E-07	2.0E-07	2.0E-07	2 0E-07	1 8E-07
Beryllium	N1 avg	1.5E-07	1.4E-10	1.0E-10	4.0E-12	4.7E-12	1 5E-13	1 5E-13	1 5E-13	1 5E-13	1 5E-13	1 5E-13	2 6E-11	7.1E-12
Cadmium	N1 avg	8.2E-07	6.9E-09	3.1E-10	1.3E-09	3.1E-11	5 4E-10	5 4E-10	5 4E-10	5 4E-10	5 4E-10	5.4E-10	2 6E-08	2 7E-08
Chromium (hexavalent)	N1 avg	3.9E-06	1.8E-08	2.0E-08	2.3E-10	3 7E-10	5.7E-09	5 7E-09	5 7E-09	5 7E-09	5 7E-09	5 7E-09	7.4E-10	4.7E-10
Lead	N1 avg	2 5E-04	6.3E-08	1 5E-07	4 8E-06	4.8E-06	6.1E-08	6 1E-08	6 1E-08	6 1E-08	6 1E-08	6 1E-08	6.1E-08	5 7E-08
Mercury	N1 avg	6.2E-04	5.7E-07	1.9E-06	3 5E-07	3 0E-08	9.1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Mercury (methyl BCF)	N1 avg	6 2E-04	5.7E-07	1 9E-06	3.5E-07	3.0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Nickel	N1 avg	5.7E-06	9.6E-08	4.1E-07	6 3E-10	1.0E-09	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 3E-08	3.5E-08
Selenium	N1 avg	1.1E-03	4.9E-06	1.1E-04	3 6E-06	3.6E-06	8.8E-05	8 8E-05	8 8E-05	8 8E-05	8 8E-05	8 8E-05	1 2E-06	1 6E-06
Silver	N1 avg	5 2E-06	1.7E-07	3.7E-09	4 4E-11	8.7E-10	1 4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	6 7E-08	1 0E-07
Thallium	N1 avg	2 6E-04	7.3E-06	2 5E-05	5 0E-06	5 0E-06	4 2E-07	4 2E-07	4 2E-07	4 2E-07	4 2E-07	4 2E-07	2 4E-08	2 0E-09
Zinc	N1 avg	3.7E-05	9 9E-08	2 6E-08	2 2E-08	2.2E-08	3 2E-08	3 2E-08	3 2E-08	3 2E-08	3 2E-08	3 2E-08	3 8E-06	6 6E-06

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	N2 avg	4 7E-11	2 4E-11	6.1E-12	2.3E-13	3 1E-13	1.8E-12	2 8E-11	1 2E-11	1 8E-12	2.3E-11	7 5E-11	3 9E-14	3.1E-15
1,2,3,7,8-PeCDD	N2 avg	2.2E-10	4.1E-10	7.8E-11	1.0E-12	1.4E-12	3.1E-11	4.6E-10	2 0E-10	3 1E-11	3.9E-10	1 3E-09	6 6E-13	1.5E-14
1,2,3,4,7,8-HxCDD	N2 avg	2.4E-10	2 8E-10	5.1E-11	5.2E-13	7.2E-13	2.1E-11	3.1E-10	1 4E-10	2.1E-11	2.6E-10	8.6E-10	9.1E-13	3.3E-15
1,2,3,6,7,8-HxCDD	N2 avg	4.1E-10	7.3E-11	1.9E-11	7.9E-13	1.1E-12	5.5E-12	8.3E-11	3 6E-11	5.5E-12	6.9E-11	2.3E-10	3 0E-13	1.1E-14
1,2,3,7,8,9-HxCDD	N2 avg	2.6E-10	1.0E-10	2.2E-11	6.5E-13	9.0E-13	7.6E-12	1.1E-10	5 0E-11	7.6E-12	9 5E-11	3.1E-10	3 1E-13	3 7E-15
1,2,3,4,6,7,8-HpCDD	N2 avg	3.0E-09	8.0E-10	1.5E-10	1.2E-12	1.6E-12	6.1E-11	9.1E-10	3.9E-10	6 1E-11	7.6E-10	2.5E-09	1 5E-11	2 5E-14
OCDD	N2 avg	1.5E-08	1.5E-07	2.5E-08	8.3E-12	1.1E-11	1.1E-08	1.7E-07	7.2E-08	1.1E-08	1.4E-07	4.5E-07	1 9E-09	2 7E-13
2,3,7,8-TCDF	N2 avg	4.3E-10	7.6E-11	1.7E-11	4.5E-13	6.3E-13	5.8E-12	8.7E-11	3 8E-11	5.8E-12	7.2E-11	2.4E-10	5.5E-13	3.3E-14
1,2,3,7,8-PeCDF	N2 avg	1.3E-09	3.6E-10	7.0E-11	1.1E-12	1 5E-12	2 7E-11	4.1E-10	1.8E-10	2.7E-11	3.4E-10	1.1E-09	3.3E-12	7.3E-14
2,3,4,7,8-PeCDF	N2 avg	1.6E-09	2.0E-09	3.9E-10	5.6E-12	7.7E-12	1.6E-10	2.3E-09	1.0E-09	1.6E-10	1.9E-09	6 4E-09	4.4E-12	7 4E-14
1,2,3,4,7,8-HxCDF	N2 avg	3.7E-09	1.1E-09	2.7E-10	9.5E-12	1 3E-11	8.6E-11	1.3E-09	5.6E-10	8.6E-11	1 1E-09	3.5E-09	3 4E-12	1.0E-13
1,2,3,6,7,8-HxCDF	N2 avg	3.4E-09	2.1E-09	4.2E-10	7.6E-12	1.0E-11	1.6E-10	2.4E-09	1.0E-09	1.6E-10	2.0E-09	6.5E-09	7.1E-12	9 4E-14
1,2,3,7,8,9-HxCDF	N2 avg	8.1E-10	4.8E-10	9.5E-11	1.8E-12	2.5E-12	3.6E-11	5.4E-10	2.3E-10	3.6E-11	4.5E-10	1.5E-09	1.6E-12	2.2E-14
2,3,4,6,7,8-HxCDF	N2 avg	3.9E-09	1.4E-09	3.0E-10	7.7E-12	1.1E-11	1.0E-10	1.6E-09	6.8E-10	1.0E-10	1.3E-09	4.3E-09	5 4E-12	1.1E-13
1,2,3,4,6,7,8-HpCDF	N2 avg	2.3E-08	1.1E-09	2.7E-10	1.1E-11	1 5E-11	8.3E-11	1.2E-09	5.4E-10	8.3E-11	1.0E-09	3.4E-09	1 9E-11	2 9E-13
1,2,3,4,7,8,9-HpCDF	N2 avg	3 0E-09	2 2E-10	6 3E-11	3.3E-12	4.5E-12	1.7E-11	2.5E-10	1.1E-10	1.7E-11	2.1E-10	6.8E-10	1.6E-12	3.7E-14
OCDF	N2 avg	4.5E-08	1.2E-08	2.1E-09	9.8E-12	1.4E-11	9.2E-10	1.4E-08	6.0E-09	9 2E-10	1.1E-08	3.8E-08	4 0E-10	1 7E-13
Tetrachlorobiphenyl	N2 avg	5 2E-08	5 7E-09	4.1E-09	3.5E-10	4.8E-10	4.2E-10	6.3E-09	2.7E-09	4.2E-10	5.2E-09	1.7E-08	1 0E-11	9 3E-12
Hexachlorobiphenyl	N2 avg	8.5E-08	3.7E-09	2.5E-09	2.1E-10	2.8E-10	2.7E-10	4.0E-09	1.7E-09	2.7E-10	3.4E-09	1.1E-08	9.9E-12	2 8E-12
Heptachlorobiphenyl	N2 avg	8.3E-08	9.4E-08	1.8E-08	2.1E-10	2.9E-10	7.1E-09	1.1E-07	4 6E-08	7.1E-09	8 9E-08	2.9E-07	2 7E-10	1 4E-12
Benzo(a)pyrene	N2 avg	1.1E-06	7.9E-06	5.1E-07	2.3E-11	2 8E-08	3.1E-06	3.1E-06	3.1E-06	3.1E-06	3.1E-06	3.1E-06	3.1E-08	1 4E-10
Benzo(b)fluoranthene	N2 avg	5.1E-06	4.7E-06	3.6E-07	1.2E-10	1 6E-07	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.5E-08	5.8E-10
Bis(2-ethylhexyl)phthalate	N2 avg	4.0E-07	6.5E-04	4.2E-05	1.2E-12	1.5E-09	2.6E-04	2.6E-04	2 6E-04	2.6E-04	2 6E-04	2.6E-04	1 6E-05	1 0E-11
Carbon tetrachloride	N2 avg	2.9E-06	3.4E-10	1.3E-10	5.7E-13	7.2E-10	1.5E-10	1.5E-10	1.5E-10	1 5E-10	1.5E-10	1 5E-10	2 5E-07	4 5E-07
Dibenz(a,h)anthracene	N2 avg	2.4E-06	1.0E-06	1.1E-07	1.8E-10	2 3E-07	3.9E-07	3.9E-07	3.9E-07	3 9E-07	3.9E-07	3.9E-07	2 1E-09	1 5E-10
Di(n)octyl phthalate	N2 avg	1.3E-07	1.8E-03	1.1E-04	2.2E-10	2 8E-07	6.9E-04	6.9E-04	6.9E-04	6 9E-04	6.9E-04	6.9E-04	7 6E-08	1 2E-12
Heptachlor	N2 avg	2.5E-09	5.1E-09	3.6E-10	7.0E-14	8 8E-11	2.0E-09	2.0E-09	2.0E-09	2 0E-09	2.0E-09	2.0E-09	1 4E-11	2 6E-13
Hexachlorobenzene	N2 avg	4.7E-06	4.9E-08	3.3E-08	6.1E-11	7 6E-08	1.7E-08	1.7E-08	1.7E-08	1.7E-08	1 7E-08	1.7E-08	1 5E-09	2 6E-09
Hexachlorobutadiene	N2 avg	1.3E-05	9.3E-09	7.5E-09	1.4E-11	1 8E-08	3.2E-09	3.2E-09	3.2E-09	3 2E-09	3 2E-09	3 2E-09	6 5E-09	1 1E-08
Hexachlorocyclopentadiene	N2 avg	2.1E-07	5.8E-10	4.6E-10	8.3E-13	1 0E-09	2.0E-10	2.0E-10	2.0E-10	2 0E-10	2 0E-10	2 0E-10	4 3E-11	7 4E-11
Hexachlorophene	N2 avg	6.7E-06	3.9E-05	2.4E-06	3.5E-09	4 4E-06	1.5E-05	1.5E-05	1.5E-05	1.5E-05	1.5E-05	1 5E-05	1 2E-08	1.3E-10
Indeno(1,2,3-cd)pyrene	N2 avg	2.8E-06	9.4E-07	1.1E-07	1.9E-10	2 4E-07	3 6E-07	3.6E-07	3 6E-07	3.6E-07	3.6E-07	3 6E-07	2 1E-09	1.7E-10
Antimony	N2 avg	4.6E-07	4.1E-09	1.7E-09	1.2E-11	1.4E-10	5.2E-10	5.2E-10	5.2E-10	5 2E-10	5 2E-10	5.2E-10	2 4E-09	2.7E-09
Arsenic	N2 avg	1.8E-05	7.5E-08	2.4E-08	9.2E-09	1 2E-08	2.7E-09	2.7E-09	2.7E-09	2 7E-09	2.7E-09	2.7E-09	1 3E-08	8.7E-09
Barium	N2 avg	2.2E-05	2.2E-08	9.8E-08	3 7E-11	2.9E-08	6 4E-08	6.4E-08	6.4E-08	6 4E-08	6 4E-08	6 4E-08	6 4E-08	5 7E-08
Beryllium	N2 avg	4.7E-08	4.4E-11	3.3E-11	1.3E-12	1 5E-12	4.7E-14	4.7E-14	4 7E-14	4.7E-14	4 7E-14	4.7E-14	8 3E-12	2 3E-12
Cadmium	N2 avg	2 6E-07	2.2E-09	1 0E-10	4.1E-10	9 8E-12	1.7E-10	1.7E-10	1 7E-10	1.7E-10	1 7E-10	1 7E-10	8 3E-09	8 7E-09
Chromium (hexavalent)	N2 avg	1 2E-06	5.7E-09	6 4E-09	7.2E-11	1 2E-10	1 8E-09	1 8E-09	1 8E-09	1 8E-09	1 8E-09	1.8E-09	2 3E-10	1 5E-10
Lead	N2 avg	7.8E-05	2.0E-08	4.9E-08	1.5E-06	1 5E-06	1.9E-08	1.9E-08	1 9E-08	1 9E-08	1 9E-08	1 9E-08	1 9E-08	1 8E-08
Mercury	N2 avg	2 4E-04	2 2E-07	7.3E-07	1.4E-07	1 2E-08	3 6E-07	3 6E-07	3 6E-07	3 6E-07	3 6E-07	3 6E-07	6 2E-06	1 1E-05
Mercury (methyl BCF)	N2 avg	2.4E-04	2 2E-07	7.3E-07	1 4E-07	1 2E-08	3 6E-07	3 6E-07	3 6E-07	3.6E-07	3 6E-07	3 6E-07	6 2E-06	1 1E-05
Nickel	N2 avg	1 8E-06	3.1E-08	1 3E-07	2 0E-10	3 2E-10	6 3E-09	6 3E-09	6 3E-09	6 3E-09	6 3E-09	6 3E-09	7 3E-09	1 1E-08
Selenium	N2 avg	3 4E-04	1.6E-06	3.6E-05	1.2E-06	1 2E-06	2 8E-05	2.8E-05	2 8E-05	2 8E-05	2 8E-05	2 8E-05	3 8E-07	5 0E-07
Silver	N2 avg	1 6E-06	5.3E-08	1.2E-09	1.4E-11	2 8E-10	4 4E-07	4.4E-07	4 4E-07	4 4E-07	4 4E-07	4 4E-07	2 1E-08	3 2E-08
Thallium	N2 avg	8 2E-05	2 3E-06	7 9E-06	1 6E-06	1 6E-06	1 3E-07	1 3E-07	1 3E-07	1 3E-07	1 3E-07	1 3E-07	7 6E-09	6 5E-10
Zinc	N2 avg	1.2E-05	3 2E-08	8 2E-09	7 1E-09	7 1E-09	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 2E-06	2 1E-06

External Review Draft, Do Not Cite or Quote

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	N3 avg	2 1E-11	1.1E-11	2 7E-12	1 0E-13	1 4E-13	8.0E-13	1.2E-11	5.2E-12	8 0E-13	1 0E-11	3.3E-11	1.7E-14	1 4E-15
1,2,3,7,8-PeCDD	N3 avg	1.0E-10	1 8E-10	3 4E-11	4.7E-13	6.5E-13	1.4E-11	2.0E-10	8 8E-11	1 4E-11	1 7E-10	5.6E-10	2 9E-13	6 7E-15
1,2,3,4,7,8-HxCDD	N3 avg	1.1E-10	1.2E-10	2.2E-11	2.5E-13	3 4E-13	9.1E-12	1.4E-10	5.9E-11	9 1E-12	1 1E-10	3 7E-10	4 0E-13	1 6E-15
1,2,3,6,7,8-HxCDD	N3 avg	1.9E-10	3.2E-11	8.4E-12	3.7E-13	5 1E-13	2.4E-12	3.6E-11	1.6E-11	2 4E-12	3 0E-11	9.9E-11	1.3E-13	5 3E-15
1,2,3,7,8,9-HxCDD	N3 avg	1.2E-10	4.4E-11	9.9E-12	3 1E-13	4 2E-13	3.4E-12	5 0E-11	2.2E-11	3 4E-12	4.2E-11	1.4E-10	1.4E-13	1 8E-15
1,2,3,4,6,7,8-HpCDD	N3 avg	1 4E-09	3.5E-10	6.4E-11	5 6E-13	7.8E-13	2.7E-11	4.0E-10	1 7E-10	2 7E-11	3.3E-10	1.1E-09	6.5E-12	1.2E-14
OCDD	N3 avg	6 9E-09	6 3E-08	1.1E-08	3 9E-12	5 4E-12	4.8E-09	7.2E-08	3 1E-08	4.8E-09	6.0E-08	2 0E-07	8 1E-10	1 3E-13
2,3,7,8-TCDF	N3 avg	1.9E-10	3.3E-11	7.5E-12	2.0E-13	2 8E-13	2.5E-12	3.8E-11	1.6E-11	2.5E-12	3.2E-11	1.0E-10	2.4E-13	1 5E-14
1,2,3,7,8-PeCDF	N3 avg	6.0E-10	1.6E-10	3.1E-11	4.9E-13	6.8E-13	1.2E-11	1.8E-10	7.7E-11	1 2E-11	1.5E-10	4.8E-10	1.4E-12	3 3E-14
2,3,4,7,8-PeCDF	N3 avg	7.4E-10	9.0E-10	1.7E-10	2.5E-12	3 5E-12	6 8E-11	1.0E-09	4.4E-10	6 8E-11	8.5E-10	2.8E-09	1.9E-12	3 3E-14
1,2,3,4,7,8-HxCDF	N3 avg	1.7E-09	5.0E-10	1 2E-10	4.5E-12	6.1E-12	3.8E-11	5.7E-10	2.5E-10	3.8E-11	4.7E-10	1.5E-09	1.5E-12	4.7E-14
1,2,3,6,7,8-HxCDF	N3 avg	1.6E-09	9.2E-10	1 8E-10	3.6E-12	4.9E-12	6.9E-11	1.0E-09	4.5E-10	6 9E-11	8.7E-10	2.8E-09	3.1E-12	4.4E-14
1,2,3,7,8,9-HxCDF	N3 avg	3.8E-10	2.1E-10	4.2E-11	8.3E-13	1.1E-12	1.6E-11	2.4E-10	1.0E-10	1 6E-11	2.0E-10	6.5E-10	7.1E-13	1.0E-14
2,3,4,6,7,8-HxCDF	N3 avg	1.8E-09	6.1E-10	1.3E-10	3.6E-12	5.0E-12	4 6E-11	6.9E-10	3.0E-10	4 6E-11	5.7E-10	1.9E-09	2.4E-12	5.0E-14
1,2,3,4,6,7,8-HpCDF	N3 avg	1.1E-08	4.8E-10	1.2E-10	5.0E-12	6.8E-12	3.6E-11	5.5E-10	2.4E-10	3.6E-11	4.6E-10	1.5E-09	8.4E-12	1.3E-13
1,2,3,4,7,8,9-HpCDF	N3 avg	1.4E-09	9.8E-11	2.9E-11	1.5E-12	2.1E-12	7.4E-12	1.1E-10	4 8E-11	7.4E-12	9.2E-11	3.0E-10	7.3E-13	1.7E-14
OCDF	N3 avg	2.1E-08	5.3E-09	9 3E-10	4.6E-12	6.4E-12	4 0E-10	6.0E-09	2.6E-09	4 0E-10	5.0E-09	1.6E-08	1.8E-10	7.8E-14
Tetrachlorobiphenyl	N3 avg	2.3E-08	2.5E-09	1.8E-09	1.5E-10	2.1E-10	1.8E-10	2.7E-09	1.2E-09	1.8E-10	2.3E-09	7.5E-09	4.5E-12	4.1E-12
Hexachlorobiphenyl	N3 avg	3.7E-08	1.6E-09	1.1E-09	9.0E-11	1.2E-10	1.2E-10	1.8E-09	7.6E-10	1.2E-10	1.5E-09	4 8E-09	4.3E-12	1.2E-12
Heptachlorobiphenyl	N3 avg	3.6E-08	4.1E-08	7.8E-09	9.2E-11	1 3E-10	3.1E-09	4.7E-08	2.0E-08	3.1E-09	3.9E-08	1.3E-07	1.2E-10	6 0E-13
Benzo(a)pyrene	N3 avg	5.1E-07	3.4E-06	2 2E-07	1.0E-11	1.3E-08	1 4E-06	1.4E-06	1.4E-06	1 4E-06	1.4E-06	1.4E-06	1.4E-08	6 5E-11
Benzo(b)fluoranthene	N3 avg	2.2E-06	2.0E-06	1.6E-07	5.4E-11	6.8E-08	8.0E-07	8.0E-07	8.0E-07	8.0E-07	8.0E-07	8.0E-07	6.5E-09	2.5E-10
Bis(2-ethylhexyl)phthalate	N3 avg	1.8E-07	2.8E-04	1.8E-05	5.5E-13	6.9E-10	1.1E-04	1.1E-04	1.1E-04	1 1E-04	1.1E-04	1.1E-04	7.1E-06	4 7E-12
Carbon tetrachloride	N3 avg	1.3E-06	1.5E-10	5.7E-11	2.5E-13	3.1E-10	6.3E-11	6.3E-11	6.3E-11	6 3E-11	6.3E-11	6.3E-11	1.1E-07	2.0E-07
Dibenz(a,h)anthracene	N3 avg	1.2E-06	4.7E-07	5.3E-08	8.6E-11	1.1E-07	1 8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	9.8E-10	6.8E-11
Di(n)octyl phthalate	N3 avg	5.5E-08	7.7E-04	5.0E-05	9.6E-11	1.2E-07	3.0E-04	3.0E-04	3.0E-04	3.0E-04	3.0E-04	3.0E-04	3.3E-08	5 2E-13
Heptachlor	N3 avg	1.1E-09	2.2E-09	1.6E-10	3 0E-14	3.8E-11	8.7E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10	6.1E-12	1.1E-13
Hexachlorobenzene	N3 avg	2.1E-06	2.1E-08	1.4E-08	2.6E-11	3.3E-08	7.4E-09	7.4E-09	7.4E-09	7.4E-09	7.4E-09	7.4E-09	6 6E-10	1.1E-09
Hexachlorobutadiene	N3 avg	5.7E-06	4.1E-09	3.3E-09	6.3E-12	7.9E-09	1.4E-09	1.4E-09	1.4E-09	1 4E-09	1.4E-09	1.4E-09	2 8E-09	5.0E-09
Hexachlorocyclopentadiene	N3 avg	9.3E-08	2.5E-10	2.0E-10	3.6E-13	4.6E-10	8.6E-11	8.6E-11	8.6E-11	8 6E-11	8.6E-11	8.6E-11	1 9E-11	3 2E-11
Hexachlorophene	N3 avg	3.1E-06	1.8E-05	1.1E-06	1.7E-09	2 1E-06	7.1E-06	7.1E-06	7.1E-06	7 1E-06	7 1E-06	7.1E-06	5.5E-09	8.3E-11
Indeno(1,2,3-cd)pyrene	N3 avg	1.3E-06	4.4E-07	5 4E-08	8.9E-11	1.1E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	9 9E-10	8 2E-11
Antimony	N3 avg	2.4E-07	2.2E-09	8.9E-10	6.5E-12	7.6E-11	2.7E-10	2.7E-10	2.7E-10	2 7E-10	2 7E-10	2.7E-10	1.3E-09	1.4E-09
Arsenic	N3 avg	9.4E-06	3.9E-08	1.3E-08	4.9E-09	6.3E-09	1.4E-09	1.4E-09	1 4E-09	1 4E-09	1.4E-09	1 4E-09	6 7E-09	4 6E-09
Barium	N3 avg	1.2E-05	1.1E-08	5.1E-08	1.9E-11	1.5E-08	3.3E-08	3 3E-08	3.3E-08	3 3E-08	3 3E-08	3 3E-08	3 4E-08	3 0E-08
Beryllium	N3 avg	2.5E-08	2.3E-11	1.7E-11	6.6E-13	7.8E-13	2.4E-14	2.4E-14	2.4E-14	2 4E-14	2 4E-14	2 4E-14	4 3E-12	1 2E-12
Cadmium	N3 avg	1.4E-07	1.1E-09	5.2E-11	2.2E-10	5.1E-12	8.9E-11	8.9E-11	8 9E-11	8 9E-11	8 9E-11	8 9E-11	4 4E-09	4 6E-09
Chromium (hexavalent)	N3 avg	6.5E-07	3.0E-09	3.4E-09	3.8E-11	6.2E-11	9.4E-10	9.4E-10	9 4E-10	9 4E-10	9 4E-10	9 4E-10	1 2E-10	7 8E-11
Lead	N3 avg	4.1E-05	1.1E-08	2.6E-08	8.1E-07	8.1E-07	1.0E-08	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 0E-08	9 5E-09
Mercury	N3 avg	1.1E-04	9.8E-08	3.2E-07	6.1E-08	5.1E-09	1.6E-07	1 6E-07	1 6E-07	1 6E-07	1 6E-07	1 6E-07	2 7E-06	4 7E-06
Mercury (methyl BCF)	N3 avg	1.1E-04	9.8E-08	3.2E-07	6.1E-08	5 1E-09	1 6E-07	1 6E-07	1 6E-07	1 6E-07	1 6E-07	1 6E-07	2 7E-06	4 7E-06
Nickel	N3 avg	9.5E-07	1.6E-08	6 9E-08	1.1E-10	1.7E-10	3 3E-09	3 3E-09	3 3E-09	3 3E-09	3 3E-09	3 3E-09	3 8E-09	5 8E-09
Selenium	N3 avg	1.8E-04	8 1E-07	1 9E-05	6 1E-07	6.1E-07	1 5E-05	1 5E-05	1 5E-05	1 5E-05	1 5E-05	1 5E-05	2 0E-07	2 6E-07
Silver	N3 avg	8.7E-07	2.8E-08	6.1E-10	7 3E-12	1 5E-10	2 3E-07	2 3E-07	2 3E-07	2 3E-07	2 3E-07	2 3E-07	1 1E-08	1 7E-08
Thallium	N3 avg	4.4E-05	1.2E-06	4 2E-06	8.3E-07	8 3E-07	7 0E-08	7 0E-08	7 0E-08	7 0E-08	7 0E-08	7 0E-08	3 9E-09	3 4E-10
Zinc	N3 avg	6.2E-06	1.7E-08	4 3E-09	3.8E-09	3 8E-09	5 4E-09	5 4E-09	5 4E-09	5 4E-09	5 4E-09	5 4E-09	6 4E-07	1 1E-06

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	S1 avg	1.2E-10	6.2E-11	1.5E-11	5.7E-13	7.8E-13	4.7E-12	7 0E-11	3 0E-11	4 7E-12	5 8E-11	1 9E-10	9.8E-14	7 8E-15
1,2,3,7,8-PeCDD	S1 avg	5.4E-10	1.0E-09	2.0E-10	2.5E-12	3 4E-12	7 9E-11	1.2E-09	5.1E-10	7.9E-11	9.8E-10	3.2E-09	1.7E-12	3 6E-14
1,2,3,4,7,8-HxCDD	S1 avg	5.5E-10	7.0E-10	1.3E-10	1.2E-12	1.7E-12	5 3E-11	8.0E-10	3.4E-10	5.3E-11	6 6E-10	2.2E-09	2.3E-12	7.8E-15
1,2,3,6,7,8-HxCDD	S1 avg	9.5E-10	1.8E-10	4.6E-11	1.8E-12	2.5E-12	1 4E-11	2.1E-10	9 0E-11	1.4E-11	1.7E-10	5.7E-10	7.6E-13	2 6E-14
1,2,3,7,8,9-HxCDD	S1 avg	6.1E-10	2.5E-10	5 5E-11	1.5E-12	2.1E-12	1.9E-11	2.9E-10	1 3E-10	1.9E-11	2.4E-10	7.9E-10	7.9E-13	8.6E-15
1,2,3,4,6,7,8-HpCDD	S1 avg	6.9E-09	2.0E-09	3.7E-10	2.7E-12	3.8E-12	1.5E-10	2.3E-09	1.0E-09	1.5E-10	1.9E-09	6.3E-09	3.8E-11	5.7E-14
OCDD	S1 avg	3.3E-08	3.7E-07	6.3E-08	1.9E-11	2.6E-11	2.8E-08	4.2E-07	1.8E-07	2.8E-08	3.5E-07	1.1E-06	4.7E-09	6.1E-13
2,3,7,8-TCDF	S1 avg	1.1E-09	1.9E-10	4.3E-11	1.1E-12	1.6E-12	1.5E-11	2.2E-10	9.6E-11	1.5E-11	1.8E-10	6.0E-10	1.4E-12	8.4E-14
1,2,3,7,8-PeCDF	S1 avg	3 3E-09	9.1E-10	1.8E-10	2.7E-12	3.7E-12	6.9E-11	1.0E-09	4 5E-10	6.9E-11	8.6E-10	2.8E-09	8.3E-12	1.8E-13
2,3,4,7,8-PeCDF	S1 avg	3.9E-09	5.2E-09	1.0E-09	1.4E-11	1.9E-11	3.9E-10	5.9E-09	2.6E-09	3 9E-10	4.9E-09	1.6E-08	1.1E-11	1.8E-13
1,2,3,4,7,8-HxCDF	S1 avg	8 5E-09	2.9E-09	6 6E-10	2.2E-11	3.0E-11	2.2E-10	3.3E-09	1.4E-09	2.2E-10	2.7E-09	8.9E-09	8.6E-12	2 3E-13
1,2,3,6,7,8-HxCDF	S1 avg	8 0E-09	5.3E-09	1.0E-09	1.8E-11	2 4E-11	4.0E-10	6.0E-09	2.6E-09	4.0E-10	5.0E-09	1.6E-08	1.8E-11	2.2E-13
1,2,3,7,8,9-HxCDF	S1 avg	1.9E-09	1.2E-09	2 4E-10	4.2E-12	5 8E-12	9.1E-11	1.4E-09	5.9E-10	9.1E-11	1.1E-09	3.7E-09	4.1E-12	5 1E-14
2,3,4,6,7,8-HxCDF	S1 avg	9 1E-09	3 5E-09	7.4E-10	1.8E-11	2.5E-11	2.6E-10	4.0E-09	1.7E-09	2.6E-10	3.3E-09	1.1E-08	1.4E-11	2.5E-13
1,2,3,4,6,7,8-HpCDF	S1 avg	5 4E-08	2 8E-09	6.6E-10	2.4E-11	3 4E-11	2.1E-10	3.1E-09	1.4E-09	2.1E-10	2.6E-09	8.5E-09	4.7E-11	6 6E-13
1,2,3,4,7,8,9-HpCDF	S1 avg	6 9E-09	5.5E-10	1.5E-10	7.5E-12	1.0E-11	4.2E-11	6.3E-10	2.7E-10	4 2E-11	5 2E-10	1.7E-09	4.1E-12	8 4E-14
OCDF	S1 avg	1.0E-07	3 1E-08	5.4E-09	2.2E-11	3.1E-11	2 3E-09	3.5E-08	1.5E-08	2.3E-09	2.9E-08	9.6E-08	1.0E-09	3 8E-13
Tetrachlorobiphenyl	S1 avg	1.3E-07	1.5E-08	1.0E-08	8.9E-10	1.2E-09	1.1E-09	1.6E-08	6.9E-09	1.1E-09	1.3E-08	4.4E-08	2.6E-11	2 4E-11
Hexachlorobiphenyl	S1 avg	2.2E-07	9.4E-09	6.4E-09	5.3E-10	7.3E-10	6 8E-10	1.0E-08	4.4E-09	6 8E-10	8.5E-09	2.8E-08	2.5E-11	7.1E-12
Heptachlorobiphenyl	S1 avg	2 1E-07	2.4E-07	4.6E-08	5.4E-10	7.4E-10	1.8E-08	2.7E-07	1.2E-07	1 8E-08	2 3E-07	7.5E-07	6.9E-10	3 5E-12
Benzo(a)pyrene	S1 avg	2.7E-06	2.0E-05	1.3E-06	5.5E-11	6.9E-08	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-08	3.5E-10
Benzo(b)fluoranthene	S1 avg	1.3E-05	1.2E-05	9.3E-07	3.2E-10	4.0E-07	4.6E-06	4.6E-06	4 6E-06	4.6E-06	4.6E-06	4.6E-06	3 8E-08	1.5E-09
Bis(2-ethylhexyl)phthalate	S1 avg	9.5E-07	1 7E-03	1.1E-04	2.9E-12	3.6E-09	6.5E-04	6.5E-04	6 5E-04	6.5E-04	6.5E-04	6.5E-04	4 2E-05	2 5E-11
Carbon tetrachloride	S1 avg	7.5E-06	8.5E-10	3.3E-10	1.5E-12	1.8E-09	3.7E-10	3.7E-10	3.7E-10	3 7E-10	3.7E-10	3.7E-10	6 5E-07	1 1E-06
Dibenz(a,h)anthracene	S1 avg	5.6E-06	2.3E-06	2.5E-07	4.2E-10	5.2E-07	9.0E-07	9.0E-07	9.0E-07	9.0E-07	9.0E-07	9.0E-07	4 8E-09	3.3E-10
Di(n)octyl phthalate	S1 avg	3.2E-07	4.5E-03	2.9E-04	5.6E-10	7.0E-07	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1 9E-07	3.1E-12
Heptachlor	S1 avg	6.3E-09	1.3E-08	9.3E-10	1.8E-13	2.2E-10	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	3 6E-11	6.6E-13
Hexachlorobenzene	S1 avg	1.2E-05	1.2E-07	8.4E-08	1.5E-10	1.9E-07	4.3E-08	4.3E-08	4.3E-08	4 3E-08	4 3E-08	4.3E-08	3 9E-09	6.5E-09
Hexachlorobutadiene	S1 avg	3.3E-05	2 4E-08	1.9E-08	3.7E-11	4.6E-08	8.2E-09	8.2E-09	8 2E-09	8.2E-09	8 2E-09	8.2E-09	1.7E-08	2.9E-08
Hexachlorocyclopentadiene	S1 avg	5.4E-07	1.5E-09	1.2E-09	2.1E-12	2.7E-09	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5 0E-10	1.1E-10	1.9E-10
Hexachlorophene	S1 avg	1.5E-05	9.0E-05	5.4E-06	8 0E-09	1.0E-05	3.5E-05	3.5E-05	3 5E-05	3.5E-05	3 5E-05	3.5E-05	2.7E-08	3 0E-10
Indeno(1,2,3-cd)pyrene	S1 avg	6.3E-06	2.2E-06	2 6E-07	4.3E-10	5.4E-07	8.3E-07	8.3E-07	8.3E-07	8 3E-07	8.3E-07	8 3E-07	4 9E-09	4.0E-10
Antimony	S1 avg	1.1E-06	9.9E-09	4.0E-09	2.9E-11	3.4E-10	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	5 7E-09	6.3E-09
Arsenic	S1 avg	4.2E-05	1.8E-07	5.7E-08	2.2E-08	2.8E-08	6 6E-09	6.6E-09	6.6E-09	6.6E-09	6 6E-09	6 6E-09	3 1E-08	2.1E-08
Barium	S1 avg	5.2E-05	5.3E-08	2.3E-07	8.7E-11	6.9E-08	1.5E-07	1 5E-07	1.5E-07	1 5E-07	1.5E-07	1.5E-07	1 5E-07	1 3E-07
Beryllium	S1 avg	1.1E-07	1.1E-10	7.8E-11	3 0E-12	3.5E-12	1 1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	2 0E-11	5 3E-12
Cadmium	S1 avg	6.2E-07	5.3E-09	2.4E-10	9.8E-10	2.3E-11	4 1E-10	4 1E-10	4 1E-10	4 1E-10	4 1E-10	4 1E-10	2 0E-08	2 1E-08
Chromium (hexavalent)	S1 avg	2.9E-06	1.4E-08	1.5E-08	1.7E-10	2 8E-10	4 3E-09	4 3E-09	4 3E-09	4 3E-09	4 3E-09	4 3E-09	5 6E-10	3 5E-10
Lead	S1 avg	1 9E-04	4.8E-08	1.2E-07	3 6E-06	3 6E-06	4 6E-08	4 6E-08	4 6E-08	4 6E-08	4 6E-08	4 6E-08	4 6E-08	4 3E-08
Mercury	S1 avg	6 2E-04	5 7E-07	1 9E-06	3 5E-07	3 0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Mercury (methyl BCF)	S1 avg	6.2E-04	5.7E-07	1 9E-06	3 5E-07	3 0E-08	9.1E-07	9 1E-07	9.1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Nickel	S1 avg	4.3E-06	7.3E-08	3 1E-07	4 7E-10	7 7E-10	1 5E-08	1 5E-08	1 5E-08	1 5E-08	1 5E-08	1 5E-08	1 7E-08	2 6E-08
Selenium	S1 avg	8 0E-04	3.7E-06	8 5E-05	2 7E-06	2 7E-06	6 7E-05	6 7E-05	6 7E-05	6 7E-05	6 7E-05	6 7E-05	9 0E-07	1 2E-06
Silver	S1 avg	3 9E-06	1.3E-07	2 8E-09	3 3E-11	6 5E-10	1 1E-06	1 1E-06	1 1E-06	1 1E-06	1 1E-06	1 1E-06	5 0E-08	7 5E-08
Thallium	S1 avg	2 0E-04	5 6E-06	1 9E-05	3.7E-06	3 7E-06	3 2E-07	3 2E-07	3 2E-07	3 2E-07	3 2E-07	3 2E-07	1 8E-08	1 5E-09
Zinc	S1 avg	2.8E-05	7.5E-08	1 9E-08	1 7E-08	1 7E-08	2 4E-08	2 4E-08	2 4E-08	2 4E-08	2 4E-08	2 4E-08	2 9E-06	5 0E-06

External Review Draft, Do Not Cite or Quote

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	S2 avg	5.0E-11	2.9E-11	7.0E-12	2.4E-13	3.3E-13	2.2E-12	3.3E-11	1.4E-11	2.2E-12	2.7E-11	8.9E-11	4.5E-14	3.3E-15
1,2,3,7,8-PeCDD	S2 avg	2.0E-10	4.9E-10	9.0E-11	9.1E-13	1.3E-12	3.7E-11	5.5E-10	2.4E-10	3.7E-11	4.6E-10	1.5E-09	7.8E-13	1.3E-14
1,2,3,4,7,8-HxCDD	S2 avg	1.6E-10	3.3E-10	5.8E-11	3.6E-13	5.0E-13	2.5E-11	3.7E-10	1.6E-10	2.5E-11	3.1E-10	1.0E-09	1.1E-12	2.3E-15
1,2,3,6,7,8-HxCDD	S2 avg	2.6E-10	8.2E-11	1.8E-11	5.1E-13	7.0E-13	6.2E-12	9.3E-11	4.0E-11	6.2E-12	7.7E-11	2.5E-10	3.3E-13	7.2E-15
1,2,3,7,8,9-HxCDD	S2 avg	1.6E-10	1.2E-10	2.3E-11	4.0E-13	5.5E-13	8.8E-12	1.3E-10	5.7E-11	8.8E-12	1.1E-10	3.6E-10	3.5E-13	2.3E-15
1,2,3,4,6,7,8-HpCDD	S2 avg	1.9E-09	9.5E-10	1.7E-10	7.4E-13	1.0E-12	7.2E-11	1.1E-09	4.7E-10	7.2E-11	9.0E-10	3.0E-09	1.8E-11	1.5E-14
OCDD	S2 avg	8.6E-09	1.7E-07	3.0E-08	4.9E-12	6.8E-12	1.3E-08	2.0E-07	8.6E-08	1.3E-08	1.7E-07	5.4E-07	2.2E-09	1.6E-13
2,3,7,8-TCDF	S2 avg	4.8E-10	9.1E-11	2.0E-11	5.1E-13	7.0E-13	6.9E-12	1.0E-10	4.5E-11	6.9E-12	8.6E-11	2.8E-10	6.5E-13	3.7E-14
1,2,3,7,8-PeCDF	S2 avg	1.3E-09	4.2E-10	8.2E-11	1.1E-12	1.5E-12	3.2E-11	4.8E-10	2.1E-10	3.2E-11	4.0E-10	1.3E-09	3.9E-12	7.2E-14
2,3,4,7,8-PeCDF	S2 avg	1.5E-09	2.4E-09	4.6E-10	5.1E-12	7.0E-12	1.8E-10	2.8E-09	1.2E-09	1.8E-10	2.3E-09	7.6E-09	5.2E-12	6.7E-14
1,2,3,4,7,8-HxCDF	S2 avg	2.5E-09	1.3E-09	2.7E-10	6.4E-12	8.8E-12	9.8E-11	1.5E-09	6.4E-10	9.8E-11	1.2E-09	4.0E-09	3.8E-12	6.7E-14
1,2,3,6,7,8-HxCDF	S2 avg	2.3E-09	2.5E-09	4.6E-10	5.2E-12	7.1E-12	1.9E-10	2.8E-09	1.2E-09	1.9E-10	2.3E-09	7.6E-09	8.3E-12	6.4E-14
1,2,3,7,8,9-HxCDF	S2 avg	5.9E-10	5.6E-10	1.1E-10	1.3E-12	1.8E-12	4.2E-11	6.4E-10	2.8E-10	4.2E-11	5.3E-10	1.7E-09	1.9E-12	1.6E-14
2,3,4,6,7,8-HxCDF	S2 avg	2.7E-09	1.6E-09	3.1E-10	5.3E-12	7.2E-12	1.2E-10	1.8E-09	7.9E-10	1.2E-10	1.5E-09	5.0E-09	6.1E-12	7.2E-14
1,2,3,4,6,7,8-HpCDF	S2 avg	1.5E-08	1.2E-09	2.7E-10	6.9E-12	9.5E-12	9.4E-11	1.4E-09	6.1E-10	9.4E-11	1.2E-09	3.8E-09	2.1E-11	1.9E-13
1,2,3,4,7,8,9-HpCDF	S2 avg	1.9E-09	2.4E-10	5.7E-11	2.0E-12	2.8E-12	1.8E-11	2.7E-10	1.2E-10	1.8E-11	2.3E-10	7.5E-10	1.7E-12	2.3E-14
OCDF	S2 avg	2.6E-08	1.4E-08	2.5E-09	5.8E-12	8.0E-12	1.1E-09	1.6E-08	7.1E-09	1.1E-09	1.4E-08	4.5E-08	4.8E-10	9.7E-14
Tetrachlorobiphenyl	S2 avg	6.2E-08	6.8E-09	4.9E-09	4.2E-10	5.7E-10	4.9E-10	7.4E-09	3.2E-09	4.9E-10	6.2E-09	2.0E-08	1.2E-11	1.1E-11
Hexachlorobiphenyl	S2 avg	1.0E-07	4.4E-09	3.0E-09	2.5E-10	3.4E-10	3.2E-10	4.8E-09	2.1E-09	3.2E-10	4.0E-09	1.3E-08	1.2E-11	3.3E-12
Heptachlorobiphenyl	S2 avg	1.0E-07	1.1E-07	2.2E-08	2.5E-10	3.5E-10	8.6E-09	1.3E-07	5.6E-08	8.6E-09	1.1E-07	3.5E-07	3.2E-10	1.6E-12
Benzo(a)pyrene	S2 avg	1.1E-06	9.4E-06	6.1E-07	2.1E-11	2.6E-08	3.7E-06	3.7E-06	3.7E-06	3.7E-06	3.7E-06	3.7E-06	3.7E-08	1.3E-10
Benzo(b)fluoranthene	S2 avg	6.1E-06	5.6E-06	4.4E-07	1.5E-10	1.9E-07	2.2E-06	2.2E-06	2.2E-06	2.2E-06	2.2E-06	2.2E-06	1.8E-08	6.9E-10
Bis(2-ethylhexyl)phthalate	S2 avg	3.3E-07	7.8E-04	5.1E-05	1.0E-12	1.3E-09	3.1E-04	3.1E-04	3.1E-04	3.1E-04	3.1E-04	3.1E-04	2.0E-05	8.6E-12
Carbon tetrachloride	S2 avg	3.5E-06	4.0E-10	1.6E-10	6.9E-13	8.6E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	3.0E-07	5.4E-07
Dibenz(a,h)anthracene	S2 avg	1.4E-06	6.2E-07	6.6E-08	1.1E-10	1.3E-07	2.4E-07	2.4E-07	2.4E-07	2.4E-07	2.4E-07	2.4E-07	1.3E-09	8.5E-11
Di(n)octyl phthalate	S2 avg	1.5E-07	2.1E-03	1.4E-04	2.6E-10	3.3E-07	8.3E-04	8.3E-04	8.3E-04	8.3E-04	8.3E-04	8.3E-04	9.2E-08	1.4E-12
Heptachlor	S2 avg	3.0E-09	6.1E-09	4.4E-10	8.4E-14	1.1E-10	2.4E-09	2.4E-09	2.4E-09	2.4E-09	2.4E-09	2.4E-09	1.7E-11	3.1E-13
Hexachlorobenzene	S2 avg	5.7E-06	5.8E-08	4.0E-08	7.3E-11	9.1E-08	2.0E-08	2.0E-08	2.0E-08	2.0E-08	2.0E-08	2.0E-08	1.8E-09	3.1E-09
Hexachlorobutadiene	S2 avg	1.6E-05	1.1E-08	9.0E-09	1.7E-11	2.2E-08	3.9E-09	3.9E-09	3.9E-09	3.9E-09	3.9E-09	3.9E-09	7.8E-09	1.4E-08
Hexachlorocyclopentadiene	S2 avg	2.5E-07	6.9E-10	5.5E-10	1.0E-12	1.3E-09	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	5.1E-11	8.9E-11
Hexachlorophene	S2 avg	3.9E-06	2.4E-05	1.4E-06	2.1E-09	2.6E-06	9.4E-06	9.4E-06	9.4E-06	9.4E-06	9.4E-06	9.4E-06	7.3E-09	7.8E-11
Indeno(1,2,3 cd)pyrene	S2 avg	1.6E-06	5.8E-07	6.7E-08	1.1E-10	1.4E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	1.3E-09	1.0E-10
Antimony	S2 avg	2.7E-07	2.6E-09	1.0E-09	7.3E-12	8.5E-11	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	1.4E-09	1.6E-09
Arsenic	S2 avg	1.0E-05	4.7E-08	1.4E-08	5.4E-09	7.0E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	7.8E-09	5.1E-09
Barium	S2 avg	1.3E-05	1.4E-08	5.8E-08	2.1E-11	1.7E-08	3.9E-08	3.9E-08	3.9E-08	3.9E-08	3.9E-08	3.9E-08	3.9E-08	3.3E-08
Beryllium	S2 avg	2.8E-08	2.7E-11	1.9E-11	7.4E-13	8.7E-13	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	5.1E-12	1.3E-12
Cadmium	S2 avg	1.5E-07	1.4E-09	6.0E-11	2.4E-10	5.7E-12	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	5.0E-09	5.1E-09
Chromium (hexavalent)	S2 avg	7.3E-07	3.5E-09	3.8E-09	4.3E-11	6.9E-11	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.4E-10	8.7E-11
Lead	S2 avg	4.6E-05	1.2E-08	2.9E-08	9.0E-07	9.0E-07	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.1E-08
Mercury	S2 avg	2.9E-04	2.7E-07	8.8E-07	1.7E-07	1.4E-08	4.3E-07	4.3E-07	4.3E-07	4.3E-07	4.3E-07	4.3E-07	7.4E-06	1.3E-05
Mercury (methyl BCF)	S2 avg	2.9E-04	2.7E-07	8.8E-07	1.7E-07	1.4E-08	4.3E-07	4.3E-07	4.3E-07	4.3E-07	4.3E-07	4.3E-07	7.4E-06	1.3E-05
Nickel	S2 avg	1.1E-06	1.9E-08	7.7E-08	1.2E-10	1.9E-10	3.9E-09	3.9E-09	3.9E-09	3.9E-09	3.9E-09	3.9E-09	4.3E-09	6.5E-09
Selenium	S2 avg	2.0E-04	9.5E-07	2.1E-05	6.8E-07	6.8E-07	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.7E-05	2.3E-07	2.9E-07
Silver	S2 avg	9.7E-07	3.2E-08	6.9E-10	8.1E-12	1.6E-10	2.7E-07	2.7E-07	2.7E-07	2.7E-07	2.7E-07	2.7E-07	1.3E-08	1.9E-08
Thallium	S2 avg	4.9E-05	1.4E-06	4.7E-06	9.2E-07	9.2E-07	8.1E-08	8.1E-08	8.1E-08	8.1E-08	8.1E-08	8.1E-08	4.7E-09	3.8E-10
Zinc	S2 avg	6.9E-06	1.9E-08	4.8E-09	4.2E-09	4.2E-09	6.2E-09	6.2E-09	6.2E-09	6.2E-09	6.2E-09	6.2E-09	7.1E-07	1.2E-06

External Review Draft, Do[illegible] Cite or Quote

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	S3 avg	2.2E-11	1.3E-11	3.1E-12	1.1E-13	1 5E-13	9.6E-13	1.4E-11	6 2E-12	9 6E-13	1 2E-11	3.9E-11	2 0E-14	1 5E-15
1,2,3,7,8-PeCDD	S3 avg	8 8E-11	2.1E-10	4.0E-11	4.1E-13	5 6E-13	1.6E-11	2 4E-10	1 1E-10	1.6E-11	2 0E-10	6.6E-10	3 4E-13	5 8E-15
1,2,3,4,7,8-HxCDD	S3 avg	7.5E-11	1.4E-10	2.6E-11	1.7E-13	2.3E-13	1.1E-11	1.6E-10	7 1E-11	1 1E-11	1 4E-10	4.5E-10	4.7E-13	1 1E-15
1,2,3,6,7,8-HxCDD	S3 avg	1.2E-10	3.6E-11	8.0E-12	2 4E-13	3.2E-13	2.7E-12	4.1E-11	1 8E-11	2.7E-12	3 4E-11	1.1E-10	1 4E-13	3 3E-15
1,2,3,7,8,9-HxCDD	S3 avg	7.5E-11	5.1E-11	1.0E-11	1.9E-13	2.6E-13	3.9E-12	5 8E-11	2.5E-11	3 9E-12	4.8E-11	1 6E-10	1.6E-13	1 1E-15
1,2,3,4,6,7,8-HpCDD	S3 avg	8.7E-10	4 2E-10	7.4E-11	3.4E-13	4.7E-13	3 2E-11	4.8E-10	2.1E-10	3 2E-11	4.0E-10	1.3E-09	7.7E-12	7 1E-15
OCDD	S3 avg	4.0E-09	7.7E-08	1.3E-08	2.3E-12	3.2E-12	5.8E-09	8.7E-08	3.8E-08	5 8E-09	7.3E-08	2 4E-07	9.8E-10	7.4E-14
2,3,7,8-TCDF	S3 avg	2.1E-10	4.0E-11	8.8E-12	2.2E-13	3.1E-13	3.0E-12	4.5E-11	2.0E-11	3.0E-12	3.8E-11	1.2E-10	2 9E-13	1.6E-14
1,2,3,7,8-PeCDF	S3 avg	5.9E-10	1.9E-10	3.6E-11	4.8E-13	6.6E-13	1.4E-11	2.1E-10	9 2E-11	1.4E-11	1.8E-10	5 8E-10	1.7E-12	3.2E-14
2,3,4,7,8-PeCDF	S3 avg	6.6E-10	1.1E-09	2.0E-10	2.3E-12	3.1E-12	8.1E-11	1.2E-09	5.3E-10	8 1E-11	1.0E-09	3.3E-09	2 3E-12	3 0E-14
1,2,3,4,7,8-HxCDF	S3 avg	1.1E-09	5.7E-10	1.2E-10	2.9E-12	4.1E-12	4.3E-11	6.5E-10	2 8E-10	4.3E-11	5.4E-10	1 8E-09	1.7E-12	3 1E-14
1,2,3,6,7,8-HxCDF	S3 avg	1.1E-09	1.1E-09	2.0E-10	2.4E-12	3.3E-12	8.2E-11	1.2E-09	5.3E-10	8.2E-11	1.0E-09	3 4E-09	3.6E-12	2.9E-14
1,2,3,7,8,9-HxCDF	S3 avg	2.7E-10	2 5E-10	4.7E-11	6.0E-13	8.2E-13	1.9E-11	2.8E-10	1.2E-10	1.9E-11	2.3E-10	7.6E-10	8 3E-13	7 3E-15
2,3,4,6,7,8-HxCDF	S3 avg	1.2E-09	7.1E-10	1.4E-10	2.4E-12	3.3E-12	5.3E-11	8.0E-10	3.5E-10	5.3E-11	6.7E-10	2.2E-09	2.7E-12	3.3E-14
1,2,3,4,6,7,8-HpCDF	S3 avg	7.0E-09	5.5E-10	1.2E-10	3.2E-12	4.4E-12	4.1E-11	6.2E-10	2.7E-10	4.1E-11	5.2E-10	1.7E-09	9 2E-12	8.6E-14
1,2,3,4,7,8,9-HpCDF	S3 avg	8 7E-10	1.1E-10	2 6E-11	9.4E-13	1.3E-12	8.0E-12	1.2E-10	5 2E-11	8 0E-12	1.0E-10	3.3E-10	7.6E-13	1 1E-14
OCDF	S3 avg	1.2E-08	6 3E-09	1 1E-09	2.7E-12	3.7E-12	4.8E-10	7.2E-09	3.1E-09	4 8E-10	6 0E-09	2.0E-08	2.1E-10	4 5E-14
Tetrachlorobiphenyl	S3 avg	2.7E-08	3 0E-09	2.1E-09	1.8E-10	2.5E-10	2.2E-10	3.3E-09	1 4E-09	2.2E-10	2.7E-09	8.9E-09	5.3E-12	4 8E-12
Hexachlorobiphenyl	S3 avg	4.5E-08	1.9E-09	1.3E-09	1.1E-10	1 5E-10	1.4E-10	2.1E-09	9 2E-10	1.4E-10	1.8E-09	5 8E-09	5 2E-12	1.5E-12
Heptachlorobiphenyl	S3 avg	4.4E-08	5.0E-08	9.5E-09	1.1E-10	1 5E-10	3.8E-09	5.7E-08	2.4E-08	3 8E-09	4.7E-08	1.5E-07	1.4E-10	7.2E-13
Benzo(a)pyrene	S3 avg	4.7E-07	4.1E-06	2.7E-07	9.4E-12	1.2E-08	1.6E-06	1.6E-06	1 6E-06	1.6E-06	1.6E-06	1.6E-06	1 6E-08	6 0E-11
Benzo(b)fluoranthene	S3 avg	2.7E-06	2.5E-06	1.9E-07	6.5E-11	8 2E-08	9.6E-07	9.6E-07	9.6E-07	9.6E-07	9.6E-07	9.6E-07	7 8E-09	3 1E-10
Bis(2-ethylhexyl)phthalate	S3 avg	1.5E-07	3.4E-04	2.2E-05	4.6E-13	5 7E-10	1.4E-04	1.4E-04	1.4E-04	1.4E-04	1.4E-04	1.4E-04	8.6E-06	3 9E-12
Carbon tetrachloride	S3 avg	1.6E-06	1.8E-10	6.9E-11	3.0E-13	3.8E-10	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	1.3E-07	2.4E-07
Dibenz(a,h)anthracene	S3 avg	6.7E-07	2.9E-07	3.1E-08	5.0E-11	6.3E-08	1.1E-07	1.1E-07	1.1E-07	1.1E-07	1.1E-07	1.1E-07	6 0E-10	4 0E-11
Di(n)octyl phthalate	S3 avg	6.6E-08	9.3E-04	6.0E-05	1.2E-10	1.4E-07	3 6E-04	3.6E-04	3.6E-04	3.6E-04	3.6E-04	3.6E-04	4.0E-08	6 3E-13
Heptachlor	S3 avg	1.3E-09	2.7E-09	1 9E-10	3.7E-14	4.6E-11	1.1E-09	1.1E-09	1 1E-09	1.1E-09	1.1E-09	1.1E-09	7.4E-12	1.4E-13
Hexachlorobenzene	S3 avg	2 5E-06	2.6E-08	1.7E-08	3.2E-11	4 0E-08	9.0E-09	9.0E-09	9.0E-09	9.0E-09	9.0E-09	9.0E-09	8 0E-10	1.3E-09
Hexachlorobutadiene	S3 avg	6 8E-06	4.9E-09	4.0E-09	7.6E-12	9.5E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	3.4E-09	6 0E-09
Hexachlorocyclopentadiene	S3 avg	1.1E-07	3.1E-10	2.4E-10	4.4E-13	5.5E-10	1.0E-10	1.0E-10	1 0E-10	1.0E-10	1.0E-10	1 0E-10	2 3E-11	3 9E-11
Hexachlorophene	S3 avg	1.8E-06	1.1E-05	6.5E-07	9.6E-10	1.2E-06	4.4E-06	4.4E-06	4.4E-06	4 4E-06	4 4E-06	4 4E-06	3 4E-09	3.6E-11
Indeno(1,2,3-cd)pyrene	S3 avg	7.5E-07	2.7E-07	3.1E-08	5.2E-11	6.5E-08	1.0E-07	1.0E-07	1.0E-07	1 0E-07	1.0E-07	1.0E-07	6 0E-10	4 7E-11
Antimony	S3 avg	1.3E-07	1.2E-09	4.6E-10	3.5E-12	4.1E-11	1.5E-10	1.5E-10	1 5E-10	1 5E-10	1.5E-10	1.5E-10	7 0E-10	7.5E-10
Arsenic	S3 avg	5.0E-06	2.2E-08	6.9E-09	2.6E-09	3.4E-09	8 1E-10	8.1E-10	8 1E-10	8 1E-10	8.1E-10	8.1E-10	3 8E-09	2.5E-09
Barium	S3 avg	6.2E-06	6.5E-09	2 8E-08	1.0E-11	8.3E-09	1 9E-08	1.9E-08	1 9E-08	1 9E-08	1 9E-08	1.9E-08	1 9E-08	1.6E-08
Beryllium	S3 avg	1.3E-08	1.3E-11	9.3E-12	3 6E-13	4.2E-13	1.4E-14	1.4E-14	1 4E-14	1.4E-14	1 4E-14	1 4E-14	2 5E-12	6 4E-13
Cadmium	S3 avg	7.4E-08	6 5E-10	2.9E-11	1.2E-10	2 8E-12	5 1E-11	5.1E-11	5 1E-11	5 1E-11	5 1E-11	5 1E-11	2 4E-09	2 5E-09
Chromium (hexavalent)	S3 avg	3 5E-07	1.7E-09	1 8E-09	2.1E-11	3.4E-11	5.3E-10	5.3E-10	5 3E-10	5 3E-10	5 3E-10	5 3E-10	6 9E-11	4 2E-11
Lead	S3 avg	2.2E-05	5.9E-09	1 4E-08	4.4E-07	4 4E-07	5 7E-09	5 7E-09	5 7E-09	5 7E-09	5 7E-09	5 7E-09	5 6E-09	5 1E-09
Mercury	S3 avg	1 3E-04	1.2E-07	3 9E-07	7.3E-08	6 1E-09	1.9E-07	1 9E-07	1 9E-07	1 9E-07	1 9E-07	1 9E-07	3 3E-06	5 7E-06
Mercury (methyl BCF)	S3 avg	1 3E-04	1 2E-07	3 9E-07	7.3E-08	6 1E-09	1 9E-07	1 9E-07	1 9E-07	1 9E-07	1 9E-07	1 9E-07	3 3E-06	5 7E-06
Nickel	S3 avg	5 1E-07	9 1E-09	3.7E-08	5.7E-11	9 2E-11	1 9E-09	1 9E-09	1 9E-09	1 9E-09	1 9E-09	1 9E-09	2 1E-09	3 1E-09
Selenium	S3 avg	9.5E-05	4 6E-07	1.0E-05	3.3E-07	3 3E-07	8 3E-06	8 3E-06	8 3E-06	8 3E-06	8 3E-06	8 3E-06	1 1E-07	1 4E-07
Silver	S3 avg	4 7E-07	1 6E-08	3 3E-10	3 9E-12	7 8E-11	1 3E-07	1 3E-07	1 3E-07	1 3E-07	1 3E-07	1 3E-07	6 0E-09	9 0E-09
Thallium	S3 avg	2 3E-05	6 8E-07	2 3E-06	4 5E-07	4 5E-07	3 9E-08	3 9E-08	3 9E-08	3 9E-08	3 9E-08	3 9E-08	2 3E-09	1 8E-10
Zinc	S3 avg	3 3E-06	9 1E-09	2 3E-09	2 0E-09	2 0E-09	3.0E-09	3 0E-09	3 0E-09	3 0E-09	3 0E-09	3 0E-09	3 5E-07	5 9E-07

TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	W1 avg	1.7E-10	8.8E-11	2.2E-11	8 1E-13	1.1E-12	6.7E-12	1.0E-10	4.3E-11	6.7E-12	8 3E-11	2.7E-10	1.4E-13	1.1E-14
1,2,3,7,8-PeCDD	W1 avg	7.8E-10	1.5E-09	2.8E-10	3.6E-12	5 0E-12	1.1E-10	1.7E-09	7.3E-10	1.1E-10	1 4E-09	4 6E-09	2 4E-12	5.1E-14
1,2,3,4,7,8-HxCDD	W1 avg	8.0E-10	1 0E-09	1.8E-10	1.8E-12	2.5E-12	7.6E-11	1.1E-09	4 9E-10	7.6E-11	9.5E-10	3.1E-09	3.3E-12	1.1E-14
1,2,3,6,7,8-HxCDD	W1 avg	1.4E-09	2.6E-10	6 6E-11	2.7E-12	3.7E-12	2.0E-11	3 0E-10	1.3E-10	2.0E-11	2.5E-10	8.1E-10	1 1E-12	3 8E-14
1,2,3,7,8,9-HxCDD	W1 avg	8.9E-10	3.6E-10	7.9E-11	2.2E-12	3 0E-12	2.8E-11	4.1E-10	1.8E-10	2.8E-11	3 4E-10	1.1E-09	1.1E-12	1 3E-14
1,2,3,4,6,7,8-HpCDD	W1 avg	1.0E-08	2.9E-09	5.2E-10	4.0E-12	5.5E-12	2.2E-10	3 3E-09	1.4E-09	2.2E-10	2.8E-09	9.0E-09	5 4E-11	8 3E-14
OCDD	W1 avg	4.9E-08	5.3E-07	9.0E-08	2.8E-11	3.8E-11	4.0E-08	6.0E-07	2.6E-07	4.0E-08	5.0E-07	1.6E-06	6.7E-09	8.9E-13
2,3,7,8-TCDF	W1 avg	1.6E-09	2.8E-10	6.2E-11	1.6E-12	2.3E-12	2.1E-11	3.1E-10	1.4E-10	2.1E-11	2 6E-10	8.6E-10	2.0E-12	1.2E-13
1,2,3,7,8-PeCDF	W1 avg	4.8E-09	1.3E-09	2.5E-10	3.9E-12	5.3E-12	9.8E-11	1.5E-09	6.4E-10	9 8E-11	1.2E-09	4.0E-09	1 2E-11	2.6E-13
2,3,4,7,8-PeCDF	W1 avg	5.7E-09	7.4E-09	1.4E-09	2.0E-11	2 7E-11	5.6E-10	8.5E-09	3.7E-09	5.6E-10	7 0E-09	2.3E-08	1.6E-11	2.6E-13
1,2,3,4,7,8-HxCDF	W1 avg	1 2E-08	4.1E-09	9.6E-10	3.2E-11	4.4E-11	3.1E-10	4.7E-09	2.0E-09	3 1E-10	3.9E-09	1.3E-08	1.2E-11	3 4E-13
1,2,3,6,7,8-HxCDF	W1 avg	1.2E-08	7.6E-09	1.5E-09	2.6E-11	3.6E-11	5.7E-10	8.6E-09	3.7E-09	5.7E-10	7.2E-09	2.4E-08	2.6E-11	3.2E-13
1,2,3,7,8,9-HxCDF	W1 avg	2.8E-09	1.7E-09	3.4E-10	6.1E-12	8.4E-12	1.3E-10	2.0E-09	8.5E-10	1.3E-10	1.6E-09	5.4E-09	5.8E-12	7.5E-14
2,3,4,6,7,8-HxCDF	W1 avg	1.3E-08	5.0E-09	1.1E-09	2.6E-11	3.6E-11	3.8E-10	5.7E-09	2.5E-09	3.8E-10	4.7E-09	1.5E-08	1.9E-11	3 6E-13
1,2,3,4,6,7,8-HpCDF	W1 avg	7 9E-08	4 0E-09	9.6E-10	3.6E-11	4.9E-11	3.0E-10	4.5E-09	1.9E-09	3.0E-10	3.7E-09	1.2E-08	6.8E-11	9 6E-13
1,2,3,4,7,8,9-HpCDF	W1 avg	1.0E-08	7.9E-10	2.2E-10	1.1E-11	1.5E-11	6.0E-11	9.0E-10	3.9E-10	6.0E-11	7.5E-10	2.4E-09	5.8E-12	1.2E-13
OCDF	W1 avg	1.5E-07	4.4E-08	7.7E-09	3.3E-11	4.5E-11	3.3E-09	5.0E-08	2.2E-08	3.3E-09	4.2E-08	1.4E-07	1.5E-09	5.5E-13
Tetrachlorobiphenyl	W1 avg	1.9E-07	2.1E-08	1.5E-08	1.3E-09	1.8E-09	1.5E-09	2.3E-08	9.9E-09	1.5E-09	1.9E-08	6.2E-08	3.7E-11	3.4E-11
Hexachlorobiphenyl	W1 avg	3.1E-07	1.3E-08	9.2E-09	7.5E-10	1.0E-09	9.8E-10	1.5E-08	6.3E-09	9 8E-10	1.2E-08	4.0E-08	3.6E-11	1 0E-11
Heptachlorobiphenyl	W1 avg	3.0E-07	3.4E-07	6.5E-08	7.7E-10	1.1E-09	2 6E-08	3.9E-07	1.7E-07	2.6E-08	3.2E-07	1.1E-06	9.8E-10	5 0E-12
Benzo(a)pyrene	W1 avg	4.0E-06	2.9E-05	1.9E-06	7.9E-11	9.9E-08	1.1E-05	1.1E-05	1.1E-05	1.1E-05	1.1E-05	1.1E-05	1.1E-07	5 0E-10
Benzo(b)fluoranthene	W1 avg	1.8E-05	1.7E-05	1.3E-06	4.5E-10	5.7E-07	6.6E-06	6.6E-06	6.6E-06	6.6E-06	6.6E-06	6.6E-06	5.4E-08	2.1E-09
Bis(2-ethylhexyl)phthalate	W1 avg	1.4E-06	2.4E-03	1.5E-04	4.2E-12	5.2E-09	9.3E-04	9.3E-04	9.3E-04	9.3E-04	9.3E-04	9.3E-04	5.9E-05	3 6E-11
Carbon tetrachloride	W1 avg	1.1E-05	1.2E-09	4.7E-10	2.1E-12	2.6E-09	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5 3E-10	5 3E-10	9.2E-07	1 6E-06
Dibenz(a,h)anthracene	W1 avg	8.1E-06	3.4E-06	3.7E-07	6.1E-10	7.7E-07	1.3E-06	1.3E-06	1 3E-06	1 3E-06	1 3E-06	1.3E-06	6 9E-09	4 8E-10
Di(n)octyl phthalate	W1 avg	4.6E-07	6.4E-03	4.1E-04	8.0E-10	1.0E-06	2.5E-03	2.5E-03	2.5E-03	2.5E-03	2 5E-03	2.5E-03	2.8E-07	4 4E-12
Heptachlor	W1 avg	9.0E-09	1.8E-08	1.3E-09	2.5E-13	3.2E-10	7.3E-09	7.3E-09	7.3E-09	7.3E-09	7 3E-09	7.3E-09	5 1E-11	9 4E-13
Hexachlorobenzene	W1 avg	1.7E-05	1.8E-07	1.2E-07	2.2E-10	2.8E-07	6.2E-08	6.2E-08	6 2E-08	6.2E-08	6 2E-08	6 2E-08	5 5E-09	9 3E-09
Hexachlorobutadiene	W1 avg	4.7E-05	3.4E-08	2.7E-08	5.2E-11	6.6E-08	1 2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	2.4E-08	4.2E-08
Hexachlorocyclopentadiene	W1 avg	7.7E-07	2.1E-09	1.7E-09	3.0E-12	3.8E-09	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10	1 6E-10	2.7E-10
Hexachlorophene	W1 avg	2.2E-05	1.3E-04	7.9E-06	1.2E-08	1.5E-05	5.1E-05	5.1E-05	5.1E-05	5.1E-05	5.1E-05	5.1E-05	3 9E-08	4 4E-10
Indeno(1,2,3-cd)pyrene	W1 avg	9.2E-06	3.1E-06	3.8E-07	6.3E-10	7.9E-07	1.2E-06	1.2E-06	1 2E-06	1.2E-06	1.2E-06	1.2E-06	7.0E-09	5 8E-10
Antimony	W1 avg	1.5E-06	1.3E-08	5.5E-09	4.0E-11	4.7E-10	1.7E-09	1.7E-09	1 7E-09	1.7E-09	1.7E-09	1.7E-09	7 8E-09	8.6E-09
Arsenic	W1 avg	5.8E-05	2.4E-07	7.8E-08	3.0E-08	3.9E-08	8.9E-09	8.9E-09	8 9E-09	8.9E-09	8.9E-09	8.9E-09	4 2E-08	2.8E-08
Barium	W1 avg	7.1E-05	7.1E-08	3.2E-07	1.2E-10	9.5E-08	2.1E-07	2.1E-07	2 1E-07	2 1E-07	2.1E-07	2 1E-07	2 1E-07	1.8E-07
Beryllium	W1 avg	1.5E-07	1.4E-10	1.1E-10	4.1E-12	4.8E-12	1.5E-13	1.5E-13	1 5E-13	1 5E-13	1 5E-13	1 5E-13	2 7E-11	7.3E-12
Cadmium	W1 avg	8.5E-07	7.1E-09	3.2E-10	1.3E-09	3.2E-11	5.6E-10	5 6E-10	5 6E-10	5 6E-10	5.6E-10	5 6E-10	2 7E-08	2 8E-08
Chromium (hexavalent)	W1 avg	4.0E-06	1.9E-08	2.1E-08	2.4E-10	3 8E-10	5 9E-09	5 9E-09	5 9E-09	5 9E-09	5 9E-09	5 9E-09	7 6E-10	4 8E-10
Lead	W1 avg	2.5E-04	6.5E-08	1.6E-07	5.0E-06	5 0E-06	6.3E-08	6.3E-08	6 3E-08	6 3E-08	6.3E-08	6 3E-08	6 3E-08	5 8E-08
Mercury	W1 avg	8 8E-04	8.2E-07	2.7E-06	5 0E-07	4 2E-08	1.3E-06	1 3E-06	1 3E-06	1 3E-06	1 3E-06	1 3E-06	2 3E-05	3 9E-05
Mercury (methyl BCF)	W1 avg	8.8E-04	8 2E-07	2 7E-06	5 0E-07	4 2E-08	1 3E-06	1 3E-06	1 3E-06	1 3E-06	1 3E-06	1 3E-06	2 3E-05	3 9E-05
Nickel	W1 avg	5.9E-06	1.0E-07	4 2E-07	6.5E-10	1 1E-09	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 4E-08	3 6E-08
Selenium	W1 avg	1.1E-03	5.0E-06	1 2E-04	3 7E-06	3 7E-06	9.1E-05	9 1E-05	9 1E-05	9 1E-05	9 1E-05	9 1E-05	1 2E-06	1.6E-06
Silver	W1 avg	5.3E-06	1.7E-07	3 8E-09	4.5E-11	9 0E-10	1.4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	6 9E-08	1 0E-07
Thallium	W1 avg	2 7E-04	7 6E-06	2 6E-05	5.1E-06	5 1E-06	4 3E-07	4 3E-07	4 3E-07	4 3E-07	4 3E-07	4 3E-07	2 5E-08	2 1E-09
Zinc	W1 avg	3.8E-05	1 0E-07	2 7E-08	2 3E-08	2 3E-08	3 3E-08	3 3E-08	3 3E-08	3 3E-08	3 3E-08	3 3E-08	3 9E-06	6 8E-06

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	W2 avg	7.5E-11	4.2E-11	1.0E-11	3 6E-13	5 0E-13	3.2E-12	4 8E-11	2 1E-11	3 2E-12	4.0E-11	1.3E-10	6 6E-14	4.9E-15
1,2,3,7,8-PeCDD	W2 avg	3.1E-10	7.1E-10	1.3E-10	1.4E-12	2 0E-12	5 4E-11	8.1E-10	3.5E-10	5.4E-11	6.7E-10	2.2E-09	1.1E-12	2.0E-14
1,2,3,4,7,8-HxCDD	W2 avg	2.8E-10	4.8E-10	8.6E-11	6.1E-13	8 5E-13	3.6E-11	5.4E-10	2.3E-10	3.6E-11	4 5E-10	1.5E-09	1 6E-12	3.9E-15
1,2,3,6,7,8-HxCDD	W2 avg	4.6E-10	1.2E-10	2.7E-11	8.8E-13	1 2E-12	9.1E-12	1.4E-10	5.9E-11	9 1E-12	1.1E-10	3.7E-10	4.9E-13	1.2E-14
1,2,3,7,8,9-HxCDD	W2 avg	2.9E-10	1 7E-10	3.4E-11	7.0E-13	9.7E-13	1.3E-11	1.9E-10	8.4E-11	1 3E-11	1.6E-10	5.3E-10	5 2E-13	4.0E-15
1,2,3,4,6,7,8-HpCDD	W2 avg	3.3E-09	1.4E-09	2.5E-10	1.3E-12	1.8E-12	1.1E-10	1.6E-09	6.8E-10	1.1E-10	1.3E-09	4.3E-09	2.6E-11	2.7E-14
OCDD	W2 avg	1.5E-08	2.5E-07	4.3E-08	8.8E-12	1 2E-11	1.9E-08	2.9E-07	1.2E-07	1.9E-08	2.4E-07	7.9E-07	3.2E-09	2.8E-13
2,3,7,8-TCDF	W2 avg	7.2E-10	1 3E-10	2.9E-11	7.5E-13	1.0E-12	1.0E-11	1.5E-10	6 5E-11	1.0E-11	1.3E-10	4.1E-10	9 5E-13	5 5E-14
1,2,3,7,8-PeCDF	W2 avg	2.0E-09	6 2E-10	1.2E-10	1.6E-12	2.3E-12	4.7E-11	7.0E-10	3.0E-10	4.7E-11	5.9E-10	1.9E-09	5.7E-12	1.1E-13
2,3,4,7,8-PeCDF	W2 avg	2.3E-09	3 6E-09	6.7E-10	7.9E-12	1.1E-11	2.7E-10	4.0E-09	1.7E-09	2 7E-10	3.4E-09	1.1E-08	7.6E-12	1.0E-13
1,2,3,4,7,8-HxCDF	W2 avg	4.2E-09	1 9E-09	4.1E-10	1.1E-11	1.5E-11	1.4E-10	2.2E-09	9.4E-10	1.4E-10	1.8E-09	5.9E-09	5.6E-12	1.1E-13
1,2,3,6,7,8-HxCDF	W2 avg	4.0E-09	3.6E-09	6 8E-10	8.8E-12	1.2E-11	2.7E-10	4.1E-09	1.8E-09	2 7E-10	3.4E-09	1.1E-08	1.2E-11	1.1E-13
1,2,3,7,8,9-HxCDF	W2 avg	9.8E-10	8.2E-10	1 6E-10	2.2E-12	3 0E-12	6.2E-11	9.3E-10	4.0E-10	6.2E-11	7.7E-10	2.5E-09	2.7E-12	2.7E-14
2,3,4,6,7,8-HxCDF	W2 avg	4.5E-09	2 4E-09	4.7E-10	8.9E-12	1 2E-11	1.8E-10	2.7E-09	1 2E-09	1.8E-10	2.2E-09	7.3E-09	9 0E-12	1.2E-13
1,2,3,4,6,7,8-HpCDF	W2 avg	2.6E-08	1.8E-09	4.0E-10	1.2E-11	1 6E-11	1.4E-10	2.1E-09	9.0E-10	1.4E-10	1.7E-09	5.7E-09	3.1E-11	3 2E-13
1,2,3,4,7,8,9-HpCDF	W2 avg	3 3E-09	3 6E-10	8.9E-11	3.6E-12	4 9E-12	2.7E-11	4.0E-10	1.8E-10	2.7E-11	3.4E-10	1.1E-09	2.6E-12	4 0E-14
OCDF	W2 avg	4.7E-08	2 1E-08	3.6E-09	1.0E-11	1 4E-11	1.6E-09	2.4E-08	1.0E-08	1.6E-09	2 0E-08	6 5E-08	7.0E-10	1.7E-13
Tetrachlorobiphenyl	W2 avg	9.0E-08	9 9E-09	7.1E-09	6.1E-10	8 4E-10	7.2E-10	1.1E-08	4 7E-09	7.2E-10	9.0E-09	3.0E-08	1 7E-11	1 6E-11
Hexachlorobiphenyl	W2 avg	1 5E-07	6.4E-09	4.4E-09	3.6E-10	5.0E-10	4.7E-10	7.0E-09	3 0E-09	4.7E-10	5.9E-09	1.9E-08	1.7E-11	4 8E-12
Heptachlorobiphenyl	W2 avg	1.5E-07	1.6E-07	3.1E-08	3.7E-10	5.1E-10	1.2E-08	1.9E-07	8 1E-08	1.2E-08	1.6E-07	5.1E-07	4.7E-10	2.4E-12
Benzo(a)pyrene	W2 avg	1.6E-06	1.4E-05	8.9E-07	3.3E-11	4 1E-08	5.4E-06	5.4E-06	5.4E-06	5 4E-06	5.4E-06	5.4E-06	5 4E-08	2.1E-10
Benzo(b)fluoranthene	W2 avg	8.8E-06	8 1E-06	6.4E-07	2.2E-10	2.7E-07	3.2E-06	3.2E-06	3 2E-06	3.2E-06	3.2E-06	3.2E-06	2 6E-08	1.0E-09
Bis(2-ethylhexyl)phthalate	W2 avg	5 3E-07	1.1E-03	7.4E-05	1.6E-12	2.0E-09	4.5E-04	4.5E-04	4 5E-04	4.5E-04	4.5E-04	4 5E-04	2.8E-05	1.4E-11
Carbon tetrachloride	W2 avg	5.1E-06	5.9E-10	2.3E-10	1.0E-12	1.3E-09	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	4.4E-07	7 8E-07
Dibenz(a,h)anthracene	W2 avg	2.6E-06	1.1E-06	1.2E-07	1.9E-10	2.4E-07	4.2E-07	4.2E-07	4.2E-07	4.2E-07	4.2E-07	4.2E-07	2.2E-09	1.5E-10
Di(n)octyl phthalate	W2 avg	2.2E-07	3.1E-03	2.0E-04	3.8E-10	4 8E-07	1.2E-03	1.2E-03	1 2E-03	1.2E-03	1.2E-03	1.2E-03	1.3E-07	2.1E-12
Heptachlor	W2 avg	4.3E-09	8 9E-09	6.4E-10	1.2E-13	1 5E-10	3.5E-09	3.5E-09	3.5E-09	3 5E-09	3.5E-09	3.5E-09	2.4E-11	4 5E-13
Hexachlorobenzene	W2 avg	8.3E-06	8.5E-08	5.8E-08	1.1E-10	1.3E-07	3.0E-08	3.0E-08	3.0E-08	3 0E-08	3.0E-08	3.0E-08	2 6E-09	4 5E-09
Hexachlorobutadiene	W2 avg	2.3E-05	1.6E-08	1 3E-08	2.5E-11	3.2E-08	5.6E-09	5.6E-09	5 6E-09	5.6E-09	5.6E-09	5.6E-09	1.1E-08	2 0E-08
Hexachlorocyclopentadiene	W2 avg	3.7E-07	1.0E-09	8.0E-10	1.5E-12	1.8E-09	3.5E-10	3.5E-10	3 5E-10	3.5E-10	3.5E-10	3.5E-10	7 5E-11	1 3E-10
Hexachlorophene	W2 avg	7.0E-06	4.2E-05	2.5E-06	3.7E-09	4 6E-06	1.6E-05	1.6E-05	1 6E-05	1 6E-05	1.6E-05	1.6E-05	1 3E-08	1 4E-10
Indeno(1,2,3-cd)pyrene	W2 avg	2 9E-06	1.0E-06	1.2E-07	2.0E-10	2 5E-07	3.9E-07	3.9E-07	3.9E-07	3.9E-07	3.9E-07	3.9E-07	2 2E-09	1 8E-10
Antimony	W2 avg	4.8E-07	4.4E-09	1.8E-09	1.3E-11	1.5E-10	5.5E-10	5.5E-10	5 5E-10	5.5E-10	5 5E-10	5.5E-10	2 5E-09	2 8E-09
Arsenic	W2 avg	1.8E-05	8 0E-08	2.5E-08	9.6E-09	1 2E-08	2.9E-09	2.9E-09	2.9E-09	2 9E-09	2.9E-09	2.9E-09	1 4E-08	9.1E-09
Barium	W2 avg	2 3E-05	2.3E-08	1.0E-07	3.8E-11	3 0E-08	6 8E-08	6.8E-08	6 8E-08	6 8E-08	6 8E-08	6 8E-08	6 8E-08	5 9E-08
Beryllium	W2 avg	4.9E-08	4.7E-11	3.4E-11	1.3E-12	1 5E-12	4.9E-14	4.9E-14	4 9E-14	4.9E-14	4.9E-14	4 9E-14	8 9E-12	2 3E-12
Cadmium	W2 avg	2.7E-07	2.4E-09	1.1E-10	4.3E-10	1.0E-11	1 8E-10	1.8E-10	1 8E-10	1 8E-10	1 8E-10	1.8E-10	8 8E-09	9 0E-09
Chromium (hexavalent)	W2 avg	1.3E-06	6.0E-09	6.7E-09	7.6E-11	1 2E-10	1 9E-09	1 9E-09	1 9E-09	1 9E-09	1 9E-09	1 9E-09	2 5E-10	1 5E-10
Lead	W2 avg	8.1E-05	2.1E-08	5 1E-08	1.6E-06	1 6E-06	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 0E-08	1 9E-08
Mercury	W2 avg	4 2E-04	3 9E-07	1 3E-06	2.4E-07	2 0E-08	6 2E-07	6 2E-07	6 2E-07	6 2E-07	6 2E-07	6 2E-07	1 1E-05	1 9E-05
Mercury (methyl BCF)	W2 avg	4 2E-04	3 9E-07	1 3E-06	2.4E-07	2 0E-08	6 2E-07	6 2E-07	6 2E-07	6 2E-07	6 2E-07	6 2E-07	1 1E-05	1 9E-05
Nickel	W2 avg	1 9E-06	3 3E-08	1 4E-07	2 1E-10	3 4E-10	6 7E-09	6 7E-09	6 7E-09	6 7E-09	6 7E-09	6 7E-09	7 6E-09	1 1E-08
Selenium	W2 avg	3.5E-04	1 6E-06	3 7E-05	1.2E-06	1 2E-06	3 0E-05	3.0E-05	3 0E-05	3 0E-05	3 0E-05	3 0E-05	4 0E-07	5 1E-07
Silver	W2 avg	1.7E-06	5 6E-08	1 2E-09	1 4E-11	2 9E-10	4 7E-07	4 7E-07	4 7E-07	4 7E-07	4 7E-07	4 7E-07	2 2E-08	3 3E-08
Thallium	W2 avg	8.6E-05	2 5E-06	8 3E-06	1.6E-06	1 6E-06	1 4E-07	1 4E-07	1 4E-07	1 4E-07	1 4E-07	1 4E-07	8 1E-09	6.7E-10
Zinc	W2 avg	1 2E-05	3.3E-08	8 5E-09	7.4E-09	7 4E-09	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1 3E-06	2 2E-06

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	W3 avg	3.4E-11	1.9E-11	4.7E-12	1.7E-13	2 3E-13	1 5E-12	2 2E-11	9 5E-12	1.5E-12	1 8E-11	6.0E-11	3 0E-14	2 3E-15
1,2,3,7,8-PeCDD	W3 avg	1.4E-10	3.2E-10	6.1E-11	6 6E-13	9.1E-13	2.5E-11	3.7E-10	1 6E-10	2.5E-11	3 1E-10	1.0E-09	5.2E-13	9 5E-15
1,2,3,4,7,8-HxCDD	W3 avg	1.3E-10	2.2E-10	3 9E-11	2 9E-13	4 0E-13	1.7E-11	2.5E-10	1.1E-10	1.7E-11	2.1E-10	6.8E-10	7.2E-13	1 8E-15
1,2,3,6,7,8-HxCDD	W3 avg	2.2E-10	5.5E-11	1.3E-11	4.2E-13	5.7E-13	4 2E-12	6.3E-11	2.7E-11	4.2E-12	5 2E-11	1.7E-10	2.2E-13	5 9E-15
1,2,3,7,8,9-HxCDD	W3 avg	1.3E-10	7.8E-11	1.6E-11	3.3E-13	4.6E-13	5.9E-12	8.9E-11	3.8E-11	5.9E-12	7.4E-11	2.4E-10	2.4E-13	1 9E-15
1,2,3,4,6,7,8-HpCDD	W3 avg	1.5E-09	6.4E-10	1.1E-10	6.1E-13	8.4E-13	4.8E-11	7.2E-10	3.1E-10	4.8E-11	6.0E-10	2.0E-09	1.2E-11	1.3E-14
OCDD	W3 avg	7.2E-09	1.2E-07	2.0E-08	4.2E-12	5.7E-12	8.8E-09	1.3E-07	5 7E-08	8 8E-09	1.1E-07	3.6E-07	1.5E-09	1.3E-13
2,3,7,8-TCDF	W3 avg	3.3E-10	6.1E-11	1.3E-11	3.5E-13	4 8E-13	4.6E-12	6.9E-11	3.0E-11	4.6E-12	5.8E-11	1.9E-10	4.4E-13	2 5E-14
1,2,3,7,8-PeCDF	W3 avg	9.3E-10	2.8E-10	5.5E-11	7.6E-13	1 0E-12	2.1E-11	3.2E-10	1.4E-10	2.1E-11	2.7E-10	8.8E-10	2.6E-12	5 0E-14
2,3,4,7,8-PeCDF	W3 avg	1.1E-09	1.6E-09	3 1E-10	3 7E-12	5.1E-12	1.2E-10	1.9E-09	8.0E-10	1 2E-10	1.5E-09	5.1E-09	3.5E-12	4 8E-14
1,2,3,4,7,8-HxCDF	W3 avg	2.0E-09	8.8E-10	1.9E-10	5.1E-12	7.1E-12	6.6E-11	9.9E-10	4.3E-10	6.6E-11	8.3E-10	2.7E-09	2.6E-12	5.4E-14
1,2,3,6,7,8-HxCDF	W3 avg	1.9E-09	1.6E-09	3.1E-10	4.1E-12	5.7E-12	1.2E-10	1.9E-09	8.1E-10	1.2E-10	1.6E-09	5.1E-09	5.5E-12	5.1E-14
1,2,3,7,8,9-HxCDF	W3 avg	4.6E-10	3.7E-10	7.2E-11	1.0E-12	1.4E-12	2.8E-11	4.3E-10	1.8E-10	2.8E-11	3.5E-10	1.2E-09	1.3E-12	1.3E-14
2,3,4,6,7,8-HxCDF	W3 avg	2.1E-09	1.1E-09	2.2E-10	4.2E-12	5.8E-12	8.2E-11	1.2E-09	5.3E-10	8.2E-11	1.0E-09	3.3E-09	4.1E-12	5 8E-14
1,2,3,4,6,7,8-HpCDF	W3 avg	1 2E-08	8.4E-10	1.9E-10	5.6E-12	7.7E-12	6.3E-11	9.5E-10	4.1E-10	6.3E-11	7.9E-10	2.6E-09	1.4E-11	1.5E-13
1,2,3,4,7,8,9-HpCDF	W3 avg	1.5E-09	1 6E-10	4.1E-11	1.7E-12	2 3E-12	1.2E-11	1.9E-10	8.1E-11	1.2E-11	1.6E-10	5.1E-10	1 2E-12	1 9E-14
OCDF	W3 avg	2.2E-08	9.6E-09	1.7E-09	4.9E-12	6 8E-12	7.3E-10	1.1E-08	4.7E-09	7.3E-10	9 1E-09	3.0E-08	3.2E-10	8 2E-14
Tetrachlorobiphenyl	W3 avg	4.1E-08	4 5E-09	3.3E-09	2.8E-10	3.8E-10	3.3E-10	5 0E-09	2.2E-09	3.3E-10	4.1E-09	1.4E-08	8.0E-12	7.4E-12
Hexachlorobiphenyl	W3 avg	6 8E-08	2.9E-09	2.0E-09	1.7E-10	2.3E-10	2.1E-10	3.2E-09	1.4E-09	2.1E-10	2.7E-09	8.8E-09	7.9E-12	2 2E-12
Heptachlorobiphenyl	W3 avg	6.7E-08	7.5E-08	1.4E-08	1.7E-10	2.3E-10	5.7E-09	8.6E-08	3.7E-08	5.7E-09	7.1E-08	2.3E-07	2 2E-10	1 1E-12
Benzo(a)pyrene	W3 avg	7.5E-07	6.2E-06	4.1E-07	1.5E-11	1.9E-08	2.5E-06	2.5E-06	2.5E-06	2 5E-06	2.5E-06	2.5E-06	2.5E-08	9 6E-11
Benzo(b)fluoranthene	W3 avg	4.0E-06	3.7E-06	2.9E-07	9.9E-11	1.2E-07	1.5E-06	1.5E-06	1.5E-06	1.5E-06	1.5E-06	1.5E-06	1.2E-08	4 6E-10
Bis(2-ethylhexyl)phthalate	W3 avg	2.5E-07	5.2E-04	3.4E-05	7.5E-13	9.4E-10	2.1E-04	2.1E-04	2 1E-04	2.1E-04	2.1E-04	2.1E-04	1.3E-05	6 4E-12
Carbon tetrachloride	W3 avg	2.4E-06	2.7E-10	1.0E-10	4.6E-13	5.7E-10	1.2E-10	1.2E-10	1.2E-10	1 2E-10	1.2E-10	1.2E-10	2.0E-07	3 6E-07
Dibenz(a,h)anthracene	W3 avg	1.2E-06	5.1E-07	5.5E-08	9 1E-11	1.1E-07	2.0E-07	2.0E-07	2.0E-07	2.0E-07	2.0E-07	2.0E-07	1.1E-09	7 2E-11
Di(n)octyl phthalate	W3 avg	1.0E-07	1.4E-03	9.1E-05	1.8E-10	2.2E-07	5.5E-04	5.5E-04	5.5E-04	5.5E-04	5 5E-04	5.5E-04	6.1E-08	9.6E-13
Heptachlor	W3 avg	2 0E-09	4.1E-09	2.9E-10	5.6E-14	7.0E-11	1.6E-09	1.6E-09	1.6E-09	1 6E-09	1.6E-09	1.6E-09	1.1E-11	2.1E-13
Hexachlorobenzene	W3 avg	3.8E-06	3.9E-08	2.6E-08	4.8E-11	6.1E-08	1.4E-08	1.4E-08	1.4E-08	1.4E-08	1 4E-08	1.4E-08	1.2E-09	2 0E-09
Hexachlorobutadiene	W3 avg	1.0E-05	7.5E-09	6.0E-09	1.2E-11	1.4E-08	2.6E-09	2.6E-09	2.6E-09	2 6E-09	2.6E-09	2.6E-09	5 2E-09	9 2E-09
Hexachlorocyclopentadiene	W3 avg	1.7E-07	4.6E-10	3.7E-10	6.7E-13	8.4E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	3.4E-11	5 9E-11
Hexachlorophene	W3 avg	3.3E-06	2.0E-05	1.2E-06	1.7E-09	2.2E-06	7.7E-06	7.7E-06	7 7E-06	7.7E-06	7.7E-06	7 7E-06	5 9E-09	6 6E-11
Indeno(1,2,3-cd)pyrene	W3 avg	1.4E-06	4.7E-07	5.7E-08	9.4E-11	1.2E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.1E-09	8 6E-11
Antimony	W3 avg	2 5E-07	2.2E-09	9.1E-10	6.6E-12	7.7E-11	2.8E-10	2.8E-10	2.8E-10	2 8E-10	2 8E-10	2.8E-10	1 3E-09	1 4E-09
Arsenic	W3 avg	9.5E-06	4.1E-08	1.3E-08	4.9E-09	6.4E-09	1.5E-09	1.5E-09	1.5E-09	1 5E-09	1.5E-09	1.5E-09	6 9E-09	4 7E-09
Barium	W3 avg	1 2E-05	1.2E-08	5.2E-08	2.0E-11	1.6E-08	3.5E-08	3.5E-08	3.5E-08	3 5E-08	3 5E-08	3.5E-08	3 5E-08	3 0E-08
Beryllium	W3 avg	2.5E-08	2.4E-11	1.8E-11	6.7E-13	7.9E-13	2.5E-14	2 5E-14	2 5E-14	2 5E-14	2 5E-14	2 5E-14	4 5E-12	1 2E-12
Cadmium	W3 avg	1.4E-07	1.2E-09	5.4E-11	2.2E-10	5.2E-12	9.4E-11	9 4E-11	9.4E-11	9 4E-11	9 4E-11	9 4E-11	4 5E-09	4 6E-09
Chromium (hexavalent)	W3 avg	6.6E-07	3.1E-09	3.5E-09	3.9E-11	6.3E-11	9.8E-10	9 8E-10	9 8E-10	9 8E-10	9.8E-10	9.8E-10	1 3E-10	7 9E-11
Lead	W3 avg	4.2E-05	1.1E-08	2.6E-08	8.2E-07	8 2E-07	1.1E-08	1.1E-08	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1 0E-08	9 6E-09
Mercury	W3 avg	1.9E-04	1.8E-07	5 9E-07	1.1E-07	9.3E-09	2.9E-07	2 9E-07	2 9E-07	2 9E-07	2 9E-07	2 9E-07	5 0E-06	8 6E-06
Mercury (methyl BCF)	W3 avg	1.9E-04	1.8E-07	5 9E-07	1 1E-07	9 3E-09	2 9E-07	2 9E-07	2 9E-07	2 9E-07	2 9E-07	2 9E-07	5 0E-06	8 6E-06
Nickel	W3 avg	9.7E-07	1 7E-08	7 0E-08	1 1E-10	1 7E-10	3 4E-09	3 4E-09	3 4E-09	3 4E-09	3 4E-09	3 4E-09	3 9E-09	5 9E-09
Selenium	W3 avg	1 8E-04	8 4E-07	1 9E-05	6.2E-07	6 2E-07	1 5E-05	1 5E-05	1 5E-05	1 5E-05	1 5E-05	1 5E-05	2 0E-07	2 6E-07
Silver	W3 avg	8 8E-07	2.9E-08	6 2E-10	7 4E-12	1 5E-10	2 4E-07	2 4E-07	2 4E-07	2 4E-07	2 4E-07	2 4E-07	1 1E-08	1 7E-08
Thallium	W3 avg	4.4E-05	1.3E-06	4 3E-06	8 4E-07	8 4E-07	7 2E-08	7 2E-08	7 2E-08	7 2E-08	7 2E-08	7 2E-08	4 1E-09	3 4E-10
Zinc	W3 avg	6 3E-06	1.7E-08	4 4E-09	3.8E-09	3 8E-09	5 5E-09	5 5E-09	5 5E-09	5 5E-09	5 5E-09	5 5E-09	6 5E-07	1 1E-06

TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	E1 avg	1.0E-11	1.5E-14	4.0E-12	NA	2.3E-16	NA	2.6E-11
1,2,3,7,8-PeCDD	E1 avg	1.9E-10	7 6E-14	1.9E-11	NA	1.1E-15	NA	4 5E-10
1,2,3,4,7,8-HxCDD	E1 avg	2.6E-10	4.6E-14	3.2E-11	NA	3.0E-16	NA	3 0E-10
1,2,3,6,7,8-HxCDD	E1 avg	7.0E-11	1.1E-13	4 0E-11	NA	1.2E-15	NA	8 0E-11
1,2,3,7,8,9-HxCDD	E1 avg	8.0E-11	7.2E-14	2.6E-11	NA	7.7E-16	NA	1.1E-10
1,2,3,4,6,7,8-HpCDD	E1 avg	4.2E-09	4.8E-13	5.9E-11	NA	1.7E-15	NA	8 8E-10
OCDD	E1 avg	5.4E-07	3.2E-12	4.5E-12	NA	2.7E-14	NA	1.6E-07
2,3,7,8-TCDF	E1 avg	1.5E-10	1.5E-13	3.0E-11	NA	2.3E-15	NA	8.3E-11
1,2,3,7,8-PeCDF	E1 avg	9 3E-10	4.1E-13	1.5E-10	NA	6 1E-15	NA	3.9E-10
2,3,4,7,8-PeCDF	E1 avg	1 3E-09	4.7E-13	2 2E-10	NA	6.8E-15	NA	2.2E-09
1,2,3,4,7,8-HxCDF	E1 avg	8.5E-10	9.9E-13	3.6E-10	NA	1.1E-14	NA	1.3E-09
1,2,3,6,7,8-HxCDF	E1 avg	1.9E-09	9.2E-13	3.3E-10	NA	9.9E-15	NA	2.3E-09
1,2,3,7,8,9-HxCDF	E1 avg	4.4E-10	2.1E-13	7.7E-11	NA	2.3E-15	NA	5.2E-10
2,3,4,6,7,8-HxCDF	E1 avg	1.4E-09	1.0E-12	3.8E-10	NA	1.1E-14	NA	1.5E-09
1,2,3,4,6,7,8-HpCDF	E1 avg	4.6E-09	4.4E-12	4.2E-10	NA	2 4E-14	NA	1.2E-09
1,2,3,4,7,8,9-HpCDF	E1 avg	3.5E-10	5.6E-13	5 4E-11	NA	3.1E-15	NA	2.4E-10
OCDF	E1 avg	1.2E-07	5.2E-12	1.9E-11	NA	6.8E-15	NA	1.3E-08
Tetrachlorobiphenyl	E1 avg	1.4E-09	3.6E-10	2 6E-09	NA	4.8E-13	NA	5.2E-09
Hexachlorobiphenyl	E1 avg	2.5E-09	5.7E-11	2 3E-07	NA	3 9E-13	NA	3.3E-09
Heptachlorobiphenyl	E1 avg	7.9E-08	3.4E-10	9 1E-08	NA	4.6E-13	NA	1.0E-07
Benzo(a)pyrene	E1 avg	8.8E-06	9.7E-11	4.4E-07	NA	7.7E-12	NA	6.6E-06
Berizo(b)fluoranthene	E1 avg	4.2E-06	3.4E-09	1.9E-06	NA	2.9E-11	NA	3.9E-06
Bis(2-ethylhexyl)phthalate	E1 avg	4.8E-03	9.2E-11	3 0E-07	NA	1.5E-11	NA	5.5E-04
Carbon tetrachloride	E1 avg	7.4E-07	2.8E-07	4.3E-09	NA	1.4E-10	NA	2.3E-10
Dibenz(a,h)anthracene	E1 avg	1.9E-08	1.5E-09	1.6E-05	NA	1.2E-11	NA	1.0E-06
Di(n)octyl phthalate	E1 avg	2 2E-05	6.6E-08	4.9E-08	NA	7.8E-13	NA	1.5E-03
Heptachlor	E1 avg	4 0E-09	3.3E-11	7.5E-09	NA	1.5E-14	NA	4.2E-09
Hexachlorobenzene	E1 avg	2.3E-08	3.2E-07	4.4E-05	NA	8.1E-11	NA	1.9E-08
Hexachlorobutadiene	E1 avg	2.2E-08	9.6E-08	3 0E-06	NA	9.5E-11	NA	2.9E-09
Hexachlorocyclopentadiene	E1 avg	3.9E-10	4.6E-09	3 5E-09	NA	1.3E-12	NA	1.8E-10
Hexachlorophene	E1 avg	1.1E-07	3.6E-07	4.0E-07	NA	7.9E-11	NA	4.2E-05
Indeno(1,2,3-cd)pyrene	E1 avg	1.9E-08	1.7E-09	2.1E-05	NA	1.3E-11	NA	9.6E-07
Antimony	E1 avg	4 3E-08	1.7E-11	3 1E-11	NA	3 1E-11	NA	4.5E-09
Arsenic	E1 avg	1 9E-07	1.6E-11	3.0E-08	NA	6.8E-10	NA	7.3E-08
Barium	E1 avg	1 4E-06	2.7E-10	5 6E-09	NA	1.4E-09	NA	2 4E-08
Beryllium	E1 avg	9.4E-11	9 7E-16	1.6E-11	NA	7 9E-13	NA	3.4E-11
Cadmium	E1 avg	9 4E-08	8.0E-11	6 6E-08	NA	3.0E-11	NA	2.4E-09
Chromium (hexavalent)	E1 avg	1.9E-09	4.9E-14	2 8E-10	NA	1 8E-11	NA	4 2E-09
Lead	E1 avg	2 6E-07	6.2E-11	1.7E-07	NA	1 1E-09	NA	1.5E-08
Mercury	E1 avg	1 0E-04	9.0E-09	5.4E-05	NA	1 5E-08	NA	1 9E-07
Mercury (methyl BCF)	E1 avg	1.0E-04	9.0E-09	3.1E-04	NA	1 5E-08	NA	1 9E-07
Nickel	E1 avg	3 1E-08	1.4E-12	5 0E-09	NA	8 1E-11	NA	3 0E-08
Selenium	E1 avg	1.9E-06	3.7E-10	7 6E-07	NA	9 8E-09	NA	1 4E-06
Silver	E1 avg	2.8E-07	2.0E-10	5 5E-11	NA	1.1E-10	NA	5 6E-08
Thallium	E1 avg	6 8E-08	1.2E-13	1 0E-07	NA	8 7E-10	NA	1 6E-06
Zinc	E1 avg	7.1E-06	1.6E-09	3 5E-07	NA	8 1E-10	NA	3 1E-08

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	E2 avg	5.0E-12	6 7E-15	1.5E-12	NA	9 0E-17	NA	1.3E-11
1,2,3,7,8-PeCDD	E2 avg	9.0E-11	2.9E-14	6.8E-12	NA	4.0E-16	NA	2.1E-10
1,2,3,4,7,8-HxCDD	E2 avg	1.2E-10	1.5E-14	1.0E-11	NA	9.8E-17	NA	1.4E-10
1,2,3,6,7,8-HxCDD	E2 avg	3.4E-11	3.5E-14	1.3E-11	NA	3 8E-16	NA	3.7E-11
1,2,3,7,8,9-HxCDD	E2 avg	3.9E-11	2.2E-14	8.1E-12	NA	2 4E-16	NA	5.2E-11
1,2,3,4,6,7,8-HpCDD	E2 avg	2.0E-09	1.5E-13	1.8E-11	NA	5.4E-16	NA	4.2E-10
OCDD	E2 avg	2.6E-07	9.8E-13	1.4E-12	NA	8.3E-15	NA	7.7E-08
2,3,7,8-TCDF	E2 avg	7.4E-11	6.7E-14	1.2E-11	NA	8.9E-16	NA	4.0E-11
1,2,3,7,8-PeCDF	E2 avg	4.5E-10	1.7E-13	5.5E-11	NA	2.3E-15	NA	1.9E-10
2,3,4,7,8-PeCDF	E2 avg	6.0E-10	1 9E-13	7.8E-11	NA	2.4E-15	NA	1.1E-09
1,2,3,4,7,8-HxCDF	E2 avg	4.1E-10	3.2E-13	1.1E-10	NA	3.4E-15	NA	5.8E-10
1,2,3,6,7,8-HxCDF	E2 avg	9.4E-10	3.0E-13	1.1E-10	NA	3.2E-15	NA	1.1E-09
1,2,3,7,8,9-HxCDF	E2 avg	2.1E-10	7.3E-14	2.6E-11	NA	7.6E-16	NA	2.5E-10
2,3,4,6,7,8-HxCDF	E2 avg	6.8E-10	3.4E-13	1.2E-10	NA	3.6E-15	NA	7.1E-10
1,2,3,4,6,7,8-HpCDF	E2 avg	2.2E-09	1.4E-12	1.3E-10	NA	7.8E-15	NA	5.6E-10
1,2,3,4,7,8,9-HpCDF	E2 avg	1.7E-10	1.8E-13	1.7E-11	NA	9.8E-16	NA	1.1E-10
OCDF	E2 avg	5.6E-08	1 6E-12	5 8E-12	NA	2.1E-15	NA	6.4E-09
Tetrachlorobiphenyl	E2 avg	6.5E-10	1.7E-10	1.1E-09	NA	2.0E-13	NA	2.5E-09
Hexachlorobiphenyl	E2 avg	1.2E-09	2.7E-11	9.6E-08	NA	1.6E-13	NA	1.6E-09
Heptachlorobiphenyl	E2 avg	3.8E-08	1.6E-10	3.7E-08	NA	1.9E-13	NA	5.0E-08
Benzo(a)pyrene	E2 avg	4.2E-06	3.8E-11	1.7E-07	NA	2.9E-12	NA	3.2E-06
Benzo(b)fluoranthene	E2 avg	2.0E-06	1.7E-09	7.6E-07	NA	1 2E-11	NA	1.9E-06
Bis(2-ethylhexyl)phthalate	E2 avg	2.3E-03	3.4E-11	1.2E-07	NA	5.9E-12	NA	2.6E-04
Carbon tetrachloride	E2 avg	3.6E-07	1.3E-07	1.8E-09	NA	5.8E-11	NA	1.1E-10
Dibenz(a,h)anthracene	E2 avg	6.0E-09	4.7E-10	8.1E-06	NA	6.0E-12	NA	3.3E-07
Di(n)octyl phthalate	E2 avg	1.1E-05	3.2E-08	2.0E-08	NA	3 2E-13	NA	7.1E-04
Heptachlor	E2 avg	2.0E-09	1.6E-11	3.0E-09	NA	6.1E-15	NA	2.0E-09
Hexachlorobenzene	E2 avg	1.1E-08	1.5E-07	1.8E-05	NA	3.3E-11	NA	9.3E-09
Hexachlorobutadiene	E2 avg	1.1E-08	4.6E-08	1.2E-06	NA	3.9E-11	NA	1.4E-09
Hexachlorocyclopentadiene	E2 avg	1.9E-10	2.2E-09	1.4E-09	NA	5.5E-13	NA	8.8E-11
Hexachlorophene	E2 avg	3.4E-08	1.1E-07	1 4E-07	NA	2.8E-11	NA	1.3E-05
Indeno(1,2,3-cd)pyrene	E2 avg	6.0E-09	5.1E-10	1 0E-05	NA	6.5E-12	NA	3.0E-07
Antimony	E2 avg	1.3E-08	5.1E-12	1.0E-11	NA	1.0E-11	NA	1.4E-09
Arsenic	E2 avg	5.8E-08	5.0E-12	9.4E-09	NA	2.1E-10	NA	2.3E-08
Barium	E2 avg	4.3E-07	8.1E-11	1.8E-09	NA	4.4E-10	NA	7.5E-09
Beryllium	E2 avg	3.0E-11	3.0E-16	4.9E-12	NA	2 5E-13	NA	1.1E-11
Cadmium	E2 avg	2.9E-08	2.4E-11	2.4E-08	NA	1.1E-11	NA	7.8E-10
Chromium (hexavalent)	E2 avg	5.9E-10	1.5E-14	8.8E-11	NA	5.5E-12	NA	1 3E-09
Lead	E2 avg	8.1E-08	1.9E-11	5.3E-08	NA	3 3E-10	NA	4.7E-09
Mercury	E2 avg	5.0E-05	4 3E-09	2.2E-05	NA	5 9E-09	NA	9.3E-08
Mercury (methyl BCF)	E2 avg	5.0E-05	4.3E-09	1 3E-04	NA	5.9E-09	NA	9 3E-08
Nickel	E2 avg	9.7E-09	4 2E-13	1 6E-09	NA	2 6E-11	NA	9 6E-09
Selenium	E2 avg	5.9E-07	1.1E-10	2 4E-07	NA	3 1E-09	NA	4 4E-07
Silver	E2 avg	8.5E-08	6 0E-11	1.8E-11	NA	3 6E-11	NA	1 8E-08
Thallium	E2 avg	2 2E-08	3 7E-14	3 3E-08	NA	2 7E-10	NA	4 9E-07
Zinc	E2 avg	2.2E-06	5.0E-10	1 1E-07	NA	2 6E-10	NA	9 8E-09

TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	E3 avg	2.1E-12	2.9E-15	4.6E-13	NA	2 7E-17	NA	5 4E-12
1,2,3,7,8-PeCDD	E3 avg	3.9E-11	1.2E-14	2.1E-12	NA	1.2E-16	NA	9.2E-11
1,2,3,4,7,8-HxCDD	E3 avg	5.4E-11	6.5E-15	3.2E-12	NA	3.0E-17	NA	6 2E-11
1,2,3,6,7,8-HxCDD	E3 avg	1.5E-11	1.5E-14	3.9E-12	NA	1.1E-16	NA	1.6E-11
1,2,3,7,8,9-HxCDD	E3 avg	1.7E-11	9.6E-15	2.4E-12	NA	7.3E-17	NA	2.2E-11
1,2,3,4,6,7,8-HpCDD	E3 avg	8.8E-10	6.4E-14	5.6E-12	NA	1.6E-16	NA	1.8E-10
OCDD	E3 avg	1.1E-07	4.2E-13	4.2E-13	NA	2.5E-15	NA	3.3E-08
2,3,7,8-TCDF	E3 avg	3.2E-11	2.9E-14	3.5E-12	NA	2.7E-16	NA	1 7E-11
1,2,3,7,8-PeCDF	E3 avg	1.9E-10	7.3E-14	1.6E-11	NA	6.9E-16	NA	8.0E-11
2,3,4,7,8-PeCDF	E3 avg	2.6E-10	7.9E-14	2.4E-11	NA	7.3E-16	NA	4 6E-10
1,2,3,4,7,8-HxCDF	E3 avg	1.8E-10	1.4E-13	3.5E-11	NA	1.0E-15	NA	2.5E-10
1,2,3,6,7,8-HxCDF	E3 avg	4.0E-10	1.3E-13	3 3E-11	NA	9.7E-16	NA	4.7E-10
1,2,3,7,8,9-HxCDF	E3 avg	9.1E-11	3.1E-14	7 8E-12	NA	2.3E-16	NA	1.1E-10
2,3,4,6,7,8-HxCDF	E3 avg	2.9E-10	1.5E-13	3.7E-11	NA	1.1E-15	NA	3.1E-10
1,2,3,4,6,7,8-HpCDF	E3 avg	9.5E-10	6 0E-13	4 0E-11	NA	2.4E-15	NA	2.4E-10
1,2,3,4,7,8,9-HpCDF	E3 avg	7.3E-11	7.6E-14	5 1E-12	NA	3 0E-16	NA	4.7E-11
OCDF	E3 avg	2.4E-08	6.8E-13	1.7E-12	NA	6 4E-16	NA	2.7E-09
Tetrachlorobiphenyl	E3 avg	2.8E-10	7.4E-11	3.2E-10	NA	5 9E-14	NA	1.1E-09
Hexachlorobiphenyl	E3 avg	5.1E-10	1 2E-11	2.9E-08	NA	4.8E-14	NA	6.9E-10
Heptachlorobiphenyl	E3 avg	1.6E-08	7.0E-11	1.1E-08	NA	5.7E-14	NA	2.1E-08
Benzo(a)pyrene	E3 avg	1.8E-06	1.6E-11	5.2E-08	NA	9.2E-13	NA	1.4E-06
Benzo(b)fluoranthene	E3 avg	8.7E-07	7.1E-10	2 3E-07	NA	3.6E-12	NA	8.0E-07
Bis(2-ethylhexyl)phthalate	E3 avg	9.9E-04	1.5E-11	4.0E-08	NA	2.0E-12	NA	1.1E-04
Carbon tetrachloride	E3 avg	1.5E-07	5.7E-08	5 3E-10	NA	1.7E-11	NA	4.8E-11
Dibenz(a,h)anthracene	E3 avg	2.5E-09	2.0E-10	2.5E-06	NA	1.9E-12	NA	1 4E-07
Di(n)octyl phthalate	E3 avg	4.6E-06	1.4E-08	6 0E-09	NA	9.6E-14	NA	3 1E-04
Heptachlor	E3 avg	8.4E-10	6.9E-12	9.1E-10	NA	1.8E-15	NA	8.8E-10
Hexachlorobenzene	E3 avg	4.7E-09	6.6E-08	5.4E-06	NA	9.9E-12	NA	4.0E-09
Hexachlorobutadiene	E3 avg	4.6E-09	2 0E-08	3.7E-07	NA	1.2E-11	NA	5 9E-10
Hexachlorocyclopentadiene	E3 avg	8.0E-11	9.4E-10	4.3E-10	NA	1 6E-13	NA	3 8E-11
Hexachlorophene	E3 avg	1.5E-08	4.7E-08	4 4E-08	NA	8.8E-12	NA	5.7E-06
Indeno(1,2,3-cd)pyrene	E3 avg	2.6E-09	2.2E-10	3.2E-06	NA	2 0E-12	NA	1.3E-07
Antimony	E3 avg	6.1E-09	2.3E-12	3 2E-12	NA	3.2E-12	NA	6.5E-10
Arsenic	E3 avg	2.7E-08	2.3E-12	3 0E-09	NA	6.8E-11	NA	1.1E-08
Barium	E3 avg	2.0E-07	3.7E-11	5 7E-10	NA	1 4E-10	NA	3.4E-09
Beryllium	E3 avg	1.4E-11	1.4E-16	1.6E-12	NA	7.8E-14	NA	5 0E-12
Cadmium	E3 avg	1.3E-08	1.1E-11	7.9E-09	NA	3.6E-12	NA	3.5E-10
Chromium (hexavalent)	E3 avg	2.7E-10	6 9E-15	2 8E-11	NA	1.7E-12	NA	6 1E-10
Lead	E3 avg	3.7E-08	8.8E-12	1 7E-08	NA	1 1E-10	NA	2 2E-09
Mercury	E3 avg	2.2E-05	1.9E-09	6 7E-06	NA	1 8E-09	NA	4.0E-08
Mercury (methyl BCF)	E3 avg	2.2E-05	1.9E-09	3 8E-05	NA	1 8E-09	NA	4 0E-08
Nickel	E3 avg	4 5E-09	1 9E-13	5 0E-10	NA	8 1E-12	NA	4 4E-09
Selenium	E3 avg	2.7E-07	5 2E-11	7.6E-08	NA	9 7E-10	NA	2 0E-07
Silver	E3 avg	3.9E-08	2 8E-11	5 7E-12	NA	1 1E-11	NA	8 1E-09
Thallium	E3 avg	9 9E-09	1 7E-14	1 0E-08	NA	8 7E-11	NA	2 2E-07
Zinc	E3 avg	1.0E-06	2.3E-10	3 6E-08	NA	8 4E-11	NA	4 5E-09

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TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	N1 avg	5.0E-12	7.5E-15	NA	NA	NA	NA	1.3E-11
1,2,3,7,8-PeCDD	N1 avg	9.0E-11	3.8E-14	NA	NA	NA	NA	2.2E-10
1,2,3,4,7,8-HxCDD	N1 avg	1.2E-10	2.3E-14	NA	NA	NA	NA	1.5E-10
1,2,3,6,7,8-HxCDD	N1 avg	3.4E-11	5.7E-14	NA	NA	NA	NA	3.9E-11
1,2,3,7,8,9-HxCDD	N1 avg	3.9E-11	3.7E-14	NA	NA	NA	NA	5.4E-11
1,2,3,4,6,7,8-HpCDD	N1 avg	2.0E-09	2 4E-13	NA	NA	NA	NA	4.2E-10
OCDD	N1 avg	2.6E-07	1.6E-12	NA	NA	NA	NA	7.7E-08
2,3,7,8-TCDF	N1 avg	7.4E-11	7.1E-14	NA	NA	NA	NA	4.0E-11
1,2,3,7,8-PeCDF	N1 avg	4.5E-10	2.0E-13	NA	NA	NA	NA	1.9E-10
2,3,4,7,8-PeCDF	N1 avg	6.1E-10	2.4E-13	NA	NA	NA	NA	1.1E-09
1,2,3,4,7,8-HxCDF	N1 avg	4.1E-10	5.0E-13	NA	NA	NA	NA	6.1E-10
1,2,3,6,7,8-HxCDF	N1 avg	9.4E-10	4.7E-13	NA	NA	NA	NA	1.1E-09
1,2,3,7,8,9-HxCDF	N1 avg	2.1E-10	1.1E-13	NA	NA	NA	NA	2.5E-10
2,3,4,6,7,8-HxCDF	N1 avg	6.8E-10	5.3E-13	NA	NA	NA	NA	7.3E-10
1,2,3,4,6,7,8-HpCDF	N1 avg	2.2E-09	2.2E-12	NA	NA	NA	NA	5.9E-10
1,2,3,4,7,8,9-HpCDF	N1 avg	1.7E-10	2.9E-13	NA	NA	NA	NA	1.2E-10
OCDF	N1 avg	5.6E-08	2.7E-12	NA	NA	NA	NA	6.4E-09
Tetrachlorobiphenyl	N1 avg	6.6E-10	1.8E-10	NA	NA	NA	NA	2.5E-09
Hexachlorobiphenyl	N1 avg	1.2E-09	2.7E-11	NA	NA	NA	NA	1.6E-09
Heptachlorobiphenyl	N1 avg	3.8E-08	1.6E-10	NA	NA	NA	NA	5.0E-08
Benzo(a)pyrene	N1 avg	4.2E-06	4.8E-11	NA	NA	NA	NA	3.2E-06
Benzo(b)fluoranthene	N1 avg	2.0E-06	1.7E-09	NA	NA	NA	NA	1.9E-06
Bis(2-ethylhexyl)phthalate	N1 avg	2.3E-03	4.6E-11	NA	NA	NA	NA	2.6E-04
Carbon tetrachloride	N1 avg	3.6E-07	1.3E-07	NA	NA	NA	NA	1.1E-10
Dibenz(a,h)anthracene	N1 avg	9.5E-09	7.9E-10	NA	NA	NA	NA	5.2E-07
Di(n)octyl phthalate	N1 avg	1.1E-05	3.2E-08	NA	NA	NA	NA	7.1E-04
Heptachlor	N1 avg	2.0E-09	1.6E-11	NA	NA	NA	NA	2.0E-09
Hexachlorobenzene	N1 avg	1.1E-08	1.5E-07	NA	NA	NA	NA	9.3E-09
Hexachlorobutadiene	N1 avg	1.1E-08	4.6E-08	NA	NA	NA	NA	1.4E-09
Hexachlorocyclopentadiene	N1 avg	1.9E-10	2.2E-09	NA	NA	NA	NA	8.8E-11
Hexachlorophene	N1 avg	5.4E-08	1.9E-07	NA	NA	NA	NA	2.1E-05
Indeno(1,2,3-cd)pyrene	N1 avg	9.5E-09	8.7E-10	NA	NA	NA	NA	4.8E-07
Antimony	N1 avg	2.2E-08	8.4E-12	NA	NA	NA	NA	2.2E-09
Arsenic	N1 avg	9.4E-08	8.3E-12	NA	NA	NA	NA	3.6E-08
Barium	N1 avg	7.1E-07	1.3E-10	NA	NA	NA	NA	1.2E-08
Beryllium	N1 avg	4.7E-11	4.9E-16	NA	NA	NA	NA	1.7E-11
Cadmium	N1 avg	4.7E-08	4.0E-11	NA	NA	NA	NA	1.2E-09
Chromium (hexavalent)	N1 avg	9.3E-10	2.5E-14	NA	NA	NA	NA	2.1E-09
Lead	N1 avg	1.3E-07	3.1E-11	NA	NA	NA	NA	7.5E-09
Mercury	N1 avg	5.0E-05	4.3E-09	NA	NA	NA	NA	9 3E-08
Mercury (methyl BCF)	N1 avg	5.0E-05	4.3E-09	NA	NA	NA	NA	9.3E-08
Nickel	N1 avg	1.6E-08	6.9E-13	NA	NA	NA	NA	1 5E-08
Selenium	N1 avg	9.5E-07	1.9E-10	NA	NA	NA	NA	6.9E-07
Silver	N1 avg	1.4E-07	1.0E-10	NA	NA	NA	NA	2 8E-08
Thallium	N1 avg	3.4E-08	6 1E-14	NA	NA	NA	NA	7 7E-07
Zinc	N1 avg	3 6E-06	8.3E-10	NA	NA	NA	NA	1 6E-08

TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	N2 avg	2.0E-12	2.8E-15	2 4E-12	NA	1.4E-16	NA	4 9E-12
1,2,3,7,8-PeCDD	N2 avg	3 5E-11	1.3E-14	1.1E-11	NA	6 7E-16	NA	8 5E-11
1,2,3,4,7,8-HxCDD	N2 avg	4 9E-11	7.5E-15	6.2E-12	NA	5 8E-17	NA	5.7E-11
1,2,3,6,7,8-HxCDD	N2 avg	1.3E-11	1.8E-14	1.1E-11	NA	3 1E-16	NA	1.5E-11
1,2,3,7,8,9-HxCDD	N2 avg	1.5E-11	1.2E-14	6 8E-12	NA	2.0E-16	NA	2.1E-11
1,2,3,4,6,7,8-HpCDD	N2 avg	8.0E-10	7.7E-14	1.0E-11	NA	2.9E-16	NA	1.7E-10
OCDD	N2 avg	1.0E-07	5.1E-13	9 5E-13	NA	5.7E-15	NA	3.0E-08
2,3,7,8-TCDF	N2 avg	2.9E-11	2.7E-14	2.1E-11	NA	1.6E-15	NA	1.6E-11
1,2,3,7,8-PeCDF	N2 avg	1.8E-10	7.3E-14	7.1E-11	NA	3.0E-15	NA	7.4E-11
2,3,4,7,8-PeCDF	N2 avg	2.4E-10	8 3E-14	8 8E-11	NA	2.7E-15	NA	4.2E-10
1,2,3,4,7,8-HxCDF	N2 avg	1.6E-10	1.6E-13	9.4E-11	NA	2.8E-15	NA	2.3E-10
1,2,3,6,7,8-HxCDF	N2 avg	3.7E-10	1.5E-13	8.8E-11	NA	2.6E-15	NA	4.3E-10
1,2,3,7,8,9-HxCDF	N2 avg	8.4E-11	3.5E-14	2.1E-11	NA	6.1E-16	NA	9.8E-11
2,3,4,6,7,8-HxCDF	N2 avg	2.7E-10	1.7E-13	1.0E-10	NA	3.0E-15	NA	2.8E-10
1,2,3,4,6,7,8-HpCDF	N2 avg	8.7E-10	7.1E-13	7.7E-11	NA	4.5E-15	NA	2.2E-10
1,2,3,4,7,8,9-HpCDF	N2 avg	6.7E-11	9.1E-14	9 8E-12	NA	5.7E-16	NA	4.5E-11
OCDF	N2 avg	2.2E-08	8.3E-13	3.0E-12	NA	1.1E-15	NA	2.5E-09
Tetrachlorobiphenyl	N2 avg	2.6E-10	6.9E-11	6.9E-09	NA	1 3E-12	NA	9.8E-10
Hexachlorobiphenyl	N2 avg	4.6E-10	1.1E-11	1.3E-07	NA	2.1E-13	NA	6.3E-10
Heptachlorobiphenyl	N2 avg	1.5E-08	6.4E-11	8.3E-08	NA	4 2E-13	NA	1.9E-08
Benzo(a)pyrene	N2 avg	1.7E-06	1.7E-11	1.6E-07	NA	2.8E-12	NA	1.3E-06
Benzo(b)fluoranthene	N2 avg	8.0E-07	6 5E-10	2.8E-06	NA	4.5E-11	NA	7.3E-07
Bis(2-ethylhexyl)phthalate	N2 avg	9.1E-04	1.6E-11	3 3E-08	NA	1 7E-12	NA	1.0E-04
Carbon tetrachloride	N2 avg	1.4E-07	5.3E-08	1 3E-08	NA	4 4E-10	NA	4.4E-11
Dibenz(a,h)anthracene	N2 avg	3.0E-09	2.5E-10	1 6E-05	NA	1 2E-11	NA	1.6E-07
Di(n)octyl phthalate	N2 avg	4.2E-06	1.2E-08	1.4E-07	NA	2.3E-12	NA	2.8E-04
Heptachlor	N2 avg	7.7E-10	6.3E-12	2.2E-08	NA	4.3E-14	NA	8.0E-10
Hexachlorobenzene	N2 avg	4.3E-09	6.0E-08	1.3E-04	NA	2 4E-10	NA	3.6E-09
Hexachlorobutadiene	N2 avg	4.2E-09	1.8E-08	9 2E-06	NA	2 9E-10	NA	5.4E-10
Hexachlorocyclopentadiene	N2 avg	7.3E-11	8.6E-10	1.1E-08	NA	4.1E-12	NA	3.5E-11
Hexachlorophene	N2 avg	1.7E-08	5.8E-08	7.3E-07	NA	1.4E-10	NA	6.7E-06
Indeno(1,2,3-cd)pyrene	N2 avg	3.0E-09	2.7E-10	2.1E-05	NA	1 4E-11	NA	1.5E-07
Antimony	N2 avg	6 9E-09	2.7E-12	8.7E-11	NA	8.7E-11	NA	7.1E-10
Arsenic	N2 avg	3.0E-08	2.6E-12	8.7E-08	NA	2 0E-09	NA	1.2E-08
Barium	N2 avg	2 3E-07	4.3E-11	1.6E-08	NA	4.0E-09	NA	3 8E-09
Beryllium	N2 avg	1.5E-11	1.6E-16	4.6E-11	NA	2.3E-12	NA	5 5E-12
Cadmium	N2 avg	1 5E-08	1.3E-11	1.4E-07	NA	6 4E-11	NA	3.9E-10
Chromium (hexavalent)	N2 avg	3 0E-10	7.9E-15	8 1E-10	NA	5.0E-11	NA	6.7E-10
Lead	N2 avg	4 2E-08	1.0E-11	4.9E-07	NA	3 1E-09	NA	2 4E-09
Mercury	N2 avg	2.0E-05	1.7E-09	1 7E-04	NA	4 5E-08	NA	3.7E-08
Mercury (methyl BCF)	N2 avg	2 0E-05	1.7E-09	9.6E-04	NA	4 5E-08	NA	3 7E-08
Nickel	N2 avg	5 0E-09	2 2E-13	1 5E-08	NA	2 4E-10	NA	4 8E-09
Selenium	N2 avg	3.0E-07	6.0E-11	2 2E-06	NA	2 9E-08	NA	2 2E-07
Silver	N2 avg	4.5E-08	3.2E-11	1 6E-10	NA	3 1E-10	NA	9 0E-09
Thallium	N2 avg	1.1E-08	1 9E-14	3 0E-07	NA	2 5E-09	NA	2 5E-07
Zinc	N2 avg	1.1E-06	2 6E-10	9.7E-07	NA	2 2E-09	NA	5 0E-09

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TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	N3 avg	8.5E-13	1.2E-15	NA	NA	NA	NA	2.2E-12
1,2,3,7,8-PeCDD	N3 avg	1.5E-11	6.0E-15	NA	NA	NA	NA	3.7E-11
1,2,3,4,7,8-HxCDD	N3 avg	2.1E-11	3.5E-15	NA	NA	NA	NA	2.5E-11
1,2,3,6,7,8-HxCDD	N3 avg	5.8E-12	8.5E-15	NA	NA	NA	NA	6.5E-12
1,2,3,7,8,9-HxCDD	N3 avg	6.6E-12	5.4E-15	NA	NA	NA	NA	9.1E-12
1,2,3,4,6,7,8-HpCDD	N3 avg	3.5E-10	3.6E-14	NA	NA	NA	NA	7.3E-11
OCDD	N3 avg	4.5E-08	2.4E-13	NA	NA	NA	NA	1.3E-08
2,3,7,8-TCDF	N3 avg	1.3E-11	1.2E-14	NA	NA	NA	NA	6 8E-12
1,2,3,7,8-PeCDF	N3 avg	7.7E-11	3.3E-14	NA	NA	NA	NA	3.2E-11
2,3,4,7,8-PeCDF	N3 avg	1.0E-10	3.7E-14	NA	NA	NA	NA	1.8E-10
1,2,3,4,7,8-HxCDF	N3 avg	7.0E-11	7.5E-14	NA	NA	NA	NA	1.0E-10
1,2,3,6,7,8-HxCDF	N3 avg	1.6E-10	7.0E-14	NA	NA	NA	NA	1.9E-10
1,2,3,7,8,9-HxCDF	N3 avg	3.7E-11	1.6E-14	NA	NA	NA	NA	4.3E-11
2,3,4,6,7,8-HxCDF	N3 avg	1.2E-10	8 0E-14	NA	NA	NA	NA	1.2E-10
1 2,3,4,6,7,8-HpCDF	N3 avg	3.8E-10	3.3E-13	NA	NA	NA	NA	9.8E-11
1,2,3,4,7,8,9-HpCDF	N3 avg	2.9E-11	4.3E-14	NA	NA	NA	NA	2.0E-11
OCDF	N3 avg	9.6E-09	3.9E-13	NA	NA	NA	NA	1.1E-09
Tetrachlorobiphenyl	N3 avg	1.1E-10	3.0E-11	NA	NA	NA	NA	4.3E-10
Hexachlorobiphenyl	N3 avg	2 0E-10	4.7E-12	NA	NA	NA	NA	2.8E-10
Heptachlorobiphenyl	N3 avg	6.5E-09	2.8E-11	NA	NA	NA	NA	8.5E-09
Benzo(a)pyrene	N3 avg	7.2E-07	7.6E-12	NA	NA	NA	NA	5.5E-07
Benzo(b)fluoranthene	N3 avg	3.5E-07	2.8E-10	NA	NA	NA	NA	3.2E-07
Bis(2-ethylhexyl)phthalate	N3 avg	4.0E-04	7.1E-12	NA	NA	NA	NA	4.5E-05
Carbon tetrachloride	N3 avg	6.2E-08	2 3E-08	NA	NA	NA	NA	1.9E-11
Dibenz(a,h)anthracene	N3 avg	1.4E-09	1.2E-10	NA	NA	NA	NA	7.7E-08
Di(n)octyl phthalate	N3 avg	1.9E-06	5.5E-09	NA	NA	NA	NA	1.2E-04
Heptachlor	N3 avg	3.3E-10	2.8E-12	NA	NA	NA	NA	3.5E-10
Hexachlorobenzene	N3 avg	1.9E-09	2.6E-08	NA	NA	NA	NA	1.6E-09
Hexachlorobutadiene	N3 avg	1.8E-09	7.9E-09	NA	NA	NA	NA	2.4E-10
Hexachlorocyclopentadiene	N3 avg	3.2E-11	3.8E-10	NA	NA	NA	NA	1.5E-11
Hexachlorophene	N3 avg	8.0E-09	2.7E-08	NA	NA	NA	NA	3.1E-06
Indeno(1,2,3-cd)pyrene	N3 avg	1.4E-09	1.3E-10	NA	NA	NA	NA	7.1E-08
Antimony	N3 avg	3.6E-09	1.4E-12	NA	NA	NA	NA	3 7E-10
Arsenic	N3 avg	1.6E-08	1.4E-12	NA	NA	NA	NA	6.0E-09
Barium	N3 avg	1.2E-07	2.2E-11	NA	NA	NA	NA	1 9E-09
Beryllium	N3 avg	7.8E-12	8.2E-17	NA	NA	NA	NA	2.9E-12
Cadmium	N3 avg	7.9E-09	6.8E-12	NA	NA	NA	NA	2 0E-10
Chromium (hexavalent)	N3 avg	1.6E-10	4.1E-15	NA	NA	NA	NA	3 5E-10
Lead	N3 avg	2 2E-08	5 3E-12	NA	NA	NA	NA	1 2E-09
Mercury	N3 avg	8.6E-06	7 1E-10	NA	NA	NA	NA	1 6E-08
Mercury (methyl BCF)	N3 avg	8 6E-06	7.4E-10	NA	NA	NA	NA	1 6E-08
Nickel	N3 avg	2 6E-09	1.2E-13	NA	NA	NA	NA	2 5E-09
Selenium	N3 avg	1.6E-07	3.1E-11	NA	NA	NA	NA	1 2E-07
Silver	N3 avg	2 3E-08	1.7E-11	NA	NA	NA	NA	4 7E-09
Thallium	N3 avg	5 6E-09	1.0E-14	NA	NA	NA	NA	1 3E-07
Zinc	N3 avg	6.0E-07	1 4E-10	NA	NA	NA	NA	2 6E-09

TABLE 1· Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	S1 avg	5.0E-12	6.9E-15	5 1E-12	NA	3.0E-16	NA	1.3E-11
1,2,3,7,8-PeCDD	S1 avg	9.0E-11	3.2E-14	2.4E-11	NA	1 4E-15	NA	2.1E-10
1,2,3,4,7,8-HxCDD	S1 avg	1.2E-10	1 7E-14	4 0E-11	NA	3 8E-16	NA	1.4E-10
1,2,3,6,7,8-HxCDD	S1 avg	3.4E-11	4.2E-14	5.0E-11	NA	1.5E-15	NA	3.7E-11
1,2,3,7,8,9-HxCDD	S1 avg	3.9E-11	2.6E-14	3.2E-11	NA	9.6E-16	NA	5.2E-11
1,2,3,4,6,7,8-HpCDD	S1 avg	2.0E-09	1 8E-13	7.3E-11	NA	2.1E-15	NA	4.2E-10
OCDD	S1 avg	2.6E-07	1.2E-12	5.6E-12	NA	3.4E-14	NA	7.7E-08
2,3,7,8-TCDF	S1 avg	7.4E-11	6.8E-14	3.8E-11	NA	2.9E-15	NA	4.0E-11
1,2,3,7,8-PeCDF	S1 avg	4.5E-10	1.8E-13	1.9E-10	NA	7.8E-15	NA	1.9E-10
2,3,4,7,8-PeCDF	S1 avg	6.0E-10	2.0E-13	2.8E-10	NA	8.6E-15	NA	1.1E-09
1,2,3,4,7,8-HxCDF	S1 avg	4.1E-10	3.7E-13	4.5E-10	NA	1.3E-14	NA	5.9E-10
1,2,3,6,7,8-HxCDF	S1 avg	9.4E-10	3.5E-13	4.2E-10	NA	1.2E-14	NA	1.1E-09
1,2,3,7,8,9-HxCDF	S1 avg	2.1E-10	8.3E-14	9.8E-11	NA	2.9E-15	NA	2.5E-10
2,3,4,6,7,8-HxCDF	S1 avg	6.8E-10	4.0E-13	4.7E-10	NA	1.4E-14	NA	7.2E-10
1,2,3,4,6,7,8-HpCDF	S1 avg	2 2E-09	1.6E-12	5.2E-10	NA	3 1E-14	NA	5.6E-10
1,2,3,4,7,8,9-HpCDF	S1 avg	1.7E-10	2.1E-13	6 7E-11	NA	3 9E-15	NA	1.1E-10
OCDF	S1 avg	5 6E-08	1 9E-12	2.3E-11	NA	8.5E-15	NA	6.4E-09
Tetrachlorobiphenyl	S1 avg	6.6E-10	1 7E-10	3.4E-09	NA	6.2E-13	NA	2.5E-09
Hexachlorobiphenyl	S1 avg	1.2E-09	2.7E-11	3.0E-07	NA	5.1E-13	NA	1.6E-09
Heptachlorobiphenyl	S1 avg	3.8E-08	1.6E-10	1.2E-07	NA	5.9E-13	NA	5.0E-08
Benzo(a)pyrene	S1 avg	4.2E-06	4.1E-11	5.5E-07	NA	9.7E-12	NA	3.2E-06
Benzo(b)fluoranthene	S1 avg	2.0E-06	1.7E-09	2.4E-06	NA	3 8E-11	NA	1.9E-06
Bis(2-ethylhexyl)phthalate	S1 avg	2.3E-03	3.7E-11	3.7E-07	NA	1.8E-11	NA	2.6E-04
Carbon tetrachloride	S1 avg	3.6E-07	1.3E-07	5.5E-09	NA	1.8E-10	NA	1.1E-10
Dibenz(a,h)anthracene	S1 avg	6.9E-09	5.6E-10	2.2E-05	NA	1 6E-11	NA	3.8E-07
Di(n)octyl phthalate	S1 avg	1.1E-05	3.2E-08	6.3E-08	NA	1.0E-12	NA	7.1E-04
Heptachlor	S1 avg	2 0E-09	1.6E-11	9 6E-09	NA	1.9E-14	NA	2.0E-09
Hexachlorobenzene	S1 avg	1.1E-08	1.5E-07	5.7E-05	NA	1.0E-10	NA	9.3E-09
Hexachlorobutadiene	S1 avg	1 1E-08	4.6E-08	3.9E-06	NA	1.2E-10	NA	1.4E-09
Hexachlorocyclopentadiene	S1 avg	1.9E-10	2.2E-09	4.5E-09	NA	1.7E-12	NA	8.8E-11
Hexachlorophene	S1 avg	3.9E-08	1.3E-07	4.9E-07	NA	9.8E-11	NA	1.5E-05
Indeno(1,2,3-cd)pyrene	S1 avg	6 9E-09	6.1E-10	2.8E-05	NA	1.8E-11	NA	3.5E-07
Antimony	S1 avg	1.6E-08	6.3E-12	3 9E-11	NA	3.9E-11	NA	1.7E-09
Arsenic	S1 avg	7.1E-08	6.2E-12	3.8E-08	NA	8.5E-10	NA	2.8E-08
Barium	S1 avg	5.4E-07	1 0E-10	7 0E-09	NA	1.8E-09	NA	9.0E-09
Beryllium	S1 avg	3 6E-11	3.7E-16	2 0E-11	NA	1 0E-12	NA	1 3E-11
Cadmium	S1 avg	3.6E-08	3.0E-11	8 2E-08	NA	3 7E-11	NA	9 3E-10
Chromium (hexavalent)	S1 avg	7.1E-10	1 9E-14	3 5E-10	NA	2.2E-11	NA	1 6E-09
Lead	S1 avg	9 9E-08	2 4E-11	2 2E-07	NA	1 3E-09	NA	5 7E-09
Mercury	S1 avg	5 0E-05	4 3E-09	7 0E-05	NA	1 9E-08	NA	9 3E-08
Mercury (methyl BCF)	S1 avg	5.0E-05	4.3E-09	4 0E-04	NA	1 9E-08	NA	9 3E-08
Nickel	S1 avg	1 2E-08	5.2E-13	6 3E-09	NA	1 0E-10	NA	1 1E-08
Selenium	S1 avg	7.2E-07	1 4E-10	9 6E-07	NA	1 2E-08	NA	5 3E-07
Silver	S1 avg	1.1E-07	7.5E-11	7.0E-11	NA	1 4E-10	NA	2 1E-08
Thallium	S1 avg	2 6E-08	4 6E-14	1 3E-07	NA	1 1E-09	NA	5 9E-07
Zinc	S1 avg	2.7E-06	6.2E-10	4 4E-07	NA	1 0E-09	NA	1 2E-08

TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	S2 avg	2.3E-12	2.9E-15	NA	NA	NA	NA	5 9E-12
1,2,3,7,8-PeCDD	S2 avg	4.2E-11	1.2E-14	NA	NA	NA	NA	1.0E-10
1,2,3,4,7,8-HxCDD	S2 avg	5 9E-11	5.2E-15	NA	NA	NA	NA	6.8E-11
1,2,3,6,7,8-HxCDD	S2 avg	1.6E-11	1.2E-14	NA	NA	NA	NA	1 7E-11
1,2,3,7,8,9-HxCDD	S2 avg	1.8E-11	7.1E-15	NA	NA	NA	NA	2 4E-11
1,2,3,4,6,7,8-HpCDD	S2 avg	9.6E-10	4.7E-14	NA	NA	NA	NA	2.0E-10
OCDD	S2 avg	1.2E-07	3 0E-13	NA	NA	NA	NA	3 6E-08
2,3,7,8-TCDF	S2 avg	3.5E-11	3.0E-14	NA	NA	NA	NA	1.9E-11
1,2,3,7,8-PeCDF	S2 avg	2.1E-10	7.2E-14	NA	NA	NA	NA	8 8E-11
2,3,4,7,8-PeCDF	S2 avg	2.9E-10	7.5E-14	NA	NA	NA	NA	5.0E-10
1,2,3,4,7,8-HxCDF	S2 avg	1.9E-10	1.1E-13	NA	NA	NA	NA	2.7E-10
1,2,3,6,7,8-HxCDF	S2 avg	4.4E-10	1.0E-13	NA	NA	NA	NA	5.1E-10
1,2,3,7,8,9-HxCDF	S2 avg	1.0E-10	2 6E-14	NA	NA	NA	NA	1.2E-10
2,3,4,6,7,8-HxCDF	S2 avg	3.2E-10	1.2E-13	NA	NA	NA	NA	3.3E-10
1,2,3,4,6,7,8-HpCDF	S2 avg	1.0E-09	4.6E-13	NA	NA	NA	NA	2.5E-10
1,2,3,4,7,8,9-HpCDF	S2 avg	8.0E-11	5.7E-14	NA	NA	NA	NA	4 9E-11
OCDF	S2 avg	2 6E-08	4.9E-13	NA	NA	NA	NA	3.0E-09
Tetrachlorobiphenyl	S2 avg	3.1E-10	8.1E-11	NA	NA	NA	NA	1.2E-09
Hexachlorobiphenyl	S2 avg	5.6E-10	1.3E-11	NA	NA	NA	NA	7.6E-10
Heptachlorobiphenyl	S2 avg	1.8E-08	7.6E-11	NA	NA	NA	NA	2.3E-08
Benzo(a)pyrene	S2 avg	2.0E-06	1.6E-11	NA	NA	NA	NA	1.5E-06
Benzo(b)fluoranthene	S2 avg	9 6E-07	7.8E-10	NA	NA	NA	NA	8.8E-07
Bis(2-ethylhexyl)phthalate	S2 avg	1.1E-03	1.3E-11	NA	NA	NA	NA	1.2E-04
Carbon tetrachloride	S2 avg	1.7E-07	6.3E-08	NA	NA	NA	NA	5.3E-11
Dibenz(a,h)anthracene	S2 avg	1.8E-09	1.4E-10	NA	NA	NA	NA	1.0E-07
Di(n)octyl phthalate	S2 avg	5.1E-06	1.5E-08	NA	NA	NA	NA	3 4E-04
Heptachlor	S2 avg	9.2E-10	7.6E-12	NA	NA	NA	NA	9.6E-10
Hexachlorobenzene	S2 avg	5.2E-09	7.2E-08	NA	NA	NA	NA	4.4E-09
Hexachlorobutadiene	S2 avg	5.0E-09	2.2E-08	NA	NA	NA	NA	6.5E-10
Hexachlorocyclopentadiene	S2 avg	8.8E-11	1.0E-09	NA	NA	NA	NA	4.1E-11
Hexachlorophene	S2 avg	1.1E-08	3.4E-08	NA	NA	NA	NA	4.1E-06
Indeno(1,2,3-cd)pyrene	S2 avg	1.8E-09	1.6E-10	NA	NA	NA	NA	9.3E-08
Antimony	S2 avg	4.1E-09	1.6E-12	NA	NA	NA	NA	4.4E-10
Arsenic	S2 avg	1.8E-08	1.5E-12	NA	NA	NA	NA	7.2E-09
Barium	S2 avg	1.3E-07	2.5E-11	NA	NA	NA	NA	2.3E-09
Beryllium	S2 avg	9.2E-12	9.2E-17	NA	NA	NA	NA	3.4E-12
Cadmium	S2 avg	9.0E-09	7.5E-12	NA	NA	NA	NA	2.4E-10
Chromium (hexavalent)	S2 avg	1.8E-10	4.6E-15	NA	NA	NA	NA	4.1E-10
Lead	S2 avg	2.5E-08	5.9E-12	NA	NA	NA	NA	1.5E-09
Mercury	S2 avg	2.4E-05	2.0E-09	NA	NA	NA	NA	4 4E-08
Mercury (methyl BCF)	S2 avg	2.4E-05	2.0E-09	NA	NA	NA	NA	4 4E-08
Nickel	S2 avg	3.0E-09	1 3E-13	NA	NA	NA	NA	3.0E-09
Selenium	S2 avg	1.8E-07	3.5E-11	NA	NA	NA	NA	1 4E-07
Silver	S2 avg	2.6E-08	1.9E-11	NA	NA	NA	NA	5 5E-09
Thallium	S2 avg	6.7E-09	1.1E-14	NA	NA	NA	NA	1 5E-07
Zinc	S2 avg	6 7E-07	1.5E-10	NA	NA	NA	NA	3 0E-09

TABLE 1: Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	S3 avg	1.0E-12	1.3E-15	NA	1.4E-12	NA	8 0E-17	2.6E-12
1,2,3,7,8-PeCDD	S3 avg	1 9E-11	5 2E-15	NA	5.5E-12	NA	3 3E-16	4 4E-11
1,2,3,4,7,8-HxCDD	S3 avg	2 6E-11	2.4E-15	NA	2.2E-12	NA	2.1E-17	3.0E-11
1,2,3,6,7,8-HxCDD	S3 avg	7.0E-12	5.3E-15	NA	3.7E-12	NA	1.1E-16	7.4E-12
1,2,3,7,8,9-HxCDD	S3 avg	8.0E-12	3.3E-15	NA	2.3E-12	NA	6.8E-17	1.1E-11
1,2,3,4,6,7,8-HpCDD	S3 avg	4.2E-10	2.2E-14	NA	3.3E-12	NA	9.6E-17	8.7E-11
OCDD	S3 avg	5.4E-08	1.4E-13	NA	3.1E-13	NA	1.8E-15	1.6E-08
2,3,7,8-TCDF	S3 avg	1.5E-11	1.3E-14	NA	1.3E-11	NA	9.8E-16	8.2E-12
1,2,3,7,8-PeCDF	S3 avg	9.3E-11	3.2E-14	NA	3.7E-11	NA	1.5E-15	3.9E-11
2,3,4,7,8-PeCDF	S3 avg	1.3E-10	3.4E-14	NA	4.2E-11	NA	1.3E-15	2.2E-10
1,2,3,4,7,8-HxCDF	S3 avg	8.5E-11	5.0E-14	NA	3.4E-11	NA	1.0E-15	1.2E-10
1,2,3,6,7,8-HxCDF	S3 avg	1.9E-10	4.7E-14	NA	3.2E-11	NA	9 6E-16	2.2E-10
1,2,3,7,8,9-HxCDF	S3 avg	4.4E-11	1.2E-14	NA	8.0E-12	NA	2.4E-16	5.1E-11
2,3,4,6,7,8-HxCDF	S3 avg	1.4E-10	5.3E-14	NA	3.7E-11	NA	1.1E-15	1.5E-10
1,2,3,4,6,7,8-HpCDF	S3 avg	4 6E-10	2.1E-13	NA	2.7E-11	NA	1.6E-15	1.1E-10
1,2,3,4,7,8,9-HpCDF	S3 avg	3.5E-11	2 6E-14	NA	3.3E-12	NA	1.9E-16	2.2E-11
OCDF	S3 avg	1.2E-08	2 3E-13	NA	9.5E-13	NA	3.5E-16	1.3E-09
Tetrachlorobiphenyl	S3 avg	1.4E-10	3 6E-11	NA	1.0E-08	NA	1.9E-12	5.1E-10
Hexachlorobiphenyl	S3 avg	2.5E-10	5 7E-12	NA	8.0E-08	NA	1.3E-13	3.3E-10
Heptachlorobiphenyl	S3 avg	7.9E-09	3.4E-11	NA	5.8E-08	NA	2.9E-13	1.0E-08
Benzo(a)pyrene	S3 avg	8.7E-07	7.0E-12	NA	1.0E-07	NA	1.8E-12	6.5E-07
Benzo(b)fluoranthene	S3 avg	4.2E-07	3.4E-10	NA	2.5E-06	NA	3.8E-11	3.9E-07
Bis(2-ethylhexyl)phthalate	S3 avg	4.8E-04	5.9E-12	NA	3.5E-08	NA	1.8E-12	5.5E-05
Carbon tetrachloride	S3 avg	7.4E-08	2 8E-08	NA	2.8E-08	NA	9.4E-10	2.3E-11
Dibenz(a,h)anthracene	S3 avg	8.5E-10	6 7E-11	NA	7.9E-06	NA	5.8E-12	4.7E-08
Di(n)octyl phthalate	S3 avg	2.2E-06	6 6E-09	NA	2.8E-07	NA	4.5E-12	1.5E-04
Heptachlor	S3 avg	4 0E-10	3 3E-12	NA	4.0E-08	NA	8.0E-14	4.2E-10
Hexachlorobenzene	S3 avg	2.3E-09	3.2E-08	NA	2.7E-04	NA	5.0E-10	1.9E-09
Hexachlorobutadiene	S3 avg	2.2E-09	9 6E-09	NA	1.9E-05	NA	6.0E-10	2.9E-10
Hexachlorocyclopentadiene	S3 avg	3.9E-11	4 6E-10	NA	2.2E-08	NA	8.6E-12	1.8E-11
Hexachlorophene	S3 avg	4.9E-09	1.6E-08	NA	9.6E-07	NA	1.9E-10	1.9E-06
Indeno(1,2,3-cd)pyrene	S3 avg	8.5E-10	7.4E-11	NA	1.0E-05	NA	6.6E-12	4.3E-08
Antimony	S3 avg	2 0E-09	7.5E-13	NA	1.1E-10	NA	1.1E-10	2.1E-10
Arsenic	S3 avg	8.6E-09	7.4E-13	NA	1.0E-07	NA	2.4E-09	3.5E-09
Barium	S3 avg	6.5E-08	1.2E-11	NA	2.0E-08	NA	5 1E-09	1.1E-09
Beryllium	S3 avg	4.4E-12	4.4E-17	NA	5.1E-11	NA	2.6E-12	1.6E-12
Cadmium	S3 avg	4.3E-09	3.6E-12	NA	2.8E-07	NA	1.3E-10	1.2E-10
Chromium (hexavalent)	S3 avg	8.8E-11	2.2E-15	NA	8 9E-10	NA	5.5E-11	2 0E-10
Lead	S3 avg	1.2E-08	2 8E-12	NA	5.4E-07	NA	3 4E-09	7 1E-10
Mercury	S3 avg	1.0E-05	9.0E-10	NA	3 6E-04	NA	9 6E-08	1.9E-08
Mercury (methyl BCF)	S3 avg	1.0E-05	9.0E-10	NA	2.1E-03	NA	9 6E-08	1 9E-08
Nickel	S3 avg	1.4E-09	6 2E-14	NA	1 8E-08	NA	2 9E-10	1 4E-09
Selenium	S3 avg	8.8E-08	1 7E-11	NA	2 6E-06	NA	3 4E-08	6 6E-08
Silver	S3 avg	1.3E-08	9.0E-12	NA	2 0E-10	NA	4 1E-10	2 6E-09
Thallium	S3 avg	3 2E-09	5.5E-15	NA	3 0E-07	NA	2 5E-09	7 3E-08
Zinc	S3 avg	3.2E-07	7 4E-11	NA	1 3E-06	NA	3 0E-09	1 5E-09

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TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	W1 avg	7.1E-12	9.9E-15	NA	NA	NA	NA	1.8E-11
1,2,3,7,8-PeCDD	W1 avg	1.3E-10	4.6E-14	NA	NA	NA	NA	3.1E-10
1,2,3,4,7,8-HxCDD	W1 avg	1.8E-10	2.5E-14	NA	NA	NA	NA	2.1E-10
1,2,3,6,7,8-HxCDD	W1 avg	4.8E-11	6.1E-14	NA	NA	NA	NA	5 3E-11
1,2,3,7,8,9-HxCDD	W1 avg	5.5E-11	3.9E-14	NA	NA	NA	NA	7.5E-11
1,2,3,4,6,7,8-HpCDD	W1 avg	2.9E-09	2.6E-13	NA	NA	NA	NA	6.0E-10
OCDD	W1 avg	3.7E-07	1.7E-12	NA	NA	NA	NA	1.1E-07
2,3,7,8-TCDF	W1 avg	1.1E-10	9.7E-14	NA	NA	NA	NA	5.7E-11
1,2,3,7,8-PeCDF	W1 avg	6.4E-10	2.6E-13	NA	NA	NA	NA	2.7E-10
2,3,4,7,8-PeCDF	W1 avg	8.6E-10	2.9E-13	NA	NA	NA	NA	1.5E-09
1,2,3,4,7,8-HxCDF	W1 avg	5.9E-10	5.4E-13	NA	NA	NA	NA	8.4E-10
1,2,3,6,7,8-HxCDF	W1 avg	1.3E-09	5.1E-13	NA	NA	NA	NA	1.6E-09
1,2,3,7,8,9-HxCDF	W1 avg	3.0E-10	1.2E-13	NA	NA	NA	NA	3.6E-10
2,3,4,6,7,8-HxCDF	W1 avg	9.7E-10	5.8E-13	NA	NA	NA	NA	1.0E-09
1,2,3,4,6,7,8-HpCDF	W1 avg	3.2E-09	2.4E-12	NA	NA	NA	NA	8.1E-10
1,2,3,4,7,8,9-HpCDF	W1 avg	2.4E-10	3.0E-13	NA	NA	NA	NA	1.6E-10
OCDF	W1 avg	8.0E-08	2.8E-12	NA	NA	NA	NA	9.1E-09
Tetrachlorobiphenyl	W1 avg	9.4E-10	2.5E-10	NA	NA	NA	NA	3.6E-09
Hexachlorobiphenyl	W1 avg	1.7E-09	3.9E-11	NA	NA	NA	NA	2.3E-09
Heptachlorobiphenyl	W1 avg	5.4E-08	2.3E-10	NA	NA	NA	NA	7.1E-08
Benzo(a)pyrene	W1 avg	6.0E-06	5.9E-11	NA	NA	NA	NA	4.6E-06
Benzo(b)fluoranthene	W1 avg	2.9E-06	2.4E-09	NA	NA	NA	NA	2.7E-06
Bis(2-ethylhexyl)phthalate	W1 avg	3.3E-03	5.4E-11	NA	NA	NA	NA	3.8E-04
Carbon tetrachloride	W1 avg	5.1E-07	1.9E-07	NA	NA	NA	NA	1.6E-10
Dibenz(a,h)anthracene	W1 avg	9.9E-09	8.2E-10	NA	NA	NA	NA	5.5E-07
Di(n)octyl phthalate	W1 avg	1.5E-05	4.5E-08	NA	NA	NA	NA	1.0E-03
Heptachlor	W1 avg	2.8E-09	2.3E-11	NA	NA	NA	NA	2.9E-09
Hexachlorobenzene	W1 avg	1.6E-08	2.2E-07	NA	NA	NA	NA	1.3E-08
Hexachlorobutadiene	W1 avg	1.5E-08	6.6E-08	NA	NA	NA	NA	2.0E-09
Hexachlorocyclopentadiene	W1 avg	2.7E-10	3.1E-09	NA	NA	NA	NA	1.3E-10
Hexachlorophene	W1 avg	5.7E-08	1.9E-07	NA	NA	NA	NA	2.2E-05
Indeno(1,2,3-cd)pyrene	W1 avg	9.9E-09	9.0E-10	NA	NA	NA	NA	5.0E-07
Antimony	W1 avg	2.2E-08	8.6E-12	NA	NA	NA	NA	2.3E-09
Arsenic	W1 avg	9.7E-08	8.5E-12	NA	NA	NA	NA	3.8E-08
Barium	W1 avg	7.3E-07	1.4E-10	NA	NA	NA	NA	1.2E-08
Beryllium	W1 avg	4.9E-11	5.1E-16	NA	NA	NA	NA	1.8E-11
Cadmium	W1 avg	4.9E-08	4.2E-11	NA	NA	NA	NA	1.3E-09
Chromium (hexavalent)	W1 avg	9.7E-10	2.5E-14	NA	NA	NA	NA	2 2E-09
Lead	W1 avg	1.4E-07	3.2E-11	NA	NA	NA	NA	7.8E-09
Mercury	W1 avg	7.2E-05	6.2E-09	NA	NA	NA	NA	1 3E-07
Mercury (methyl BCF)	W1 avg	7.2E-05	6.2E-09	NA	NA	NA	NA	1 3E-07
Nickel	W1 avg	1.6E-08	7.1E-13	NA	NA	NA	NA	1 5E-08
Selenium	W1 avg	9.8E-07	1.9E-10	NA	NA	NA	NA	7 2E-07
Silver	W1 avg	1.4E-07	1.0E-10	NA	NA	NA	NA	2 9E-08
Thallium	W1 avg	3.5E-08	6 3E-14	NA	NA	NA	NA	8 0E-07
Zinc	W1 avg	3.7E-06	8.5E-10	NA	NA	NA	NA	1 6E-08

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TABLE 1. Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	W2 avg	3.4E-12	4.4E-15	5.8E-12	NA	3.4E-16	NA	8.5E-12
1,2,3,7,8-PeCDD	W2 avg	6.2E-11	1.8E-14	2.7E-11	NA	1 6E-15	NA	1 5E-10
1,2,3,4,7,8-HxCDD	W2 avg	8.6E-11	8.8E-15	4.5E-11	NA	4 2E-16	NA	9.9E-11
1,2,3,6,7,8-HxCDD	W2 avg	2.3E-11	2.0E-14	5.5E-11	NA	1.6E-15	NA	2.5E-11
1,2,3,7,8,9-HxCDD	W2 avg	2.6E-11	1.2E-14	3.5E-11	NA	1.1E-15	NA	3.5E-11
1,2,3,4,6,7,8-HpCDD	W2 avg	1.4E-09	8.3E-14	8.1E-11	NA	2.3E-15	NA	2.9E-10
OCDD	W2 avg	1.8E-07	5.4E-13	6.2E-12	NA	3.7E-14	NA	5.3E-08
2,3,7,8-TCDF	W2 avg	5.1E-11	4.5E-14	4.4E-11	NA	3.3E-15	NA	2.7E-11
1,2,3,7,8-PeCDF	W2 avg	3.1E-10	1.1E-13	2.1E-10	NA	8.8E-15	NA	1.3E-10
2,3,4,7,8-PeCDF	W2 avg	4.1E-10	1.2E-13	3.1E-10	NA	9.7E-15	NA	7.3E-10
1,2,3,4,7,8-HxCDF	W2 avg	2.8E-10	1.8E-13	4.9E-10	NA	1.5E-14	NA	3.9E-10
1,2,3,6,7,8-HxCDF	W2 avg	6.4E-10	1.7E-13	4.6E-10	NA	1.4E-14	NA	7.4E-10
1,2,3,7,8,9-HxCDF	W2 avg	1.5E-10	4 3E-14	1.1E-10	NA	3.2E-15	NA	1.7E-10
2,3,4,6,7,8-HxCDF	W2 avg	4.7E-10	2.0E-13	5.2E-10	NA	1.6E-14	NA	4.8E-10
1,2,3,4,6,7,8-HpCDF	W2 avg	1.5E-09	8.0E-13	5 8E-10	NA	3.4E-14	NA	3.7E-10
1,2,3,4,7,8,9-HpCDF	W2 avg	1 2E-10	9.9E-14	7 4E-11	NA	4.3E-15	NA	7.3E-11
OCDF	W2 avg	3.8E-08	8.7E-13	2.5E-11	NA	9.3E-15	NA	4.4E-09
Tetrachlorobiphenyl	W2 avg	4.5E-10	1.2E-10	3.9E-09	NA	7.2E-13	NA	1.7E-09
Hexachlorobiphenyl	W2 avg	8.1E-10	1.9E-11	3.5E-07	NA	5.8E-13	NA	1.1E-09
Heptachlorobiphenyl	W2 avg	2.6E-08	1.1E-10	1.4E-07	NA	6.9E-13	NA	3.4E-08
Benzo(a)pyrene	W2 avg	2.9E-06	2.4E-11	6.2E-07	NA	1.1E-11	NA	2.2E-06
Benzo(b)fluoranthene	W2 avg	1.4E-06	1.1E-09	2.8E-06	NA	4.3E-11	NA	1.3E-06
Bis(2-ethylhexyl)phthalate	W2 avg	1.6E-03	2.1E-11	4.1E-07	NA	2.0E-11	NA	1.8E-04
Carbon tetrachloride	W2 avg	2.5E-07	9.2E-08	6.4E-09	NA	2.1E-10	NA	7.7E-11
Dibenz(a,h)anthracene	W2 avg	3.2E-09	2.6E-10	2.5E-05	NA	1.9E-11	NA	1.8E-07
Di(n)octyl phthalate	W2 avg	7.4E-06	2.2E-08	7.3E-08	NA	1.2E-12	NA	4.9E-04
Heptachlor	W2 avg	1 3E-09	1.1E-11	1 1E-08	NA	2.2E-14	NA	1.4E-09
Hexachlorobenzene	W2 avg	7.6E-09	1.0E-07	6 5E-05	NA	1.2E-10	NA	6.4E-09
Hexachlorobutadiene	W2 avg	7 3E-09	3.2E-08	4.5E-06	NA	1.4E-10	NA	9.5E-10
Hexachlorocyclopentadiene	W2 avg	1.3E-10	1.5E-09	5.2E-09	NA	2.0E-12	NA	6.0E-11
Hexachlorophene	W2 avg	1.8E-08	6.0E-08	5.4E-07	NA	1.1E-10	NA	7.1E-06
Indeno(1,2,3-cd)pyrene	W2 avg	3.2E-09	2.8E-10	3.2E-05	NA	2.1E-11	NA	1.6E-07
Antimony	W2 avg	7.2E-09	2.8E-12	4.3E-11	NA	4.3E-11	NA	7.6E-10
Arsenic	W2 avg	3.1E-08	2.7E-12	4 1E-08	NA	9.3E-10	NA	1.2E-08
Barium	W2 avg	2.4E-07	4 4E-11	7.7E-09	NA	1.9E-09	NA	4.0E-09
Beryllium	W2 avg	1.6E-11	1.6E-16	2.2E-11	NA	1.1E-12	NA	5 9E-12
Cadmium	W2 avg	1.6E-08	1.3E-11	9.1E-08	NA	4.1E-11	NA	4.1E-10
Chromium (hexavalent)	W2 avg	3.2E-10	8.1E-15	3 9E-10	NA	2.4E-11	NA	7 1E-10
Lead	W2 avg	4.4E-08	1.0E-11	2.4E-07	NA	1 5E-09	NA	2.5E-09
Mercury	W2 avg	3.5E-05	3.0E-09	8 1E-05	NA	2 2E-08	NA	6 4E-08
Mercury (methyl BCF)	W2 avg	3 5E-05	3.0E-09	4.6E-04	NA	2 2E-08	NA	6 4E-08
Nickel	W2 avg	5 3E-09	2 3E-13	6 8E-09	NA	1 1E-10	NA	5 1E-09
Selenium	W2 avg	3.2E-07	6.2E-11	1 0E-06	NA	1 3E-08	NA	2 4E-07
Silver	W2 avg	4.6E-08	3 3E-11	7 6E-11	NA	1.5E-10	NA	9 5E-09
Thallium	W2 avg	1.2E-08	2 0E-14	1 4E-07	NA	1 2E-09	NA	2 6E-07
Zinc	W2 avg	1 2E-06	2.7E-10	4 8E-07	NA	1 1E-09	NA	5 3E-09

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TABLE 1 Average Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	W3 avg	1 6E-12	2 0E-15	6.1E-12	NA	3 6E-16	NA	3.9E-12
1,2,3,7,8-PeCDD	W3 avg	2 8E-11	8.4E-15	2.9E-11	NA	1.7E-15	NA	6 7E-11
1,2,3,4,7,8-HxCDD	W3 avg	3.9E-11	4.1E-15	4.7E-11	NA	4.4E-16	NA	4.5E-11
1,2,3,6,7,8-HxCDD	W3 avg	1.1E-11	9.4E-15	5.8E-11	NA	1 7E-15	NA	1.1E-11
1,2,3,7,8,9-HxCDD	W3 avg	1.2E-11	5.9E-15	3.7E-11	NA	1 1E-15	NA	1 6E-11
1,2,3,4,6,7,8-HpCDD	W3 avg	6.4E-10	3.9E-14	8.4E-11	NA	2 5E-15	NA	1.3E-10
OCDD	W3 avg	8.2E-08	2.5E-13	6.5E-12	NA	3.8E-14	NA	2.4E-08
2,3,7,8-TCDF	W3 avg	2.3E-11	2 1E-14	4.6E-11	NA	3.5E-15	NA	1.2E-11
1,2,3,7,8-PeCDF	W3 avg	1.4E-10	5.1E-14	2.2E-10	NA	9.3E-15	NA	5.9E-11
2,3,4,7,8-PeCDF	W3 avg	1.9E-10	5.4E-14	3.3E-10	NA	1.0E-14	NA	3.4E-10
1,2,3,4,7,8-HxCDF	W3 avg	1.3E-10	8 7E-14	5.2E-10	NA	1.5E-14	NA	1.8E-10
1,2,3,6,7,8-HxCDF	W3 avg	2.9E-10	8.2E-14	4.8E-10	NA	1 4E-14	NA	3.4E-10
1,2,3,7,8,9-HxCDF	W3 avg	6 7E-11	2.0E-14	1.1E-10	NA	3.4E-15	NA	7.7E-11
2,3,4,6,7,8-HxCDF	W3 avg	2.1E-10	9 3E-14	5.5E-10	NA	1 6E-14	NA	2.2E-10
1,2,3,4,6,7,8-HpCDF	W3 avg	6.9E-10	3 8E-13	6.0E-10	NA	3 5E-14	NA	1.7E-10
1,2,3,4,7,8,9-HpCDF	W3 avg	5.3E-11	4.7E-14	7.7E-11	NA	4.5E-15	NA	3.4E-11
OCDF	W3 avg	1.8E-08	4.1E-13	2.7E-11	NA	9.7E-15	NA	2.0E-09
Tetrachlorobiphenyl	W3 avg	2.1E-10	5.4E-11	4.1E-09	NA	7.6E-13	NA	7.7E-10
Hexachlorobiphenyl	W3 avg	3.7E-10	8.6E-12	3.7E-07	NA	6.2E-13	NA	5.1E-10
Heptachlorobiphenyl	W3 avg	1.2E-08	5.1E-11	1.4E-07	NA	7.3E-13	NA	1.6E-08
Benzo(a)pyrene	W3 avg	1.3E-06	1.1E-11	6.7E-07	NA	1.2E-11	NA	1.0E-06
Benzo(b)fluoranthene	W3 avg	6.4E-07	5.2E-10	2.9E-06	NA	4 6E-11	NA	5.9E-07
Bis(2-ethylhexyl)phthalate	W3 avg	7.3E-04	9.7E-12	4.5E-07	NA	2.2E-11	NA	8.3E-05
Carbon tetrachloride	W3 avg	1.1E-07	4.2E-08	6.8E-09	NA	2.2E-10	NA	3.5E-11
Dibenz(a,h)anthracene	W3 avg	1.5E-09	1.2E-10	2.7E-05	NA	2.0E-11	NA	8.3E-08
Di(n)octyl phthalate	W3 avg	3.4E-06	1.0E-08	7.7E-08	NA	1.2E-12	NA	2.2E-04
Heptachlor	W3 avg	6.1E-10	5.1E-12	1.2E-08	NA	2.3E-14	NA	6.4E-10
Hexachlorobenzene	W3 avg	3.5E-09	4.8E-08	6.9E-05	NA	1.3E-10	NA	2.9E-09
Hexachlorobutadiene	W3 avg	3.3E-09	1.5E-08	4.7E-06	NA	1.5E-10	NA	4.4E-10
Hexachlorocyclopentadiene	W3 avg	5.8E-11	6.9E-10	5.5E-09	NA	2.1E-12	NA	2.8E-11
Hexachlorophene	W3 avg	8.6E-09	2.9E-08	5.8E-07	NA	1.2E-10	NA	3.4E-06
Indeno(1,2,3-cd)pyrene	W3 avg	1.5E-09	1 3E-10	3.4E-05	NA	2.2E-11	NA	7.6E-08
Antimony	W3 avg	3.7E-09	1.4E-12	4.5E-11	NA	4.5E-11	NA	3.9E-10
Arsenic	W3 avg	1.6E-08	1.4E-12	4.3E-08	NA	9.8E-10	NA	6.3E-09
Barium	W3 avg	1.2E-07	2.3E-11	8.1E-09	NA	2.0E-09	NA	2.0E-09
Beryllium	W3 avg	8.1E-12	8.4E-17	2.3E-11	NA	1.1E-12	NA	3.0E-12
Cadmium	W3 avg	8.1E-09	6 9E-12	9.8E-08	NA	4.4E-11	NA	2.1E-10
Chromium (hexavalent)	W3 avg	1.6E-10	4.2E-15	4.0E-10	NA	2 5E-11	NA	3 6E-10
Lead	W3 avg	2.2E-08	5.3E-12	2.5E-07	NA	1 5E-09	NA	1.3E-09
Mercury	W3 avg	1.6E-05	1.4E-09	8 6E-05	NA	2 3E-08	NA	2 9E-08
Mercury (methyl BCF)	W3 avg	1 6E-05	1 4E-09	4 9E-04	NA	2 3E-08	NA	2.9E-08
Nickel	W3 avg	2.7E-09	1.2E-13	7 2E-09	NA	1.2E-10	NA	2 6E-09
Selenium	W3 avg	1.6E-07	3.2E-11	1 1E-06	NA	1 4E-08	NA	1 2E-07
Silver	W3 avg	2.4E-08	1.7E-11	8 0E-11	NA	1.6E-10	NA	4 9E-09
Thallium	W3 avg	5 9E-09	1 0E-14	1 5E-07	NA	1 3E-09	NA	1 3E-07
Zinc	W3 avg	6.1E-07	1 4E-10	5 1E-07	NA	1.2E-09	NA	2 7E-09

TABLE 2 Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	E1 max	7.3E-10	4 0E-10	9.9E-11	3.5E-12	4.8E-12	3.0E-11	4.5E-10	2.0E-10	3 0E-11	3.8E-10	1.2E-09	6 3E-13	4 8E-14
1,2,3,7,8-PeCDD	E1 max	3.1E-09	6 7E-09	1.3E-09	1 5E-11	2.0E-11	5.1E-10	7.7E-09	3.3E-09	5 1E-10	6 4E-09	2.1E-08	1 1E-11	2 1E-13
1,2,3,4,7,8-HxCDD	E1 max	3.0E-09	4.5E-09	8.2E-10	6 6E-12	9.2E-12	3.4E-10	5.2E-09	2 2E-09	3 4E-10	4 3E-09	1 4E-08	1 5E-11	4 2E-14
1,2,3,6,7,8-HxCDD	E1 max	5 0E-09	1 2E-09	2.7E-10	9.7E-12	1 3E-11	8.8E-11	1.3E-09	5 7E-10	8 8E-11	1 1E-09	3.6E-09	4.7E-12	1 4E-13
1,2,3,7,8,9-HxCDD	E1 max	3.2E-09	1.6E-09	3.4E-10	7.8E-12	1.1E-11	1.2E-10	1.9E-09	8 0E-10	1.2E-10	1 5E-09	5.1E-09	5.0E-12	4 5E-14
1,2,3,4,6,7,8-HpCDD	E1 max	3.6E-08	1.3E-08	2.3E-09	1.4E-11	2 0E-11	1.0E-09	1.5E-08	6 5E-09	1.0E-09	1.2E-08	4 1E-08	2 4E-10	3 0E-13
OCDD	E1 max	1 7E-07	2.4E-06	4.1E-07	9 9E-11	1.4E-10	1.8E-07	2.7E-06	1 2E-06	1 8E-07	2 3E-06	7.5E-06	3 1E-08	3 2E-12
2,3,7,8-TCDF	E1 max	6.9E-09	1.3E-09	2.8E-10	7.3E-12	1.0E-11	9.5E-11	1.4E-09	6 2E-10	9 5E-11	1.2E-09	3 9E-09	9.0E-12	5 3E-13
1,2,3,7,8-PeCDF	E1 max	2.0E-08	5 9E-09	1.1E-09	1 6E-11	2.2E-11	4.5E-10	6.7E-09	2.9E-09	4.5E-10	5 6E-09	1.8E-08	5 4E-11	1 1E-12
2,3,4,7,8-PeCDF	E1 max	2.3E-08	3.4E-08	6.4E-09	8 0E-11	1.1E-10	2.6E-09	3.8E-08	1.7E-08	2.6E-09	3.2E-08	1.0E-07	7 3E-11	1.1E-12
1,2,3,4,7,8-HxCDF	E1 max	4.6E-08	1.8E-08	4.1E-09	1.2E-10	1.6E-10	1 4E-09	2.1E-08	9.0E-09	1 4E-09	1.7E-08	5 7E-08	5 4E-11	1 2E-12
1,2,3,6,7,8-HxCDF	E1 max	4.3E-08	3 4E-08	6.6E-09	9.5E-11	1.3E-10	2.6E-09	3.9E-08	1.7E-08	2.6E-09	3 2E-08	1.1E-07	1 2E-10	1 2E-12
1,2,3,7,8,9-HxCDF	E1 max	1 0E-08	7 8E-09	1.5E-09	2.3E-11	3 2E-11	5.9E-10	8.8E-09	3.8E-09	5 9E-10	7.4E-09	2 4E-08	2 6E-11	2 8E-13
2,3,4,6,7,8-HxCDF	E1 max	4 9E-08	2 2E-08	4 6E-09	9.6E-11	1.3E-10	1 7E-09	2.6E-08	1 1E-08	1.7E-09	2.1E-08	7.0E-08	8.6E-11	1 3E-12
1,2,3,4,6,7,8-HpCDF	E1 max	2 9E-07	1.8E-08	4 0E-09	1.3E-10	1.8E-10	1.3E-09	2.0E-08	8.6E-09	1 3E-09	1.7E-08	5.4E-08	3 0E-10	3 5E-12
1,2,3,4,7,8,9-HpCDF	E1 max	3 6E-08	3 5E-09	9 0E-10	3.9E-11	5 4E-11	2.6E-10	3.9E-09	1 7E-09	2 6E-10	3 3E-09	1.1E-08	2 5E-11	4 4E-13
OCDF	E1 max	5 3E-07	2 0E-07	3 5E-08	1.2E-10	1 6E-10	1.5E-08	2.3E-07	9 8E-08	1 5E-08	1.9E-07	6.2E-07	6.6E-09	1 9E-12
Tetrachlorobiphenyl	E1 max	8 6E-07	9 4E-08	6 8E-08	5.8E-09	8.0E-09	6.9E-09	1.0E-07	4 5E-08	6.9E-09	8 6E-08	2.8E-07	1.7E-10	1 5E-10
Hexachlorobiphenyl	E1 max	1 4E-06	6 1E-08	4 2E-08	3.4E-09	4 7E-09	4.4E-09	6.7E-08	2.9E-08	4.4E-09	5 6E-08	1.8E-07	1.6E-10	4.6E-11
Heptachlorobiphenyl	E1 max	1 4E-06	1.6E-06	3 0E-07	3.5E-09	4.8E-09	1 2E-07	1.8E-06	7.7E-07	1.2E-07	1.5E-06	4.8E-06	4.5E-09	2.3E-11
Benzo(a)pyrene	E1 max	1.6E-05	1.3E-04	8 4E-06	3.3E-10	4 1E-07	5.1E-05	5.1E-05	5 1E-05	5 1E-05	5.1E-05	5.1E-05	5 1E-07	2 1E-09
Benzo(b)fluoranthene	E1 max	8 4E-05	7.7E-05	6 0E-06	2.1E-09	2.6E-06	3.0E-05	3.0E-05	3 0E-05	3 0E-05	3.0E-05	3.0E-05	2 4E-07	9 6E-09
Bis(2-ethylhexyl)phthalate	E1 max	5 4E-06	1.1E-02	7.0E-04	1.7E-11	2 1E-08	4.2E-03	4.2E-03	4.2E-03	4.2E-03	4.2E-03	4.2E-03	2.7E-04	1 4E-10
Carbon tetrachloride	E1 max	4.9E-05	5.5E-09	2 2E-09	9.5E-12	1 2E-08	2.4E-09	2.4E-09	2 4E-09	2.4E-09	2 4E-09	2.4E-09	4.2E-06	7.4E-06
Dibenz(a,h)anthracene	E1 max	2.9E-05	1 2E-05	1.3E-06	2.2E-09	2.7E-06	4.8E-06	4.8E-06	4.8E-06	4.8E-06	4.8E-06	4.8E-06	2.6E-08	1.7E-09
Di(n)octyl phthalate	E1 max	2 1E-06	2.9E-02	1 9E-03	3.6E-09	4 5E-06	1.1E-02	1.1E-02	1.1E-02	1.1E-02	1.1E-02	1.1E-02	1.3E-06	2 0E-11
Heptachlor	E1 max	4 1E-08	8.4E-08	6.0E-09	1.2E-12	1.4E-09	3.3E-08	3.3E-08	3.3E-08	3.3E-08	3.3E-08	3.3E-08	2 3E-10	4 3E-12
Hexachlorobenzene	E1 max	7 9E-05	8 0E-07	5.5E-07	1.0E-09	1.3E-06	2.8E-07	2 8E-07	2.8E-07	2 8E-07	2.8E-07	2.8E-07	2 5E-08	4 2E-08
Hexachlorobutadiene	E1 max	2 1E-04	1.5E-07	1.2E-07	2.4E-10	3 0E-07	5.3E-08	5.3E-08	5.3E-08	5 3E-08	5.3E-08	5.3E-08	1 1E-07	1 9E-07
Hexachlorocyclopentadiene	E1 max	3.5E-06	9 6E-09	7.6E-09	1.4E-11	1 7E-08	3.3E-09	3.3E-09	3 3E-09	3 3E-09	3 3E-09	3.3E-09	7.1E-10	1 2E-09
Hexachlorophene	E1 max	7.9E-05	4.8E-04	2 8E-05	4 2E-08	5 2E-05	1.9E-04	1.9E-04	1 9E-04	1.9E-04	1.9E-04	1 9E-04	1 4E-07	1.6E-09
Indeno(1,2,3-cd)pyrene	E1 max	3 3E-05	1.1E-05	1 4E-06	2 2E-09	2 8E-06	4 4E-06	4.4E-06	4.4E-06	4 4E-06	4.4E-06	4.4E-06	2 6E-08	2 0E-09
Antimony	E1 max	4 9E-06	4 6E-08	1.8E-08	1.3E-10	1.5E-09	5.7E-09	5.7E-09	5.7E-09	5.7E-09	5.7E-09	5 7E-09	2 6E-08	2 8E-08
Arsenic	E1 max	1 9E-04	8 4E-07	2 6E-07	9.8E-08	1.3E-07	3 1E-08	3.1E-08	3.1E-08	3.1E-08	3.1E-08	3 1E-08	1 4E-07	9 3E-08
Barium	E1 max	2.3E-04	2 4E-07	1 0E-06	3 9E-10	3.1E-07	7.1E-07	7 1E-07	7 1E-07	7.1E-07	7.1E-07	7.1E-07	7 0E-07	6 1E-07
Beryllium	E1 max	5 0E-07	4 9E-10	3 5E-10	1.3E-11	1 6E-11	5.1E-13	5.1E-13	5 1E-13	5 1E-13	5 1E-13	5.1E-13	9 3E-11	2 4E-11
Cadmium	E1 max	2 8E-06	2 5E-08	1 1E-09	4 4E-09	1 0E-10	1.9E-09	1 9E-09	1 9E-09	1 9E-09	1 9E-09	1 9E-09	9 1E-08	9.2E-08
Chromium (hexavalent)	E1 max	1.3E-05	6 3E-08	6 9E-08	7.7E-10	1.3E-09	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 6E-09	1 6E-09
Lead	E1 max	8 3E-04	2 2E-07	5 2E-07	1 6E-05	1.6E-05	2 1E-07	2 1E-07	2 1E-07	2 1E-07	2 1E-07	2 1E-07	2 1E-07	1 9E-07
Mercury	E1 max	4 0E-03	3 7E-06	1 2E-05	2 3E-06	1 9E-07	5 9E-06	5.9E-06	5 9E-06	5 9E-06	5 9E-06	5 9E-06	1 0E-04	1 8E-04
Mercury (methyl BCF)	E1 max	4 0E-03	3 7E-06	1 2E-05	2 3E-06	1 9E-07	5 9E-06	5 9E-06	5 9E-06	5 9E-06	5 9E-06	5 9E-06	1 0E-04	1 8E-04
Nickel	E1 max	1 9E-05	3 4E-07	1 4E-06	2 1E-09	3 4E-09	7 0E-08	7 0E-08	7 0E-08	7 0E-08	7 0E-08	7 0E-08	7 8E-08	1 2E-07
Selenium	E1 max	3 6E-03	1 7E-05	3 8E-04	1 2E-05	1 2E-05	3.1E-04	3 1E-04	3 1E-04	3 1E-04	3 1E-04	3 1E-04	4 1E-06	5 3E-06
Silver	E1 max	1.8E-05	5 8E-07	1 2E-08	1 5E-10	2 9E-09	4 9E-06	4 9E-06	4 9E-06	4 9E-06	4 9E-06	4 9E-06	2 3E-07	3 4E-07
Thallium	E1 max	8 8E-04	2 5E-05	8 5E-05	1 7E-05	1 7E-05	1 5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	8 5E-08	6 9E-09
Zinc	E1 max	1.2E-04	3 4E-07	8 7E-08	7 6E-08	7 6E-08	1 1E-07	1 1E-07	1 1E-07	1 1E-07	1 1E-07	1 1E-07	1 3E-05	2 2E-05

External Review Draft Do Not Cite or Quote

TABLE 2 Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	E2 max	2 4E-10	1.4E-10	3 3E-11	1.2E-12	1.6E-12	1 0E-11	1.5E-10	6.7E-11	1 0E-11	1.3E-10	4 2E-10	2 1E-13	1.6E-14
1,2,3,7,8-PeCDD	E2 max	9 8E-10	2 3E-09	4 3E-10	4 5E-12	6.3E-12	1.7E-10	2 6E-09	1.1E-09	1 7E-10	2.2E-09	7 1E-09	3 7E-12	6 5E-14
1,2,3,4,7,8-HxCDD	E2 max	8 7E-10	1 5E-09	2 8E-10	1.9E-12	2.7E-12	1.2E-10	1.7E-09	7 6E-10	1.2E-10	1 5E-09	4 8E-09	5 1E-12	1 2E-14
1,2,3,6,7,8-HxCDD	E2 max	1.4E-09	3 9E-10	8 8E-11	2.7E-12	3.8E-12	2.9E-11	4.4E-10	1.9E-10	2 9E-11	3.7E-10	1.2E-09	1.6E-12	3.9E-14
1,2,3,7,8,9-HxCDD	E2 max	8.9E-10	5 5E-10	1 1E-10	2.2E-12	3.0E-12	4.2E-11	6.2E-10	2.7E-10	4 2E-11	5.2E-10	1.7E-09	1 7E-12	1 3E-14
1,2,3,4,6,7,8-HpCDD	E2 max	1 0E-08	4.5E-09	7.9E-10	4.0E-12	5.6E-12	3 4E-10	5.1E-09	2 2E-09	3.4E-10	4.2E-09	1.4E-08	8.3E-11	8 3E-14
OCDD	E2 max	4.7E-08	8 2E-07	1.4E-07	2.7E-11	3.7E-11	6.2E-08	9.3E-07	4.0E-07	6.2E-08	7 8E-07	2.5E-06	1 0E-08	8.7E-13
2,3,7,8-TCDF	E2 max	2.3E-09	4 3E-10	9.5E-11	2.4E-12	3.3E-12	3.2E-11	4.9E-10	2.1E-10	3 2E-11	4 1E-10	1.3E-09	3 1E-12	1.8E-13
1,2,3,7,8-PeCDF	E2 max	6.5E-09	2 0E-09	3 8E-10	5 2E-12	7.2E-12	1.5E-10	2 3E-09	9 8E-10	1 5E-10	1.9E-09	6 2E-09	1.8E-11	3 5E-13
2,3,4,7,8-PeCDF	E2 max	7 3E-09	1 1E-08	2 2E-09	2 5E-11	3 5E-11	8.7E-10	1.3E-08	5 6E-09	8.7E-10	1.1E-08	3.6E-08	2.5E-11	3 3E-13
1,2,3,4,7,8-HxCDF	E2 max	1 3E-08	6 2E-09	1 3E-09	3 4E-11	4 7E-11	4.7E-10	7.0E-09	3.0E-09	4.7E-10	5.8E-09	1.9E-08	1.8E-11	3.6E-13
1,2,3,6,7,8-HxCDF	E2 max	1 2E-08	1 2E-08	2 2E-09	2.7E-11	3 8E-11	8.8E-10	1.3E-08	5.7E-09	8.8E-10	1.1E-08	3.6E-08	3.9E-11	3.4E-13
1,2,3,7,8,9-HxCDF	E2 max	3 1E-09	2 6E-09	5 0E-10	6 8E-12	9 4E-12	2 0E-10	3.0E-09	1.3E-09	2.0E-10	2 5E-09	8.2E-09	8.9E-12	8.4E-14
2,3,4,6,7,8-HxCDF	E2 max	1 4E-08	7 6E-09	1 5E-09	2 8E-11	3 8E-11	5.7E-10	8 6E-09	3.7E-09	5.7E-10	7.2E-09	2.4E-08	2.9E-11	3.8E-13
1,2,3,4,6,7,8-HpCDF	E2 max	8 2E-08	5 9E-09	1 3E-09	3 7E-11	5 1E-11	4.5E-10	6.7E-09	2.9E-09	4.5E-10	5.6E-09	1.8E-08	9.9E-11	1.0E-12
1,2,3,4,7,8,9-HpCDF	E2 max	1 0E-08	1 2E-09	2 8E-10	1.1E-11	1 5E-11	8.7E-11	1.3E-09	5.7E-10	8.7E-11	1 1E-09	3.6E-09	8.3E-12	1.2E-13
OCDF	E2 max	1 5E-07	6 8E-08	1 2E-08	3 2E-11	4.4E-11	5 1E-09	7.7E-08	3.3E-08	5 1E-09	6.4E-08	2.1E-07	2.3E-09	5 4E-13
Tetrachlorobiphenyl	E2 max	2 9E-07	3 2E-08	2 3E-08	2 0E-09	2 7E-09	2.3E-09	3.5E-08	1.5E-08	2.3E-09	2.9E-08	9 6E-08	5.6E-11	5.2E-11
Hexachlorobiphenyl	E2 max	4 8E-07	2.1E-08	1 4E-08	1.2E-09	1 6E-09	1.5E-09	2.3E-08	9 8E-09	1.5E-09	1.9E-08	6.2E-08	5.6E-11	1.6E-11
Heptachlorobiphenyl	E2 max	4 7E-07	5 3E-07	1 0E-07	1.2E-09	1 6E-09	4.0E-08	6.0E-07	2 6E-07	4.0E-08	5.0E-07	1.7E-06	1.5E-09	7.7E-12
Benzo(a)pyrene	E2 max	5 2E-06	4 4E-05	2 9E-06	1.0E-10	1.3E-07	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.7E-07	6 6E-10
Benzo(b)fluoranthene	E2 max	2 8E-05	2 6E-05	2 1E-06	7.0E-10	8 7E-07	1.0E-05	1.0E-05	1 0E-05	1.0E-05	1.0E-05	1.0E-05	8.3E-08	3.3E-09
Bis(2-ethylhexyl)phthalate	E2 max	1.7E-06	3.7E-03	2.4E-04	5.1E-12	6.4E-09	1.4E-03	1.4E-03	1.4E-03	1.4E-03	1.4E-03	1.4E-03	9.2E-05	4.3E-11
Carbon tetrachloride	E2 max	1.7E-05	1.9E-09	7 3E-10	3 2E-12	4.0E-09	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	1.4E-06	2.5E-06
Dibenz(a,h)anthracene	E2 max	7.9E-06	3.5E-06	3.6E-07	5.9E-10	7.4E-07	1.3E-06	1.3E-06	1 3E-06	1.3E-06	1.3E-06	1.3E-06	7.2E-09	4.7E-10
Di(n)octyl phthalate	E2 max	7.1E-07	9.9E-03	6.4E-04	1 2E-09	1 5E-06	3.9E-03	3.9E-03	3.9E-03	3.9E-03	3.9E-03	3.9E-03	4 3E-07	6.8E-12
Heptachlor	E2 max	1.4E-08	2.9E-08	2 1E-09	3.9E-13	4.9E-10	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	7.9E-11	1.5E-12
Hexachlorobenzene	E2 max	2.7E-05	2 7E-07	1.9E-07	3.4E-10	4.3E-07	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9 6E-08	9.6E-08	8 5E-09	1.4E-08
Hexachlorobutadiene	E2 max	7.3E-05	5.3E-08	4.2E-08	8.1E-11	1.0E-07	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	3.7E-08	6.5E-08
Hexachlorocyclopentadiene	E2 max	1.2E-06	3.3E-09	2.6E-09	4.7E-12	5.9E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	2.4E-10	4.2E-10
Hexachlorophene	E2 max	2 2E-05	1.3E-04	7.7E-06	1.1E-08	1.4E-05	5.3E-05	5.3E-05	5.3E-05	5.3E-05	5.3E-05	5.3E-05	4.1E-08	4.3E-10
Indeno(1,2,3-cd)pyrene	E2 max	9.0E-06	3.2E-06	3.7E-07	6.1E-10	7.7E-07	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	7.3E-09	5.6E-10
Antimony	E2 max	1.4E-06	1.4E-08	5.4E-09	3.9E-11	4.5E-10	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	7 7E-09	8.3E-09
Arsenic	E2 max	5 6E-05	2.5E-07	7.6E-08	2.9E-08	3.8E-08	9.1E-09	9.1E-09	9.1E-09	9 1E-09	9 1E-09	9.1E-09	4 2E-08	2.7E-08
Barium	E2 max	6.9E-05	7.3E-08	3.1E-07	1.1E-10	9.2E-08	2 1E-07	2.1E-07	2.1E-07	2.1E-07	2 1E-07	2 1E-07	2 1E-07	1.8E-07
Beryllium	E2 max	1.5E-07	1.5E-10	1.0E-10	3.9E-12	4.7E-12	1 5E-13	1.5E-13	1.5E-13	1.5E-13	1.5E-13	1.5E-13	2 8E-11	7.1E-12
Cadmium	E2 max	8.2E-07	7 4E-09	3.2E-10	1.3E-09	3.1E-11	5.8E-10	5 8E-10	5 8E-10	5 8E-10	5 8E-10	5 8E-10	2 7E-08	2 7E-08
Chromium (hexavalent)	E2 max	3 9E-06	1.9E-08	2.0E-08	2.3E-10	3.7E-10	5.9E-09	5 9E-09	5.9E-09	5 9E-09	5 9E-09	5 9E-09	7.7E-10	4 6E-10
Lead	E2 max	2.5E-04	6.6E-08	1 5E-07	4 8E-06	4.8E-06	6.4E-08	6 4E-08	6 4E-08	6.4E-08	6 4E-08	6 4E-08	6 3E-08	5 6E-08
Mercury	E2 max	1.4E-03	1.3E-06	4 1E-06	7.8E-07	6 6E-08	2 0E-06	2 0E-06	2 0E-06	2 0E-06	2 0E-06	2 0E-06	3 5E-05	6 1E-05
Mercury (methyl BCF)	E2 max	1 4E-03	1 3E-06	4 1E-06	7 8E-07	6 6E-08	2 0E-06	2 0E-06	2 0E-06	2 0E-06	2 0E-06	2 0E-06	3 5E-05	6 1E-05
Nickel	E2 max	5 7E-06	1 0E-07	4 1E-07	6 3E-10	1 0E-09	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 3E-08	3 4E-08
Selenium	E2 max	1 1E-03	5.1E-06	1 1E-04	3 6E-06	3.6E-06	9 3E-05	9 3E-05	9 3E-05	9 3E-05	9 3E-05	9 3E-05	1 2E-06	1 6E-06
Silver	E2 max	5 2E-06	1 7E-07	3 7E-09	4 3E-11	8 7E-10	1 5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	6 7E-08	9 9E-08
Thallium	E2 max	2 6E-04	7 6E-06	2 5E-05	4 9E-06	4 9E-06	4 3E-07	4 3E-07	4 3E-07	4 3E-07	4 3E-07	4 3E-07	2 6E-08	2 0E-09
Zinc	E2 max	3 7E-05	1 0E-07	2 6E-08	2 2E-08	2 2E-08	3 3E-08	3 3E-08	3 3E-08	3 3E-08	3 3E-08	3 3E-08	3 8E-06	6 6E-06

TABLE 2· Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	E3 max	7 2E-11	4.0E-11	9.9E-12	3.5E-13	4.8E-13	3.0E-12	4 6E-11	2 0E-11	3.0E-12	3 8E-11	1.2E-10	6 3E-14	4 8E-15
1,2,3,7,8-PeCDD	E3 max	3.0E-10	6.8E-10	1.3E-10	1 4E-12	1.9E-12	5.1E-11	7.7E-10	3 3E-10	5 1E-11	6 4E-10	2.1E-09	1 1E-12	2 0E-14
1,2,3,4,7,8-HxCDD	E3 max	2.7E-10	4 6E-10	8.2E-11	6.0E-13	8.2E-13	3.5E-11	5.2E-10	2 3E-10	3 5E-11	4 3E-10	1.4E-09	1 5E-12	3 8E-15
1,2,3,6,7,8-HxCDD	E3 max	4.5E-10	1.2E-10	2.6E-11	8 6E-13	1.2E-12	8.8E-12	1 3E-10	5.7E-11	8 8E-12	1 1E-10	3.6E-10	4.7E-13	1 2E-14
1,2,3,7,8,9-HxCDD	E3 max	2.8E-10	1.6E-10	3 3E-11	6.9E-13	9.4E-13	1.2E-11	1.9E-10	8.0E-11	1.2E-11	1 5E-10	5.1E-10	5.0E-13	3 9E-15
1,2,3,4,6,7,8-HpCDD	E3 max	3.2E-09	1.3E-09	2.4E-10	1.3E-12	1.7E-12	1.0E-10	1.5E-09	6.6E-10	1 0E-10	1 3E-09	4.1E-09	2 5E-11	2 6E-14
OCDD	E3 max	1.5E-08	2.4E-07	4.1E-08	8.5E-12	1.2E-11	1.8E-08	2.8E-07	1.2E-07	1.8E-08	2 3E-07	7.6E-07	3 1E-09	2.7E-13
2,3,7,8-TCDF	E3 max	6.9E-10	1.3E-10	2.8E-11	7.2E-13	1.0E-12	9.6E-12	1.4E-10	6.3E-11	9.6E-12	1 2E-10	3.9E-10	9 1E-13	5.3E-14
1,2,3,7,8-PeCDF	E3 max	1.9E-09	5.9E-10	1.1E-10	1.6E-12	2.2E-12	4.5E-11	6.7E-10	2.9E-10	4.5E-11	5.6E-10	1.8E-09	5.4E-12	1 0E-13
2,3,4,7,8-PeCDF	E3 max	2.2E-09	3.4E-09	6.4E-10	7.6E-12	1 1E-11	2.6E-10	3.9E-09	1.7E-09	2.6E-10	3.2E-09	1.1E-08	7.3E-12	1.0E-13
1,2,3,4,7,8-HxCDF	E3 max	4.1E-09	1.8E-09	4.0E-10	1.1E-11	1 5E-11	1.4E-10	2.1E-09	9 0E-10	1.4E-10	1.7E-09	5.7E-09	5.4E-12	1.1E-13
1,2,3,6,7,8-HxCDF	E3 max	3.9E-09	3.4E-09	6.5E-10	8.5E-12	1.2E-11	2.6E-10	3.9E-09	1.7E-09	2.6E-10	3 3E-09	1.1E-08	1.2E-11	1 0E-13
1,2,3,7,8,9-HxCDF	E3 max	9.5E-10	7.8E-10	1.5E-10	2.1E-12	2.9E-12	5.9E-11	8.9E-10	3.9E-10	5.9E-11	7.4E-10	2.4E-09	2.6E-12	2 6E-14
2,3,4,6,7,8-HxCDF	E3 max	4.4E-09	2.3E-09	4.5E-10	8.6E-12	1.2E-11	1.7E-10	2.6E-09	1 1E-09	1.7E-10	2.1E-09	7.0E-09	8.6E-12	1 2E-13
1,2,3,4,6,7,8-HpCDF	E3 max	2 6E-08	1.8E-09	3.9E-10	1.2E-11	1.6E-11	1.3E-10	2.0E-09	8.6E-10	1.3E-10	1.7E-09	5.4E-09	3 0E-11	3 1E-13
1,2,3,4,7,8,9-HpCDF	E3 max	3 2E-09	3 4E-10	8.6E-11	3.5E-12	4.8E-12	2.6E-11	3.9E-10	1.7E-10	2.6E-11	3.2E-10	1.1E-09	2 5E-12	3.9E-14
OCDF	E3 max	4 6E-08	2 0E-08	3 5E-09	1.0E-11	1.4E-11	1.5E-09	2.3E-08	9.9E-09	1.5E-09	1.9E-08	6.3E-08	6.7E-10	1.7E-13
Tetrachlorobiphenyl	E3 max	8 6E-08	9.5E-09	6 8E-09	5.8E-10	8 0E-10	6.9E-10	1.0E-08	4.5E-09	6.9E-10	8.7E-09	2.8E-08	1.7E-11	1.5E-11
Hexachlorobiphenyl	E3 max	1.4E-07	6.1E-09	4 2E-09	3 5E-10	4.8E-10	4.5E-10	6.7E-09	2.9E-09	4.5E-10	5.6E-09	1.8E-08	1.7E-11	4.6E-12
Heptachlorobiphenyl	E3 max	1 4E-07	1.6E-07	3.0E-08	3 5E-10	4 9E-10	1 2E-08	1 8E-07	7.8E-08	1.2E-08	1.5E-07	4.9E-07	4.5E-10	2 3E-12
Benzo(a)pyrene	E3 max	1.6E-06	1.3E-05	8 5E-07	3.1E-11	3.9E-08	5.1E-06	5.1E-06	5.1E-06	5.1E-06	5 1E-06	5.1E-06	5.1E-08	2 0E-10
Benzo(b)fluoranthene	E3 max	8.5E-06	7.8E-06	6.1E-07	2.1E-10	2.6E-07	3.1E-06	3.1E-06	3.1E-06	3.1E-06	3.1E-06	3.1E-06	2.5E-08	9.7E-10
Bis(2-ethylhexyl)phthalate	E3 max	5.1E-07	1.1E-03	7.1E-05	1.6E-12	2.0E-09	4.3E-04	4.3E-04	4.3E-04	4.3E-04	4.3E-04	4.3E-04	2 7E-05	1.3E-11
Carbon tetrachloride	E3 max	4.9E-06	5.6E-10	2.2E-10	9.6E-13	1.2E-09	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	4.2E-07	7.5E-07
Dibenz(a,h)anthracene	E3 max	2.5E-06	1.1E-06	1.1E-07	1.9E-10	2.3E-07	4.2E-07	4.2E-07	4.2E-07	4.2E-07	4.2E-07	4.2E-07	2.2E-09	1.5E-10
Di(n)octyl phthalate	E3 max	2.1E-07	2 9E-03	1.9E-04	3.7E-10	4 6E-07	1.2E-03	1 2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.3E-07	2 0E-12
Heptachlor	E3 max	4.2E-09	8.5E-09	6.1E-10	1.2E-13	1.5E-10	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	2 3E-11	4.3E-13
Hexachlorobenzene	E3 max	7.9E-06	8.1E-08	5.5E-08	1.0E-10	1.3E-07	2.9E-08	2.9E-08	2.9E-08	2.9E-08	2.9E-08	2.9E-08	2 5E-09	4 3E-09
Hexachlorobutadiene	E3 max	2.2E-05	1.6E-08	1.3E-08	2.4E-11	3 0E-08	5.4E-09	5 4E-09	5.4E-09	5.4E-09	5.4E-09	5.4E-09	1.1E-08	1 9E-08
Hexachlorocyclopentadiene	E3 max	3.6E-07	9 7E-10	7.6E-10	1 4E-12	1.7E-09	3.3E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	7.2E-11	1 2E-10
Hexachlorophene	E3 max	6 8E-06	4.2E-05	2.4E-06	3.6E-09	4.5E-06	1.6E-05	1.6E-05	1.6E-05	1.6E-05	1.6E-05	1.6E-05	1 3E-08	1.4E-10
Indeno(1,2,3-cd)pyrene	E3 max	2 8E-06	1.0E-06	1.2E-07	1.9E-10	2.4E-07	3.9E-07	3.9E-07	3.9E-07	3.9E-07	3.9E-07	3.9E-07	2 3E-09	1.8E-10
Antimony	E3 max	4 9E-07	4 6E-09	1.8E-09	1.3E-11	1.5E-10	5.7E-10	5.7E-10	5.7E-10	5.7E-10	5 7E-10	5 7E-10	2 6E-09	2 8E-09
Arsenic	E3 max	1.9E-05	8.4E-08	2 6E-08	9.8E-09	1 3E-08	3.1E-09	3.1E-09	3.1E-09	3 1E-09	3 1E-09	3.1E-09	1 4E-08	9 3E-09
Barium	E3 max	2.3E-05	2.4E-08	1.0E-07	3.9E-11	3 1E-08	7.1E-08	7.1E-08	7.1E-08	7 1E-08	7.1E-08	7.1E-08	7 0E-08	6 1E-08
Beryllium	E3 max	5 0E-08	4.9E-11	3.5E-11	1 3E-12	1.6E-12	5.1E-14	5 1E-14	5.1E-14	5.1E-14	5 1E-14	5.1E-14	9 3E-12	2 4E-12
Cadmium	E3 max	2.8E-07	2.5E-09	1.1E-10	4.4E-10	1.0E-11	1.9E-10	1.9E-10	1.9E-10	1 9E-10	1.9E-10	1 9E-10	9 1E-09	9 2E-09
Chromium (hexavalent)	E3 max	1.3E-06	6.3E-09	6.9E-09	7 7E-11	1 3E-10	2.0E-09	2 0E-09	2 0E-09	2.0E-09	2 0E-09	2 0E-09	2 6E-10	1 6E-10
Lead	E3 max	8 3E-05	2 2E-08	5.2E-08	1 6E-06	1.6E-06	2 1E-08	2.1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	2 1E-08	1 9E-08
Mercury	E3 max	4.1E-04	3 8E-07	1.2E-06	2 3E-07	1 9E-08	6 0E-07	6 0E-07	6 0E-07	6 0E-07	6 0E-07	6 0E-07	1 0E-05	1 8E-05
Mercury (methyl BCF)	E3 max	4.1E-04	3 8E-07	1 2E-06	2 3E-07	1 9E-08	6 0E-07	6 0E-07	6 0E-07	6 0E-07	6 0E-07	6 0E-07	1 0E-05	1 8E-05
Nickel	E3 max	1 9E-06	3.4E-08	1 4E-07	2 1E-10	3 4E-10	7 0E-09	7 0E-09	7 0E-09	7 0E-09	7 0E-09	7 0E-09	7 8E-09	1 2E-08
Selenium	E3 max	3 6E-04	1 7E-06	3 8E-05	1 2E-06	1 2E-06	3.1E-05	3 1E-05	3 1E-05	3 1E-05	3 1E-05	3 1E-05	4 1E-07	5 3E-07
Silver	E3 max	1 8E-06	5 8E-08	1 2E-09	1 5E-11	2 9E-10	4 9E-07	4 9E-07	4 9E-07	4 9E-07	4 9E-07	4 9E-07	2 3E-08	3 4E-08
Thallium	E3 max	8 8E-05	2 5E-06	8 5E-06	1 7E-06	1 7E-06	1 5E-07	1 5E-07	1 5E-07	1 5E-07	1 5E-07	1 5E-07	8 5E-09	6 9E-10
Zinc	E3 max	1 2E-05	3 4E-08	8 7E-09	7 6E-09	7 6E-09	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1 1E-08	1 3E-06	2 2E-06

TABLE 2. Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	N1 max	3.6E-10	1.7E-10	4 4E-11	1 8E-12	2 4E-12	1.3E-11	1.9E-10	8.4E-11	1 3E-11	1.6E-10	5 3E-10	2.7E-13	2 4E-14
1,2,3,7,8-PeCDD	N1 max	1.9E-09	2.8E-09	5 6E-10	8.9E-12	1.2E-11	2.2E-10	3.2E-09	1.4E-09	2 2E-10	2.7E-09	8 8E-09	4.6E-12	1 3E-13
1,2,3,4,7,8-HxCDD	N1 max	2.3E-09	1 9E-09	3.7E-10	5.1E-12	7.0E-12	1 5E-10	2.2E-09	9.5E-10	1.5E-10	1 8E-09	6.0E-09	6 4E-12	3 2E-14
1,2,3,6,7,8-HxCDD	N1 max	4.1E-09	5 4E-10	1.5E-10	7.9E-12	1.1E-11	4.0E-11	6.0E-10	2.6E-10	4.0E-11	5.0E-10	1.7E-09	2.3E-12	1.1E-13
1,2,3,7,8,9-HxCDD	N1 max	2.7E-09	7.2E-10	1.7E-10	6.6E-12	9.1E-12	5.5E-11	8.2E-10	3.6E-10	5.5E-11	6.8E-10	2.2E-09	2.3E-12	3 8E-14
1,2,3,4,6,7,8-HpCDD	N1 max	3.0E-08	5.6E-09	1.0E-09	1 2E-11	1.7E-11	4 2E-10	6.3E-09	2.7E-09	4.2E-10	5.3E-09	1.7E-08	1.0E-10	2.5E-13
OCDD	N1 max	1 5E-07	1 0E-06	1.7E-07	8.5E-11	1.2E-10	7 6E-08	1.1E-06	4.9E-07	7 6E-08	9.5E-07	3.1E-06	1 3E-08	2.7E-12
2,3,7,8-TCDF	N1 max	3.2E-09	5.3E-10	1.2E-10	3 4E-12	4.6E-12	4.0E-11	6.0E-10	2.6E-10	4.0E-11	5.0E-10	1.6E-09	3 8E-12	2.5E-13
1,2,3,7,8-PeCDF	N1 max	1.1E-08	2 5E-09	5.0E-10	8.8E-12	1.2E-11	1 9E-10	2.8E-09	1.2E-09	1.9E-10	2.3E-09	7.7E-09	2 3E-11	5 9E-13
2,3,4,7,8-PeCDF	N1 max	1.4E-08	1.4E-08	2.8E-09	4.7E-11	6.5E-11	1.1E-09	1.6E-08	7.0E-09	1.1E-09	1 4E-08	4.4E-08	3.1E-11	6 2E-13
1,2,3,4,7,8-HxCDF	N1 max	3.6E-08	8.2E-09	2 1E-09	9.3E-11	1.3E-10	6.2E-10	9.3E-09	4.0E-09	6.2E-10	7.7E-09	2.5E-08	2.5E-11	9.8E-13
1,2,3,6,7,8-HxCDF	N1 max	3.4E-08	1.5E-08	3.1E-09	7.4E-11	1.0E-10	1.1E-09	1.7E-08	7.2E-09	1.1E-09	1.4E-08	4.6E-08	5 1E-11	9 1E-13
1,2,3,7,8,9-HxCDF	N1 max	7 6E-09	3 3E-09	7.0E-10	1.7E-11	2 3E-11	2.5E-10	3.8E-09	1.6E-09	2.5E-10	3.2E-09	1.0E-08	1.1E-11	2 1E-13
2,3,4,6,7,8-HxCDF	N1 max	3 8E-08	9 8E-09	2 3E-09	7.5E-11	1.0E-10	7.4E-10	1.1E-08	4.8E-09	7.4E-10	9.3E-09	3.0E-08	3 9E-11	1 0E-12
1,2,3,4,6,7,8-HpCDF	N1 max	2 3E-07	8 0E-09	2.2E-09	1.0E-10	1 4E-10	6.0E-10	9.0E-09	3.9E-09	6.0E-10	7.5E-09	2.5E-08	1.4E-10	2 8E-12
1,2,3,4,7,8,9-HpCDF	N1 max	3.0E-08	1 7E-09	5 4E-10	3 3E-11	4 5E-11	1.2E-10	1.9E-09	8.1E-10	1.2E-10	1.6E-09	5.1E-09	1 3E-11	3 7E-13
OCDF	N1 max	4.6E-07	8 4E-08	1 5E-08	1 0E-10	1.4E-10	6.4E-09	9.6E-08	4.1E-08	6.4E-09	8.0E-08	2.6E-07	2 8E-09	1 7E-12
Tetrachlorobiphenyl	N1 max	3.7E-07	4.0E-08	2.9E-08	2.5E-09	3.4E-09	2.9E-09	4.4E-08	1.9E-08	2.9E-09	3.7E-08	1.2E-07	7.2E-11	6.5E-11
Hexachlorobiphenyl	N1 max	5.9E-07	2 5E-08	1.7E-08	1.4E-09	2.0E-09	1.9E-09	2.8E-08	1.2E-08	1.9E-09	2.3E-08	7.6E-08	6.9E-11	1 9E-11
Heptachlorobiphenyl	N1 max	5.8E-07	6.5E-07	1.2E-07	1.5E-09	2.0E-09	4.9E-08	7.4E-07	3.2E-07	4.9E-08	6.2E-07	2.0E-06	1.9E-09	9 5E-12
Benzo(a)pyrene	N1 max	9.5E-06	5.5E-05	3.6E-06	1.9E-10	2.4E-07	2.2E-05	2.2E-05	2.2E-05	2.2E-05	2.2E-05	2.2E-05	2.2E-07	1.2E-09
Benzo(b)fluoranthene	N1 max	3.5E-05	3.2E-05	2.5E-06	8.6E-10	1.1E-06	1.3E-05	1.3E-05	1.3E-05	1.3E-05	1 3E-05	1.3E-05	1.0E-07	4 0E-09
Bis(2-ethylhexyl)phthalate	N1 max	3.5E-06	4.5E-03	2 9E-04	1.1E-11	1.3E-08	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.1E-04	9 1E-11
Carbon tetrachloride	N1 max	2.0E-05	2.3E-09	9.0E-10	4.0E-12	5.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.8E-06	3.1E-06
Dibenz(a,h)anthracene	N1 max	2.5E-05	1.0E-05	1.1E-06	1.9E-09	2.3E-06	3.9E-06	3.9E-06	3.9E-06	3.9E-06	3.9E-06	3.9E-06	2.1E-08	1.5E-09
Di(n)octyl phthalate	N1 max	8.7E-07	1.2E-02	7.9E-04	1.5E-09	1.9E-06	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.8E-03	5.3E-07	8 3E-12
Heptachlor	N1 max	1.7E-08	3.5E-08	2.5E-09	4.8E-13	6.0E-10	1.4E-08	1.4E-08	1.4E-08	1.4E-08	1.4E-08	1.4E-08	9.7E-11	1.8E-12
Hexachlorobenzene	N1 max	3.3E-05	3.4E-07	2.3E-07	4.2E-10	5.2E-07	1.2E-07	1.2E-07	1.2E-07	1.2E-07	1.2E-07	1.2E-07	1 0E-08	1 8E-08
Hexachlorobutadiene	N1 max	9.0E-05	6.4E-08	5.2E-08	1.0E-10	1.2E-07	2.2E-08	2.2E-08	2.2E-08	2.2E-08	2.2E-08	2.2E-08	4.5E-08	7.9E-08
Hexachlorocyclopentadiene	N1 max	1.5E-06	4.0E-09	3.2E-09	5.8E-12	7.2E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	3.0E-10	5 1E-10
Hexachlorophene	N1 max	6.8E-05	3.8E-04	2.4E-05	3.6E-08	4.5E-05	1.5E-04	1.5E-04	1.5E-04	1.5E-04	1.5E-04	1.5E-04	1.2E-07	1 4E-09
Indeno(1,2,3-cd)pyrene	N1 max	2.8E-05	9.2E-06	1.2E-06	1.9E-09	2.4E-06	3.6E-06	3.6E-06	3.6E-06	3.6E-06	3.6E-06	3 6E-06	2 1E-08	1 8E-09
Antimony	N1 max	4.7E-06	4.1E-08	1.7E-08	1.3E-10	1.5E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	2 4E-08	2 7E-08
Arsenic	N1 max	1.8E-04	7.5E-07	2.5E-07	9.4E-08	1 2E-07	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2 7E-08	2.7E-08	1 3E-07	8 9E-08
Barium	N1 max	2.2E-04	2.2E-07	9.9E-07	3.7E-10	3.0E-07	6.3E-07	6.3E-07	6.3E-07	6.3E-07	6 3E-07	6 3E-07	6.4E-07	5 8E-07
Beryllium	N1 max	4.8E-07	4.4E-10	3.3E-10	1.3E-11	1.5E-11	4.7E-13	4.7E-13	4.7E-13	4.7E-13	4 7E-13	4.7E-13	8 2E-11	2 3E-11
Cadmium	N1 max	2.7E-06	2 2E-08	1 0E-09	4.2E-09	1.0E-10	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1 7E-09	1.7E-09	8 4E-08	8 9E-08
Chromium (hexavalent)	N1 max	1.3E-05	5.7E-08	6.6E-08	7.4E-10	1.2E-09	1.8E-08	1.8E-08	1 8E-08	1.8E-08	1 8E-08	1 8E-08	2 3E-09	1 5E-09
Lead	N1 max	8.0E-04	2.0E-07	5 0E-07	1.6E-05	1.6E-05	2.0E-07	2.0E-07	2 0E-07	2 0E-07	2 0E-07	2 0E-07	1 9E-07	1 8E-07
Mercury	N1 max	1.7E-03	1.6E-06	5.1E-06	9.6E-07	8 0E-08	2 5E-06	2.5E-06	2 5E-06	2 5E-06	2 5E-06	2 5E-06	4 3E-05	7 5E-05
Mercury (methyl BCF)	N1 max	1.7E-03	1.6E-06	5.1E-06	9 6E-07	8 0E-08	2.5E-06	2.5E-06	2 5E-06	2 5E-06	2 5E-06	2 5E-06	4 3E-05	7 5E-05
Nickel	N1 max	1.9E-05	3.1E-07	1 3E-06	2 0E-09	3 3E-09	6 3E-08	6 3E-08	6 3E-08	6 3E-08	6 3E-08	6 3E-08	7 4E-08	1 1E-07
Selenium	N1 max	3 4E-03	1.5E-05	3.6E-04	1.2E-05	1 2E-05	2 8E-04	2 8E-04	2 8E-04	2 8E-04	2 8E-04	2 8E-04	3 9E-06	5 1E-06
Silver	N1 max	1 7E-05	5.3E-07	1 2E-08	1 4E-10	2.8E-09	4 4E-06	4.4E-06	4 4E-06	4 4E-06	4 4E-06	4 4E-06	2 2E-07	3 2E-07
Thallium	N1 max	8 5E-04	2 3E-05	8 1E-05	1.6E-05	1 6E-05	1 3E-06	1 3E-06	1 3E-06	1 3E-06	1 3E-06	1 3E-06	7 5E-08	6 6E-09
Zinc	N1 max	1 2E-04	3 2E-07	8 4E-08	7 3E-08	7.3E-08	1 0E-07	1 0E-07	1 0E-07	1 0E-07	1 0E-07	1 0E-07	1 2E-05	2 1E-05

TABLE 2. Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	N2 max	1 2E-10	6.2E-11	1 5E-11	5 6E-13	7 8E-13	4 7E-12	7.0E-11	3 0E-11	4 7E-12	5 8E-11	1 9E-10	9 8E-14	7 8E-15
1,2,3,7,8-PeCDD	N2 max	5.4E-10	1.0E-09	2 0E-10	2 5E-12	3 4E-12	7.9E-11	1.2E-09	5.1E-10	7 9E-11	9 8E-10	3 2E-09	1.7E-12	3 6E-14
1,2,3,4,7,8-HxCDD	N2 max	5 5E-10	7.0E-10	1.3E-10	1.2E-12	1.7E-12	5.3E-11	8.0E-10	3.4E-10	5 3E-11	6.6E-10	2.2E-09	2 3E-12	7 8E-15
1,2,3,6,7,8-HxCDD	N2 max	9.5E-10	1.8E-10	4.6E-11	1 8E-12	2 5E-12	1.4E-11	2.1E-10	9.0E-11	1 4E-11	1.7E-10	5 7E-10	7 6E-13	2 6E-14
1,2,3,7,8,9-HxCDD	N2 max	6.1E-10	2.6E-10	5.5E-11	1.5E-12	2.1E-12	1 9E-11	2.9E-10	1 3E-10	1 9E-11	2 4E-10	7.9E-10	7.9E-13	8.6E-15
1,2,3,4,6,7,8-HpCDD	N2 max	7.0E-09	2.0E-09	3.7E-10	2.8E-12	3 8E-12	1.5E-10	2.3E-09	1.0E-09	1 5E-10	1.9E-09	6.3E-09	3.8E-11	5.7E-14
OCDD	N2 max	3.3E-08	3.7E-07	6.3E-08	1.9E-11	2.6E-11	2 8E-08	4.2E-07	1 8E-07	2 8E-08	3.5E-07	1.1E-06	4.7E-09	6 2E-13
2,3,7,8-TCDF	N2 max	1.1E-09	1 9E-10	4.3E-11	1.1E-12	1 6E-12	1.5E-11	2.2E-10	9 6E-11	1.5E-11	1.8E-10	6.0E-10	1.4E-12	8 4E-14
1,2,3,7,8-PeCDF	N2 max	3.3E-09	9.1E-10	1.8E-10	2 7E-12	3.7E-12	6 9E-11	1.0E-09	4.5E-10	6.9E-11	8 6E-10	2.8E-09	8.3E-12	1.8E-13
2,3,4,7,8-PeCDF	N2 max	3.9E-09	5.2E-09	1.0E-09	1 4E-11	1 9E-11	3 9E-10	5.9E-09	2.6E-09	3 9E-10	4.9E-09	1.6E-08	1 1E-11	1 8E-13
1,2,3,4,7,8-HxCDF	N2 max	8 6E-09	2.9E-09	6 6E-10	2 2E-11	3 1E-11	2.2E-10	3.3E-09	1.4E-09	2 2E-10	2 7E-09	8.9E-09	8.7E-12	2 3E-13
1,2,3,6,7,8-HxCDF	N2 max	8.0E-09	5 3E-09	1 0E-09	1.8E-11	2 4E-11	4 0E-10	6.0E-09	2.6E-09	4 0E-10	5.0E-09	1.6E-08	1 8E-11	2.2E-13
1,2,3,7,8,9-HxCDF	N2 max	1.9E-09	1 2E-09	2 4E-10	4.2E-12	5.8E-12	9.1E-11	1.4E-09	5 9E-10	9 1E-11	1 1E-09	3.7E-09	4.1E-12	5 2E-14
2,3,4,6,7,8-HxCDF	N2 max	9.1E-09	3 5E-09	7.4E-10	1.8E-11	2.5E-11	2.6E-10	4.0E-09	1 7E-09	2.6E-10	3 3E-09	1.1E-08	1.4E-11	2.5E-13
1,2,3,4,6,7,8-HpCDF	N2 max	5 4E-08	2 8E-09	6 6E-10	2 4E-11	3 4E-11	2.1E-10	3.1E-09	1 4E-09	2.1E-10	2 6E-09	8 6E-09	4.8E-11	6.7E-13
1,2,3,4,7,8,9-HpCDF	N2 max	6 9E-09	5 6E-10	1 5E-10	7.5E-12	1.0E-11	4.2E-11	6.3E-10	2.7E-10	4.2E-11	5 2E-10	1.7E-09	4 1E-12	8 5E-14
OCDF	N2 max	1 0E-07	3 1E-08	5.4E-09	2 3E-11	3.1E-11	2 3E-09	3.5E-08	1.5E-08	2 3E-09	2.9E-08	9.6E-08	1.0E-09	3 8E-13
Tetrachlorobiphenyl	N2 max	1.3E-07	1 5E-08	1.0E-08	8 9E-10	1.2E-09	1.1E-09	1.6E-08	6.9E-09	1.1E-09	1.3E-08	4.4E-08	2.6E-11	2.4E-11
Hexachlorobiphenyl	N2 max	2 2E-07	9 3E-09	6.4E-09	5.2E-10	7.2E-10	6.8E-10	1.0E-08	4.4E-09	6 8E-10	8.5E-09	2.8E-08	2.5E-11	7.1E-12
Heptachlorobiphenyl	N2 max	2.1E-07	2 4E-07	4.6E-08	5 4E-10	7 4E-10	1 8E-08	2.7E-07	1.2E-07	1.8E-08	2.3E-07	7.5E-07	6.9E-10	3 5E-12
Benzo(a)pyrene	N2 max	2 8E-06	2 0E-05	1.3E-06	5.5E-11	6.9E-08	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-06	7.9E-08	3 5E-10
Benzo(b)fluoranthene	N2 max	1 3E-05	1 2E-05	9.3E-07	3.2E-10	4.0E-07	4.6E-06	4.6E-06	4.6E-06	4.6E-06	4.6E-06	4.6E-06	3.8E-08	1 5E-09
Bis(2-ethylhexyl)phthalate	N2 max	9 5E-07	1 7E-03	1.1E-04	2 9E-12	3.6E-09	6.5E-04	6.5E-04	6.5E-04	6 5E-04	6.5E-04	6.5E-04	4.2E-05	2.5E-11
Carbon tetrachloride	N2 max	7.5E-06	8.5E-10	3 3E-10	1 5E-12	1.8E-09	3 7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	6 5E-07	1.1E-06
Dibenz(a,h)anthracene	N2 max	5.6E-06	2.4E-06	2.6E-07	4.2E-10	5.3E-07	9.3E-07	9.3E-07	9.3E-07	9.3E-07	9 3E-07	9.3E-07	5.0E-09	3 3E-10
Di(n)octyl phthalate	N2 max	3.2E-07	4.5E-03	2.9E-04	5.6E-10	7.0E-07	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.9E-07	3 1E-12
Heptachlor	N2 max	6.3E-09	1.3E-08	9.3E-10	1.8E-13	2 2E-10	5 1E-09	5.1E-09	5.1E-09	5 1E-09	5.1E-09	5.1E-09	3 6E-11	6 6E-13
Hexachlorobenzene	N2 max	1.2E-05	1.2E-07	8.4E-08	1.5E-10	1.9E-07	4.3E-08	4.3E-08	4.3E-08	4.3E-08	4.3E-08	4 3E-08	3.9E-09	6 5E-09
Hexachlorobutadiene	N2 max	3.3E-05	2.4E-08	1.9E-08	3.7E-11	4.6E-08	8.2E-09	8.2E-09	8.2E-09	8.2E-09	8.2E-09	8.2E-09	1 7E-08	2.9E-08
Hexachlorocyclopentadiene	N2 max	5.4E-07	1.5E-09	1.2E-09	2 1E-12	2 7E-09	5 0E-10	5.0E-10	5.0E-10	5.0E-10	5 0E-10	5 0E-10	1.1E-10	1 9E-10
Hexachlorophene	N2 max	1.5E-05	9.3E-05	5.5E-06	8.1E-09	1.0E-05	3.6E-05	3.6E-05	3.6E-05	3 6E-05	3 6E-05	3.6E-05	2 8E-08	3 1E-10
Indeno(1,2,3-cd)pyrene	N2 max	6 4E-06	2.2E-06	2.6E-07	4.4E-10	5.5E-07	8.6E-07	8.6E-07	8.6E-07	8.6E-07	8.6E-07	8.6E-07	5 0E-09	4 0E-10
Antimony	N2 max	1.0E-06	9 7E-09	3.9E-09	2.8E-11	3.3E-10	1.2E-09	1.2E-09	1.2E-09	1 2E-09	1 2E-09	1.2E-09	5 5E-09	6 0E-09
Arsenic	N2 max	4 0E-05	1.8E-07	5.5E-08	2.1E-08	2.7E-08	6 4E-09	6.4E-09	6 4E-09	6 4E-09	6 4E-09	6.4E-09	3 0E-08	2 0E-08
Barium	N2 max	5.0E-05	5 2E-08	2 2E-07	8 3E-11	6 6E-08	1 5E-07	1.5E-07	1 5E-07	1 5E-07	1 5E-07	1.5E-07	1 5E-07	1.3E-07
Beryllium	N2 max	1.1E-07	1.0E-10	7.4E-11	2 8E-12	3.3E-12	1 1E-13	1.1E-13	1 1E-13	1 1E-13	1.1E-13	1 1E-13	1 9E-11	5 1E-12
Cadmium	N2 max	5.9E-07	5.2E-09	2 3E-10	9.4E-10	2 2E-11	4 0E-10	4 0E-10	4 0E-10	4 0E-10	4 0E-10	4 0E-10	1 9E-08	2 0E-08
Chromium (hexavalent)	N2 max	2 8E-06	1.3E-08	1 5E-08	1.6E-10	2.7E-10	4 2E-09	4.2E-09	4 2E-09	4 2E-09	4 2E-09	4.2E-09	5 5E-10	3 4E-10
Lead	N2 max	1 8E-04	4 7E-08	1 1E-07	3 5E-06	3 5E-06	4 5E-08	4 5E-08	4 5E-08	4 5E-08	4 5E-08	4 5E-08	4 5E-08	4 1E-08
Mercury	N2 max	6.2E-04	5 7E-07	1.9E-06	3 5E-07	3 0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Mercury (methyl BCF)	N2 max	6 2E-04	5 7E-07	1 9E-06	3 5E-07	3 0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Nickel	N2 max	4 1E-06	7 2E-08	3 0E-07	4 5E-10	7 3E-10	1 5E-08	1 5E-08	1 5E-08	1 5E-08	1 5E-08	1 5E-08	1 7E-08	2 5E-08
Selenium	N2 max	7.6E-04	3.6E-06	8 1E-05	2 6E-06	2 6E-06	6 6E-05	6 6E-05	6 6E-05	6 6E-05	6 6E-05	6 6E-05	8 7E-07	1 1E-06
Silver	N2 max	3 7E-06	1 2E-07	2 7E-09	3 1E-11	6 3E-10	1 0E-06	1 0E-06	1 0E-06	1 0E-06	1 0E-06	1 0E-06	4 8E-08	7 2E-08
Thallium	N2 max	1 9E-04	5 4E-06	1 8E-05	3 5E-06	3 5E-06	3 1E-07	3 1E-07	3 1E-07	3 1E-07	3 1E-07	3 1E-07	1 8E-08	1 5E-09
Zinc	N2 max	2.7E-05	7.3E-08	1 9E-08	1 6E-08	1 6E-08	2 4E-08	2 4E-08	2 4E-08	2 4E-08	2 4E-08	2 4E-08	2 8E-06	4 8E-06

External Review Draft, Do Not Cite or Quote

TABLE 2 Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	N3 max	3.3E-11	1 7E-11	4.3E-12	1.6E-13	2.2E-13	1 3E-12	1.9E-11	8 3E-12	1.3E-12	1 6E-11	5 2E-11	2 7E-14	2.2E-15
1,2,3,7,8-PeCDD	N3 max	1.6E-10	2 8E-10	5.4E-11	7 4E-13	1.0E-12	2.1E-11	3 2E-10	1 4E-10	2 1E-11	2.7E-10	8.8E-10	4 6E-13	1 0E-14
1,2,3,4,7,8-HxCDD	N3 max	1.7E-10	1.9E-10	3 5E-11	3 8E-13	5.3E-13	1.4E-11	2.2E-10	9 4E-11	1 4E-11	1.8E-10	5 9E-10	6.3E-13	2 4E-15
1,2,3,6,7,8-HxCDD	N3 max	3.0E-10	5.1E-11	1 3E-11	5 8E-13	8.0E-13	3.8E-12	5 8E-11	2.5E-11	3 8E-12	4 8E-11	1.6E-10	2.1E-13	8 2E-15
1,2,3,7,8,9-HxCDD	N3 max	1.9E-10	7.0E-11	1.6E-11	4.7E-13	6.6E-13	5.3E-12	8.0E-11	3.4E-11	5.3E-12	6 6E-11	2.2E-10	2.2E-13	2.7E-15
1,2,3,4,6,7,8-HpCDD	N3 max	2.2E-09	5 5E-10	1 0E-10	8.7E-13	1.2E-12	4.2E-11	6 3E-10	2.7E-10	4.2E-11	5 2E-10	1.7E-09	1 0E-11	1 8E-14
OCDD	N3 max	1 1E-08	1 0E-07	1.7E-08	6.1E-12	8.4E-12	7.6E-09	1.1E-07	4.9E-08	7.6E-09	9 5E-08	3.1E-07	1.3E-09	2.0E-13
2,3,7,8-TCDF	N3 max	3.0E-10	5 3E-11	1 2E-11	3.2E-13	4.4E-13	4.0E-12	6 0E-11	2.6E-11	4.0E-12	5 0E-11	1.6E-10	3 8E-13	2 3E-14
1,2,3,7,8-PeCDF	N3 max	9.5E-10	2.5E-10	4.8E-11	7.7E-13	1.1E-12	1.9E-11	2.8E-10	1 2E-10	1.9E-11	2 3E-10	7.7E-10	2.3E-12	5 1E-14
2,3,4,7,8-PeCDF	N3 max	1.2E-09	1.4E-09	2.7E-10	4.0E-12	5.5E-12	1.1E-10	1.6E-09	7.0E-10	1.1E-10	1.3E-09	4.4E-09	3.1E-12	5 2E-14
1,2,3,4,7,8-HxCDF	N3 max	2.7E-09	7.9E-10	1.9E-10	6.9E-12	9.5E-12	6.0E-11	9.0E-10	3.9E-10	6.0E-11	7.5E-10	2.5E-09	2.4E-12	7.3E-14
1,2,3,6,7,8-HxCDF	N3 max	2.5E-09	1.4E-09	2 9E-10	5.5E-12	7.6E-12	1.1E-10	1.6E-09	7.1E-10	1.1E-10	1.4E-09	4.5E-09	4.9E-12	6 8E-14
1,2,3,7,8,9-HxCDF	N3 max	5 8E-10	3 3E-10	6 6E-11	1.3E-12	1.8E-12	2.5E-11	3.7E-10	1.6E-10	2.5E-11	3.1E-10	1.0E-09	1.1E-12	1.6E-14
2,3,4,6,7,8-HxCDF	N3 max	2 8E-09	9.6E-10	2.1E-10	5.6E-12	7.7E-12	7.3E-11	1.1E-09	4.7E-10	7.3E-11	9.1E-10	3.0E-09	3.7E-12	7 7E-14
1,2,3,4,6,7,8-HpCDF	N3 max	1.7E-08	7.7E-10	1 9E-10	7.7E-12	1.1E-11	5 8E-11	8.7E-10	3.8E-10	5.8E-11	7.2E-10	2.4E-09	1.3E-11	2 1E-13
1,2,3,4,7,8,9-HpCDF	N3 max	2.2E-09	1.6E-10	4.5E-11	2.4E-12	3.3E-12	1.2E-11	1.8E-10	7.6E-11	1.2E-11	1.5E-10	4.8E-10	1.2E-12	2 7E-14
OCDF	N3 max	3.3E-08	8.4E-09	1.5E-09	7 2E-12	9.9E-12	6.3E-10	9.5E-09	4.1E-09	6.3E-10	7.9E-09	2.6E-08	2.8E-10	1.2E-13
Tetrachlorobiphenyl	N3 max	3.6E-08	4.0E-09	2.9E-09	2 4E-10	3.4E-10	2.9E-10	4.3E-09	1.9E-09	2.9E-10	3.6E-09	1.2E-08	7.1E-12	6.4E-12
Hexachlorobiphenyl	N3 max	5 9E-08	2 5E-09	1.7E-09	1.4E-10	2.0E-10	1.9E-10	2 8E-09	1.2E-09	1.9E-10	2.3E-09	7.6E-09	6.9E-12	1.9E-12
Heptachlorobiphenyl	N3 max	5.8E-08	6 5E-08	1.2E-08	1.5E-10	2.0E-10	4 9E-09	7.4E-08	3.2E-08	4.9E-09	6.2E-08	2.0E-07	1.9E-10	9.5E-13
Benzo(a)pyrene	N3 max	8.0E-07	5 4E-06	3.5E-07	1.6E-11	2.0E-08	2 1E-06	2.1E-06	2.1E-06	2.1E-06	2.1E-06	2.1E-06	2.2E-08	1 0E-10
Benzo(b)fluoranthene	N3 max	3.5E-06	3 2E-06	2.5E-07	8.6E-11	1.1E-07	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.0E-08	4 0E-10
Bis(2-ethylhexyl)phthalate	N3 max	2 8E-07	4 5E-04	2.9E-05	8 6E-13	1.1E-09	1.8E-04	1.8E-04	1.8E-04	1.8E-04	1.8E-04	1.8E-04	1.1E-05	7.3E-12
Carbon tetrachloride	N3 max	2.0E-06	2.3E-10	9.0E-11	4.0E-13	5.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.8E-07	3.1E-07
Dibenz(a,h)anthracene	N3 max	1.8E-06	7.5E-07	8.2E-08	1.3E-10	1.7E-07	2.9E-07	2.9E-07	2.9E-07	2.9E-07	2.9E-07	2.9E-07	1.6E-09	1.1E-10
Di(n)octyl phthalate	N3 max	8.7E-08	1 2E-03	7.9E-05	1.5E-10	1.9E-07	4.8E-04	4.8E-04	4.8E-04	4.8E-04	4.8E-04	4.8E-04	5.3E-08	8.3E-13
Heptachlor	N3 max	1.7E-09	3.5E-09	2.5E-10	4.8E-14	6.0E-11	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	9.7E-12	1.8E-13
Hexachlorobenzene	N3 max	3.3E-06	3.4E-08	2 3E-08	4.2E-11	5.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.0E-09	1 8E-09
Hexachlorobutadiene	N3 max	9.0E-06	6.4E-09	5.2E-09	1.0E-11	1.2E-08	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	4 5E-09	7.9E-09
Hexachlorocyclopentadiene	N3 max	1.5E-07	4.0E-10	3.2E-10	5.8E-13	7.2E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	3 0E-11	5.1E-11
Hexachlorophene	N3 max	4.9E-06	2.9E-05	1.7E-06	2.6E-09	3.2E-06	1.1E-05	1.1E-05	1.1E-05	1.1E-05	1.1E-05	1.1E-05	8.8E-09	9 7E-11
Indeno(1,2,3-cd)pyrene	N3 max	2.0E-06	7.0E-07	8.4E-08	1.4E-10	1.7E-07	2.7E-07	2.7E-07	2.7E-07	2.7E-07	2 7E-07	2.7E-07	1 6E-09	1.3E-10
Antimony	N3 max	3.7E-07	3.3E-09	1.3E-09	9.8E-12	1.1E-10	4.1E-10	4.1E-10	4.1E-10	4 1E-10	4 1E-10	4.1E-10	1.9E-09	2 1E-09
Arsenic	N3 max	1.4E-05	6.1E-08	1 9E-08	7.3E-09	9.5E-09	2.2E-09	2.2E-09	2.2E-09	2 2E-09	2 2E-09	2 2E-09	1 0E-08	6 9E-09
Barium	N3 max	1.7E-05	1.8E-08	7.8E-08	2.9E-11	2.3E-08	5.1E-08	5.1E-08	5.1E-08	5 1E-08	5.1E-08	5 1E-08	5 1E-08	4 5E-08
Beryllium	N3 max	3.8E-08	3 6E-11	2.6E-11	1.0E-12	1.2E-12	3.7E-14	3 7E-14	3.7E-14	3.7E-14	3 7E-14	3 7E-14	6 7E-12	1 8E-12
Cadmium	N3 max	2.1E-07	1.8E-09	8.0E-11	3 3E-10	7.8E-12	1.4E-10	1.4E-10	1.4E-10	1 4E-10	1.4E-10	1 4E-10	6 7E-09	6 9E-09
Chromium (hexavalent)	N3 max	9.9E-07	4 6E-09	5.1E-09	5.8E-11	9.4E-11	1 4E-09	1.4E-09	1.4E-09	1 4E-09	1 4E-09	1 4E-09	1 9E-10	1 2E-10
Lead	N3 max	6.2E-05	1.6E-08	3 9E-08	1.2E-06	1.2E-06	1 6E-08	1 6E-08	1 6E-08	1 6E-08	1 6E-08	1 6E-08	1 5E-08	1 4E-08
Mercury	N3 max	1.7E-04	1.6E-07	5 1E-07	9.6E-08	8 0E-09	2 5E-07	2 5E-07	2 5E-07	2 5E-07	2 5E-07	2 5E-07	4 3E-06	7 5E-06
Mercury (methyl BCF)	N3 max	1.7E-04	1 6E-07	5 1E-07	9 6E-08	8 0E-09	2 5E-07	2.5E-07	2 5E-07	2 5E-07	2 5E-07	2 5E-07	4 3E-06	7 5E-06
Nickel	N3 max	1 4E-06	2.5E-08	1.0E-07	1.6E-10	2.6E-10	5.1E-09	5 1E-09	5 1E-09	5 1E-09	5 1E-09	5 1E-09	5 8E-09	8 7E-09
Selenium	N3 max	2.7E-04	1 2E-06	2 8E-05	9 2E-07	9.2E-07	2.3E-05	2.3E-05	2 3E-05	2 3E-05	2 3E-05	2 3E-05	3 0E-07	3 9E-07
Silver	N3 max	1.3E-06	4 2E-08	9 3E-10	1 1E-11	2.2E-10	3 5E-07	3 5E-07	3 5E-07	3 5E-07	3 5E-07	3 5E-07	1 7E-08	2 5E-08
Thallium	N3 max	6.6E-05	1 9E-06	6 3E-06	1 2E-06	1 2E-06	1 1E-07	1 1E-07	1 1E-07	1 1E-07	1 1E-07	1 1E-07	6 1E-09	5 1E-10
Zinc	N3 max	9 3E-06	2 5E-08	6 5E-09	5.7E-09	5 7E-09	8 2E-09	8 2E-09	8 2E-09	8 2E-09	8 2E-09	8 2E-09	9 7E-07	1 7E-06

TABLE 2 Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	S1 max	4.6E-10	2.3E-10	5.8E-11	2.2E-12	3 0E-12	1 7E-11	2.6E-10	1 1E-10	1 7E-11	2 1E-10	7 0E-10	3 6E-13	3 0E-14
1,2,3,7,8-PeCDD	S1 max	2.2E-09	3 8E-09	7.3E-10	1 0E-11	1 4E-11	2.9E-10	4.3E-09	1.9E-09	2 9E-10	3 6E-09	1 2E-08	6 2E-12	1 5E-13
1,2,3,4,7,8-HxCDD	S1 max	2.5E-09	2 6E-09	4.8E-10	5.5E-12	7.6E-12	1.9E-10	2.9E-09	1.3E-09	1.9E-10	2.4E-09	8.0E-09	8.5E-12	3.5E-14
1,2,3,6,7,8-HxCDD	S1 max	4.4E-09	6.9E-10	1.8E-10	8.4E-12	1.2E-11	5.2E-11	7.8E-10	3 4E-10	5.2E-11	6.5E-10	2.1E-09	2.9E-12	1 2E-13
1,2,3,7,8,9-HxCDD	S1 max	2.8E-09	9.5E-10	2.2E-10	6.9E-12	9.6E-12	7.2E-11	1.1E-09	4.7E-10	7.2E-11	8.9E-10	2.9E-09	3 0E-12	4 0E-14
1,2,3,4,6,7,8-HpCDD	S1 max	3.2E-08	7.4E-09	1.4E-09	1.3E-11	1.8E-11	5 6E-10	8.5E-09	3.7E-09	5.6E-10	7.1E-09	2.3E-08	1.4E-10	2.6E-13
OCDD	S1 max	1.6E-07	1.3E-06	2.3E-07	8.9E-11	1.2E-10	1.0E-07	1.5E-06	6 6E-07	1 0E-07	1.3E-06	4.2E-06	1.7E-08	2 9E-12
2,3,7,8-TCDF	S1 max	4.1E-09	7.1E-10	1 6E-10	4.3E-12	6.0E-12	5.4E-11	8.1E-10	3.5E-10	5 4E-11	6.7E-10	2.2E-09	5.1E-12	3.2E-13
1,2,3,7,8-PeCDF	S1 max	1 3E-08	3 3E-09	6.5E-10	1.1E-11	1.5E-11	2.5E-10	3.8E-09	1 6E-09	2.5E-10	3.1E-09	1.0E-08	3.0E-11	7.1E-13
2,3,4,7,8-PeCDF	S1 max	1.6E-08	1.9E-08	3 7E-09	5.6E-11	7 7E-11	1.4E-09	2.2E-08	9 4E-09	1.4E-09	1.8E-08	5.9E-08	4.1E-11	7.3E-13
1,2,3,4,7,8-HxCDF	S1 max	3 9E-08	1 1E-08	2.6E-09	1.0E-10	1 4E-10	8.1E-10	1.2E-08	5.3E-09	8.1E-10	1.0E-08	3.3E-08	3.3E-11	1.1E-12
1,2,3,6,7,8-HxCDF	S1 max	3 6E-08	2 0E-08	3.9E-09	8.0E-11	1.1E-10	1.5E-09	2.2E-08	9 6E-09	1.5E-09	1.8E-08	6.1E-08	6.7E-11	9.8E-13
1,2,3,7,8,9-HxCDF	S1 max	8.4E-09	4 4E-09	9 0E-10	1 9E-11	2 6E-11	3.4E-10	5.0E-09	2.2E-09	3.4E-10	4.2E-09	1.4E-08	1.5E-11	2.3E-13
2,3,4,6,7,8-HxCDF	S1 max	4.1E-08	1 3E-08	2.8E-09	8.1E-11	1 1E-10	9.8E-10	1.5E-08	6 4E-09	9.8E-10	1 2E-08	4.0E-08	5.0E-11	1.1E-12
1,2,3,4,6,7,8-HpCDF	S1 max	2 5E-07	1 0E-08	2.6E-09	1.1E-10	1.5E-10	7.8E-10	1.2E-08	5.1E-09	7.8E-10	9.8E-09	3.2E-08	1.8E-10	3.0E-12
1,2,3,4,7,8,9-HpCDF	S1 max	3.2E-08	2 1E-09	6 3E-10	3.5E-11	4 8E-11	1.6E-10	2.4E-09	1.0E-09	1.6E-10	2 0E-09	6 5E-09	1.6E-11	3 9E-13
OCDF	S1 max	4 8E-07	1 1E-07	2 0E-08	1.1E-10	1 5E-10	8.5E-09	1.3E-07	5.5E-08	8.5E-09	1.1E-07	3.5E-07	3.7E-09	1.8E-12
Tetrachlorobiphenyl	S1 max	4 9E-07	5 3E-08	3.8E-08	3.3E-09	4.5E-09	3.9E-09	5.8E-08	2.5E-08	3 9E-09	4.9E-08	1.6E-07	9.5E-11	8.7E-11
Hexachlorobiphenyl	S1 max	7.9E-07	3 4E-08	2.3E-08	1.9E-09	2 6E-09	2.5E-09	3.7E-08	1.6E-08	2.5E-09	3.1E-08	1.0E-07	9 2E-11	2.6E-11
Heptachlorobiphenyl	S1 max	7.8E-07	8.7E-07	1.7E-07	2.0E-09	2.7E-09	6.6E-08	9.9E-07	4.3E-07	6.6E-08	8.3E-07	2.7E-06	2.5E-09	1.3E-11
Benzo(a)pyrene	S1 max	1.1E-05	7 3E-05	4.8E-06	2.2E-10	2.8E-07	2.9E-05	2.9E-05	2.9E-05	2.9E-05	2.9E-05	2.9E-05	2.9E-07	1.4E-09
Benzo(b)fluoranthene	S1 max	4.7E-05	4 3E-05	3 4E-06	1.2E-09	1.4E-06	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.7E-05	1.4E-07	5 4E-09
Bis(2-ethylhexyl)phthalate	S1 max	4.0E-06	6 1E-03	3.9E-04	1.2E-11	1 5E-08	2.4E-03	2.4E-03	2.4E-03	2.4E-03	2.4E-03	2.4E-03	1.5E-04	1.0E-10
Carbon tetrachloride	S1 max	2.7E-05	3 1E-09	1.2E-09	5.3E-12	6.7E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	2.4E-06	4.1E-06
Dibenz(a,h)anthracene	S1 max	2.6E-05	1 1E-05	1 2E-06	2.0E-09	2.5E-06	4.1E-06	4.1E-06	4.1E-06	4.1E-06	4.1E-06	4.1E-06	2.2E-08	1.5E-09
Di(n)octyl phthalate	S1 max	1.2E-06	1 6E-02	1.1E-03	2.0E-09	2.6E-06	6.4E-03	6.4E-03	6.4E-03	6.4E-03	6.4E-03	6.4E-03	7.1E-07	1.1E-11
Heptachlor	S1 max	2.3E-08	4.7E-08	3.4E-09	6.5E-13	8.1E-10	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.3E-10	2.4E-12
Hexachlorobenzene	S1 max	4.4E-05	4.5E-07	3.1E-07	5.6E-10	7.0E-07	1.6E-07	1.6E-07	1.6E-07	1.6E-07	1.6E-07	1.6E-07	1 4E-08	2.4E-08
Hexachlorobutadiene	S1 max	1.2E-04	8.7E-08	7.0E-08	1.3E-10	1.7E-07	3.0E-08	3.0E-08	3.0E-08	3.0E-08	3.0E-08	3.0E-08	6 0E-08	1 1E-07
Hexachlorocyclopentadiene	S1 max	2.0E-06	5.4E-09	4.2E-09	7.7E-12	9.7E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	4.0E-10	6.9E-10
Hexachlorophene	S1 max	7.1E-05	4 1E-04	2 5E-05	3.8E-08	4.7E-05	1.6E-04	1.6E-04	1.6E-04	1.6E-04	1 6E-04	1.6E-04	1 2E-07	1.4E-09
Indeno(1,2,3-cd)pyrene	S1 max	3.0E-05	9.9E-06	1.2E-06	2.0E-09	2.5E-06	3.8E-06	3.8E-06	3.8E-06	3.8E-06	3.8E-06	3.8E-06	2 2E-08	1.9E-09
Antimony	S1 max	5.3E-06	4.7E-08	1 9E-08	1.4E-10	1.7E-09	5.9E-09	5.9E-09	5.9E-09	5.9E-09	5.9E-09	5.9E-09	2 8E-08	3 1E-08
Arsenic	S1 max	2 1E-04	8.6E-07	2.8E-07	1.1E-07	1.4E-07	3.1E-08	3.1E-08	3.1E-08	3 1E-08	3 1E-08	3 1E-08	1 5E-07	1 0E-07
Barium	S1 max	2.5E-04	2 5E-07	1.1E-06	4.2E-10	3.4E-07	7.3E-07	7.3E-07	7.3E-07	7.3E-07	7.3E-07	7 3E-07	7 3E-07	6.6E-07
Beryllium	S1 max	5 4E-07	5 1E-10	3.8E-10	1.4E-11	1.7E-11	5 3E-13	5.3E-13	5.3E-13	5.3E-13	5.3E-13	5 3E-13	9 4E-11	2 6E-11
Cadmium	S1 max	3 0E-06	2 5E-08	1.1E-09	4.8E-09	1.1E-10	2.0E-09	2.0E-09	2 0E-09	2 0E-09	2.0E-09	2 0E-09	9 5E-08	1 0E-07
Chromium (hexavalent)	S1 max	1.4E-05	6 5E-08	7.4E-08	8 4E-10	1.4E-09	2.1E-08	2.1E-08	2.1E-08	2 1E-08	2 1E-08	2.1E-08	2 7E-09	1 7E-09
Lead	S1 max	9.0E-04	2 3E-07	5.7E-07	1.8E-05	1 8E-05	2 2E-07	2 2E-07	2 2E-07	2 2E-07	2 2E-07	2 2E-07	2 2E-07	2.1E-07
Mercury	S1 max	2.3E-03	2 1E-06	6 8E-06	1.3E-06	1 1E-07	3 3E-06	3 3E-06	3 3E-06	3 3E-06	3 3E-06	3 3E-06	5 8E-05	1 0E-04
Mercury (methyl BCF)	S1 max	2 3E-03	2 1E-06	6 8E-06	1 3E-06	1 1E-07	3 3E-06	3 3E-06	3 3E-06	3 3E-06	3 3E-06	3 3E-06	5 8E-05	1 0E-04
Nickel	S1 max	2 1E-05	3 5E-07	1 5E-06	2.3E-09	3 7E-09	7.2E-08	7 2E-08	7 2E-08	7 2E-08	7 2E-08	7 2E-08	8 4E-08	1 3E-07
Selenium	S1 max	3 9E-03	1.8E-05	4 1E-04	1.3E-05	1 3E-05	3 2E-04	3 2E-04	3 2E-04	3 2E-04	3 2E-04	3 2E-04	4 4E-06	5 7E-06
Silver	S1 max	1.9E-05	6 0E-07	1.3E-08	1.6E-10	3 2E-09	5 0E-06	5 0E-06	5 0E-06	5 0E-06	5 0E-06	5 0E-06	2 4E-07	3 6E-07
Thallium	S1 max	9 5E-04	2 7E-05	9 2E-05	1 8E-05	1 8E-05	1 5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	8 6E-08	7 4E-09
Zinc	S1 max	1 4E-04	3 6E-07	9 5E-08	8.2E-08	8.2E-08	1.2E-07	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 2E-07	1 4E-05	2 4E-05

External Review Draft, Do Not Cite or Quote

TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	S2 max	1.1E-10	6.1E-11	1.5E-11	5.2E-13	7.2E-13	4 6E-12	6 9E-11	3 0E-11	4.6E-12	5 8E-11	1.9E-10	9.6E-14	7.1E-15
1,2,3,7,8-PeCDD	S2 max	4.4E-10	1.0E-09	1 9E-10	2.0E-12	2.8E-12	7.8E-11	1.2E-09	5.1E-10	7 8E-11	9 8E-10	3.2E-09	1.7E-12	2 9E-14
1,2,3,4,7,8-HxCDD	S2 max	3 8E-10	6.9E-10	1 2E-10	8.5E-13	1.2E-12	5.3E-11	7.9E-10	3 4E-10	5.3E-11	6 6E-10	2.2E-09	2.3E-12	5.4E-15
1,2,3,6,7,8-HxCDD	S2 max	6.3E-10	1.8E-10	3 9E-11	1.2E-12	1.7E-12	1.3E-11	2.0E-10	8.6E-11	1 3E-11	1.7E-10	5.4E-10	7.0E-13	1.7E-14
1,2,3,7,8,9-HxCDD	S2 max	3.9E-10	2.5E-10	5 0E-11	9.7E-13	1.3E-12	1.9E-11	2.8E-10	1.2E-10	1.9E-11	2.3E-10	7.7E-10	7.6E-13	5.5E-15
1,2,3,4,6,7,8-HpCDD	S2 max	4.5E-09	2.0E-09	3 6E-10	1.8E-12	2.5E-12	1.5E-10	2.3E-09	1 0E-09	1.5E-10	1 9E-09	6.3E-09	3.7E-11	3.7E-14
OCDD	S2 max	2 1E-08	3.7E-07	6.3E-08	1.2E-11	1.7E-11	2.8E-08	4.2E-07	1.8E-07	2.8E-08	3.5E-07	1.1E-06	4.7E-09	3 8E-13
2,3,7,8-TCDF	S2 max	1.0E-09	1.9E-10	4.3E-11	1.1E-12	1.5E-12	1.5E-11	2.2E-10	9.5E-11	1.5E-11	1.8E-10	6.0E-10	1.4E-12	8.0E-14
1,2,3,7,8-PeCDF	S2 max	2 9E-09	9.0E-10	1.7E-10	2.4E-12	3.2E-12	6.8E-11	1.0E-09	4.4E-10	6.8E-11	8 5E 10	2.8E-09	8.2E-12	1 6E-13
2,3,4,7,8-PeCDF	S2 max	3.3E-09	5.2E-09	9.8E-10	1.1E-11	1.6E-11	3.9E-10	5.9E-09	2.5E-09	3.9E-10	4.9E-09	1.6E-08	1.1E-11	1.5E-13
1,2,3,4,7,8-HxCDF	S2 max	5.9E-09	2 8E-09	5.9E-10	1.5E-11	2.1E-11	2.1E-10	3.1E-09	1.4E-09	2.1E-10	2.6E-09	8.6E-09	8 2E-12	1.6E-13
1,2,3,6,7,8-HxCDF	S2 max	5.5E-09	5 2E-09	9 8E-10	1.2E-11	1.7E-11	4 0E-10	5.9E-09	2.6E-09	4.0E-10	4.9E-09	1.6E-08	1.8E-11	1 5E-13
1,2,3,7,8,9-HxCDF	S2 max	1.4E-09	1.2E-09	2 3E-10	3.0E-12	4.2E-12	9.0E-11	1.4E-09	5.9E-10	9.0E-11	1.1E-09	3.7E-09	4.0E-12	3.7E-14
2,3,4,6,7,8-HxCDF	S2 max	6.3E-09	3 4E-09	6 8E-10	1.2E-11	1.7E-11	2.6E-10	3.9E-09	1.7E-09	2.6E-10	3.2E-09	1.1E-08	1.3E-11	1.7E-13
1,2,3,4,6,7,8-HpCDF	S2 max	3.6E-08	2 7E-09	5 8E-10	1.6E-11	2.3E-11	2 0E-10	3.0E-09	1.3E-09	2 0E-10	2.5E-09	8.2E-09	4.5E-11	4 4E-13
1,2,3,4,7,8,9-HpCDF	S2 max	4.5E-09	5 2E-10	1 3E-10	4.9E-12	6.8E-12	3.9E-11	5.9E-10	2.5E-10	3.9E-11	4.9E-10	1.6E-09	3.7E-12	5 5E-14
OCDF	S2 max	6 4E-08	3 1E-08	5 3E-09	1.4E-11	1.9E-11	2.3E-09	3.5E-08	1.5E-08	2.3E-09	2.9E-08	9 5E-08	1.0E-09	2 4E-13
Tetrachlorobiphenyl	S2 max	1.3E-07	1.4E-08	1 0E-08	8.9E-10	1.2E-09	1.1E-09	1.6E-08	6.8E-09	1.1E-09	1.3E-08	4.3E-08	2.5E-11	2.3E-11
Hexachlorobiphenyl	S2 max	2.2E-07	9 4E-09	6.4E-09	5.3E-10	7.3E-10	6.8E-10	1.0E-08	4.4E-09	6.8E-10	8.5E-09	2.8E-08	2.5E-11	7.1E-12
Heptachlorobiphenyl	S2 max	2.1E-07	2 4E-07	4.6E-08	5.4E-10	7.4E-10	1.8E-08	2.7E-07	1.2E-07	1.8E-08	2.3E-07	7.5E-07	6.9E-10	3.5E-12
Benzo(a)pyrene	S2 max	2 3E-06	2 0E-05	1.3E-06	4.6E-11	5.8E-08	7.8E-06	7.8E-06	7.8E-06	7.8E-06	7.8E-06	7.8E-06	7.8E-08	3 0E-10
Benzo(b)fluoranthene	S2 max	1.3E-05	1 2E-05	9.3E-07	3.2E-10	4.0E-07	4.6E-06	4.6E-06	4.6E-06	4.6E-06	4.6E-06	4.6E-06	3.8E-08	1.5E-09
Bis(2-ethylhexyl)phthalate	S2 max	7.5E-07	1.7E-03	1.1E-04	2.3E-12	2.9E-09	6.5E-04	6.5E-04	6.5E-04	6.5E-04	6.5E-04	6.5E-04	4.2E-05	1.9E-11
Carbon tetrachloride	S2 max	7.5E-06	8.5E-10	3.3E-10	1.5E-12	1.8E-09	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	6.5E-07	1.1E-06
Dibenz(a,h)anthracene	S2 max	3.5E-06	1 5E-06	1.6E-07	2.6E-10	3.3E-07	5.8E-07	5.8E-07	5.8E-07	5.8E-07	5.8E-07	5.8E-07	3.1E-09	2 1E-10
Di(n)octyl phthalate	S2 max	3.2E-07	4.5E-03	2.9E-04	5.6E-10	7.0E-07	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	1.9E-07	3.1E-12
Heptachlor	S2 max	6.3E-09	1.3E-08	9.3E-10	1.8E-13	2.2E-10	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	5.1E-09	3.6E-11	6 6E-13
Hexachlorobenzene	S2 max	1.2E-05	1.2E-07	8.4E-08	1.5E-10	1.9E-07	4.3E-08	4.3E-08	4.3E-08	4.3E-08	4.3E-08	4.3E-08	3.9E-09	6 5E-09
Hexachlorobutadiene	S2 max	3.3E-05	2.4E-08	1.9E-08	3.7E-11	4.6E-08	8.2E-09	8.2E-09	8.2E-09	8 2E-09	8.2E-09	8.2E-09	1.7E-08	2.9E-08
Hexachlorocyclopentadiene	S2 max	5.4E-07	1 5E-09	1.2E-09	2.1E-12	2.7E-09	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	1.1E-10	1 9E-10
Hexachlorophene	S2 max	9.5E-06	5 8E-05	3.4E-06	5.0E-09	6.3E-06	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	1 8E-08	1.9E-10
Indeno(1,2,3-cd)pyrene	S2 max	3.9E-06	1.4E-06	1.6E-07	2.7E-10	3.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5 4E-07	3.1E-09	2.5E-10
Antimony	S2 max	7.0E-07	6.5E-09	2.6E-09	1.9E-11	2.2E-10	8.1E-10	8.1E-10	8.1E-10	8 1E-10	8.1E-10	8.1E-10	3 7E-09	4 0E-09
Arsenic	S2 max	2.7E-05	1.2E-07	3.7E-08	1.4E-08	1.8E-08	4.3E-09	4.3E-09	4.3E-09	4.3E-09	4 3E-09	4 3E-09	2 0E-08	1 3E-08
Barium	S2 max	3.3E-05	3.5E-08	1 5E-07	5.6E-11	4.4E-08	1.0E-07	1.0E-07	1 0E-07	1.0E-07	1 0E-07	1.0E-07	1.0E-07	8.6E-08
Beryllium	S2 max	7.2E-08	6.9E-11	5.0E-11	1.9E-12	2.3E-12	7.3E-14	7.3E-14	7.3E-14	7.3E-14	7 3E-14	7 3E-14	1 3E-11	3.4E-12
Cadmium	S2 max	4.0E-07	3.5E-09	1.5E-10	6 3E-10	1 5E-11	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2 7E-10	2 7E-10	1 3E-08	1.3E-08
Chromium (hexavalent)	S2 max	1.9E-06	8.9E-09	9.8E-09	1.1E-10	1.8E-10	2.8E-09	2.8E-09	2 8E-09	2 8E-09	2 8E-09	2 8E-09	3 7E-10	2.3E-10
Lead	S2 max	1.2E-04	3.1E-08	7.5E-08	2.3E-06	2.3E-06	3.0E-08	3 0E-08	3 0E-08	3 0E-08	3 0E-08	3 0E-08	3 0E-08	2 7E-08
Mercury	S2 max	6.2E-04	5.7E-07	1 9E-06	3.5E-07	3 0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Mercury (methyl BCF)	S2 max	6.2E-04	5 7E-07	1 9E-06	3 5E-07	3 0E-08	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	9 1E-07	1 6E-05	2 7E-05
Nickel	S2 max	2.8E-06	4 8E-08	2 0E-07	3 0E-10	4 9E-10	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 0E-08	1 1E-08	1 7E-08
Selenium	S2 max	5.1E-04	2.4E-06	5 4E-05	1 8E-06	1.8E-06	4 4E-05	4.4E-05	4 4E-05	4 4E-05	4 4E-05	4 4E-05	5 9E-07	7 5E-07
Silver	S2 max	2.5E-06	8 3E-08	1 8E-09	2 1E-11	4 2E-10	6 9E-07	6 9E-07	6 9E-07	6 9E-07	6 9E-07	6 9E-07	3 2E-08	4 8E-08
Thallium	S2 max	1.3E-04	3 6E-06	1 2E-05	2 4E-06	2 4E-06	2 1E-07	2 1E-07	2 1E-07	2 1E-07	2 1E-07	2 1E-07	1 2E-08	9 8E-10
Zinc	S2 max	1.8E-05	4 9E-08	1 2E-08	1 1E-08	1 1E-08	1 6E-08	1 6E-08	1.6E-08	1 6E-08	1 6E-08	1 6E-08	1 9E-06	3 2E-06

TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	S3 max	3.3E-11	1 8E-11	4 5E-12	1.6E-13	2 2E-13	1.4E-12	2.1E-11	9 0E-12	1 4E-12	1.7E-11	5 7E-11	2 9E-14	2 2E-15
1,2,3,7,8-PeCDD	S3 max	1.3E-10	3.1E-10	5.8E-11	6.2E-13	8.5E-13	2 3E-11	3.5E-10	1 5E-10	2 3E-11	2.9E-10	9.6E-10	5 0E-13	8 8E-15
1,2,3,4,7,8-HxCDD	S3 max	1.2E-10	2.1E-10	3.7E-11	2.6E-13	3 6E-13	1.6E-11	2.4E-10	1 0E-10	1.6E-11	2.0E-10	6.5E-10	6.9E-13	1 7E-15
1,2,3,6,7,8-HxCDD	S3 max	2.0E-10	5.3E-11	1 2E-11	3 8E-13	5 2E-13	4 0E-12	6.0E-11	2.6E-11	4.0E-12	5 0E-11	1.6E-10	2.1E-13	5.3E-15
1,2,3,7,8,9-HxCDD	S3 max	1 2E-10	7.4E-11	1.5E-11	3.0E-13	4.1E-13	5.6E-12	8.5E-11	3.7E-11	5.6E-12	7.0E-11	2.3E-10	2.3E-13	1 7E-15
1,2,3,4,6,7,8-HpCDD	S3 max	1.4E-09	6.1E-10	1.1E-10	5.5E-13	7.6E-13	4.6E-11	6.9E-10	3.0E-10	4.6E-11	5.7E-10	1.9E-09	1 1E-11	1.1E-14
OCDD	S3 max	6.5E-09	1.1E-07	1.9E-08	3.7E-12	5.1E-12	8.4E-09	1.3E-07	5 5E-08	8.4E-09	1.1E-07	3.4E-07	1.4E-09	1.2E-13
2,3,7,8-TCDF	S3 max	3.1E-10	5.8E-11	1.3E-11	3.3E-13	4.5E-13	4.4E-12	6.6E-11	2.9E-11	4.4E-12	5 5E-11	1.8E-10	4.2E-13	2.4E-14
1,2,3,7,8-PeCDF	S3 max	8.8E-10	2.7E-10	5.2E-11	7.1E-13	9.8E-13	2.1E-11	3.1E-10	1.3E-10	2.1E-11	2.6E-10	8.4E-10	2.5E-12	4.7E-14
2,3,4,7,8-PeCDF	S3 max	1.0E-09	1 6E-09	2 9E-10	3.4E-12	4.7E-12	1.2E-10	1.8E-09	7.7E-10	1.2E-10	1.5E-09	4 8E-09	3.3E-12	4 5E-14
1,2,3,4,7,8-HxCDF	S3 max	1.8E-09	8 3E-10	1.8E-10	4.7E-12	6 4E-12	6.3E-11	9.5E-10	4.1E-10	6.3E-11	7.9E-10	2.6E-09	2.5E-12	4 9E-14
1,2,3,6,7,8-HxCDF	S3 max	1.7E-09	1 6E-09	3.0E-10	3.8E-12	5 2E-12	1.2E-10	1.8E-09	7.7E-10	1.2E-10	1.5E-09	4.9E-09	5.3E-12	4.6E-14
1,2,3,7,8,9-HxCDF	S3 max	4.2E-10	3.6E-10	6.8E-11	9.3E-13	1.3E-12	2.7E-11	4.1E-10	1.8E-10	2.7E-11	3.4E-10	1.1E-09	1.2E-12	1 1E-14
2,3,4,6,7,8-HxCDF	S3 max	1.9E-09	1 0E-09	2.1E-10	3.8E-12	5 3E-12	7.8E-11	1.2E-09	5.1E-10	7.8E-11	9.7E-10	3.2E-09	3.9E-12	5.3E-14
1,2,3,4,6,7,8-HpCDF	S3 max	1.1E-08	8.0E-10	1.8E-10	5.1E-12	7 0E-12	6.0E-11	9.0E-10	3.9E-10	6.0E-11	7.5E-10	2.5E-09	1.3E-11	1.4E-13
1,2,3,4,7,8,9-HpCDF	S3 max	1.4E-09	1 6E-10	3 9E-11	1.5E-12	2 1E-12	1.2E-11	1.8E-10	7.7E-11	1.2E-11	1 5E-10	4.8E-10	1.1E-12	1.7E-14
OCDF	S3 max	2.0E-08	9 2E-09	1.6E-09	4.4E-12	6.1E-12	7.0E-10	1.0E-08	4.5E-09	7.0E-10	8.7E-09	2.9E-08	3.1E-10	7 4E-14
Tetrachlorobiphenyl	S3 max	3.9E-08	4 3E-09	3.1E-09	2.7E-10	3 7E-10	3.2E-10	4 7E-09	2.1E-09	3.2E-10	3 9E-09	1.3E-08	7.6E-12	7.0E-12
Hexachlorobiphenyl	S3 max	6.5E-08	2 8E-09	1.9E-09	1 6E-10	2.2E-10	2.1E-10	3.1E-09	1.3E-09	2.1E-10	2.6E-09	8.4E-09	7.6E-12	2 1E-12
Heptachlorobiphenyl	S3 max	6.4E-08	7.2E-08	1.4E-08	1.6E-10	2 2E-10	5.5E-09	8.2E-08	3.5E-08	5.5E-09	6 8E-08	2.2E-07	2.1E-10	1.0E-12
Benzo(a)pyrene	S3 max	7.1E-07	6.0E-06	3.9E-07	1.4E-11	1 8E-08	2.3E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-08	9.0E-11
Benzo(b)fluoranthene	S3 max	3.9E-06	3.6E-06	2 8E-07	9.5E-11	1.2E-07	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.1E-08	4.4E-10
Bis(2-ethylhexyl)phthalate	S3 max	2.3E-07	5.0E-04	3.2E-05	7.0E-13	8 7E-10	2.0E-04	2.0E-04	2.0E-04	2.0E-04	2.0E-04	2.0E-04	1.2E-05	5.9E-12
Carbon tetrachloride	S3 max	2.2E-06	2.6E-10	1.0E-10	4.4E-13	5.5E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.9E-07	3.4E-07
Dibenz(a,h)anthracene	S3 max	1.1E-06	4 6E-07	5.0E-08	8.1E-11	1.0E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	9 6E-10	6.4E-11
Di(n)octyl phthalate	S3 max	9.6E-08	1.3E-03	8.7E-05	1.7E-10	2.1E-07	5.3E-04	5.3E-04	5.3E-04	5.3E-04	5.3E-04	5.3E-04	5.8E-08	9.2E-13
Heptachlor	S3 max	1.9E-09	3.9E-09	2 8E-10	5.3E-14	6.7E-11	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1 1E-11	2 0E-13
Hexachlorobenzene	S3 max	3.6E-06	3.7E-08	2.5E-08	4.6E-11	5.8E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.2E-09	2.0E-09
Hexachlorobutadiene	S3 max	9.9E-06	7.1E-09	5.7E-09	1.1E-11	1.4E-08	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	5 0E-09	8.7E-09
Hexachlorocyclopentadiene	S3 max	1.6E-07	4 4E-10	3.5E-10	6.4E-13	8.0E-10	1 5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	3.3E-11	5 6E-11
Hexachlorophene	S3 max	3.0E-06	1 8E-05	1 1E-06	1.6E-09	2.0E-06	7.0E-06	7.0E-06	7.0E-06	7.0E-06	7.0E-06	7.0E-06	5 4E-09	5.9E-11
Indeno(1,2,3-cd)pyrene	S3 max	1.2E-06	4.3E-07	5.1E-08	8.4E-11	1.1E-07	1.7E-07	1.7E-07	1 7E-07	1.7E-07	1.7E-07	1.7E-07	9 7E-10	7.7E-11
Antimony	S3 max	2.2E-07	2 0E-09	8.1E-10	5.9E-12	6.9E-11	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2 5E-10	1 2E-09	1 3E-09
Arsenic	S3 max	8.5E-06	3 7E-08	1.2E-08	4 4E-09	5.7E-09	1.4E-09	1 4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	6 3E-09	4.2E-09
Barium	S3 max	1.0E-05	1.1E-08	4 7E-08	1.7E-11	1.4E-08	3.1E-08	3 1E-08	3.1E-08	3 1E-08	3.1E-08	3 1E-08	3.1E-08	2 7E-08
Beryllium	S3 max	2.3E-08	2 2E-11	1.6E-11	6.0E-13	7.1E-13	2.3E-14	2 3E-14	2.3E-14	2.3E-14	2.3E-14	2 3E-14	4 1E-12	1 1E-12
Cadmium	S3 max	1 2E-07	1 1E-09	4 9E-11	2 0E-10	4.7E-12	8 5E-11	8.5E-11	8 5E-11	8.5E-11	8 5E-11	8 5E-11	4 0E-09	4 1E-09
Chromium (hexavalent)	S3 max	5.9E-07	2 8E-09	3.1E-09	3.5E-11	5 6E-11	8 8E-10	8 8E-10	8 8E-10	8 8E-10	8 8E-10	8 8E-10	1 2E-10	7.1E-11
Lead	S3 max	3.7E-05	9 8E-09	2.3E-08	7 3E-07	7.3E-07	9 5E-09	9.5E-09	9 5E-09	9 5E-09	9 5E-09	9 5E-09	9 4E-09	8 6E-09
Mercury	S3 max	1.9E-04	1 7E-07	5 6E-07	1.1E-07	8 9E-09	2 7E-07	2 7E-07	2 7E-07	2 7E-07	2 7E-07	2 7E-07	4 7E-06	8 2E-06
Mercury (methyl BCF)	S3 max	1.9E-04	1 7E-07	5 6E-07	1 1E-07	8 9E-09	2 7E-07	2 7E-07	2 7E-07	2 7E-07	2 7E-07	2 7E-07	4 7E-06	8 2E-06
Nickel	S3 max	8 7E-07	1 5E-08	6 2E-08	9 5E-11	1 5E-10	3 1E-09	3 1E-09	3 1E-09	3 1E-09	3 1E-09	3 1E-09	3 5E-09	5 3E-09
Selenium	S3 max	1 6E-04	7 6E-07	1 7E-05	5 5E-07	5 5E-07	1 4E-05	1 4E-05	1 4E-05	1 4E-05	1 4E-05	1 4E-05	1 8E-07	2 4E-07
Silver	S3 max	7 9E-07	2 6E-08	5 6E-10	6 6E-12	1 3E-10	2 2E-07	2 2E-07	2 2E-07	2 2E-07	2 2E-07	2 2E-07	1 0E-08	1 5E-08
Thallium	S3 max	3 9E-05	1 1E-06	3 8E-06	7 5E-07	7 5E-07	6 5E-08	6 5E-08	6 5E-08	6 5E-08	6 5E-08	6 5E-08	3 8E-09	3 1E-10
Zinc	S3 max	5 6E-06	1 5E-08	3 9E-09	3 4E-09	3 4E-09	5 0E-09	5 0E-09	5 0E-09	5 0E-09	5 0E-09	5 0E-09	5 8E-07	1 0E-06

External Review Draft. Do Not Cite or Quote

TABLE 2. Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	W1 max	4.6E-10	2.6E-10	6 3E-11	2 2E-12	3.0E-12	1.9E-11	2 9E-10	1.3E-10	1.9E-11	2.4E-10	8 0E-10	4 1E-13	3 0E-14
1,2,3,7,8-PeCDD	W1 max	1.9E-09	4 4E-09	8.1E-10	8 7E-12	1.2E-11	3.3E-10	5.0E-09	2.1E-09	3.3E-10	4.1E-09	1.4E-08	7.0E-12	1.2E-13
1,2,3,4,7,8-HxCDD	W1 max	1.7E-09	2.9E-09	5.3E-10	3.7E-12	5 1E-12	2.2E-10	3.3E-09	1.4E-09	2.2E-10	2.8E-09	9.1E-09	9.7E-12	2 4E-14
1,2,3,6,7,8-HxCDD	W1 max	2.8E-09	7.4E-10	1.7E-10	5.3E-12	7.4E-12	5.6E-11	8.4E-10	3.6E-10	5 6E-11	7.0E-10	2.3E-09	3.0E-12	7.5E-14
1,2,3,7,8,9-HxCDD	W1 max	1.7E-09	1.0E-09	2.1E-10	4 3E-12	5.9E-12	7.9E-11	1.2E-09	5.1E-10	7.9E-11	9.9E-10	3.2E-09	3.2E-12	2 4E-14
1,2,3,4,6,7,8-HpCDD	W1 max	2.0E-08	8 5E-09	1.5E-09	7.8E-12	1 1E-11	6.5E-10	9.7E-09	4.2E-09	6.5E-10	8.1E-09	2.6E-08	1.6E-10	1 6E-13
OCDD	W1 max	9 2E-08	1.6E-06	2.6E-07	5.3E-11	7.3E-11	1.2E-07	1.8E-06	7.7E-07	1.2E-07	1.5E-06	4.8E-06	2.0E-08	1.7E-12
2,3,7,8-TCDF	W1 max	4.4E-09	6.2E-10	1.8E-10	4 6E-12	6 4E-12	6.2E-11	9.3E-10	4.0E-10	6.2E-11	7.7E-10	2.5E-09	5.8E-12	3 4E-13
1,2,3,7,8-PeCDF	W1 max	1.2E-08	3.8E-09	7.3E-10	1 0E-11	1.4E-11	2.9E-10	4.3E-09	1.9E-09	2.9E-10	3 6E-09	1.2E-08	3.5E-11	6 7E-13
2,3,4,7,8-PeCDF	W1 max	1.4E-08	2.2E-08	4 1E-09	4.8E-11	6.7E-11	1.7E-09	2.5E-08	1.1E-08	1.7E-09	2.1E-08	6.8E-08	4.7E-11	6.4E-13
1,2,3,4,7,8-HxCDF	W1 max	2.6E-08	1.2E-08	2.5E-09	6.6E-11	9.1E-11	8.9E-10	1.3E-08	5 8E-09	8.9E-10	1.1E-08	3.6E-08	3.5E-11	7.0E-13
1,2,3,6,7,8-HxCDF	W1 max	2.4E-08	2 2E-08	4 2E-09	5.3E-11	7.4E-11	1.7E-09	2.5E-08	1.1E-08	1.7E-09	2.1E-08	6.8E-08	7.4E-11	6.5E-13
1,2,3,7,8,9-HxCDF	W1 max	6.0E-09	5.0E-09	9.6E-10	1 3E-11	1.8E-11	3.8E-10	5.7E-09	2.5E-09	3.8E-10	4.8E-09	1.6E-08	1.7E-11	1.6E-13
2,3,4,6,7,8-HxCDF	W1 max	2.7E-08	1 4E-08	2.9E-09	5.4E-11	7.4E-11	1.1E-09	1.6E-08	7.1E-09	1.1E-09	1.4E-08	4.5E-08	5.5E-11	7.5E-13
1,2,3,4,6,7,8-HpCDF	W1 max	1.6E-07	1 1E-08	2.5E-09	7.2E-11	9.9E-11	8.5E-10	1.3E-08	5.5E-09	8.5E-10	1.1E-08	3.5E-08	1.9E-10	1.9E-12
1,2,3,4,7,8,9-HpCDF	W1 max	2.0E-08	2 2E-09	5 4E-10	2.2E-11	3.0E-11	1.7E-10	2.5E-09	1.1E-09	1.7E-10	2.1E-09	6.8E-09	1.6E-11	2.4E-13
OCDF	W1 max	2.8E-07	1.3E-07	2.2E-08	6.3E-11	8.6E-11	9.8E-09	1.5E-07	6.4E-08	9.8E-09	1.2E-07	4.0E-07	4.3E-09	1 0E-12
Tetrachlorobiphenyl	W1 max	5 5E-07	6.1E-08	4.4E-08	3.7E-09	5 2E-09	4.4E-09	6.7E-08	2.9E-08	4.4E-09	5.5E-08	1.8E-07	1.1E-10	9 9E-11
Hexachlorobiphenyl	W1 max	9.1E-07	3.9E-08	2.7E-08	2.2E-09	3 1E-09	2.9E-09	4.3E-08	1.9E-08	2.9E-09	3.6E-08	1.2E-07	1.1E-10	3.0E-11
Heptachlorobiphenyl	W1 max	9 0E-07	1 0E-06	1.9E-07	2.3E-09	3 1E-09	7.7E-08	1.2E-06	5.0E-07	7.7E-08	9.6E-07	3.1E-06	2.9E-09	1.5E-11
Benzo(a)pyrene	W1 max	1 0E-05	8.4E-05	5.5E-06	2.0E-10	2.5E-07	3.3E-05	3.3E-05	3.3E-05	3.3E-05	3.3E-05	3.3E-05	3.3E-07	1.3E-09
Benzo(b)fluoranthene	W1 max	5 4E-05	5.0E-05	3.9E-06	1.3E-09	1 7E-06	2.0E-05	2.0E-05	2.0E-05	2.0E-05	2.0E-05	2.0E-05	1.6E-07	6.2E-09
Bis(2-ethylhexyl)phthalate	W1 max	3.2E-06	7 0E-03	4.5E-04	9.8E-12	1.2E-08	2.7E-03	2.7E-03	2.7E-03	2.7E-03	2.7E-03	2.7E-03	1.8E-04	8 4E-11
Carbon tetrachloride	W1 max	3.2E-05	3 6E-09	1.4E-09	6 1E-12	7.7E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	2.7E-06	4.8E-06
Dibenz(a,h)anthracene	W1 max	1.5E-05	6.5E-06	7.1E-07	1.2E-09	1 5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	1.3E-08	9.1E-10
Di(n)octyl phthalate	W1 max	1.3E-06	1.9E-02	1.2E-03	2.4E-09	2.9E-06	7.4E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03	8.2E-07	1.3E-11
Heptachlor	W1 max	2.7E-08	5.5E-08	3.9E-09	7.5E-13	9.4E-10	2.1E-08	2.1E-08	2.1E-08	2.1E-08	2.1E-08	2.1E-08	1.5E-10	2.8E-12
Hexachlorobenzene	W1 max	5.1E-05	5.2E-07	3.5E-07	6.5E-10	8.1E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.8E-07	1.6E-08	2.7E-08
Hexachlorobutadiene	W1 max	1.4E-04	1.0E-07	8.1E-08	1.5E-10	1.9E-07	3.4E-08	3.4E-08	3.4E-08	3 4E-08	3.4E-08	3.4E-08	7.0E-08	1 2E-07
Hexachlorocyclopentadiene	W1 max	2.3E-06	6.2E-09	4 9E-09	8.9E-12	1.1E-08	2.1E-09	2.1E-09	2.1E-09	2.1E-09	2 1E-09	2.1E-09	4 6E-10	7.9E-10
Hexachlorophene	W1 max	4.2E-05	2.5E-04	1.5E-05	2.2E-08	2.8E-05	9.8E-05	9.8E-05	9.8E-05	9.8E-05	9.8E-05	9.8E-05	7.6E-08	8.4E-10
Indeno(1,2,3-cd)pyrene	W1 max	1 7E-05	6.0E-06	7.2E-07	1.2E-09	1.5E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-06	1 4E-08	1 1E-09
Antimony	W1 max	1.5E-06	1.5E-08	5.6E-09	4 0E-11	4.7E-10	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1 8E-09	1.8E-09	8 1E-09	8.8E-09
Arsenic	W1 max	5.7E-05	2.7E-07	7.8E-08	3.0E-08	3.9E-08	9.8E-09	9.8E-09	9.8E-09	9 8E-09	9 8E-09	9 8E-09	4 5E-08	2 8E-08
Barium	W1 max	7.1E-05	7.8E-08	3.2E-07	1.2E-10	9.4E-08	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2 3E-07	2 3E-07	2.2E-07	1 8E-07
Beryllium	W1 max	1.5E-07	1.5E-10	1.1E-10	4.0E-12	4.8E-12	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1 6E-13	1 6E-13	3 0E-11	7.3E-12
Cadmium	W1 max	8.4E-07	7.9E-09	3.4E-10	1.3E-09	3.1E-11	6.2E-10	6.2E-10	6 2E-10	6 2E-10	6 2E-10	6 2E-10	2.8E-08	2 8E-08
Chromium (hexavalent)	W1 max	4.0E-06	2.0E-08	2.1E-08	2.3E-10	3.8E-10	6.3E-09	6.3E-09	6 3E-09	6 3E-09	6 3E-09	6 3E-09	8 2E-10	4 8E-10
Lead	W1 max	2.5E-04	6.9E-08	1.6E-07	4.9E-06	4 9E-06	6.7E-08	6 7E-08	6 7E-08	6 7E-08	6 7E-08	6 7E-08	6 6E-08	5 8E-08
Mercury	W1 max	2.6E-03	2.4E-06	7.9E-06	1.5E-06	1 2E-07	3 8E-06	3 8E-06	3 8E-06	3 8E-06	3 8E-06	3 8E-06	6 7E-05	1 2E-04
Mercury (methyl BCF)	W1 max	2.6E-03	2.4E-06	7 9E-06	1 5E-06	1 2E-07	3.8E-06	3 8E-06	3 8E-06	3 8E-06	3 8E-06	3 8E-06	6 7E-05	1 2E-04
Nickel	W1 max	5.8E-06	1.1E-07	4 2E-07	6.4E-10	1 0E-09	2.2E-08	2 2E-08	2 2E-08	2 2E-08	2 2E-08	2 2E-08	2 4E-08	3 5E-08
Selenium	W1 max	1.1E-03	5 5E-06	1 2E-04	3 7E-06	3 7E-06	9 9E-05	9 9E-05	9 9E-05	9 9E-05	9 9E-05	9 9E-05	1 3E-06	1 6E-06
Silver	W1 max	5 3E-06	1 8E-07	3 8E-09	4 5E-11	8.9E-10	1.5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	1 5E-06	6.9E-08	1 0E-07
Thallium	W1 max	2.7E-04	8 0E-06	2 6E-05	5.1E-06	5 1E-06	4 6E-07	4 6E-07	4 6E-07	4 6E-07	4 6E-07	4 6E-07	2 8E-08	2 1E-09
Zinc	W1 max	3.8E-05	1.1E-07	2.6E-08	2.3E-08	2 3E-08	3 5E-08	3 5E-08	3 5E-08	3 5E-08	3 5E-08	3 5E-08	3 9E-06	6 8E-06

TABLE 2· Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	W2 max	1.6E-10	9.2E-11	2 2E-11	7.7E-13	1 1E-12	6.9E-12	1.0E-10	4 5E-11	6 9E-12	8 7E-11	2 8E-10	1 4E-13	1 1E-14
1,2,3,7,8-PeCDD	W2 max	6.3E-10	1.5E-09	2.9E-10	2 9E-12	4 0E-12	1 2E-10	1.8E-09	7.6E-10	1.2E-10	1 5E-09	4 8E-09	2.5E-12	4 2E-14
1,2,3,4,7,8-HxCDD	W2 max	5.3E-10	1.0E-09	1.9E-10	1 2E-12	1 6E-12	7.9E-11	1.2E-09	5.1E-10	7.9E-11	9.9E-10	3.2E-09	3.4E-12	7 5E-15
1,2,3,6,7,8-HxCDD	W2 max	8.6E-10	2.6E-10	5.7E-11	1.7E-12	2 3E-12	2.0E-11	2.9E-10	1.3E-10	2 0E-11	2.5E-10	8.1E-10	1 0E-12	2 3E-14
1,2,3,7,8,9-HxCDD	W2 max	5 3E-10	3.7E-10	7.3E-11	1.3E-12	1 8E-12	2.8E-11	4.2E-10	1.8E-10	2 8E-11	3.5E-10	1.1E-09	1.1E-12	7 5E-15
1,2,3,4,6,7,8-HpCDD	W2 max	6.1E-09	3 0E-09	5.3E-10	2.4E-12	3.3E-12	2.3E-10	3.4E-09	1.5E-09	2.3E-10	2 9E-09	9.4E-09	5.6E-11	5 0E-14
OCDD	W2 max	2.8E-08	5.5E-07	9.4E-08	1.6E-11	2 2E-11	4.2E-08	6.3E-07	2 7E-07	4.2E-08	5.3E-07	1.7E-06	7.1E-09	5 2E-13
2,3,7,8-TCDF	W2 max	1.5E-09	2 9E-10	6.4E-11	1.6E-12	2.2E-12	2.2E-11	3.3E-10	1.4E-10	2.2E-11	2.7E-10	9.0E-10	2.1E-12	1 2E-13
1,2,3,7,8-PeCDF	W2 max	4.2E-09	1.4E-09	2.6E-10	3.4E-12	4 8E-12	1.0E-10	1.5E-09	6.7E-10	1 0E-10	1.3E-09	4.2E-09	1.2E-11	2.3E-13
2,3,4,7,8-PeCDF	W2 max	4.8E-09	7.8E-09	1.5E-09	1.6E-11	2 3E-11	5.9E-10	8.8E-09	3 8E-09	5.9E-10	7.3E-09	2.4E-08	1.7E-11	2.2E-13
1,2,3,4,7,8-HxCDF	W2 max	8.1E-09	4.1E-09	8.7E-10	2.1E-11	2 9E-11	3.1E-10	4.7E-09	2.0E-09	3.1E-10	3.9E-09	1.3E-08	1.2E-11	2.2E-13
1,2,3,6,7,8-HxCDF	W2 max	7.6E-09	7.8E-09	1.5E-09	1.7E-11	2.3E-11	5.9E-10	8.9E-09	3.8E-09	5.9E-10	7 4E-09	2.4E-08	2 6E-11	2.1E-13
1,2,3,7,8,9-HxCDF	W2 max	1 9E-09	1.8E-09	3 4E-10	4.3E-12	5 9E-12	1.3E-10	2.0E-09	8 8E-10	1 3E-10	1 7E-09	5.5E-09	6.0E-12	5 2E-14
2,3,4,6,7,8-HxCDF	W2 max	8.7E-09	5.1E-09	1 0E-09	1.7E-11	2 4E-11	3.9E-10	5.8E-09	2 5E-09	3.9E-10	4.8E-09	1.6E-08	1.9E-11	2 4E-13
1,2,3,4,6,7,8-HpCDF	W2 max	5 0E-08	3.9E-09	8.5E-10	2.2E-11	3.1E-11	3.0E-10	4.5E-09	1.9E-09	3.0E-10	3.7E-09	1.2E-08	6 6E-11	6.1E-13
1,2,3,4,7,8,9-HpCDF	W2 max	6.1E-09	7.7E-10	1 8E-10	6 7E-12	9.2E-12	5.8E-11	8.7E-10	3.8E-10	5.8E-11	7.2E-10	2.4E-09	5.5E-12	7.4E-14
OCDF	W2 max	8 7E-08	4 6E-08	7.9E-09	1 9E-11	2 6E-11	3.5E-09	5.2E-08	2.3E-08	3.5E-09	4 4E-08	1.4E-07	1.5E-09	3 2E-13
Tetrachlorobiphenyl	W2 max	2 0E-07	2.2E-08	1 6E-08	1 3E-09	1 8E-09	1.6E-09	2.4E-08	1.0E-08	1.6E-09	2.0E-08	6.5E-08	3 8E-11	3 5E-11
Hexachlorobiphenyl	W2 max	3 2E-07	1 4E-08	9 6E-09	7 9E-10	1.1E-09	1.0E-09	1.5E-08	6.7E-09	1.0E-09	1.3E-08	4.2E-08	3 8E-11	1 1E-11
Heptachlorobiphenyl	W2 max	3.2E-07	3 6E-07	6 9E-08	8 1E-10	1.1E-09	2.7E-08	4.1E-07	1.8E-07	2.7E-08	3.4E-07	1.1E-06	1.0E-09	5 2E-12
Benzo(a)pyrene	W2 max	3.4E-06	3.0E-05	1.9E-06	6.7E-11	8 5E-08	1.2E-05	1.2E-05	1 2E-05	1.2E-05	1.2E-05	1.2E-05	1.2E-07	4.3E-10
Benzo(b)fluoranthene	W2 max	1.9E-05	1 8E-05	1.4E-06	4.7E-10	5 9E-07	7.0E-06	7.0E-06	7.0E-06	7.0E-06	7.0E-06	7.0E-06	5.6E-08	2.2E-09
Bis(2-ethylhexyl)phthalate	W2 max	1 1E-06	2.5E-03	1.6E-04	3.3E-12	4.1E-09	9.8E-04	9.8E-04	9.8E-04	9.8E-04	9.8E-04	9.8E-04	6.2E-05	2.8E-11
Carbon tetrachloride	W2 max	1.1E-05	1 3E-09	5.0E-10	2.2E-12	2 7E-09	5.5E-10	5.5E-10	5.5E-10	5.5E-10	5.5E-10	5.5E-10	9.7E-07	1.7E-06
Dibenz(a,h)anthracene	W2 max	4.7E-06	2.0E-06	2.2E-07	3.5E-10	4.4E-07	7.8E-07	7.8E-07	7.8E-07	7.8E-07	7.8E-07	7.8E-07	4.2E-09	2.8E-10
Di(n)octyl phthalate	W2 max	4.8E-07	6.7E-03	4.3E-04	8 4E-10	1.0E-06	2.6E-03	2.6E-03	2.6E-03	2.6E-03	2.6E-03	2.6E-03	2 9E-07	4 6E-12
Heptachlor	W2 max	9.5E-09	1.9E-08	1.4E-09	2.7E-13	3.3E-10	7.6E-09	7.6E-09	7 6E-09	7.6E-09	7.6E-09	7.6E-09	5 3E-11	9.8E-13
Hexachlorobenzene	W2 max	1.8E-05	1.9E-07	1.3E-07	2.3E-10	2.9E-07	6.5E-08	6.5E-08	6.5E-08	6.5E-08	6.5E-08	6.5E-08	5 8E-09	9.8E-09
Hexachlorobutadiene	W2 max	5.0E-05	3.6E-08	2.9E-08	5.5E-11	6.9E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	2 5E-08	4.4E-08
Hexachlorocyclopentadiene	W2 max	8.1E-07	2 2E-09	1.7E-09	3.2E-12	4.0E-09	7.5E-10	7.5E-10	7.5E-10	7.5E-10	7.5E-10	7.5E-10	1.6E-10	2 8E-10
Hexachlorophene	W2 max	1.3E-05	7.8E-05	4.6E-06	6 8E-09	8.5E-06	3.0E-05	3.0E-05	3.0E-05	3.0E-05	3.0E-05	3.0E-05	2.3E-08	2 6E-10
Indeno(1,2,3-cd)pyrene	W2 max	5.3E-06	1.9E-06	2.2E-07	3.6E-10	4.6E-07	7.2E-07	7.2E-07	7.2E-07	7.2E-07	7.2E-07	7.2E-07	4 2E-09	3.3E-10
Antimony	W2 max	8.7E-07	8.2E-09	3 2E-09	2.3E-11	2.7E-10	1.0E-09	1.0E-09	1.0E-09	1 0E-09	1 0E-09	1.0E-09	4 6E-09	5 0E-09
Arsenic	W2 max	3.4E-05	1 5E-07	4.6E-08	1.7E-08	2.3E-08	5.4E-09	5.4E-09	5.4E-09	5.4E-09	5 4E-09	5 4E-09	2.5E-08	1.6E-08
Barium	W2 max	4.1E-05	4.3E-08	1.9E-07	6.9E-11	5.5E-08	1.3E-07	1.3E-07	1 3E-07	1.3E-07	1.3E-07	1.3E-07	1 2E-07	1 1E-07
Beryllium	W2 max	8.9E-08	8.6E-11	6 2E-11	2.4E-12	2 8E-12	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9 1E-14	1 6E-11	4 3E-12
Cadmium	W2 max	4 9E-07	4.4E-09	1 9E-10	7 8E-10	1 8E-11	3 4E-10	3.4E-10	3 4E-10	3 4E-10	3.4E-10	3 4E-10	1 6E-08	1.6E-08
Chromium (hexavalent)	W2 max	2.3E-06	1.1E-08	1.2E-08	1.4E-10	2 2E-10	3.5E-09	3.5E-09	3 5E-09	3.5E-09	3.5E-09	3.5E-09	4 6E-10	2 8E-10
Lead	W2 max	1.5E-04	3 9E-08	9 3E-08	2 9E-06	2 9E-06	3.8E-08	3 8E-08	3 8E-08	3 8E-08	3 8E-08	3 8E-08	3 8E-08	3 4E-08
Mercury	W2 max	9 3E-04	8 6E-07	2 8E-06	5.3E-07	4 4E-08	1 4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	2 4E-05	4 1E-05
Mercury (methyl BCF)	W2 max	9 3E-04	8 6E-07	2 8E-06	5 3E-07	4 4E-08	1 4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	1 4E-06	2 4E-05	4 1E-05
Nickel	W2 max	3.4E-06	6 1E-08	2 5E-07	3 8E-10	6 1E-10	1 2E-08	1 2E-08	1 2E-08	1 2E-08	1 2E-08	1 2E-08	1 4E-08	2 1E-08
Selenium	W2 max	6.3E-04	3.0E-06	6.8E-05	2 2E-06	2 2E-06	5 5E-05	5 5E-05	5 5E-05	5 5E-05	5 5E-05	5 5E-05	7 3E-07	9 4E-07
Silver	W2 max	3.1E-06	1.0E-07	2 2E-09	2.6E-11	5 2E-10	8 6E-07	8 6E-07	8 6E-07	8 6E-07	8 6E-07	8.6E-07	4 0E-08	6 0E-08
Thallium	W2 max	1.6E-04	4 5E-06	1 5E-05	3 0E-06	3 0E-06	2 6E-07	2 6E-07	2 6E-07	2 6E-07	2 6E-07	2 6E-07	1 5E-08	1 2E-09
Zinc	W2 max	2.2E-05	6 1E-08	1 6E-08	1 3E-08	1 3E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 0E-08	2 3E-06	4 0E-06

TABLE 2 Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	1 cm Soil Conc mg/kg	Beef Conc mg/kgWW	Pork Conc mg/kgWW	Chicken Conc mg/kgWW	Egg Conc mg/kgWW	Milk Conc mg/kgWW	Cheese Conc mg/kgWW	Milk Dessert Conc mg/kgWW	Yogurt Conc mg/kgWW	Cream Conc mg/kgWW	Butter Conc mg/kgWW	Exposed Produce Conc mg/kgWW	Protected Produce Conc mg/kgWW
2,3,7,8-TCDD	W3 max	5.0E-11	3.0E-11	7.2E-12	2 4E-13	3 3E-13	2.2E-12	3.3E-11	1 5E-11	2.2E-12	2.8E-11	9.2E-11	4.6E-14	3.3E-15
1,2,3,7,8-PeCDD	W3 max	1.8E-10	5.0E-10	9.2E-11	8 5E-13	1.2E-12	3 8E-11	5.7E-10	2.5E-10	3.8E-11	4 7E-10	1.6E-09	8.0E-13	1.2E-14
1,2,3,4,7,8-HxCDD	W3 max	1.4E-10	3.4E-10	5.9E-11	3 1E-13	4.3E-13	2.5E-11	3.8E-10	1.7E-10	2.5E-11	3.2E-10	1.0E-09	1.1E-12	2.0E-15
1,2,3,6,7,8-HxCDD	W3 max	2.1E-10	8.3E-11	1.7E-11	4.1E-13	5.7E-13	6.2E-12	9.4E-11	4.1E-11	6.2E-12	7.8E-11	2.6E-10	3.3E-13	5.8E-15
1,2,3,7,8,9-HxCDD	W3 max	1.3E-10	1.2E-10	2 3E-11	3 2E-13	4 4E-13	9.0E-12	1.3E-10	5 8E-11	9.0E-12	1.1E-10	3.7E-10	3 6E-13	1.8E-15
1,2,3,4,6,7,8-HpCDD	W3 max	1.5E-09	9.8E-10	1.7E-10	5.9E-13	8.1E-13	7.4E-11	1.1E-09	4.8E-10	7.4E-11	9.3E-10	3.0E-09	1.8E-11	1.2E-14
OCDD	W3 max	6.6E-09	1.8E-07	3.0E-08	3 8E-12	5.2E-12	1.4E-08	2.0E-07	8.9E-08	1.4E-08	1.7E-07	5.6E-07	2.3E-09	1.2E-13
2,3,7,8-TCDF	W3 max	4.9E-10	9.4E-11	2.1E-11	5.2E-13	7.1E-13	7.1E-12	1.1E-10	4 6E-11	7.1E-12	8.9E-11	2.9E-10	6.7E-13	3.8E-14
1,2,3,7,8-PeCDF	W3 max	1.3E-09	4.4E-10	8 3E-11	1.1E-12	1.4E-12	3.3E-11	5.0E-10	2.2E-10	3.3E-11	4.1E-10	1.4E-09	4.0E-12	7.0E-14
2,3,4,7,8-PeCDF	W3 max	1.4E-09	2.5E-09	4.7E-10	4.9E-12	6.7E-12	1.9E-10	2.8E-09	1.2E-09	1.9E-10	2.4E-09	7.8E-09	5.4E-12	6.4E-14
1,2,3,4,7,8-HxCDF	W3 max	2.1E-09	1.3E-09	2 7E-10	5.3E-12	7.4E-12	1.0E-10	1.5E-09	6.5E-10	1.0E-10	1.2E-09	4.1E-09	3.8E-12	5.6E-14
1,2,3,6,7,8-HxCDF	W3 max	2 0E-09	2.5E-09	4 6E-10	4.3E-12	6.0E-12	1.9E-10	2.9E-09	1.2E-09	1.9E-10	2.4E-09	7.8E-09	8.4E-12	5.3E-14
1,2,3,7,8,9-HxCDF	W3 max	5.2E-10	5 7E-10	1.1E-10	1 1E-12	1.6E-12	4.3E-11	6.5E-10	2.8E-10	4.3E-11	5.4E-10	1.8E-09	1.9E-12	1.4E-14
2,3,4,6,7,8-HxCDF	W3 max	2.2E-09	1.6E-09	3 1E-10	4.4E-12	6.1E-12	1 2E-10	1.9E-09	8.1E-10	1.2E-10	1.6E-09	5.1E-09	6.2E-12	6.1E-14
1,2,3,4,6,7,8-HpCDF	W3 max	1 2E-08	1.3E-09	2.6E-10	5.6E-12	7.8E-12	9.5E-11	1.4E-09	6.2E-10	9.5E-11	1.2E-09	3.9E-09	2.1E-11	1.5E-13
1,2,3,4,7,8,9-HpCDF	W3 max	1.5E-09	2 4E-10	5.4E-11	1.6E-12	2 2E-12	1.8E-11	2.7E-10	1.2E-10	1.8E-11	2.3E-10	7.5E-10	1.7E-12	1.8E-14
OCDF	W3 max	2.0E-08	1 5E-08	2 6E-09	4.5E-12	6.2E-12	1.1E-09	1.7E-08	7.3E-09	1.1E-09	1.4E-08	4.6E-08	4.9E-10	7.5E-14
Tetrachlorobiphenyl	W3 max	6.3E-08	7 0E-09	5.0E-09	4.3E-10	5 9E-10	5.1E-10	7.6E-09	3.3E-09	5.1E-10	6.3E-09	2.1E-08	1.2E-11	1.1E-11
Hexachlorobiphenyl	W3 max	1.1E-07	4.5E-09	3.1E-09	2.6E-10	3.5E-10	3 3E-10	5.0E-09	2.2E-09	3.3E-10	4.1E-09	1.4E-08	1.2E-11	3.4E-12
Heptachlorobiphenyl	W3 max	1 0E-07	1.2E-07	2.2E-08	2.6E-10	3.6E-10	8.8E-09	1.3E-07	5.7E-08	8.8E-09	1.1E-07	3.6E-07	3.3E-10	1.7E-12
Benzo(a)pyrene	W3 max	1.0E-06	9.6E-06	6 3E-07	2.0E-11	2.5E-08	3.8E-06	3.8E-06	3.8E-06	3.8E-06	3.8E-06	3.8E-06	3.8E-08	1.3E-10
Benzo(b)fluoranthene	W3 max	6.2E-06	5.8E-06	4.5E-07	1.5E-10	1.9E-07	2.3E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-06	2.3E-06	1.8E-08	7.1E-10
Bis(2-ethylhexyl)phthalate	W3 max	3 1E-07	8.1E-04	5.2E-05	9.4E-13	1.2E-09	3.2E-04	3.2E-04	3.2E-04	3.2E-04	3.2E-04	3.2E-04	2.0E-05	8.0E-12
Carbon tetrachloride	W3 max	3.6E-06	4.1E-10	1 6E-10	7.1E-13	8.9E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	3.1E-07	5 5E-07
Dibenz(a,h)anthracene	W3 max	1.1E-06	4.8E-07	5.0E-08	8.2E-11	1.0E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.0E-09	6.5E-11
Di(n)octyl phthalate	W3 max	1.6E-07	2.2E-03	1.4E-04	2.7E-10	3.4E-07	8.5E-04	8.5E-04	8.5E-04	8.5E-04	8.5E-04	8.5E-04	9.5E-08	1.5E-12
Heptachlor	W3 max	3.1E-09	6.3E-09	4.5E-10	8.6E-14	1.1E-10	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	1.7E-11	3.2E-13
Hexachlorobenzene	W3 max	5.9E-06	6.0E-08	4.1E-08	7.5E-11	9.4E-08	2.1E-08	2.1E-08	2.1E-08	2.1E-08	2.1E-08	2.1E-08	1.9E-09	3 2E-09
Hexachlorobutadiene	W3 max	1.6E-05	1.2E-08	9.3E-09	1.8E-11	2.2E-08	4.0E-09	4.0E-09	4.0E-09	4.0E-09	4.0E-09	4 0E-09	8.0E-09	1.4E-08
Hexachlorocyclopentadiene	W3 max	2.6E-07	7.2E-10	5.6E-10	1.0E-12	1.3E-09	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	5.3E-11	9 1E-11
Hexachlorophene	W3 max	3.0E-06	1.9E-05	1.1E-06	1.6E-09	2.0E-06	7.3E-06	7.3E-06	7.3E-06	7.3E-06	7.3E-06	7.3E-06	5 7E-09	6 0E-11
Indeno(1,2,3-cd)pyrene	W3 max	1.2E-06	4.5E-07	5.2E-08	8.5E-11	1 1E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.0E-09	7.8E-11
Antimony	W3 max	2.1E-07	2.0E-09	7.8E-10	5.6E-12	6.5E-11	2.5E-10	2.5E-10	2.5E-10	2 5E-10	2 5E-10	2.5E-10	1 1E-09	1 2E-09
Arsenic	W3 max	8.0E-06	3.7E-08	1.1E-08	4.2E-09	5.4E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	6 1E-09	3 9E-09
Barium	W3 max	9.9E-06	1.1E-08	4.5E-08	1.7E-11	1.3E-08	3.1E-08	3.1E-08	3.1E-08	3.1E-08	3 1E-08	3 1E-08	3.0E-08	2 6E-08
Beryllium	W3 max	2.1E-08	2.1E-11	1.5E-11	5.7E-13	6.7E-13	2.2E-14	2.2E-14	2.2E-14	2.2E-14	2 2E-14	2 2E-14	4 1E-12	1 0E-12
Cadmium	W3 max	1.2E-07	1.1E-09	4.7E-11	1.9E-10	4.4E-12	8.5E-11	8.5E-11	8.5E-11	8.5E-11	8 5E-11	8 5E-11	3 9E-09	3 9E-09
Chromium (hexavalent)	W3 max	5.6E-07	2.7E-09	2.9E-09	3.3E-11	5.3E-11	8.6E-10	8.6E-10	8 6E-10	8 6E-10	8 6E-10	8 6E-10	1 1E-10	6 7E-11
Lead	W3 max	3.5E-05	9.6E-09	2 2E-08	6.9E-07	6.9E-07	9.3E-09	9 3E-09	9 3E-09	9 3E-09	9 3E-09	9 3E-09	9 1E-09	8 1E-09
Mercury	W3 max	3.0E-04	2 8E-07	9 1E-07	1.7E-07	1.4E-08	4.4E-07	4.4E-07	4 4E-07	4 4E-07	4 4E-07	4 4E-07	7 7E-06	1 3E-05
Mercury (methyl BCF)	W3 max	3.0E-04	2 8E-07	9.1E-07	1 7E-07	1 4E-08	4 4E-07	4 4E-07	4 4E-07	4 4E-07	4 4E-07	4 4E-07	7 7E-06	1 3E-05
Nickel	W3 max	8.2E-07	1 5E-08	5 9E-08	9.0E-11	1 5E-10	3 1E-09	3 1E-09	3 1E-09	3 1E-09	3 1E-09	3 1E-09	3 3E-09	5 0E-09
Selenium	W3 max	1.5E-04	7 5E-07	1.6E-05	5.2E-07	5 2E-07	1.4E-05	1 4E-05	1 4E-05	1 4E-05	1 4E-05	1 4E-05	1 8E-07	2 2E-07
Silver	W3 max	7.4E-07	2 5E-08	5 3E-10	6 2E-12	1 2E-10	2 1E-07	2 1E-07	2 1E-07	2 1E-07	2 1E-07	2 1E-07	9 7E-09	1 4E-08
Thallium	W3 max	3.7E-05	1 1E-06	3 6E-06	7.1E-07	7 1E-07	6 3E-08	6 3E-08	6 3E-08	6 3E-08	6 3E-08	6 3E-08	3 8E-09	2 9E-10
Zinc	W3 max	5.3E-06	1 5E-08	3 7E-09	3.2E-09	3 2E-09	4 8E-09	4 8E-09	4 8E-09	4 8E-09	4 8E-09	4 8E-09	5 5E-07	9 5E-07

TABLE 2· Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	E1 max	3 2E-11	4.3E-14	9 8E-12	NA	5.7E-16	NA	8 1E-11
1,2,3,7,8-PeCDD	E1 max	5 9E-10	1.8E-13	4.2E-11	NA	2.5E-15	NA	1.4E-09
1,2,3,4,7,8-HxCDD	E1 max	8 1E-10	9.5E-14	6 2E-11	NA	5.8E-16	NA	9.4E-10
1,2,3,6,7,8-HxCDD	E1 max	2.2E-10	2.2E-13	7.4E-11	NA	2.2E-15	NA	2.4E-10
1,2,3,7,8,9-HxCDD	E1 max	2.5E-10	1.4E-13	4 7E-11	NA	1 4E-15	NA	3.4E-10
1,2,3,4,6,7,8-HpCDD	E1 max	1.3E-08	9.2E-13	1.1E-10	NA	3.1E-15	NA	2.7E-09
OCDD	E1 max	1.7E-06	6.0E-12	8.0E-12	NA	4.8E-14	NA	5.0E-07
2,3,7,8-TCDF	E1 max	4.8E-10	4.3E-13	7.6E-11	NA	5.8E-15	NA	2.6E-10
1,2,3,7,8-PeCDF	E1 max	2.9E-09	1.1E-12	3.4E-10	NA	1.4E-14	NA	1.2E-09
2,3,4,7,8-PeCDF	E1 max	3.9E-09	1 2E-12	4 9E-10	NA	1 5E-14	NA	7.0E-09
1,2,3,4,7,8-HxCDF	E1 max	2.7E-09	2.0E-12	6.8E-10	NA	2.0E-14	NA	3.8E-09
1,2,3,6,7,8-HxCDF	E1 max	6 1E-09	1 9E-12	6.3E-10	NA	1 9E-14	NA	7.1E-09
1,2,3,7,8,9-HxCDF	E1 max	1.4E-09	4.6E-13	1.5E-10	NA	4 6E-15	NA	1.6E-09
2,3,4,6,7,8-HxCDF	E1 max	4 4E-09	2 1E-12	7.2E-10	NA	2 1E-14	NA	4.6E-09
1,2,3,4,6,7,8-HpCDF	E1 max	1.4E-08	8.7E-12	7 8E-10	NA	4.5E-14	NA	3.6E-09
1,2,3,4,7,8,9-HpCDF	E1 max	1 1E-09	1.1E-12	9 8E-11	NA	5.7E-15	NA	7.1E-10
OCDF	E1 max	3 6E-07	9.8E-12	3 3E-11	NA	1 2E-14	NA	4.1E-08
Tetrachlorobiphenyl	E1 max	4.3E-09	1 1E-09	7 0E-09	NA	1 3E-12	NA	1.6E-08
Hexachlorobiphenyl	E1 max	7.7E-09	1 8E-10	6.3E-07	NA	1.1E-12	NA	1.0E-08
Heptachlorobiphenyl	E1 max	2 5E-07	1.1E-09	2.4E-07	NA	1.2E-12	NA	3.2E-07
Benzo(a)pyrene	E1 max	2 7E-05	2.4E-10	9 2E-07	NA	1.6E-11	NA	2.1E-05
Benzo(b)fluoranthene	E1 max	1 3E-05	1.1E-08	5.0E-06	NA	7.8E-11	NA	1.2E-05
Bis(2-ethylhexyl)phthalate	E1 max	1 5E-02	2 1E-10	5.3E-07	NA	2.6E-11	NA	1.7E-03
Carbon tetrachloride	E1 max	2.3E-06	8.7E-07	1.2E-08	NA	3.8E-10	NA	7.3E-10
Dibenz(a,h)anthracene	E1 max	3.6E-08	2.9E-09	4 3E-05	NA	3.2E-11	NA	2.0E-06
Di(n)octyl phthalate	E1 max	7.0E-05	2.1E-07	1.3E-07	NA	2.1E-12	NA	4.6E-03
Heptachlor	E1 max	1.3E-08	1.0E-10	2.0E-08	NA	4.0E-14	NA	1.3E-08
Hexachlorobenzene	E1 max	7.2E-08	9 9E-07	1.2E-04	NA	2.2E-10	NA	6.0E-08
Hexachlorobutadiene	E1 max	6.9E-08	3.0E-07	8.1E-06	NA	2.5E-10	NA	9.0E-09
Hexachlorocyclopentadiene	E1 max	1.2E-09	1.4E-08	9.3E-09	NA	3.6E-12	NA	5.7E-10
Hexachlorophene	E1 max	2.1E-07	6 8E-07	7.0E-07	NA	1.4E-10	NA	8.2E-05
Indeno(1,2,3-cd)pyrene	E1 max	3.7E-08	3 2E-09	5.4E-05	NA	3.5E-11	NA	1.8E-06
Antimony	E1 max	7.4E-08	2 8E-11	5.1E-11	NA	5.1E-11	NA	7.9E-09
Arsenic	E1 max	3.2E-07	2.8E-11	4 9E-08	NA	1.1E-09	NA	1.3E-07
Barium	E1 max	2.4E-06	4.5E-10	9.2E-09	NA	2.3E-09	NA	4.2E-08
Beryllium	E1 max	1.7E-10	1 7E-15	2 6E-11	NA	1 3E-12	NA	6.1E-11
Cadmium	E1 max	1.6E-07	1.4E-10	1 1E-07	NA	4 9E-11	NA	4 3E-09
Chromium (hexavalent)	E1 max	3.3E-09	8.3E-14	4 6E-10	NA	2 9E-11	NA	7 5E-09
Lead	E1 max	4 5E-07	1.1E-10	2 8E-07	NA	1 8E-09	NA	2 7E-08
Mercury	E1 max	3 3E-04	2 8E-08	1 5E-04	NA	3 9E-08	NA	6 0E-07
Mercury (methyl BCF)	E1 max	3.3E-04	2.8E-08	8.3E-04	NA	3.9E-08	NA	6 0E-07
Nickel	E1 max	5 4E-08	2 3E-12	8 2E-09	NA	1 3E-10	NA	5 3E-08
Selenium	E1 max	3 3E-06	6 3E-10	1 3E-06	NA	1 6E-08	NA	2 5E-06
Silver	E1 max	4.8E-07	3 4E-10	9 1E-11	NA	1 8E-10	NA	9 9E-08
Thallium	E1 max	1 2E-07	2 1E-13	1 7E-07	NA	1 4E-09	NA	2 7E-06
Zinc	E1 max	1.2E-05	2.8E-09	5.7E-07	NA	1 3E-09	NA	5 5E-08

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TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	E2 max	1.1E-11	1.4E-14	2.9E-12	NA	1.7E-16	NA	2 8E-11
1,2,3,7,8-PeCDD	E2 max	2.0E-10	5.8E-14	1.2E-11	NA	7.2E-16	NA	4 7E-10
1,2,3,4,7,8-HxCDD	E2 max	2.8E-10	2 7E-14	1.7E-11	NA	1.6E-16	NA	3 2E-10
1,2,3,6,7,8-HxCDD	E2 max	7.5E-11	6.2E-14	2.1E-11	NA	6.1E-16	NA	8 0E-11
1,2,3,7,8,9-HxCDD	E2 max	8.6E-11	3.9E-14	1.3E-11	NA	3.8E-16	NA	1.1E-10
1,2,3,4,6,7,8-HpCDD	E2 max	4.5E-09	2.6E-13	2.9E-11	NA	8.5E-16	NA	9 3E-10
OCDD	E2 max	5.8E-07	1 7E 12	2.2E 12	NA	1.3E-14	NA	1.7E-07
2,3,7,8-TCDF	E2 max	1.6E-10	1 4E-13	2.3E 1'	NA	1 7E-15	NA	8.8E-11
1,2,3,7,8-PeCDF	E2 max	9.9E-10	3 5E-13	1.0E-10	NA	4.3E-15	NA	4.1E-10
2,3,4,7,8-PeCDF	E2 max	1.3E-09	3 7E-13	1.4E-10	NA	4.4E-15	NA	2.4E-09
1,2,3,4,7,8-HxCDF	E2 max	9.1E-10	5 8E-13	1 9E-10	NA	5.6E-15	NA	1.3E-09
1,2,3,6,7,8-HxCDF	E2 max	2.1E-09	1E-13	1 8E-10	NA	5 3E-15	NA	2.4E-09
1,2,3,7,8,9-HxCDF	E2 max	4 7E-10	't 13	4.3E-11	NA	1 3E-15	NA	5 5E-10
2,3,4,6,7,8-HxCDF	E2 max	1.5E-09	6 2E-13	2.0E-10	NA	6 0E-15	NA	1 6E-09
1,2,3,4,6,7,8-HpCDF	E2 max	4 9E-09	2 5E-12	2.2E-10	NA	1.3E-14	NA	1 2E-09
1,2,3,4,7,8,9-HpCDF	E2 max	3 8E-10	3 1E-13	2 7E-11	NA	1 6E-15	NA	2.4E-10
OCDF	E2 max	1 2E-07	2 7E-12	9 0E-12	NA	3.3E-15	NA	1.4E-08
Tetrachlorobiphenyl	E2 max	1.4E-09	3 8E-10	2.1E-09	NA	3.9E-13	NA	5 4E-09
Hexachlorobiphenyl	E2 max	2.6E-09	6 1E-11	1 9E 07	NA	3 2E-13	NA	3.6E-09
Heptachlorobiphenyl	E2 max	8.4E-08	3 6E-10	7.5E-08	NA	3 8E-13	NA	1.1E-07
Benzo(a)pyrene	E2 max	9.3E-06	7.8E-11	2.9E-07	NA	5.0E-12	NA	7.0E-06
Benzo(b)fluoranthene	E2 max	4.5E-06	3 7E-09	1.5E-06	NA	2 4E-11	NA	4.1E-06
Bis(2-ethylhexyl)phthalate	E2 max	5.1E-03	6.6E-11	1.9E-07	NA	9 2E-12	NA	5 9E-04
Carbon tetrachloride	E2 max	7.9E-07	3.0E-07	3.5E-09	NA	1 2E-10	NA	2.5E-10
Dibenz(a,h)anthracene	E2 max	1.0E-08	8 0E-10	1.3E-05	NA	9.3E-12	NA	5.7E-07
Di(n)octyl phthalate	E2 max	2.4E-05	7.0E-08	4.0E-08	NA	6.3E-13	NA	1.6E-03
Heptachlor	E2 max	4.3E-09	3.6E-11	6.1E-09	NA	1.2E-14	NA	4.5E-09
Hexachlorobenzene	E2 max	2.4E-08	3.4E-07	3.6E-05	NA	6.6E-11	NA	2.1E-08
Hexachlorobutadiene	E2 max	2.4E-08	1.0E-07	2.5E-06	NA	7 8E-11	NA	3.1E-09
Hexachlorocyclopentadiene	E2 max	4.1E-10	4.9E-09	2.9E-09	NA	1.1E-12	NA	1.9E-10
Hexachlorophene	E2 max	5.9E-08	1.9E-07	2.2E-07	NA	4.3E-11	NA	2.3E-05
Indeno(1,2,3-cd)pyrene	E2 max	1.0E-08	8 7E-10	1.6E-05	NA	1.0E-11	NA	5.2E-07
Antimony	E2 max	2.2E-08	8.3E-12	1.5E-11	NA	1.5E-11	NA	2 4E-09
Arsenic	E2 max	9.6E-08	8.2E-12	1.4E-08	NA	3 2E-10	NA	3.9E-08
Barium	E2 max	7.2E-07	1 3E-10	2 7E-09	NA	6.7E-10	NA	1.2E-08
Beryllium	E2 max	4 9E-11	4 9E-16	7 5E-12	NA	3 7E-13	NA	1 8E-11
Cadmium	E2 max	4.8E-08	4 0E-11	3.5E-08	NA	1 6E-11	NA	1 3E-09
Chromium (hexavalent)	E2 max	9.9E-10	2 5E-14	1.3E-10	NA	8 3E-12	NA	2.2E-09
Lead	E2 max	1.3E-07	3.1E-11	8 1E-08	NA	5.0E-10	NA	7 9E-09
Mercury	E2 max	1.1E-04	9.6E-09	4 5E-05	NA	1 2E-08	NA	2 1E-07
Mercury (methyl BCF)	E2 max	1.1E-04	9 6E-09	2 6E-04	NA	1 2E-08	NA	2 1E-07
Nickel	E2 max	1.6E-08	6 9E-13	2 4E-09	NA	3.9E-11	NA	1 6E-08
Selenium	E2 max	9 8E-07	1.9E-10	3 6E-07	NA	4 6E-09	NA	7 4E-07
Silver	E2 max	1.4E-07	9.9E-11	2 7E-11	NA	5.4E-11	NA	3 0E-08
Thallium	E2 max	3 6E-08	6 1E-14	5 0E-08	NA	4 1E-10	NA	8 2E-07
Zinc	E2 max	3 6E-06	8 2E-10	1 7E-07	NA	3.9E-10	NA	1 6E-08

TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	E3 max	3 3E-12	4.2E-15	6 8E-13	NA	4 0E-17	NA	8 2E-12
1,2,3,7,8-PeCDD	E3 max	5.9E-11	1.7E-14	2.9E-12	NA	1 7E-16	NA	1.4E-10
1,2,3,4,7,8-HxCDD	E3 max	8.2E-11	8.5E-15	4.1E-12	NA	3 9E-17	NA	9.5E-11
1,2,3,6,7,8-HxCDD	E3 max	2.2E-11	1.9E-14	4 9E-12	NA	1 5E-16	NA	2.4E-11
1,2,3,7,8,9-HxCDD	E3 max	2.5E-11	1.2E-14	3.1E-12	NA	9.2E-17	NA	3 4E-11
1,2,3,4,6,7,8-HpCDD	E3 max	1.3E-09	8.1E-14	7.1E-12	NA	2 1E-16	NA	2.8E-10
OCDD	E3 max	1.7E-07	5.2E-13	5.3E-13	NA	3 2E-15	NA	5.1E-08
2,3,7,8-TCDF	E3 max	4.8E-11	4.3E-14	5 3E-12	NA	4 0E-16	NA	2.6E-11
1,2,3,7,8-PeCDF	E3 max	2.9E-10	1.1E-13	2.4E-11	NA	9 9E-16	NA	1.2E-10
2,3,4,7,8-PeCDF	E3 max	4.0E-10	1.1E-13	3 3E-11	NA	1 0E-15	NA	7.0E-10
1,2,3,4,7,8-HxCDF	E3 max	2 7E-10	1.8E-13	4 5E-11	NA	1 3E-15	NA	3.8E-10
1,2,3,6,7,8-HxCDF	E3 max	6 2E-10	1.7E-13	4.2E-11	NA	1.3E-15	NA	7.1E-10
1,2,3,7,8,9-HxCDF	E3 max	1 4E-10	4.2E-14	1.0E-11	NA	3.1E-16	NA	1.6E-10
2,3,4,6,7,8-HxCDF	E3 max	4 5E-10	1.9E-13	4.8E-11	NA	1 4E-15	NA	4.7E-10
1,2,3,4,6,7,8-HpCDF	E3 max	1.4E-09	7.7E-13	5 2E-11	NA	3.0E-15	NA	3.6E-10
1,2,3,4,7,8,9-HpCDF	E3 max	1 1E-10	9 6E-14	6 5E-12	NA	3.8E-16	NA	7.0E-11
OCDF	E3 max	3.7E-08	8 5E-13	2.2E-12	NA	8 0E-16	NA	4.2E-09
Tetrachlorobiphenyl	E3 max	4 3E-10	1.1E-10	4 9E-10	NA	9.0E-14	NA	1.6E-09
Hexachlorobiphenyl	E3 max	7 8E-10	1.8E-11	4.4E-08	NA	7.4E-14	NA	1.1E-09
Heptachlorobiphenyl	E3 max	2 5E-08	1.1E-10	1.7E-08	NA	8 7E-14	NA	3.3E-08
Benzo(a)pyrene	E3 max	2.8E-06	2 3E-11	7.1E-08	NA	1.2E-12	NA	2.1E-06
Benzo(b)fluoranthene	E3 max	1 3E-06	1.1E-09	3.5E-07	NA	5 5E-12	NA	1.2E-06
Bis(2-ethylhexyl)phthalate	E3 max	1.5E-03	2.0E-11	5.0E-08	NA	2.5E-12	NA	1.7E-04
Carbon tetrachloride	E3 max	2 4E-07	8 8E-08	8.1E-10	NA	2.7E-11	NA	7.4E-11
Dibenz(a,h)anthracene	E3 max	3.2E-09	2.5E-10	3.1E-06	NA	2.3E-12	NA	1.8E-07
Di(n)octyl phthalate	E3 max	7.1E-06	2.1E-08	9.2E-09	NA	1 5E-13	NA	4.7E-04
Heptachlor	E3 max	1.3E-09	1.1E-11	1.4E-09	NA	2.8E-15	NA	1.3E-09
Hexachlorobenzene	E3 max	7.2E-09	1.0E-07	8.3E-06	NA	1.5E-11	NA	6.1E-09
Hexachlorobutadiene	E3 max	7.0E-09	3.0E-08	5.7E-07	NA	1.8E-11	NA	9.1E-10
Hexachlorocyclopentadiene	E3 max	1 2E-10	1.4E-09	6 6E-10	NA	2.5E-13	NA	5.8E-11
Hexachlorophene	E3 max	1.8E-08	5.9E-08	5.5E-08	NA	1.1E-11	NA	7.1E-06
Indeno(1,2,3-cd)pyrene	E3 max	3.2E-09	2.7E-10	3.9E-06	NA	2 6E-12	NA	1.6E-07
Antimony	E3 max	7.4E-09	2.8E-12	3 9E-12	NA	3 9E-12	NA	7.9E-10
Arsenic	E3 max	3.2E-08	2.8E-12	3.6E-09	NA	8 2E-11	NA	1.3E-08
Barium	E3 max	2.4E-07	4 5E-11	6.9E-10	NA	1 7E-10	NA	4.2E-09
Beryllium	E3 max	1.7E-11	1.7E-16	1 9E-12	NA	9 5E-14	NA	6.1E-12
Cadmium	E3 max	1.6E-08	1.4E-11	9.6E-09	NA	4 3E-12	NA	4.3E-10
Chromium (hexavalent)	E3 max	3.3E-10	8.3E-15	3.4E-11	NA	2 1E-12	NA	7 5E-10
Lead	E3 max	4.5E-08	1 1E-11	2 1E-08	NA	1 3E-10	NA	2 7E-09
Mercury	E3 max	3.3E-05	2 8E-09	1.0E-05	NA	2 7E-09	NA	6 1E-08
Mercury (methyl BCF)	E3 max	3.3E-05	2.8E-09	5 8E-05	NA	2 7E-09	NA	6 1E-08
Nickel	E3 max	5.4E-09	2 3E-13	6 0E-10	NA	9 9E-12	NA	5 3E-09
Selenium	E3 max	3.3E-07	6 3E-11	9 2E-08	NA	1 2E-09	NA	2 5E-07
Silver	E3 max	4.8E-08	3 4E-11	6 9E-12	NA	1 4E-11	NA	9 9E-09
Thallium	E3 max	1 2E-08	2 1E-14	1 3E-08	NA	1 1E-10	NA	2 7E-07
Zinc	E3 max	1.2E-06	2.8E-10	4 4E-08	NA	1.0E-10	NA	5 5E-09

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Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	N1 max	1.4E-11	2.1E-14	NA	NA	NA	NA	3.5E-11
1,2,3,7,8-PeCDD	N1 max	2.4E-10	1.1E-13	NA	NA	NA	NA	5.9E-10
1,2,3,4,7,8-HxCDD	N1 max	3 4E-10	7.2E-14	NA	NA	NA	NA	4 0E-10
1,2,3,6,7,8-HxCDD	N1 max	9.2E-11	1.8E-13	NA	NA	NA	NA	1.1E-10
1,2,3,7,8,9-HxCDD	N1 max	1.1E-10	1.2E-13	NA	NA	NA	NA	1.5E-10
1,2,3,4,6,7,8-HpCDD	N1 max	5.5E-09	7 7E-13	NA	NA	NA	NA	1.2E-09
OCDD	N1 max	7.1E-07	5.2E-12	NA	NA	NA	NA	2.1E-07
2,3,7,8-TCDF	N1 max	2.0E-10	2.0E-13	NA	NA	NA	NA	1.1E-10
1,2,3,7,8-PeCDF	N1 max	1.2E-09	5.9E-13	NA	NA	NA	NA	5.1E-10
2,3,4,7,8-PeCDF	N1 max	1.6E-09	7.0E-13	NA	NA	NA	NA	2.9E-09
1,2,3,4,7,8-HxCDF	N1 max	1.1E-09	1 6E-12	NA	NA	NA	NA	1.7E-09
1,2,3,6,7,8-HxCDF	N1 max	2.5E-09	1 5E-12	NA	NA	NA	NA	3 0E-09
1,2,3,7,8,9-HxCDF	N1 max	5.8E-10	3.3E-13	NA	NA	NA	NA	6.9E-10
2,3,4,6,7,8-HxCDF	N1 max	1.8E-09	1.7E-12	NA	NA	NA	NA	2.0E-09
1,2,3,4,6,7,8-HpCDF	N1 max	6 0E-09	7 0E-12	NA	NA	NA	NA	1.6E-09
1,2,3,4,7,8,9-HpCDF	N1 max	4 6E-10	9 1E-13	NA	NA	NA	NA	3.3E-10
OCDF	N1 max	1.5E-07	8 5E-12	NA	NA	NA	NA	1.7E-08
Tetrachlorobiphenyl	N1 max	1.8E-09	4 8E-10	NA	NA	NA	NA	6.9E-09
Hexachlorobiphenyl	N1 max	3 2E-09	7.4E-11	NA	NA	NA	NA	4.4E-09
Heptachlorobiphenyl	N1 max	1.0E-07	4.4E-10	NA	NA	NA	NA	1.3E-07
Benzo(a)pyrene	N1 max	1.1E-05	1 4E-10	NA	NA	NA	NA	8.8E-06
Benzo(b)fluoranthene	N1 max	5.5E-06	4 5E-09	NA	NA	NA	NA	5.1E-06
Bis(2-ethylhexyl)phthalate	N1 max	6 3E-03	1.4E-10	NA	NA	NA	NA	7.2E-04
Carbon tetrachloride	N1 max	9.7E-07	3 6E-07	NA	NA	NA	NA	3.1E-10
Dibenz(a,h)anthracene	N1 max	2.9E-08	2 5E-09	NA	NA	NA	NA	1.6E-06
Di(n)octyl phthalate	N1 max	2.9E-05	8 6E-08	NA	NA	NA	NA	1.9E-03
Heptachlor	N1 max	5.3E-09	4.4E-11	NA	NA	NA	NA	5.6E-09
Hexachlorobenzene	N1 max	3.0E-08	4.2E-07	NA	NA	NA	NA	2.5E-08
Hexachlorobutadiene	N1 max	2.9E-08	1.3E-07	NA	NA	NA	NA	3.8E-09
Hexachlorocyclopentadiene	N1 max	5.1E-10	6.0E-09	NA	NA	NA	NA	2.4E-10
Hexachlorophene	N1 max	1.7E-07	5.9E-07	NA	NA	NA	NA	6.5E-05
Indeno(1,2,3-cd)pyrene	N1 max	2.9E-08	2.8E-09	NA	NA	NA	NA	1.5E-06
Antimony	N1 max	7.0E-08	2.7E-11	NA	NA	NA	NA	7.0E-09
Arsenic	N1 max	3.0E-07	2.7E-11	NA	NA	NA	NA	1.1E-07
Barium	N1 max	2.3E-06	4.4E-10	NA	NA	NA	NA	3 7E-08
Beryllium	N1 max	1.5E-10	1.6E-15	NA	NA	NA	NA	5 4E-11
Cadmium	N1 max	1.5E-07	1.3E-10	NA	NA	NA	NA	3.8E-09
Chromium (hexavalent)	N1 max	3.0E-09	8.0E-14	NA	NA	NA	NA	6.6E-09
Lead	N1 max	4.2E-07	1.0E-10	NA	NA	NA	NA	2 4E-08
Mercury	N1 max	1.4E-04	1.2E-08	NA	NA	NA	NA	2 5E-07
Mercury (methyl BCF)	N1 max	1.4E-04	1.2E-08	NA	NA	NA	NA	2.5E-07
Nickel	N1 max	5.1E-08	2.3E-12	NA	NA	NA	NA	4.7E-08
Selenium	N1 max	3.0E-06	6.1E-10	NA	NA	NA	NA	2 2E-06
Silver	N1 max	4.5E-07	3 2E-10	NA	NA	NA	NA	9 0E-08
Thallium	N1 max	1.1E-07	2 0E-13	NA	NA	NA	NA	2 5E-06
Zinc	N1 max	1.2E-05	2.7E-09	NA	NA	NA	NA	5 1E-08

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Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	N2 max	5.0E-12	6.9E-15	5.9E-12	NA	3 5E-16	NA	1.3E-11
1,2,3,7,8-PeCDD	N2 max	9.0E-11	3 2E-14	2.7E-11	NA	1 6E-15	NA	2 2E-10
1,2,3,4,7,8-HxCDD	N2 max	1.2E-10	1 8E-14	1 4E-11	NA	1 4E-16	NA	1.5E-10
1,2,3,6,7,8-HxCDD	N2 max	3 4E-11	4 2E-14	2 5E-11	NA	7 3E-16	NA	3.8E-11
1,2,3,7,8,9-HxCDD	N2 max	3.9E-11	2.7E-14	1.6E-11	NA	4.6E-16	NA	5.3E-11
1,2,3,4,6,7,8-HpCDD	N2 max	2.0E-09	1.8E-13	2.3E-11	NA	6 7E-16	NA	4.2E-10
OCDD	N2 max	2.6E-07	1.2E-12	2.2E-12	NA	1 3E-14	NA	7.7E-08
2,3,7,8-TCDF	N2 max	7.4E-11	6 8E-14	5 3E-11	NA	4 0E-15	NA	4.0E-11
1,2,3,7,8-PeCDF	N2 max	4.5E-10	1.8E-13	1 7E-10	NA	7.3E-15	NA	1.9E-10
2,3,4,7,8-PeCDF	N2 max	6.0E-10	2.0E-13	2 1E-10	NA	6 7E-15	NA	1.1E-09
1,2,3,4,7,8-HxCDF	N2 max	4.1E-10	3 8E-13	2 2E-10	NA	6.5E-15	NA	5.9E-10
1,2,3,6,7,8-HxCDF	N2 max	9 4E-10	3 5E-13	2 1E-10	NA	6 1E-15	NA	1.1E-09
1,2,3,7,8,9-HxCDF	N2 max	2 1E-10	8 3E-14	4.9E-11	NA	1 4E-15	NA	2.5E-10
2,3,4,6,7,8-HxCDF	N2 max	6 8E-10	4 0E-13	2 3E-10	NA	6 9E-15	NA	7.2E-10
1,2,3,4,6,7,8-HpCDF	N2 max	2 2E-09	1 7E-12	1.8E-10	NA	1 0E-14	NA	5.7E-10
1,2,3,4,7,8,9-HpCDF	N2 max	1 7E-10	2 1E-13	2 3E-11	NA	1 3E-15	NA	1.1E-10
OCDF	N2 max	5 6E-08	1 9E-12	6 8E-12	NA	2 5E-15	NA	6.4E-09
Tetrachlorobiphenyl	N2 max	6 6E-10	1 7E-10	1.8E-08	NA	3.2E-12	NA	2.5E-09
Hexachlorobiphenyl	N2 max	1 2E-09	2 7E-11	3.2E-07	NA	5.5E-13	NA	1.6E-09
Heptachlorobiphenyl	N2 max	3 8E-08	1 6E-10	2 1E-07	NA	1.1E-12	NA	5.0E-08
Benzo(a)pyrene	N2 max	4 2E-06	4 1E-11	3.8E-07	NA	6 7E-12	NA	3.2E-06
Benzo(b)fluoranthene	N2 max	2 0E-06	1 7E-09	7 2E-06	NA	1 1E-10	NA	1.9E-06
Bis(2-ethylhexyl)phthalate	N2 max	2 3E-03	3 8E-11	7 7E-08	NA	3 8E-12	NA	2.6E-04
Carbon tetrachloride	N2 max	3.6E-07	1.3E-07	3.4E-08	NA	1.1E-09	NA	1.1E-10
Dibenz(a,h)anthracene	N2 max	7.1E-09	5 7E-10	3.7E-05	NA	2 7E-11	NA	3.9E-07
Di(n)octyl phthalate	N2 max	1.1E-05	3.2E-08	3.6E-07	NA	5 8E-12	NA	7.1E-04
Heptachlor	N2 max	2.0E-09	1 6E-11	5 5E-08	NA	1.1E-13	NA	2.0E-09
Hexachlorobenzene	N2 max	1.1E-08	1 5E-07	3.4E-04	NA	6.2E-10	NA	9.3E-09
Hexachlorobutadiene	N2 max	1.1E-08	4.6E-08	2 3E-05	NA	7.3E-10	NA	1.4E-09
Hexachlorocyclopentadiene	N2 max	1.9E-10	2.2E-09	2.7E-08	NA	1 0E-11	NA	8.8E-11
Hexachlorophene	N2 max	4.1E-08	1 3E-07	1.7E-06	NA	3 3E-10	NA	1.6E-05
Indeno(1,2,3-cd)pyrene	N2 max	7.1E-09	6.2E-10	4.8E-05	NA	3.1E-11	NA	3.6E-07
Antimony	N2 max	1.6E-08	6.0E-12	2.0E-10	NA	2.0E-10	NA	1.7E-09
Arsenic	N2 max	6.9E-08	5 9E-12	2 0E-07	NA	4 5E-09	NA	2.7E-08
Barium	N2 max	5 2E-07	9 7E-11	3.6E-08	NA	9.0E-09	NA	8 8E-09
Beryllium	N2 max	3.5E-11	3.5E-16	1.0E-10	NA	5.2E-12	NA	1.3E-11
Cadmium	N2 max	3 5E-08	2.9E-11	3 2E-07	NA	1 4E-10	NA	9.1E-10
Chromium (hexavalent)	N2 max	7 0E-10	1.8E-14	1 8E-09	NA	1 1E-10	NA	1.6E-09
Lead	N2 max	9.6E-08	2.3E-11	1 1E-06	NA	6 9E-09	NA	5 6E-09
Mercury	N2 max	5 0E-05	4 3E-09	4 3E-04	NA	1 1E-07	NA	9 3E-08
Mercury (methyl BCF)	N2 max	5 0E-05	4 3E-09	2.4E-03	NA	1 1E-07	NA	9 3E-08
Nickel	N2 max	1 2E-08	5 0E-13	3 3E-08	NA	5 4E-10	NA	1 1E-08
Selenium	N2 max	7 0E-07	1.3E-10	5 0E-06	NA	6 5E-08	NA	5 2E-07
Silver	N2 max	1 0E-07	7 2E-11	3 5E-10	NA	7.1E-10	NA	2 1E-08
Thallium	N2 max	2 5E-08	4 4E-14	6 7E-07	NA	5 6E-09	NA	5 8E-07
Zinc	N2 max	2.6E-06	6.0E-10	2 2E-06	NA	5 1E-09	NA	1 2E-08

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TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	N3 max	1.3E-12	2 0E-15	NA	NA	NA	NA	3.4E-12
1,2,3,7,8-PeCDD	N3 max	2.4E-11	9.3E-15	NA	NA	NA	NA	5.8E-11
1,2,3,4,7,8-HxCDD	N3 max	3.4E-11	5 4E-15	NA	NA	NA	NA	3.9E-11
1,2,3,6,7,8-HxCDD	N3 max	9.2E-12	1.3E-14	NA	NA	NA	NA	1.0E-11
1,2,3,7,8,9-HxCDD	N3 max	1.1E-11	8 4E-15	NA	NA	NA	NA	1.4E-11
1,2,3,4,6,7,8-HpCDD	N3 max	5.5E-10	5.6E-14	NA	NA	NA	NA	1.1E-10
OCDD	N3 max	7.1E-08	3.7E-13	NA	NA	NA	NA	2.1E-08
2,3,7,8-TCDF	N3 max	2.0E-11	1 9E-14	NA	NA	NA	NA	1.1E-11
1,2,3,7,8-PeCDF	N3 max	1.2E-10	5.2E-14	NA	NA	NA	NA	5.1E-11
2,3,4,7,8-PeCDF	N3 max	1.6E-10	5.9E-14	NA	NA	NA	NA	2.9E-10
1,2,3,4,7,8-HxCDF	N3 max	1.1E-10	1 2E-13	NA	NA	NA	NA	1.6E-10
1,2,3,6,7,8-HxCDF	N3 max	2 5E-10	1.1E-13	NA	NA	NA	NA	3.0E-10
1,2,3,7,8,9-HxCDF	N3 max	5 8E-11	2.5E-14	NA	NA	NA	NA	6.8E-11
2,3,4,6,7,8-HxCDF	N3 max	1.8E-10	1.2E-13	NA	NA	NA	NA	2.0E-10
1,2,3,4,6,7,8-HpCDF	N3 max	6.0E-10	5.2E-13	NA	NA	NA	NA	1.6E-10
1,2,3,4,7,8,9-HpCDF	N3 max	4.6E-11	6 6E-14	NA	NA	NA	NA	3.1E-11
OCDF	N3 max	1.5E-08	6.1E-13	NA	NA	NA	NA	1.7E-09
Tetrachlorobiphenyl	N3 max	1.8E-10	4.8E-11	NA	NA	NA	NA	6.8E-10
Hexachlorobiphenyl	N3 max	3.2E-10	7.4E-12	NA	NA	NA	NA	4.4E-10
Heptachlorobiphenyl	N3 max	1.0E-08	4.4E-11	NA	NA	NA	NA	1.3E-08
Benzo(a)pyrene	N3 max	1.1E-06	1.2E-11	NA	NA	NA	NA	8.7E-07
Benzo(b)fluoranthene	N3 max	5.5E-07	4 5E-10	NA	NA	NA	NA	5.1E-07
Bis(2-ethylhexyl)phthalate	N3 max	6.3E-04	1 1E-11	NA	NA	NA	NA	7.2E-05
Carbon tetrachloride	N3 max	9.7E-08	3.6E-08	NA	NA	NA	NA	3.1E-11
Dibenz(a,h)anthracene	N3 max	2.2E-09	1.8E-10	NA	NA	NA	NA	1.2E-07
Di(n)octyl phthalate	N3 max	2.9E-06	8.6E-09	NA	NA	NA	NA	1.9E-04
Heptachlor	N3 max	5.3E-10	4.4E-12	NA	NA	NA	NA	5.6E-10
Hexachlorobenzene	N3 max	3.0E-09	4 2E-08	NA	NA	NA	NA	2.5E-09
Hexachlorobutadiene	N3 max	2.9E-09	1.3E-08	NA	NA	NA	NA	3.8E-10
Hexachlorocyclopentadiene	N3 max	5.1E-11	6.0E-10	NA	NA	NA	NA	2.4E-11
Hexachlorophene	N3 max	1.3E-08	4 2E-08	NA	NA	NA	NA	5.0E-06
Indeno(1,2,3-cd)pyrene	N3 max	2.2E-09	2.0E-10	NA	NA	NA	NA	1.1E-07
Antimony	N3 max	5.5E-09	2.1E-12	NA	NA	NA	NA	5.7E-10
Arsenic	N3 max	2.4E-08	2 1E-12	NA	NA	NA	NA	9.4E-09
Barium	N3 max	1.8E-07	3.4E-11	NA	NA	NA	NA	3.0E-09
Beryllium	N3 max	1.2E-11	1 2E-16	NA	NA	NA	NA	4.4E-12
Cadmium	N3 max	1.2E-08	1.0E-11	NA	NA	NA	NA	3 1E-10
Chromium (hexavalent)	N3 max	2.4E-10	6 2E-15	NA	NA	NA	NA	5 4E-10
Lead	N3 max	3.3E-08	7.9E-12	NA	NA	NA	NA	1 9E-09
Mercury	N3 max	1.4E-05	1 2E-09	NA	NA	NA	NA	2.5E-08
Mercury (methyl BCF)	N3 max	1 4E-05	1 2E-09	NA	NA	NA	NA	2.5E-08
Nickel	N3 max	4 0E-09	1.7E-13	NA	NA	NA	NA	3.8E-09
Selenium	N3 max	2.4E-07	4 7E-11	NA	NA	NA	NA	1.8E-07
Silver	N3 max	3.5E-08	2.5E-11	NA	NA	NA	NA	7 2E-09
Thallium	N3 max	8.7E-09	1 5E-14	NA	NA	NA	NA	2 0E-07
Zinc	N3 max	9 1E-07	2 1E-10	NA	NA	NA	NA	4 0E-09

TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	S1 max	1 8E-11	2 7E-14	1.4E-11	NA	8 3E-16	NA	4.6E-11
1,2,3,7,8-PeCDD	S1 max	3 3E-10	1.3E-13	6 4E-11	NA	3 7E-15	NA	7 9E-10
1,2,3,4,7,8-HxCDD	S1 max	4.6E-10	7.8E-14	9 9E-11	NA	9 3E-16	NA	5.3E-10
1,2,3,6,7,8-HxCDD	S1 max	1.2E-10	1.9E-13	1.2E-10	NA	3 6E-15	NA	1.4E-10
1,2,3,7,8,9-HxCDD	S1 max	1.4E-10	1.2E-13	7.7E-11	NA	2.3E-15	NA	1.9E-10
1,2,3,4,6,7,8-HpCDD	S1 max	7.4E-09	8.2E-13	1.8E-10	NA	5 1E-15	NA	1.5E-09
OCDD	S1 max	9.5E-07	5.5E-12	1.3E-11	NA	7 9E-14	NA	2.8E-07
2,3,7,8-TCDF	S1 max	2.7E-10	2.6E-13	1.1E-10	NA	8 1E-15	NA	1.5E-10
1,2,3,7,8-PeCDF	S1 max	1.6E-09	7.2E-13	5.0E-10	NA	2 1E-14	NA	6.8E-10
2,3,4,7,8-PeCDF	S1 max	2.2E-09	8.2E-13	7.3E-10	NA	2 3E-14	NA	3.9E-09
1,2,3,4,7,8-HxCDF	S1 max	1.5E-09	1.7E-12	1.1E-09	NA	3 2E-14	NA	2.2E-09
1,2,3,6,7,8-HxCDF	S1 max	3.4E-09	1.6E-12	1.0E-09	NA	3 0E-14	NA	4.0E-09
1,2,3,7,8,9-HxCDF	S1 max	7.8E-10	3.7E-13	2.4E-10	NA	7 2E-15	NA	9.1E-10
2,3,4,6,7,8-HxCDF	S1 max	2.5E-09	1.8E-12	1.2E-09	NA	3.4E-14	NA	2.7E-09
1,2,3,4,6,7,8-HpCDF	S1 max	8.1E-09	7.5E-12	1.3E-09	NA	7.4E-14	NA	2.1E-09
1,2,3,4,7,8,9-HpCDF	S1 max	6.2E-10	9 6E-13	1.6E-10	NA	9 4E-15	NA	4.3E-10
OCDF	S1 max	2.0E-07	8.9E-12	5 5E-11	NA	2.0E-14	NA	2.3E-08
Tetrachlorobiphenyl	S1 max	2.4E-09	6.4E-10	9 8E-09	NA	1 8E-12	NA	9.1E-09
Hexachlorobiphenyl	S1 max	4.3E-09	1.0E-10	8.7E-07	NA	1 5E-12	NA	5.9E-09
Heptachlorobiphenyl	S1 max	1.4E-07	5.9E-10	3.4E-07	NA	1 7E-12	NA	1.8E-07
Benzo(a)pyrene	S1 max	1.5E-05	1.7E-10	1 4E-06	NA	2 4E-11	NA	1.2E-05
Benzo(b)fluoranthene	S1 max	7.4E-06	6 0E-09	7.0E-06	NA	1.1E-10	NA	6.8E-06
Bis(2-ethylhexyl)phthalate	S1 max	8.4E-03	1.6E-10	8 4E-07	NA	4 1E-11	NA	9.6E-04
Carbon tetrachloride	S1 max	1.3E-06	4.9E-07	1.6E-08	NA	5 3E-10	NA	4.1E-10
Dibenz(a,h)anthracene	S1 max	3.1E-08	2.6E-09	7 1E-05	NA	5 2E-11	NA	1.7E-06
Di(n)octyl phthalate	S1 max	3.9E-05	1.2E-07	1.8E-07	NA	2 9E-12	NA	2.6E-03
Heptachlor	S1 max	7.1E-09	5 9E-11	2.8E-08	NA	5.5E-14	NA	7.5E-09
Hexachlorobenzene	S1 max	4.0E-08	5.6E-07	1.6E-04	NA	3 0E-10	NA	3.4E-08
Hexachlorobutadiene	S1 max	3.9E-08	1.7E-07	1.1E-05	NA	3.5E-10	NA	5.1E-09
Hexachlorocyclopentadiene	S1 max	6.8E-10	8.0E-09	1.3E-08	NA	5.0E-12	NA	3.2E-10
Hexachlorophene	S1 max	1.8E-07	6.2E-07	1 1E-06	NA	2.3E-10	NA	7.0E-05
Indeno(1,2,3-cd)pyrene	S1 max	3.2E-08	2.9E-09	8.9E-05	NA	5.8E-11	NA	1.6E-06
Antimony	S1 max	7.9E-08	3.1E-11	9 0E-11	NA	9.0E-11	NA	8.1E-09
Arsenic	S1 max	3.4E-07	3 0E-11	8 7E-08	NA	2 0E-09	NA	1.3E-07
Barium	S1 max	2 6E-06	4.9E-10	1.6E-08	NA	4 1E-09	NA	4 3E-08
Beryllium	S1 max	1.7E-10	1 8E-15	4 6E-11	NA	2 3E-12	NA	6.2E-11
Cadmium	S1 max	1.7E-07	1.5E-10	1 9E-07	NA	8 5E-11	NA	4.4E-09
Chromium (hexavalent)	S1 max	3 4E-09	9 0E-14	8 2E-10	NA	5 1E-11	NA	7.6E-09
Lead	S1 max	4.8E-07	1 2E-10	5 0E-07	NA	3 1E-09	NA	2.7E-08
Mercury	S1 max	1.8E-04	1.6E-08	2 0E-04	NA	5 4E-08	NA	3.4E-07
Mercury (methyl BCF)	S1 max	1 8E-04	1 6E-08	1 2E-03	NA	5 4E-08	NA	3 4E-07
Nickel	S1 max	5.8E-08	2 5E-12	1.4E-08	NA	2 4E-10	NA	5 4E-08
Selenium	S1 max	3.5E-06	6 9E-10	2 2E-06	NA	2 9E-08	NA	2 5E-06
Silver	S1 max	5 1E-07	3.7E-10	1 6E-10	NA	3 2E-10	NA	1 0E-07
Thallium	S1 max	1 2E-07	2 2E-13	3 1E-07	NA	2 6E-09	NA	2 8E-06
Zinc	S1 max	1 3E-05	3 0E-09	1 0E-06	NA	2 3E-09	NA	5 7E-08

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Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	S2 max	5.0E-12	6.4E-15	NA	NA	NA	NA	1.2E-11
1,2,3,7,8-PeCDD	S2 max	9.0E-11	2.6E-14	NA	NA	NA	NA	2.1E-10
1,2,3,4,7,8-HxCDD	S2 max	1.2E-10	1.2E-14	NA	NA	NA	NA	1.4E-10
1,2,3,6,7,8-HxCDD	S2 max	3.4E-11	2.8E-14	NA	NA	NA	NA	3.6E-11
1,2,3,7,8,9-HxCDD	S2 max	3.9E-11	1.7E-14	NA	NA	NA	NA	5.1E-11
1,2,3,4,6,7,8-HpCDD	S2 max	2.0E-09	1.1E-13	NA	NA	NA	NA	4.2E-10
OCDD	S2 max	2.6E-07	7.3E-13	NA	NA	NA	NA	7.7E-08
2,3,7,8-TCDF	S2 max	7.4E-11	6.5E-14	NA	NA	NA	NA	4.0E-11
1,2,3,7,8-PeCDF	S2 max	4 5E-10	1 6E-13	NA	NA	NA	NA	1.9E-10
2,3,4,7,8-PeCDF	S2 max	6.0E-10	1.7E-13	NA	NA	NA	NA	1.1E-09
1,2,3,4,7,8-HxCDF	S2 max	4.1E-10	2.6E-13	NA	NA	NA	NA	5.7E-10
1,2,3,6,7,8-HxCDF	S2 max	9.4E-10	2.4E-13	NA	NA	NA	NA	1.1E-09
1,2,3,7,8,9-HxCDF	S2 max	2.1E-10	6 0E-14	NA	NA	NA	NA	2.5E-10
2,3,4,6,7,8-HxCDF	S2 max	6.8E-10	2.7E-13	NA	NA	NA	NA	7.1E-10
1,2,3,4,6,7,8-HpCDF	S2 max	2.2E-09	1.1E-12	NA	NA	NA	NA	5.4E-10
1,2,3,4,7,8,9-HpCDF	S2 max	1.7E-10	1.4E-13	NA	NA	NA	NA	1.1E-10
OCDF	S2 max	5.6E-08	1.2E-12	NA	NA	NA	NA	6.4E-09
Tetrachlorobiphenyl	S2 max	6.5E-10	1.7E-10	NA	NA	NA	NA	2.5E-09
Hexachlorobiphenyl	S2 max	1.2E-09	2.7E-11	NA	NA	NA	NA	1.6E-09
Heptachlorobiphenyl	S2 max	3.8E-08	1.6E-10	NA	NA	NA	NA	5.0E-08
Benzo(a)pyrene	S2 max	4.2E-06	3.5E-11	NA	NA	NA	NA	3.2E-06
Benzo(b)fluoranthene	S2 max	2.0E-06	1.6E-09	NA	NA	NA	NA	1.9E-06
Bis(2-ethylhexyl)phthalate	S2 max	2.3E-03	3.0E-11	NA	NA	NA	NA	2.6E-04
Carbon tetrachloride	S2 max	3.6E-07	1.3E-07	NA	NA	NA	NA	1.1E-10
Dibenz(a,h)anthracene	S2 max	4.4E-09	3.5E-10	NA	NA	NA	NA	2.5E-07
Di(n)octyl phthalate	S2 max	1.1E-05	3.2E-08	NA	NA	NA	NA	7.1E-04
Heptachlor	S2 max	2.0E-09	1.6E-11	NA	NA	NA	NA	2.0E-09
Hexachlorobenzene	S2 max	1.1E-08	1.5E-07	NA	NA	NA	NA	9.3E-09
Hexachlorobutadiene	S2 max	1.1E-08	4.6E-08	NA	NA	NA	NA	1.4E-09
Hexachlorocyclopentadiene	S2 max	1.9E-10	2.2E-09	NA	NA	NA	NA	8.8E-11
Hexachlorophene	S2 max	2.6E-08	8.2E-08	NA	NA	NA	NA	9.9E-06
Indeno(1,2,3-cd)pyrene	S2 max	4.5E-09	3.9E-10	NA	NA	NA	NA	2.2E-07
Antimony	S2 max	1.1E-08	4.0E-12	NA	NA	NA	NA	1.1E-09
Arsenic	S2 max	4.6E-08	4 0E-12	NA	NA	NA	NA	1 8E-08
Barium	S2 max	3.5E-07	6.5E-11	NA	NA	NA	NA	5.9E-09
Beryllium	S2 max	2 3E-11	2 4E-16	NA	NA	NA	NA	8.7E-12
Cadmium	S2 max	2.3E-08	2 0E-11	NA	NA	NA	NA	6 1E-10
Chromium (hexavalent)	S2 max	4.7E-10	1 2E-14	NA	NA	NA	NA	1.1E-09
Lead	S2 max	6.4E-08	1.5E-11	NA	NA	NA	NA	3 8E-09
Mercury	S2 max	5 0E-05	4.3E-09	NA	NA	NA	NA	9 3E-08
Mercury (methyl BCF)	S2 max	5.0E-05	4 3E-09	NA	NA	NA	NA	9 3E-08
Nickel	S2 max	7.7E-09	3 4E-13	NA	NA	NA	NA	7 6E-09
Selenium	S2 max	4 7E-07	9 0E-11	NA	NA	NA	NA	3 5E-07
Silver	S2 max	6.8E-08	4 8E-11	NA	NA	NA	NA	1 4E-08
Thallium	S2 max	1.7E-08	2.9E-14	NA	NA	NA	NA	3 9E-07
Zinc	S2 max	1.7E-06	4.0E-10	NA	NA	NA	NA	7 8E-09

TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	S3 max	1.5E-12	1.9E-15	NA	2 0E-12	NA	1.2E-16	3.7E-12
1,2,3,7,8-PeCDD	S3 max	2.7E-11	7.8E-15	NA	8 4E-12	NA	4.9E-16	6.4E-11
1,2,3,4,7,8-HxCDD	S3 max	3.7E-11	3.8E-15	NA	3 6E-12	NA	3.3E-17	4.3E-11
1,2,3,6,7,8-HxCDD	S3 max	1.0E-11	8.5E-15	NA	5 9E-12	NA	1 8E-16	1.1E-11
1,2,3,7,8,9-HxCDD	S3 max	1.2E-11	5.3E-15	NA	3 7E-12	NA	1.1E-16	1.5E-11
1,2,3,4,6,7,8-HpCDD	S3 max	6.1E-10	3.5E-14	NA	5.3E-12	NA	1.6E-16	1.3E-10
OCDD	S3 max	7.8E-08	2 3E-13	NA	5.0E-13	NA	3.0E-15	2.3E-08
2,3,7,8-TCDF	S3 max	2.2E-11	2 0E-14	NA	1 9E-11	NA	1.4E-15	1.2E-11
1,2,3,7,8-PeCDF	S3 max	1.3E-10	4.8E-14	NA	5 5E-11	NA	2.3E-15	5.6E-11
2,3,4,7,8-PeCDF	S3 max	1.8E-10	5.1E-14	NA	6 4E-11	NA	2.0E-15	3.2E-10
1,2,3,4,7,8-HxCDF	S3 max	1.2E-10	7.9E-14	NA	5 4E-11	NA	1.6E-15	1.7E-10
1,2,3,6,7,8-HxCDF	S3 max	2.8E-10	7.4E-14	NA	5 1E-11	NA	1.5E-15	3.2E-10
1,2,3,7,8,9-HxCDF	S3 max	6.4E-11	1.8E-14	NA	1.2E-11	NA	3.7E-16	7.4E-11
2,3,4,6,7,8-HxCDF	S3 max	2.0E-10	8.4E-14	NA	5 8E-11	NA	1.7E-15	2.1E-10
1,2,3,4,6,7,8-HpCDF	S3 max	6.6E-10	3.4E-13	NA	4 3E-11	NA	2.5E-15	1.6E-10
1,2,3,4,7,8,9-HpCDF	S3 max	5 1E-11	4.2E-14	NA	5 3E-12	NA	3.1E-16	3.2E-11
OCDF	S3 max	1.7E-08	3 7E-13	NA	1 5E-12	NA	5.7E-16	1.9E-09
Tetrachlorobiphenyl	S3 max	2.0E-10	5 2E-11	NA	1 5E-08	NA	2.8E-12	7.4E-10
Hexachlorobiphenyl	S3 max	3.5E-10	8 2E-12	NA	1.2E-07	NA	2.0E-13	4.8E-10
Heptachlorobiphenyl	S3 max	1.1E-08	4.9E-11	NA	8 4E-08	NA	4.2E-13	1.5E-08
Benzo(a)pyrene	S3 max	1.3E-06	1 1E-11	NA	1.6E-07	NA	2.7E-12	9.5E-07
Benzo(b)fluoranthene	S3 max	6.1E-07	5.0E-10	NA	3.6E-06	NA	5.6E-11	5.6E-07
Bis(2-ethylhexyl)phthalate	S3 max	6.9E-04	9.0E-12	NA	5 8E-08	NA	2.8E-12	7.9E-05
Carbon tetrachloride	S3 max	1.1E-07	4.0E-08	NA	4.1E-08	NA	1.4E-09	3.4E-11
Dibenz(a,h)anthracene	S3 max	1.4E-09	1.1E-10	NA	1.3E-05	NA	9.5E-12	7.6E-08
Di(n)octyl phthalate	S3 max	3.2E-06	9.5E-09	NA	4 1E-07	NA	6.5E-12	2.1E-04
Heptachlor	S3 max	5.9E-10	4.8E-12	NA	5.8E-08	NA	1.2E-13	6.1E-10
Hexachlorobenzene	S3 max	3.3E-09	4.6E-08	NA	3.9E-04	NA	7.2E-10	2.8E-09
Hexachlorobutadiene	S3 max	3.2E-09	1.4E-08	NA	2.8E-05	NA	8.7E-10	4.2E-10
Hexachlorocyclopentadiene	S3 max	5.6E-11	6.6E-10	NA	3 2E-08	NA	1.2E-11	2.6E-11
Hexachlorophene	S3 max	7.9E-09	2.6E-08	NA	1 6E-06	NA	3.1E-10	3.1E-06
Indeno(1,2,3-cd)pyrene	S3 max	1.4E-09	1.2E-10	NA	1.6E-05	NA	1.1E-11	6.9E-08
Antimony	S3 max	3 3E-09	1.3E-12	NA	1.9E-10	NA	1.9E-10	3.5E-10
Arsenic	S3 max	1.4E-08	1.3E-12	NA	1 8E-07	NA	4.0E-09	5 8E-09
Barium	S3 max	1.1E-07	2 0E-11	NA	3.4E-08	NA	8.5E-09	1 9E-09
Beryllium	S3 max	7.4E-12	7.5E-17	NA	8.7E-11	NA	4.3E-12	2.7E-12
Cadmium	S3 max	7.3E-09	6.1E-12	NA	4 7E-07	NA	2 1E-10	1 9E-10
Chromium (hexavalent)	S3 max	1 5E-10	3.7E-15	NA	1 5E-09	NA	9.3E-11	3 3E-10
Lead	S3 max	2.0E-08	4 8E-12	NA	9 0E-07	NA	5 7E-09	1 2E-09
Mercury	S3 max	1 5E-05	1 3E-09	NA	5 2E-04	NA	1.3E-07	2 8E-08
Mercury (methyl BCF)	S3 max	1 5E-05	1 3E-09	NA	3 0E-03	NA	1 4E-07	2 8E-08
Nickel	S3 max	2 4E-09	1 1E-13	NA	3 0E-08	NA	4 8E-10	2 4E-09
Selenium	S3 max	1 5E-07	2 8E-11	NA	4.4E-06	NA	5 6E-08	1 1E-07
Silver	S3 max	2.1E-08	1 5E-11	NA	3 4E-10	NA	6 9E-10	4 4E-09
Thallium	S3 max	5 3E-09	9.2E-15	NA	5 1E-07	NA	4 3E-09	1 2E-07
Zinc	S3 max	5 5E-07	1.3E-10	NA	2 2E-06	NA	5 0E-09	2 4E-09

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TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	W1 max	2.1E-11	2.7E-14	NA	NA	NA	NA	5.2E-11
1,2,3,7,8-PeCDD	W1 max	3.8E-10	1 1E-13	NA	NA	NA	NA	9.0E-10
1,2,3,4,7,8-HxCDD	W1 max	5.3E-10	5.3E-14	NA	NA	NA	NA	6.1E-10
1,2,3,6,7,8-HxCDD	W1 max	1.4E-10	1 2E-13	NA	NA	NA	NA	1.5E-10
1,2,3,7,8,9-HxCDD	W1 max	1.6E-10	7.5E-14	NA	NA	NA	NA	2.2E-10
1,2,3,4,6,7,8-HpCDD	W1 max	8.6E-09	5 0E-13	NA	NA	NA	NA	1.8E-09
OCDD	W1 max	1.1E-06	3.2E-12	NA	NA	NA	NA	3.2E-07
2,3,7,8-TCDF	W1 max	3.1E-10	2.7E-13	NA	NA	NA	NA	1.7E-10
1,2,3,7,8-PeCDF	W1 max	1.9E-09	6 7E-13	NA	NA	NA	NA	7.9E-10
2,3,4,7,8-PeCDF	W1 max	2.5E-09	7.2E-13	NA	NA	NA	NA	4.5E-09
1,2,3,4,7,8-HxCDF	W1 max	1.7E-09	1.1E-12	NA	NA	NA	NA	2.4E-09
1,2,3,6,7,8-HxCDF	W1 max	3.9E-09	1 1E-12	NA	NA	NA	NA	4.6E-09
1,2,3,7,8,9-HxCDF	W1 max	9 0E-10	2.6E-13	NA	NA	NA	NA	1.0E-09
2,3,4,6,7,8-HxCDF	W1 max	2.9E-09	1.2E-12	NA	NA	NA	NA	3.0E-09
1,2,3,4,6,7,8-HpCDF	W1 max	9.3E-09	4 8E-12	NA	NA	NA	NA	2 3E-09
1,2,3,4,7,8,9-HpCDF	W1 max	7.2E-10	6 0E-13	NA	NA	NA	NA	4.5E-10
OCDF	W1 max	2.4E-07	5 3E-12	NA	NA	NA	NA	2.7E-08
Tetrachlorobiphenyl	W1 max	2.8E-09	7.3E-10	NA	NA	NA	NA	1.0E-08
Hexachlorobiphenyl	W1 max	5.0E-09	1 2E-10	NA	NA	NA	NA	6.8E-09
Heptachlorobiphenyl	W1 max	1.6E-07	6 8E-10	NA	NA	NA	NA	2.1E-07
Benzo(a)pyrene	W1 max	1.8E-05	1 5E-10	NA	NA	NA	NA	1.3E-05
Benzo(b)fluoranthene	W1 max	8.6E-06	7.0E-09	NA	NA	NA	NA	7.9E-06
Bis(2-ethylhexyl)phthalate	W1 max	9.7E-03	1.3E-10	NA	NA	NA	NA	1.1E-03
Carbon tetrachloride	W1 max	1.5E-06	5.6E-07	NA	NA	NA	NA	4.7E-10
Dibenz(a,h)anthracene	W1 max	1.9E-08	1.6E-09	NA	NA	NA	NA	1.1E-06
Di(n)octyl phthalate	W1 max	4.6E-05	1.3E-07	NA	NA	NA	NA	3.0E-03
Heptachlor	W1 max	8.2E-09	6.8E-11	NA	NA	NA	NA	8.6E-09
Hexachlorobenzene	W1 max	4.6E-08	6.4E-07	NA	NA	NA	NA	3.9E-08
Hexachlorobutadiene	W1 max	4.5E-08	2.0E-07	NA	NA	NA	NA	5.8E-09
Hexachlorocyclopentadiene	W1 max	7.8E-10	9.3E-09	NA	NA	NA	NA	3.7E-10
Hexachlorophene	W1 max	1.1E-07	3.6E-07	NA	NA	NA	NA	4.3E-05
Indeno(1,2,3-cd)pyrene	W1 max	1.9E-08	1.7E-09	NA	NA	NA	NA	9.7E-07
Antimony	W1 max	2.3E-08	8 6E-12	NA	NA	NA	NA	2.5E-09
Arsenic	W1 max	1.0E-07	8 4E-12	NA	NA	NA	NA	4.2E-08
Barium	W1 max	7.5E-07	1.4E-10	NA	NA	NA	NA	1.3E-08
Beryllium	W1 max	5.3E-11	5.0E-16	NA	NA	NA	NA	2.0E-11
Cadmium	W1 max	5.0E-08	4.1E-11	NA	NA	NA	NA	1 4E-09
Chromium (hexavalent)	W1 max	1.1E-09	2 5E-14	NA	NA	NA	NA	2 4E-09
Lead	W1 max	1.4E-07	3.2E-11	NA	NA	NA	NA	8 5E-09
Mercury	W1 max	2.1E-04	1 8E-08	NA	NA	NA	NA	3 9E-07
Mercury (methyl BCF)	W1 max	2.1E-04	1.8E-08	NA	NA	NA	NA	3 9E-07
Nickel	W1 max	1 7E-08	7.1E-13	NA	NA	NA	NA	1 7E-08
Selenium	W1 max	1.0E-06	1 9E-10	NA	NA	NA	NA	8 0E-07
Silver	W1 max	1.5E-07	1.0E-10	NA	NA	NA	NA	3 2E-08
Thallium	W1 max	3.9E-08	6.2E-14	NA	NA	NA	NA	8 8E-07
Zinc	W1 max	3.7E-06	8 4E-10	NA	NA	NA	NA	1 7E-08

TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	W2 max	7.5E-12	9.4E-15	1 6E-11	NA	9 2E-16	NA	1.9E-11
1,2,3,7,8-PeCDD	W2 max	1.4E-10	3 7E-14	7.0E-11	NA	4 1E-15	NA	3 2E-10
1,2,3,4,7,8-HxCDD	W2 max	1.9E-10	1 7E-14	1.1E-10	NA	1.0E-15	NA	2.2E-10
1,2,3,6,7,8-HxCDD	W2 max	5.1E-11	3 8E-14	1.3E-10	NA	3 9E-15	NA	5.3E-11
1,2,3,7,8,9-HxCDD	W2 max	5.8E-11	2.3E-14	8.3E-11	NA	2.5E-15	NA	7.6E-11
1,2,3,4,6,7,8-HpCDD	W2 max	3.1E-09	1.5E-13	1.9E-10	NA	5.5E-15	NA	6.3E-10
OCDD	W2 max	3.9E-07	9.9E-13	1.4E-11	NA	8 5E-14	NA	1.2E-07
2,3,7,8-TCDF	W2 max	1.1E-10	9.6E-14	1.2E-10	NA	9.0E-15	NA	5.9E-11
1,2,3,7,8-PeCDF	W2 max	6.7E-10	2 3E-13	5.6E-10	NA	2.3E-14	NA	2.8E-10
2,3,4,7,8-PeCDF	W2 max	9.1E-10	2.4E-13	8.0E-10	NA	2.5E-14	NA	1.6E-09
1,2,3,4,7,8-HxCDF	W2 max	6.1E-10	3 5E-13	1.2E-09	NA	3·5E-14	NA	8 5E-10
1,2,3,6,7,8-HxCDF	W2 max	1.4E-09	3.3E-13	1.1E-09	NA	3 3E-14	NA	1.6E-09
1,2,3,7,8,9-HxCDF	W2 max	3.2E-10	8.4E-14	2 6E-10	NA	7.8E-15	NA	3.7E-10
2,3,4,6,7,8-HxCDF	W2 max	1.0E-09	3.8E-13	1.2E-09	NA	3.7E-14	NA	1.1E-09
1,2,3,4,6,7,8-HpCDF	W2 max	3.3E-09	1 5E-12	1 4E-09	NA	8.0E-14	NA	8.1E-10
1,2,3,4,7,8,9-HpCDF	W2 max	2.5E-10	1 9E-13	1.7E-10	NA	1.0E-14	NA	1.6E-10
OCDF	W2 max	8.4E-08	1 6E-12	5.9E-11	NA	2 2E-14	NA	9 5E-09
Tetrachlorobiphenyl	W2 max	9.8E-10	2.6E-10	1.1E-08	NA	2.0E-12	NA	3.7E-09
Hexachlorobiphenyl	W2 max	1 8E-09	4.1E-11	9.7E-07	NA	1.6E-12	NA	2.4E-09
Heptachlorobiphenyl	W2 max	5.7E-08	2 4E-10	3.8E-07	NA	1.9E-12	NA	7.4E-08
Benzo(a)pyrene	W2 max	6.3E-06	5.1E-11	1.5E-06	NA	2 7E-11	NA	4.7E-06
Benzo(b)fluoranthene	W2 max	3.1E-06	2.5E-09	7.7E-06	NA	1.2E-10	NA	2.8E-06
Bis(2-ethylhexyl)phthalate	W2 max	3.5E-03	4.2E-11	9.2E-07	NA	4.5E-11	NA	4.0E-04
Carbon tetrachloride	W2 max	5.4E-07	2.0E-07	1.8E-08	NA	5.9E-10	NA	1 7E-10
Dibenz(a,h)anthracene	W2 max	5.9E-09	4.7E-10	7.6E-05	NA	5.7E-11	NA	3.3E-07
Di(n)octyl phthalate	W2 max	1.6E-05	4 8E-08	2.0E-07	NA	3.2E-12	NA	1.1E-03
Heptachlor	W2 max	2.9E-09	2 4E-11	3.1E-08	NA	6.2E-14	NA	3.1E-09
Hexachlorobenzene	W2 max	1.7E-08	2 3E-07	1.8E-04	NA	3.4E-10	NA	1.4E-08
Hexachlorobutadiene	W2 max	1.6E-08	6.9E-08	1.2E-05	NA	3 9E-10	NA	2.1E-09
Hexachlorocyclopentadiene	W2 max	2.8E-10	3.3E-09	1.4E-08	NA	5.5E-12	NA	1.3E-10
Hexachlorophene	W2 max	3.4E-08	1.1E-07	1.2E-06	NA	2.5E-10	NA	1.3E-05
Indeno(1,2,3-cd)pyrene	W2 max	5.9E-09	5.2E-10	9.6E-05	NA	6.2E-11	NA	3 0E-07
Antimony	W2 max	1 3E-08	5.0E-12	9.7E-11	NA	9.7E-11	NA	1.4E-09
Arsenic	W2 max	5.8E-08	4.9E-12	9.3E-08	NA	2.1E-09	NA	2 3E-08
Barium	W2 max	4.3E-07	8 1E-11	1.7E-08	NA	4.3E-09	NA	7.4E-09
Beryllium	W2 max	2.9E-11	3.0E-16	5.0E-11	NA	2.5E-12	NA	1.1E-11
Cadmium	W2 max	2.9E-08	2.4E-11	2 0E-07	NA	9 2E-11	NA	7 7E-10
Chromium (hexavalent)	W2 max	5.9E-10	1.5E-14	8 8E-10	NA	5 5E-11	NA	1 3E-09
Lead	W2 max	8.0E-08	1 9E-11	5 4E-07	NA	3 3E-09	NA	4 7E-09
Mercury	W2 max	7 6E-05	6.5E-09	2 3E-04	NA	6 0E-08	NA	1 4E-07
Mercury (methyl BCF)	W2 max	7.6E-05	6 5E-09	1 3E-03	NA	6 0E-08	NA	1 4E-07
Nickel	W2 max	9 6E-09	4 2E-13	1.6E-08	NA	2 6E-10	NA	9 5E-09
Selenium	W2 max	5 9E-07	1 1E-10	2.4E-06	NA	3 1E-08	NA	4 4E-07
Silver	W2 max	8.5E-08	6 0E-11	1 7E-10	NA	3 5E-10	NA	1 8E-08
Thallium	W2 max	2 1E-08	3 7E-14	3 3E-07	NA	2 7E-09	NA	4 9E-07
Zinc	W2 max	2.2E-06	5.0E-10	1 1E-06	NA	2 5E-09	NA	9 7E-09

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TABLE 2: Maximum Modeled Environmental Exposure Concentrations

Chemical	Subarea	Leafy Produce Conc mg/kgWW	Root Produce Conc mg/kgWW	River Fish Conc mg/kg	Lake Fish Conc mg/kg	River Water Conc mg/L	Lake Water Conc mg/L	Deer Conc mg/kgWW
2,3,7,8-TCDD	W3 max	2.4E-12	2.9E-15	1.6E-11	NA	9.4E-16	NA	6 0E-12
1,2,3,7,8-PeCDD	W3 max	4.4E-11	1.1E-14	7 2E-11	NA	4 2E-15	NA	1.0E-10
1,2,3,4,7,8-HxCDD	W3 max	6.1E-11	4.4E-15	1.1E-10	NA	1.0E-15	NA	7.0E-11
1,2,3,6,7,8-HxCDD	W3 max	1 6E-11	9 4E-15	1.3E-10	NA	4.0E-15	NA	1.7E-11
1,2,3,7,8,9-HxCDD	W3 max	1.9E-11	5.6E-15	8.4E-11	NA	2.5E-15	NA	2.4E-11
1,2,3,4,6,7,8-HpCDD	W3 max	9.9E-10	3.8E-14	1.9E-10	NA	5.6E-15	NA	2.0E-10
OCDD	W3 max	1.3E-07	2.3E-13	1.5E-11	NA	8.7E-14	NA	3.7E-08
2,3,7,8-TCDF	W3 max	3 6E-11	3.1E-14	1.2E-10	NA	9.3E-15	NA	1.9E-11
1,2,3,7,8-PeCDF	W3 max	2.2E-10	7.0E-14	5.7E-10	NA	2.4E-14	NA	9.0E-11
2,3,4,7,8-PeCDF	W3 max	2.9E-10	7.2E-14	8.2E-10	NA	2.6E-14	NA	5.2E-10
1,2,3,4,7,8-HxCDF	W3 max	2.0E-10	9.0E-14	1 2E-09	NA	3.6E-14	NA	2.7E-10
1,2,3,6,7,8-HxCDF	W3 max	4 5E-10	8.5E-14	1.1E-09	NA	3.3E-14	NA	5.2E-10
1,2,3,7,8,9-HxCDF	W3 max	1 0E-10	2.3E-14	2.7E-10	NA	8.0E-15	NA	1.2E-10
2,3,4,6,7,8-HxCDF	W3 max	3.3E-10	9.8E-14	1.3E-09	NA	3.8E-14	NA	3.4E-10
1,2,3,4,6,7,8-HpCDF	W3 max	1 1E-09	3 8E-13	1 4E-09	NA	8 1E-14	NA	2.6E-10
1,2,3,4,7,8,9-HpCDF	W3 max	8 2E-11	4 5E-14	1 8E-10	NA	1 0E-14	NA	5.0E-11
OCDF	W3 max	2.7E-08	3.8E-13	6.0E-11	NA	2.2E-14	NA	3.1E-09
Tetrachlorobiphenyl	W3 max	3.2E-10	8 4E-11	1.1E-08	NA	2.1E-12	NA	1.2E-09
Hexachlorobiphenyl	W3 max	5 7E-10	1.3E-11	1.0E-06	NA	1.7E-12	NA	7.8E-10
Heptachlorobiphenyl	W3 max	1.8E-08	7.9E-11	3.9E-07	NA	2.0E-12	NA	2.4E-08
Benzo(a)pyrene	W3 max	2 1E-06	1 5E-11	1 6E-06	NA	2.8E-11	NA	1.5E-06
Benzo(b)fluoranthene	W3 max	9.9E-07	8.0E-10	8.0E-06	NA	1.3E-10	NA	9.1E-07
Bis(2-ethylhexyl)phthalate	W3 max	1.1E-03	1.2E-11	9.6E-07	NA	4.7E-11	NA	1.3E-04
Carbon tetrachloride	W3 max	1.7E-07	6.5E-08	1.8E-08	NA	6.1E-10	NA	5.5E-11
Dibenz(a,h)anthracene	W3 max	1.4E-09	1.1E-10	7.8E-05	NA	5.8E-11	NA	7.9E-08
Di(n)octyl phthalate	W3 max	5.3E-06	1.5E-08	2.1E-07	NA	3.3E-12	NA	3.5E-04
Heptachlor	W3 max	9.5E-10	7.8E-12	3.2E-08	NA	6.4E-14	NA	9.9E-10
Hexachlorobenzene	W3 max	5.4E-09	7.4E-08	1.9E-04	NA	3.5E-10	NA	4.5E-09
Hexachlorobutadiene	W3 max	5.2E-09	2.2E-08	1.3E-05	NA	4.1E-10	NA	6.7E-10
Hexachlorocyclopentadiene	W3 max	9.0E-11	1.1E-09	1.5E-08	NA	5.7E-12	NA	4.3E-11
Hexachlorophene	W3 max	8.2E-09	2.6E 08	1 3E-06	NA	2 5E-10	NA	3.2E-06
Indeno(1,2,3-cd)pyrene	W3 max	1.4E-09	1.2E-10	9 9E-05	NA	6.4E-11	NA	7.3E-08
Antimony	W3 max	3.2E-09	1.2E-12	9 9E-11	NA	9.9E-11	NA	3.5E-10
Arsenic	W3 max	1.4E-08	1.2E-12	9.5E-08	NA	2.2E-09	NA	5.7E-09
Barium	W3 max	1.0E-07	1.9E-11	1.8E-08	NA	4.4E-09	NA	1.8E-09
Beryllium	W3 max	7.2E-12	7.1E-17	5.0E-11	NA	2.5E-12	NA	2 7E-12
Cadmium	W3 max	7.0E-09	5.8E-12	2.1E-07	NA	9 4E-11	NA	1.9E-10
Chromium (hexavalent)	W3 max	1.4E-10	3.5E-15	8 9E-10	NA	5 6E-11	NA	3.3E-10
Lead	W3 max	1.9E-08	4.5E-12	5.4E-07	NA	3 4E-09	NA	1 2E-09
Mercury	W3 max	2.4E-05	2.1E-09	2 3E-04	NA	6 2E-08	NA	4 5E-08
Mercury (methyl BCF)	W3 max	2 4E-05	2.1E-09	1 3E-03	NA	6 2E-08	NA	4 5E-08
Nickel	W3 max	2 3E-09	9 9E-14	1.6E-08	NA	2 6E-10	NA	2 3E-09
Selenium	W3 max	1 4E-07	2 7E-11	2 4E-06	NA	3 1E-08	NA	1 1E 07
Silver	W3 max	2 0E-08	1 4E-11	1 8E-10	NA	3 5E-10	NA	4 3E-09
Thallium	W3 max	5.3E-09	8.7E-15	3 3E-07	NA	2 8E-09	NA	1 2E-07
Zinc	W3 max	5 2E-07	1 2E-10	1.1E-06	NA	2 6E-09	NA	2 4E-09

APPENDIX V-12

Estimation of Average Cancer and Noncancer Exposure Dose (LADD and ADD) for Subsistence Farmer in Subarea E1

TABLE 6 Avg Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	6.4E-17	3 5E-17	4.1E-14	4.4E-15	2.4E-16	6.4E-17	1.5E-16	7.0E-15	9 2E-15	5 0E-15	2 3E-16	1 9E-15	9 4E-15	5 5E-17
1,2,3,7,8-PeCDD	E1 avg	3.2E-16	1 7E-16	6.9E-13	5.6E-14	1.1E-15	3.1E-16	7.1E-16	1 2E-13	1 5E-13	8 3E-14	3.9E-15	3 2E-14	1 6E-13	9 4E-16
1,2,3,4,7,8-HxCDD	E1 avg	3.5E-16	1.9E-16	4.6E-13	3.6E-14	6.0E-16	1.6E-16	3 8E-16	8 0E-14	1.0E-13	5 6E-14	2 6E-15	2 2E-14	1 1E-13	1 3E-15
1,2,3,6,7,8-HxCDD	E1 avg	6.3E-16	3.4E-16	1.3E-13	1 4E-14	9.3E-16	2.5E-16	5.8E-16	2.1E-14	2.8E-14	1.5E-14	7 0E-16	5.8E-15	2 9E-14	4 4E-16
1,2,3,7,8,9-HxCDD	E1 avg	4.0E-16	2.2E-16	1.7E-13	1.6E-14	7.6E-16	2.1E-16	4.8E-16	2 9E-14	3.8E-14	2 1E-14	9 6E-16	8.0E-15	3.9E-14	4 5E-16
1,2,3,4,6,7,8-HpCDD	E1 avg	4.6E-15	2 5E-15	1.3E-12	1.0E-13	1.4E-15	3.8E-16	8 9E-16	2.3E-13	3.0E-13	1 6E-13	7 5E-15	6 3E-14	3 1E-13	2 1E-14
OCDD	E1 avg	2.2E-14	1.2E-14	2.4E-10	1.7E-11	9.8E-15	2.7E-15	6.2E-15	4.2E-11	5.5E-11	3 0E-11	1 4E-12	1.1E-11	5 6E-11	2 6E-12
2,3,7,8-TCDF	E1 avg	5.7E-16	3.1E-16	1.3E-13	1.2E-14	4.6E-16	1.3E-16	2.9E-16	2.2E-14	2.9E-14	1.6E-14	7.2E-16	6.0E-15	2.9E-14	7 7E-16
1,2,3,7,8-PeCDF	E1 avg	1.9E-15	1.0E-15	6.0E-13	5.0E-14	1.2E-15	3.1E-16	7.3E-16	1.0E-13	1.3E-13	7.3E-14	3.4E-15	2 8E-14	1.4E-13	4 6E-15
2,3,4,7,8-PeCDF	E1 avg	2.3E-15	1.2E-15	3 4E-12	2.8E-13	6.0E-15	1.6E-15	3.8E-15	5.9E-13	7.7E-13	4.2E-13	1.9E-14	1 6E-13	7.9E-13	6 3E-15
1,2,3,4,7,8-HxCDF	E1 avg	5 5E-15	3.0E-15	1.9E-12	2.0E-13	1.1E-14	3.0E-15	7.0E-15	3.3E-13	4.3E-13	2.4E-13	1.1E-14	9.0E-14	4.5E-13	5 0E-15
1,2,3,6,7,8-HxCDF	E1 avg	5.2E-15	2 8E-15	3 5E-12	3.0E-13	8 8E-15	2.4E-15	5.6E-15	6.1E-13	7.9E-13	4.3E-13	2.0E-14	1.6E-13	8 1E-13	1 0E-14
1,2,3,7,8,9-HxCDF	E1 avg	1 2E-15	6.5E-16	8.0E-13	6.9E-14	2 0E-15	5.5E-16	1.3E-15	1.4E-13	1 8E-13	9.7E-14	4 5E-15	3.7E-14	1.8E-13	2 3E-15
2,3,4,6,7,8-HxCDF	E1 avg	5 9E-15	3.2E-15	2.3E-12	2.2E-13	8.9E-15	2.4E-15	5.6E-15	4.0E-13	5.2E-13	2.8E-13	1 3E-14	1.1E-13	5 4E-13	7 7E-15
1,2,3,4,6,7,8-HpCDF	E1 avg	3 5E-14	1 9E-14	1 9E-12	2.0E-13	1 2E-14	3 3E-15	7.8E-15	3.2E-13	4.2E-13	2.3E-13	1.0E-14	8.7E-14	4 3E-13	2 8E-14
1,2,3,4,7,8,9-HpCDF	E1 avg	4 6E-15	2 5E-15	3.9E-13	4.9E-14	3 8E-15	1 0E-15	2.4E-15	6.6E-14	8.6E-14	4 6E-14	2.1E-15	1 8E-14	8.8E-14	2 4E-15
OCDF	E1 avg	6 9E-14	3 7E-14	2 0E-11	1.5E-12	1 2E-14	3.1E-15	7.3E-15	3.5E-12	4.6E-12	2.5E-12	1.1E-13	9 5E-13	4.7E-12	5 7E-13
Tetrachlorobiphenyl	E1 avg	6 8E-14	3 7E-14	9.7E-12	2 9E-12	3.5E-13	9.5E-14	2 2E-13	1.6E-12	2.1E-12	1.1E-12	5.2E-14	4 3E-13	2.1E-12	1 4E-14
Hexachlorobiphenyl	E1 avg	1 1E-13	6 0E-14	6.1E-12	1.8E-12	2.1E-13	5 6E-14	1 3E-13	1 0E-12	1.3E-12	7.2E-13	3 3E-14	2.8E-13	1.4E-12	1 4E-14
Heptachlorobiphenyl	E1 avg	1 1E-13	5 9E-14	1.6E-10	1.3E-11	2.1E-13	5.7E-14	1 3E-13	2.7E-11	3.5E-11	1.9E-11	8 9E-13	7.4E-12	3.6E-11	3 8E-13
Benzo(a)pyrene	E1 avg	1 6E-12	1 7E-12	1.3E-08	3 6E-10	2.4E-14	6.6E-15	1.4E-11	1.2E-08	1.0E-09	1.3E-09	3 8E-10	2.6E-10	3.8E-10	4 4E-11
Benzo(b)fluoranthene	E1 avg	6 6E-12	7.1E-12	7.8E-09	2 6E-10	1.2E-13	3.3E-14	7.1E-11	6.9E-09	6.0E-10	7.5E-10	2 3E-10	1.5E-10	2.3E-10	2 1E-11
Bis(2-ethylhexyl)phthalate	E1 avg	5.7E-13	6 2E-13	1 1E-06	3.0E-08	1.3E-15	3.6E-16	7 6E-13	9.7E-07	8.5E-08	1.1E-07	3.2E-08	2.1E-08	3 2E-08	2 3E-08
Carbon tetrachloride	E1 avg	3 8E-12	4 1E-12	5.6E-13	9.1E-14	5.7E-16	1.5E-16	3.3E-13	5.5E-13	4 8E-14	6.0E-14	1.8E-14	1.2E-14	1 8E-14	3 6E-10
Dibenz(a,h)anthracene	E1 avg	3 7E-12	4 1E-12	2 0E-09	9.3E-11	2.2E-13	5.9E-14	1.2E-10	1.8E-09	1.6E-10	2.0E-10	5.9E-11	3.9E-11	5 9E-11	3 5E-12
Di(n)octyl phthalate	E1 avg	1.6E-13	1 8E-13	2.9E-06	8.0E-08	2.2E-13	5.9E-14	1.2E-10	2.6E-06	2.3E-07	2.9E-07	8.6E-08	5 7E-08	8 6E-08	1 1E-10
Heptachlor	E1 avg	3.2E-15	3.5E-15	8 5E-12	2.6E-13	6.9E-17	1.9E-17	4.0E-14	7.6E-12	6.6E-13	8.2E-13	2.5E-13	1.6E-13	2.5E-13	2 0E-14
Hexachlorobenzene	E1 avg	6.1E-12	6.7E-12	8.1E-11	2.3E-11	6.0E-14	1.6E-14	3.4E-11	6.5E-11	5.6E-12	7.0E-12	2 1E-12	1 4E-12	2 1E-12	2 1E-12
Hexachlorobutadiene	E1 avg	1.7E-11	1.8E-11	1.6E-11	5.3E-12	1.4E-14	3.9E-15	8.2E-12	1.2E-11	1.1E-12	1.3E-12	4 0E-13	2.7E-13	4.0E-13	9 1E-12
Hexachlorocyclopentadiene	E1 avg	2.7E-13	3 0E-13	9.7E-13	3 2E-13	8.3E-16	2.2E-16	4.7E-13	7.5E-13	6.5E-14	8.2E-14	2 4E-14	1.6E-14	2.4E-14	6 0E-14
Hexachlorophene	E1 avg	1 0E-11	1 1E-11	7.9E-08	2.0E-09	4.2E-12	1.1E-12	2.4E-09	7.0E-08	6.1E-09	7.6E-09	2.3E-09	1 5E-09	2 3E-09	2 0E-11
Indeno(1,2,3-cd)pyrene	E1 avg	4.2E-12	4 6E-12	1.9E-09	9.6E-11	2 2E-13	6.1E-14	1.3E-10	1.7E-09	1.4E-10	1.8E-10	5 4E-11	3 6E-11	5 4E-11	3 6E-12
Antimony	E1 avg	7 0E-13	1.3E-13	8 2E-12	1.4E-12	1.4E-14	3.9E-15	7.7E-14	2 3E-12	2.0E-13	2 5E-13	7.6E-14	5 1E-14	7.6E-14	4 0E-12
Arsenic	E1 avg	2 7E-11	4.9E-12	1.5E-10	2.0E-11	1.1E-11	2.9E-12	6.4E-12	1 2E-11	1.1E-12	1.4E-12	4 1E-13	2.7E-13	4 1E-13	2 1E-11
Barium	E1 avg	3.3E-11	6.0E-12	4.4E-11	8.1E-11	4.3E-14	1.2E-14	1.6E-11	2.9E-10	2.5E-11	3.1E-11	9 4E-12	6 3E-12	9 4E-12	1.1E-10
Beryllium	E1 avg	7.2E-14	1 3E-14	6.8E-14	2.7E-14	1 5E-15	4.0E-16	7.9E-16	2 1E-16	1.8E-17	2.3E-17	6 9E-18	4 6E-18	6 9E-18	1 4E-14
Cadmium	E1 avg	4.0E-13	7 2E-14	4 4E-12	8.3E-14	4 8E-13	1.3E-13	5.2E-15	7 8E-13	6 8E-14	8.5E-14	2 5E-14	1 7E-14	2 5E-14	1 4E-11
Chromium (hexavalent)	E1 avg	1 9E-12	3 4E-13	1 1E-11	5 3E-12	8 5E-14	2 3E-14	6 3E-14	8 1E-12	7.1E-13	8 9E-13	2 7E-13	1 8E-13	2 7E-13	3 9E-13
Lead	E1 avg	1 2E-10	2 2E-11	4 0E-11	4 1E-11	1.8E-09	4.9E-10	8 2E-10	8 6E-11	7.6E-12	9.6E-12	2 9E-12	1 9E-12	2 9E-12	3 2E-11
Mercury	E1 avg	3 1E-10	5 7E-11	3 8E-10	5.1E-10	1.4E-10	3 7E-11	5 3E-12	1 4E-09	1 2E-10	1.5E-10	4 4E-11	2 9E-11	4 4E-11	8 7E-09
Nickel	E1 avg	2.8E-12	5 0E-13	6.1E-11	1.1E-10	2.3E-13	6 3E-14	1 7E-13	2 9E-11	2 5E-12	3 1E-12	9 3E-13	6 2E-13	9 3E-13	1 2E-11
Selenium	E1 avg	5 1E-10	9 3E-11	3 1E-09	3.0E-08	1.3E-09	3 6E-10	6 2E-10	1 3E-07	1.1E-08	1 4E-08	4 1E-09	2 8E-09	4 1E-09	6 3E-10
Silver	E1 avg	2 5E-12	4 5E-13	1 0E-10	9 6E-13	1 6E-14	4 4E-15	1 5E-13	2 0E-09	1 7E-10	2 2E-10	6 5E-11	4 3E-11	6 5E-11	3 5E-11
Thallium	E1 avg	1 3E-10	2 3E-11	4 6E-09	6.6E-09	1 8E-09	5 0E-10	8 4E-10	6 0E-10	5 2E-11	6 5E-11	2 0E-11	1 3E-11	2 0E-11	1 3E-11
Zinc	E1 avg	1 8E-11	3 2E-12	6.3E-11	6 8E-12	8 3E-12	2 3E-12	3 8E-12	4 6E-11	4 0E-12	5 0E-12	1 5E-12	1 0E-12	1.5E-12	2 0E-09

External Review Draft. Do Not Cite or Quote

TABLE 6 Avg Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d	Infant Breast milk Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	2.2E-18	1.1E-15	4.7E-18	4.7E-17	5 3E-18	3.3E-22	1.4E-18	NA	NA	4.6E-14
1,2,3,7,8-PeCDD	E1 avg	1.1E-17	2.0E-14	2.3E-17	8.0E-16	2.6E-17	1.6E-21	5.4E-18	NA	NA	7.5E-13
1,2,3,4,7,8-HxCDD	E1 avg	2.6E-18	2.7E-14	1.4E-17	1.1E-15	6 3E-18	4.2E-22	7.4E-18	NA	NA	5.2E-13
1,2,3,6,7,8-HxCDD	E1 avg	9.0E-18	7.4E-15	3.4E-17	3.8E-16	2.1E-17	1.7E-21	1.3E-17	NA	NA	1.4E-13
1,2,3,7,8,9-HxCDD	E1 avg	3.0E-18	8.5E-15	2 2E-17	3.9E-16	7.2E-18	1.1E-21	1.9E-17	NA	NA	1.9E-13
1,2,3,4,6,7,8-HpCDD	E1 avg	2.0E-17	4.5E-13	1.5E-16	1.8E-14	4.8E-17	2.4E-21	6.4E-17	NA	NA	1.7E-12
OCDD	E1 avg	2.2E-16	5.7E-11	9.8E-16	2.2E-12	5.2E-16	3.8E-20	2.9E-16	NA	NA	3.0E-10
2,3,7,8-TCDF	E1 avg	2.3E-17	1.6E-14	4.5E-17	6.6E-16	5.6E-17	3.2E-21	1.3E-17	NA	NA	1.5E-13
1,2,3,7,8-PeCDF	E1 avg	5.3E-17	9.8E-14	1 3E-16	3.9E-15	1.3E-16	8.6E-21	4.2E-17	NA	NA	7.1E-13
2,3,4,7,8-PeCDF	E1 avg	5.5E-17	1.3E-13	1 4E-16	5.3E-15	1.3E-16	9.5E-21	5.7E-17	NA	NA	3.8E-12
1,2,3,4,7,8-HxCDF	E1 avg	7 9E-17	9.0E-14	3.0E-16	4.2E-15	1.9E-16	1.5E-20	1.3E-16	NA	NA	2.2E-12
1,2,3,6,7,8-HxCDF	E1 avg	7 4E-17	2.1E-13	2.8E-16	8.6E-15	1 8E-16	1.4E-20	1.2E-16	NA	NA	3.9E-12
1,2,3,7,8,9-HxCDF	E1 avg	1.7E-17	4 7E-14	6.5E-17	2.0E-15	4.1E-17	3.2E-21	2.8E-17	NA	NA	9.0E-13
2,3,4,6,7,8-HxCDF	E1 avg	8.4E-17	1 5E-13	3.2E-16	6.6E-15	2.0E-16	1.6E-20	1.4E-16	NA	NA	2 6E-12
1,2,3,4,6,7,8-HpCDF	E1 avg	2 3E-16	4 8E-13	1 3E-15	2.4E-14	5.5E-16	3.4E-20	6.2E-16	NA	NA	2.4E-12
1,2,3,4,7,8,9-HpCDF	E1 avg	2.9E-17	3.7E-14	1.7E-16	2.1E-15	7.0E-17	4.4E-21	8.0E-17	NA	NA	4.6E-13
OCDF	E1 avg	1 3E-16	1 2E-11	1 6E-15	4.8E-13	3.2E-16	9.5E-21	5.9E-16	NA	NA	2.9E-11
Tetrachlorobiphenyl	E1 avg	6 4E-15	1 4E-13	1.1E-13	1.2E-14	1 5E-14	6.8E-19	1.8E-15	NA	NA	1.2E-11
Hexachlorobiphenyl	E1 avg	1.9E-15	2 6E-13	1.7E-14	1.2E-14	4 5E-15	5.5E-19	4.3E-15	NA	NA	7.8E-12
Heptachlorobiphenyl	E1 avg	9.3E-16	8 3E-12	1 0E-13	3.2E-13	2 2E-15	6.5E-19	9.4E-15	NA	NA	1.8E-10
Benzo(a)pyrene	E1 avg	1.1E-13	9.2E-10	3.0E-14	3.8E-11	2 5E-13	1.1E-17	3.2E-14	NA	NA	8.6E-08
Benzo(b)fluoranthene	E1 avg	4.0E-13	4 5E-10	1.1E-12	1.8E-11	9.5E-13	4.1E-17	1.4E-13	NA	NA	6.2E-08
Bis(2-ethylhexyl)phthalate	E1 avg	7.8E-15	5.1E-07	2.8E-14	2 0E-08	1.9E-14	2.1E-17	1.6E-13	NA	NA	1.3E-06
Carbon tetrachloride	E1 avg	3.0E-10	7.9E-11	8 5E-11	3.0E-10	7.3E-10	2.0E-16	4.7E-15	NA	NA	2 3E-12
Dibenz(a,h)anthracene	E1 avg	1.2E-13	2 0E-12	4.7E-13	3.0E-12	2.8E-13	1.7E-17	1.1E-13	NA	NA	5.0E-08
Di(n)octyl phthalate	E1 avg	8.2E-16	2.4E-09	2.0E-11	9.2E-11	2 0E-15	1.1E-18	3.0E-14	NA	NA	1.6E-03
Heptachlor	E1 avg	1.8E-16	4.3E-13	1.0E-14	1.7E-14	4.2E-16	2.1E-20	3.4E-17	NA	NA	7.8E-11
Hexachlorobenzene	E1 avg	1.7E-12	2.4E-12	9.7E-11	1.8E-12	4.2E-12	1.1E-16	1.9E-13	NA	NA	6.0E-10
Hexachlorobutadiene	E1 avg	7.8E-12	2.3E-12	2.9E-11	7.8E-12	1.9E-11	1.3E-16	4.4E-14	NA	NA	2.2E-11
Hexachlorocyclopentadiene	E1 avg	5.0E-14	4.1E-14	1.4E-12	5.1E-14	1.2E-13	1.9E-18	1.5E-15	NA	NA	2.8E-12
Hexachlorophene	E1 avg	1.1E-13	1.2E-11	1.1E-10	1.7E-11	2.6E-13	1.1E-16	1.1E-12	NA	NA	1.3E-05
Indeno(1,2,3-cd)pyrene	E1 avg	1.4E-13	2.0E-12	5.2E-13	3.0E-12	3.4E-13	1.9E-17	1.1E-13	NA	NA	4.3E-08
Antimony	E1 avg	2.1E-12	4.5E-12	5.1E-15	3.4E-12	5.1E-12	4.3E-17	1.6E-17	NA	NA	NA
Arsenic	E1 avg	7.0E-12	2 0E-11	5.0E-15	1.8E-11	1.7E-11	9.5E-16	3.4E-16	NA	NA	NA
Barium	E1 avg	4.6E-11	1.5E-10	8.1E-14	9.1E-11	1.1E-10	1.9E-15	7.1E-16	NA	NA	NA
Beryllium	E1 avg	1.8E-15	9 9E-15	3.0E-19	1.2E-14	4.3E-15	1.1E-18	4.0E-19	NA	NA	NA
Cadmium	E1 avg	7.0E-12	9.9E-12	2.4E-14	1.2E-11	1.7E-11	4.2E-17	1.5E-17	NA	NA	NA
Chromium (hexavalent)	E1 avg	1.2E-13	2.0E-13	1 5E-17	3.3E-13	2.8E-13	2.4E-17	8.9E-18	NA	NA	NA
Lead	E1 avg	1.4E-11	2.7E-11	1 9E-14	2.7E-11	3 5E-11	1 5E-15	5.4E-16	NA	NA	NA
Mercury	E1 avg	7.4E-09	1 1E-08	2.7E-12	7.4E-09	1.8E-08	2.0E-14	7.4E-15	NA	NA	NA
Nickel	E1 avg	8.8E-12	3.3E-12	4 2E-16	1 0E-11	2.1E-11	1.1E-16	4.1E-17	NA	NA	NA
Selenium	E1 avg	4.0E-10	2.0E-10	1 1E-13	5.4E-10	9.5E-10	1.4E-14	4.9E-15	NA	NA	NA
Silver	E1 avg	2.5E-11	2.9E-11	6 0E-14	3.0E-11	6.1E-11	1 6E-16	5.6E-17	NA	NA	NA
Thallium	E1 avg	5.2E-13	7.1E-12	3.7E-17	1.1E-11	1.2E-12	1.2E-15	4.4E-16	NA	NA	NA
Zinc	E1 avg	1.7E-09	7.5E-10	5.0E-13	1.7E-09	4.0E-09	1.1E-15	4.1E-16	NA	NA	NA

TABLE 6 Avg Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	2.2E-16	1.2E-16	1 4E-13	1 5E-14	8 3E-16	2.2E-16	5.2E-16	2 5E-14	3 2E-14	1 7E-14	8 0E-16	6.7E-15	3 3E-14	1 9E-16
1,2,3,7,8-PeCDD	E1 avg	1.1E-15	6.0E-16	2 4E-12	1.9E-13	3 9E-15	1.1E-15	2 5E-15	4 1E-13	5 4E-13	2 9E-13	1 3E-14	1.1E-13	5.5E-13	3 3E-15
1,2,3,4,7,8-HxCDD	E1 avg	1.2E-15	6.7E-16	1.6E-12	1.3E-13	2 1E-15	5.7E-16	1.3E-15	2 8E-13	3 6E-13	2 0E-13	9 1E-15	7 6E-14	3 7E-13	4 5E-15
1,2,3,6,7,8-HxCDD	E1 avg	2.2E-15	1.2E-15	4.4E-13	4.9E-14	3 2E-15	8.8E-16	2 0E-15	7 5E-14	9.8E-14	5 3E-14	2 5E-15	2.0E-14	1.0E-13	1 6E-15
1,2,3,7,8,9-HxCDD	E1 avg	1.4E-15	7 7E-16	6.0E-13	5 8E-14	2 7E-15	7.2E-16	1 7E-15	1.0E-13	1.3E-13	7 3E-14	3 4E-15	2.8E-14	1.4E-13	1 6E-15
1,2,3,4,6,7,8-HpCDD	E1 avg	1.6E-14	8.8E-15	4.7E-12	3.6E-13	4 9E-15	1.3E-15	3.1E-15	8.1E-13	1.1E-12	5 7E-13	2 6E-14	2.2E-13	1.1E-12	7 4E-14
OCDD	E1 avg	7.8E-14	4.3E-14	8.5E-10	6.1E-11	3 4E-14	9.3E-15	2.2E-14	1.5E-10	1.9E-10	1.0E-10	4 8E-12	4.0E-11	2.0E-10	9 1E-12
2,3,7,8-TCDF	E1 avg	2.0E-15	1.1E-15	4 5E-13	4 2E-14	1 6E-15	4 4E-16	1.0E-15	7.7E-14	1.0E-13	5 4E-14	2.5E-15	2.1E-14	1.0E-13	2 7E-15
1,2,3,7,8-PeCDF	E1 avg	6 5E-15	3.5E-15	2.1E-12	1.7E-13	4.0E-15	1.1E-15	2.6E-15	3.6E-13	4 7E-13	2 5E-13	1.2E-14	9.8E-14	4.8E-13	1 6E-14
2,3,4,7,8-PeCDF	E1 avg	8 0E-15	4 4E-15	1 2E-11	9.8E-13	2.1E-14	5 7E-15	1.3E-14	2.1E-12	2.7E-12	1.5E-12	6 7E-14	5.6E-13	2.8E-12	2 2E-14
1,2,3,4,7,8-HxCDF	E1 avg	1.9E-14	1 1E-14	6.8E-12	7.0E-13	3.8E-14	1.0E-14	2.4E-14	1 2E-12	1.5E-12	8 2E-13	3 8E-14	3 2E-13	1.6E-12	1 7E-14
1,2,3,6,7,8-HxCDF	E1 avg	1 8E-14	9.9E-15	1 2E-11	1.1E-12	3.1E-14	8 3E-15	1 9E-14	2 1E-12	2.8E-12	1 5E-12	6 9E-14	5.8E-13	2.8E-12	3 5E-14
1,2,3,7,8,9-HxCDF	E1 avg	4 2E-15	2.3E-15	2 8E-12	2 4E-13	7 1E-15	1.9E-15	4.5E-15	4.8E-13	6 3E-13	3 4E-13	1 6E-14	1 3E-13	6.4E-13	8 0E-15
2,3,4,6,7,8-HxCDF	E1 avg	2 1E-14	1 1E-14	8 2E-12	7.6E-13	3 1E-14	8.4E-15	2.0E-14	1.4E-12	1 8E-12	9 9E-13	4 6E-14	3.8E-13	1 9E-12	2 7E-14
1,2,3,4,6,7,8-HpCDF	E1 avg	1 2E-13	6 8E-14	6 6E-12	7.1E-13	4 3E-14	1 2E-14	2.7E-14	1.1E-12	1.5E-12	8 0E-13	3 7E-14	3.1E-13	1.5E-12	9 7E-14
1,2,3,4,7,8,9-HpCDF	E1 avg	1 6E-14	8 7E-15	1 3E-12	1 7E-13	1 3E-14	3 6E-15	8 4E-15	2.3E-13	3 0E-13	1 6E-13	7.5E-15	6 3E-14	3.1E-13	8 6E-15
OCDF	E1 avg	2 4E-13	1.3E-13	7.1E-11	5 3E-12	4 1E-14	1.1E-14	2.6E-14	1.2E-11	1 6E-11	8 6E-12	4 0E-13	3 3E-12	1 6E-11	2 0E-12
Tetrachlorobiphenyl	E1 avg	2 4E-13	1 3E-13	3 4E-11	1 0E-11	1 2E-12	3 3E-13	7.8E-13	5.6E-12	7 3E-12	4 0E-12	1 8E-13	1.5E-12	7.5E-12	5 0E-14
Hexachlorobiphenyl	E1 avg	3 8E-13	2.1E-13	2 2E-11	6 2E-12	7.2E-13	1.9E-13	4.5E-13	3.6E-12	4 7E-12	2.5E-12	1 2E-13	9.7E-13	4.8E-12	4 9E-14
Heptachlorobiphenyl	E1 avg	3 8E-13	2 1E-13	5 5E-10	4 4E-11	7.3E-13	2.0E-13	4 6E-13	9 5E-11	1 2E-10	6.7E-11	3.1E-12	2 6E-11	1.3E-10	1 3E-12
Benzo(a)pyrene	E1 avg	5.5E-12	6 0E-12	4.6E-08	1 3E-09	8 5E-14	2.3E-14	4.9E-11	4 1E-08	3.6E-09	4.5E-09	1 3E-09	9 0E-10	1.3E-09	1 6E-10
Benzo(b)fluoranthene	E1 avg	2 3E-11	2 5E-11	2 7E-08	9 0E-10	4 3E-13	1.2E-13	2.5E-10	2 4E-08	2 1E-09	2.6E-09	7.9E-10	5.3E-10	7.9E-10	7 3E-11
Bis(2-ethylhexyl)phthalate	E1 avg	2 0E-12	2 2E-12	3 8E-06	1 0E-07	4 6E-15	1.3E-15	2 7E-12	3.4E-06	3.0E-07	3 7E-07	1 1E-07	7.4E-08	1.1E-07	8 0E-08
Carbon tetrachloride	E1 avg	1 3E-11	1 4E-11	2 0E-12	3 2E-13	2 0E-15	5.4E-16	1 1E-12	1 9E-12	1 7E-13	2 1E-13	6.3E-14	4 2E-14	6.3E-14	1 2E-09
Dibenz(a,h)anthracene	E1 avg	1.3E-11	1.4E-11	7 1E-09	3 3E-10	7 6E-13	2.0E-13	4.3E-10	6.3E-09	5 5E-10	6 8E-10	2.0E-10	1.4E-10	2.0E-10	1 2E-11
Di(n)octyl phthalate	E1 avg	5 7E-13	6 2E-13	1.0E-05	2.8E-07	7.6E-13	2.1E-13	4.4E-10	9.2E-06	8.0E-07	1 0E-06	3.0E-07	2 0E-07	3 0E-07	3 8E-10
Heptachlor	E1 avg	1.1E-14	1.2E-14	3 0E-11	8.9E-13	2.4E-16	6.6E-17	1.4E-13	2.7E-11	2 3E-12	2 9E-12	8.6E-13	5 8E-13	8.6E-13	6 9E-14
Hexachlorobenzene	E1 avg	2.1E-11	2.3E-11	2 8E-10	8.1E-11	2.1E-13	5.7E-14	1.2E-10	2 3E-10	2.0E-11	2.5E-11	7 4E-12	4 9E-12	7.4E-12	7 4E-12
Hexachlorobutadiene	E1 avg	5 9E-11	6 4E-11	5 5E-11	1.8E-11	5 0E-14	1.4E-14	2.9E-11	4.3E-11	3 7E-12	4 6E-12	1.4E-12	9.3E-13	1 4E-12	3 2E-11
Hexachlorocyclopentadiene	E1 avg	9 6E-13	1 0E-12	3 4E-12	1.1E-12	2 9E-15	7 8E-16	1.7E-12	2.6E-12	2 3E-13	2.9E-13	8.6E-14	5 7E-14	8 6E-14	2 1E-13
Hexachlorophene	E1 avg	3.6E-11	3.9E-11	2 8E-07	6.9E-09	1.5E-11	3.9E-12	8.4E-09	2.5E-07	2.1E-08	2 7E-08	8 0E-09	5.3E-09	8 0E-09	7 0E-11
Indeno(1,2,3-cd)pyrene	E1 avg	1.5E-11	1 6E-11	6 6E-09	3.3E-10	7.8E-13	2.1E-13	4.5E-10	5 8E-09	5 0E-10	6 3E-10	1.9E-10	1.3E-10	1 9E-10	1 3E-11
Antimony	E1 avg	2.5E-12	4.5E-13	2 9E-11	4.9E-12	5.1E-14	1 4E-14	2.7E-13	8 2E-12	7.1E-13	8 9E-13	2 7E-13	1 8E-13	2 7E-13	1 4E-11
Arsenic	E1 avg	9.5E-11	1.7E-11	5.3E-10	7.0E-11	3 8E-11	1.0E-11	2.2E-11	4 3E-11	3 8E-12	4 7E-12	1 4E-12	9 5E-13	1 4E-12	7 5E-11
Barium	E1 avg	1 2E-10	2.1E-11	1.5E-10	2.8E-10	1 5E-13	4.0E-14	5.5E-11	1 0E-09	8 8E-11	1.1E-10	3 3E-11	2 2E-11	3 3E-11	3 7E-10
Beryllium	E1 avg	2 5E-13	4 6E-14	3 1E-13	9.5E-14	5 1E-15	1 4E-15	2.8E-15	7.4E-16	6 4E-17	8 0E-17	2 4E-17	1 6E-17	2 4E-17	4 9E-14
Cadmium	E1 avg	1.4E-12	2 5E-13	1 5E-11	2.9E-13	1 7E-12	4 6E-13	1 8E-14	2 7E-12	2 4E-13	3 0E-13	8 9E-14	5 9E-14	8 9E-14	4 8E-11
Chromium (hexavalent)	E1 avg	6 6E-12	1 2E-12	4 0E-11	1 9E-11	3 0E-13	8 1E-14	2 2E-13	2 9E-11	2 5E-12	3 1E-12	9 3E-13	6 2E-13	9 3E-13	1 4E-12
Lead	E1 avg	4 2E-10	7.5E-11	1 4E-10	1.4E-10	6 3E-09	1 7E-09	2 9E-09	3 1E-10	2 7E-11	3 3E-11	1 0E-11	6.7E-12	1 0E-11	1 1E-10
Mercury	E1 avg	1.1E-09	2 0E-10	1 3E-09	1.8E-09	4 8E-10	1 3E-10	1 8E-11	4 7E-09	4 1E-10	5 1E-10	1 5E-10	1 0E-10	1 5E-10	3 0E-08
Nickel	E1 avg	9 6E-12	1.7E-12	2 1E-10	3 8E-10	8 2E-13	2 2E-13	6 1E-13	1 0E-10	8 7E-12	1 1E-11	3 3E-12	2.2E-12	3 3E-12	4 2E-11
Selenium	E1 avg	1 8E-09	3 2E-10	1 1E-08	1.0E-07	4 7E-09	1 3E-09	2 2E-09	4 4E-07	3 9E-08	4 8E-08	1 4E-08	9 7E-09	1 4E-08	2 2E-09
Silver	E1 avg	8 8E-12	1 6E-12	3 7E-10	3 4E-12	5 7E-14	1 5E-14	5 2E-13	7 0E-09	6 1E-10	7 6E-10	2 3E-10	1 5E-10	2 3E-10	1 2E-10
Thallium	E1 avg	4 4E-10	8 0E-11	1 6E-08	2.3E-08	6 4E-09	1 7E-09	2 9E-09	2 1E-09	1 8E-10	2 3E-10	6 8E-11	4 6E-11	6 8E-11	4 4E-11
Zinc	E1 avg	6 2E-11	1 1E-11	2 2E-10	2.4E-11	2 9E-11	7 9E-12	1 3E-11	1 6E-10	1 4E-11	1 8E-11	5 3E-12	3 5E-12	5 3E-12	7 0E-09

External Review Draft, Do Not Cite or Quote

TABLE 6 Avg Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d
2,3,7,8-TCDD	E1 avg	7.8E-18	3.8E-15	1.6E-17	1.6E-16	1 9E-17	1.1E-21	5.0E-18	NA	NA
1,2,3,7,8-PeCDD	E1 avg	3 9E-17	6.9E-14	8.1E-17	2.8E-15	9.3E-17	5 5E-21	1.9E-17	NA	NA
1,2,3,4,7,8-HxCDD	E1 avg	9.2E-18	9.6E-14	4 9E-17	3.9E-15	2.2E-17	1.5E-21	2.6E-17	NA	NA
1,2,3,6,7,8-HxCDD	E1 avg	3.1E-17	2.6E-14	1.2E-16	1.3E-15	7.5E-17	5.8E-21	4.6E-17	NA	NA
1,2,3,7,8,9-HxCDD	E1 avg	1.1E-17	3.0E-14	7.7E-17	1.4E-15	2.5E-17	3.7E-21	6.5E-17	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 avg	7.0E-17	1.6E-12	5.1E-16	6.3E-14	1.7E-16	8.4E-21	2.2E-16	NA	NA
OCDD	E1 avg	7.6E-16	2.0E-10	3.4E-15	7.8E-12	1.8E-15	1.3E-19	1.0E-15	NA	NA
2,3,7,8-TCDF	E1 avg	8.2E-17	5.6E-14	1.6E-16	2.3E-15	2.0E-16	1.1E-20	4.5E-17	NA	NA
1,2,3,7,8-PeCDF	E1 avg	1.8E-16	3 4E-13	4.4E-16	1.4E-14	4.4E-16	3.0E-20	1.5E-16	NA	NA
2,3,4,7,8-PeCDF	E1 avg	1.9E-16	4.6E-13	5.1E-16	1.9E-14	4.6E-16	3.3E-20	2.0E-16	NA	NA
1,2,3,4,7,8-HxCDF	E1 avg	2 8E-16	3 1E-13	1.1E-15	1.5E-14	6.7E-16	5.2E-20	4.5E-16	NA	NA
1,2,3,6,7,8-HxCDF	E1 avg	2.6E-16	7.2E-13	9.9E-16	3.0E-14	6 2E-16	4.8E-20	4.2E-16	NA	NA
1,2,3,7,8,9-HxCDF	E1 avg	6.0E-17	1.6E-13	2.3E-16	6.9E-15	1.4E-16	1.1E-20	9.9E-17	NA	NA
2,3,4,6,7,8-HxCDF	E1 avg	2.9E-16	5.2E-13	1.1E-15	2.3E-14	7 0E-16	5.5E-20	4.8E-16	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 avg	8.0E-16	1.7E-12	4 7E-15	8.2E-14	1.9E-15	1.2E-19	2.2E-15	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 avg	1.0E-16	1 3E-13	6.0E-16	7.3E-15	2.5E-16	1.5E-20	2.8E-16	NA	NA
OCDF	E1 avg	4.7E-16	4 3E-11	5 6E-15	1.7E-12	1.1E-15	3.3E-20	2.1E-15	NA	NA
Tetrachlorobiphenyl	E1 avg	2.2E-14	5 0E-13	3 9E-13	4.3E-14	5.3E-14	2.4E-18	6.3E-15	NA	NA
Hexachlorobiphenyl	E1 avg	6.6E-15	9 1E-13	6.1E-14	4.2E-14	1.6E-14	1.9E-18	1.5E-14	NA	NA
Heptachlorobiphenyl	E1 avg	3.3E-15	2 9E-11	3.6E-13	1.1E-12	7.8E-15	2.3E-18	3.3E-14	NA	NA
Benzo(a)pyrene	E1 avg	3.7E-13	3 2E-09	1.0E-13	1.3E-10	8.9E-13	3.8E-17	1.1E-13	NA	NA
Benzo(b)fluoranthene	E1 avg	1.4E-12	1 6E-09	3.7E-12	6 2E-11	3 3E-12	1.4E-16	4.9E-13	NA	NA
Bis(2-ethylhexyl)phthalate	E1 avg	2.7E-14	1 8E-06	9.8E-14	6.8E-08	6.5E-14	7.2E-17	5.7E-13	NA	NA
Carbon tetrachloride	E1 avg	1.1E-09	2.7E-10	3.0E-10	1 1E-09	2.6E-09	7.0E-16	1.6E-14	NA	NA
Dibenz(a,h)anthracene	E1 avg	4.1E-13	7.0E-12	1.6E-12	1.1E-11	9.8E-13	5.9E-17	3.8E-13	NA	NA
Di(n)octyl phthalate	E1 avg	2.9E-15	8.3E-09	7.0E-11	3.2E-10	6.8E-15	3.8E-18	1.0E-13	NA	NA
Heptachlor	E1 avg	6.1E-16	1 5E-12	3.6E-14	5.9E-14	1.5E-15	7.3E-20	1.2E-16	NA	NA
Hexachlorobenzene	E1 avg	6.1E-12	8.4E-12	3.4E-10	6.3E-12	1.5E-11	4.0E-16	6.5E-13	NA	NA
Hexachlorobutadiene	E1 avg	2.7E-11	8 2E-12	1.0E-10	2.7E-11	6.5E-11	4.6E-16	1.5E-13	NA	NA
Hexachlorocyclopentadiene	E1 avg	1.8E-13	1.4E-13	4.9E-12	1.8E-13	4.2E-13	6.5E-18	5.2E-15	NA	NA
Hexachlorophene	E1 avg	3.8E-13	4.0E-11	3.9E-10	6.0E-11	9.0E-13	3.9E-16	4.0E-12	NA	NA
Indeno(1,2,3-cd)pyrene	E1 avg	4.9E-13	7 0E-12	1.8E-12	1.1E-11	1.2E-12	6.5E-17	3.9E-13	NA	NA
Antimony	E1 avg	7.5E-12	1 6E-11	1.8E-14	1.2E-11	1.8E-11	1.5E-16	5.5E-17	NA	NA
Arsenic	E1 avg	2.4E-11	6.9E-11	1.7E-14	6.4E-11	5.9E-11	3.3E-15	1.2E-15	NA	NA
Barium	E1 avg	1.6E-10	5.2E-10	2.8E-13	3.2E-10	3.8E-10	6.8E-15	2.5E-15	NA	NA
Beryllium	E1 avg	6.3E-15	3.5E-14	1.0E-16	4.1E-14	1.5E-14	3.9E-18	1.4E-18	NA	NA
Cadmium	E1 avg	2.4E-11	3.5E-11	8.5E-14	4.1E-11	5.8E-11	1.5E-16	5.3E-17	NA	NA
Chromium (hexavalent)	E1 avg	4.2E-13	6.9E-13	5.2E-17	1.2E-12	9.9E-13	8.6E-17	3.1E-17	NA	NA
Lead	E1 avg	5.0E-11	9.6E-11	6 6E-14	9.6E-11	1.2E-10	5.2E-15	1 9E-15	NA	NA
Mercury	E1 avg	2.6E-08	3.9E-08	9.6E-12	2.6E-08	6.2E-08	7.1E-14	2 6E-14	NA	NA
Nickel	E1 avg	3.1E-11	1.2E-11	1.5E-15	3.6E-11	7.4E-11	4.0E-16	1.4E-16	NA	NA
Selenium	E1 avg	1.4E-09	7.0E-10	3.9E-13	1.9E-09	3 3E-09	4 8E-14	1.7E-14	NA	NA
Silver	E1 avg	8.9E-11	1 0E-10	2.1E-13	1.0E-10	2.1E-10	5.4E-16	2 0E-16	NA	NA
Thallium	E1 avg	1 8E-12	2 5E-11	1 3E-16	3.8E-11	4 3E-12	4.3E-15	1 6E-15	NA	NA
Zinc	E1 avg	5.9E-09	2.6E-09	1 7E-12	6.0E-09	1.4E-08	3.9E-15	1.4E-15	NA	NA

APPENDIX V-13

Estimation of Maximum Cancer and Noncancer Exposure Dose (LADD and ADD) for Subsistence Farmer in Subarea E1

TABLE 13 Max Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d	Infant Breast milk Ingestion mg/kg-d
2,3,7,8-TCDD	E1 max	6.2E-18	3.4E-15	1 3E-17	1.4E-16	1 5E-17	8.0E-22	3.5E-18	NA	NA	1.4E-13
1,2,3,7,8-PeCDD	E1 max	2.7E-17	6.2E-14	5 6E-17	2.5E-15	6 4E-17	3.5E-21	1.2E-17	NA	NA	2.3E-12
1,2,3,4,7,8-HxCDD	E1 max	5.4E-18	8.6E-14	2 9E-17	3.4E-15	1 3E-17	8.1E-22	1.4E-17	NA	NA	1.6E-12
1,2,3,6,7,8-HxCDD	E1 max	1.8E-17	2.3E-14	6 7E-17	1.1E-15	4 2E 17	3.1E-21	2.4E-17	NA	NA	4.2E-13
1,2,3,7,8,9-HxCDD	E1 max	5.8E-18	2.7E-14	4.2E-17	1.1E-15	1.4E-17	1.9E-21	3.4E-17	NA	NA	5 8E-13
1,2,3,4,6,7,8-HpCDD	E1 max	3 8E-17	1.4E-12	2.8E-16	5.5E-14	9.2E-17	4.3E-21	1.2E-16	NA	NA	5.4E-12
OCDD	E1 max	4.1E-16	1.8E-10	1 8E-15	7.0E-12	9.8E-16	6.7E-20	5.2E-16	NA	NA	9.3E-10
2,3,7,8-TCDF	E1 max	6.9E-17	5.1E-14	1.3E-16	2.1E-15	1.6E-16	8.0E-21	3.2E-17	NA	NA	4.7E-13
1,2,3,7,8-PeCDF	E1 max	1.4E-16	3.1E-13	3.3E-16	1.2E-14	3.3E-16	2.0E-20	9.7E-17	NA	NA	2.2E-12
2,3,4,7,8-PeCDF	E1 max	1.4E-16	4.2E-13	3 6E-16	1 7E-14	3.3E-16	2.1E-20	1.3E-16	NA	NA	1.2E-11
1,2,3,4,7,8-HxCDF	E1 max	1.6E-16	2 8E-13	6.1E-16	1.2E-14	3.9E-16	2 8E-20	2.5E-16	NA	NA	6.5E-12
1,2,3,6,7,8-HxCDF	E1 max	1.5E-16	6 4E-13	5.7E-16	2 6E-14	3 6E-16	2.6E-20	2.3E-16	NA	NA	1.2E-11
1,2,3,7,8,9-HxCDF	E1 max	3.7E-17	1.5E-13	1.4E-16	6.0E-15	8.8E-17	6.4E-21	5.6E-17	NA	NA	2.8E-12
2,3,4,6,7,8-HxCDF	E1 max	1.7E-16	4.7E-13	6.5E-16	2.0E-14	4.1E-16	3.0E-20	2.6E-16	NA	NA	8.0E-12
1,2,3,4,6,7,8-HpCDF	E1 max	4.5E-16	1 5E-12	2 7E-15	6.8E-14	1.1E-15	6 4E-20	1.2E-15	NA	NA	7.1E-12
1,2,3,4,7,8,9-HpCDF	E1 max	5 7E-17	1 2E-13	3 4E-16	5.7E-15	1.4E-16	8 0E-21	1.5E-16	NA	NA	1.3E-12
OCDF	E1 max	2 5E-16	3 8E-11	3 0E-15	1.5E-12	6.0E-16	1.7E-20	1.1E-15	NA	NA	9.2E-11
Tetrachlorobiphenyl	E1 max	2 0E-14	4.5E-13	3 4E-13	3.8E-14	4 7E-14	1.8E-18	4.7E-15	NA	NA	3.7E-11
Hexachlorobiphenyl	E1 max	5.9E-15	8.1E-13	5.4E-14	3.7E-14	1.4E-14	1.5E-18	1.2E-14	NA	NA	2.4E-11
Heptachlorobiphenyl	E1 max	2 9E-15	2 6E-11	3 2E-13	1.0E-12	7.0E-15	1.7E-18	2 5E-14	NA	NA	5.5E-10
Benzo(a)pyrene	E1 max	2.7E-13	2 9E-09	7 5E-14	1.2E-10	6.4E-13	2.2E-17	6 6E-14	NA	NA	2.7E-07
Benzo(b)fluoranthene	E1 max	1.2E-12	1 4E-09	3 3E-12	5.5E-11	3.0E-12	1.1E-16	3 8E-13	NA	NA	2.0E-07
Bis(2-ethylhexyl)phthalate	E1 max	1.8E-14	1 6E-06	6 6E-14	6.1E-08	4.4E-14	3.7E-17	2.9E-13	NA	NA	4.1E-06
Carbon tetrachloride	E1 max	9.6E-10	2 5E-10	2.7E-10	9 5E-10	2.3E-09	5.3E-16	1.3E-14	NA	NA	7.1E-12
Dibenz(a,h)anthracene	E1 max	2.2E-13	3.9E-12	8.8E-13	5.8E-12	5.3E-13	4.5E-17	2.8E-13	NA	NA	9.7E-08
Di(n)octyl phthalate	E1 max	2.6E-15	7.4E-09	6.3E-11	2.9E-10	6.1E-15	2.9E-18	7.8E-14	NA	NA	5.2E-03
Heptachlor	E1 max	5.5E-16	1.3E-12	3 2E-14	5.2E-14	1.3E-15	5.6E-20	9.0E-17	NA	NA	2.4E-10
Hexachlorobenzene	E1 max	5.5E-12	7.6E-12	3.0E-10	5.7E-12	1.3E-11	3.0E-16	5.0E-13	NA	NA	1.9E-09
Hexachlorobutadiene	E1 max	2 4E-11	7.3E-12	9.2E-11	2.4E-11	5.9E-11	3.5E-16	1.2E-13	NA	NA	7.0E-11
Hexachlorocyclopentadiene	E1 max	1.6E-13	1.3E-13	4.4E-12	1.6E-13	3.8E-13	5.0E-18	4.0E-15	NA	NA	8.7E-12
Hexachlorophene	E1 max	2.0E-13	2 2E-11	2.1E-10	3.3E-11	4.8E-13	2.0E-16	2.0E-12	NA	NA	2.6E-05
Indeno(1,2,3-cd)pyrene	E1 max	2.6E-13	3.9E-12	9.7E-13	5.9E-12	6.3E-13	4.9E-17	3.0E-13	NA	NA	8.2E-08
Antimony	E1 max	3.7E-12	7.8E-12	8 7E-15	5.9E-12	8.8E-12	7.2E-17	2.6E-17	NA	NA	NA
Arsenic	E1 max	1.2E-11	3.4E-11	8 5E-15	3.2E-11	2.9E-11	1.6E-15	5.7E-16	NA	NA	NA
Barium	E1 max	7.8E-11	2.6E-10	1 4E-13	1.6E-10	1.9E-10	3.2E-15	1.2E-15	NA	NA	NA
Beryllium	E1 max	3.1E-15	1.7E-14	5.1E-19	2.1E-14	7.4E-15	1.8E-18	6 6E-19	NA	NA	NA
Cadmium	E1 max	1.2E-11	1.7E-11	4.2E-14	2.1E-11	2.9E-11	6 8E-17	2.5E-17	NA	NA	NA
Chromium (hexavalent)	E1 max	2.0E-13	3.5E-13	2.5E-17	5.9E-13	4.9E-13	4.0E-17	1.5E-17	NA	NA	NA
Lead	E1 max	2.5E-11	4.8E-11	3 2E-14	4.8E-11	5.9E-11	2.5E-15	8.9E-16	NA	NA	NA
Mercury	E1 max	2.3E-08	3.5E-08	8.6E-12	2.3E-08	5.5E-08	5.4E-14	2 0E-14	NA	NA	NA
Nickel	E1 max	1.5E-11	5.7E-12	7 2E-16	1.8E-11	3 6E-11	1 9E-16	6 8E-17	NA	NA	NA
Selenium	E1 max	6 8E-10	3 5E-10	1 9E-13	9.3E-10	1.6E-09	2.2E-14	8 2E-15	NA	NA	NA
Silver	E1 max	4 4E-11	5.0E-11	1 0E-13	5.2E-11	1 0E-10	2.6E-16	9 3E-17	NA	NA	NA
Thallium	E1 max	8 9E-13	1.3E-11	6.3E-17	1.9E-11	2 1E-12	2 0E-15	7.3E-16	NA	NA	NA
Zinc	E1 max	2.9E-09	1.3E-09	8 5E-13	2.9E-09	6.9E-09	1 9E-15	6.7E-16	NA	NA	NA

TABLE 13 Max Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 max	1.8E-16	9.7E-17	1.3E-13	1.3E-14	6 6E-16	1.8E-16	4.2E-16	2.2E-14	2 8E-14	1.5E-14	7.1E-16	5 9E-15	2 9E-14	1 7E-16
1,2,3,7,8-PeCDD	E1 max	7.7E-16	4.2E-16	2.1E-12	1.7E-13	2 7E-15	7.4E-16	1.7E-15	3.7E-13	4.8E-13	2.6E-13	1.2E-14	1.0E-13	4.9E-13	2 9E-15
1,2,3,4,7,8-HxCDD	E1 max	7.3E-16	4.0E-16	1.4E-12	1.1E-13	1 2E-15	3.4E-16	7.9E-16	2.5E-13	3 2E-13	1 7E-13	8.1E-15	6 7E-14	3 3E-13	4 0E-15
1,2,3,6,7,8-HxCDD	E1 max	1 2E-15	6.7E-16	3.7E-13	3.7E-14	1 8E-15	4.9E-16	1.2E-15	6.3E-14	8.3E-14	4.5E-14	2.1E-15	1.7E-14	8 5E-14	1 3E-15
1,2,3,7,8,9-HxCDD	E1 max	7.8E-16	4.2E-16	5 2E-13	4.5E-14	1.5E-15	4.0E-16	9.3E-16	8.9E-14	1 2E-13	6.3E-14	2.9E-15	2.4E-14	1 2E-13	1 3E-15
1,2,3,4,6,7,8-HpCDD	E1 max	8.9E-15	4.8E-15	4 2E-12	3.1E-13	2.7E-15	7.3E-16	1.7E-15	7.2E-13	9 4E-13	5.1E-13	2.3E-14	2.0E-13	9 6E-13	6.5E-14
OCDD	E1 max	4.2E-14	2.3E-14	7.6E-10	5.4E-11	1.9E-14	5.0E-15	1.2E-14	1.3E-10	1.7E-10	9.3E-11	4 3E-12	3.6E-11	1 8E-10	8 2E-12
2,3,7,8-TCDF	E1 max	1 7E-15	9.2E-16	4 0E-13	3.7E-14	1.4E-15	3.7E-16	8.6E-16	6.9E-14	9 0E-14	4.9E-14	2.2E-15	1.9E-14	9 2E-14	2 4E-15
1,2,3,7,8-PeCDF	E1 max	4.9E-15	2.7E-15	1.9E-12	1.5E-13	3.1E-15	8.3E-16	1.9E-15	3.2E-13	4 2E-13	2.3E-13	1.0E-14	8.7E-14	4.3E-13	1 4E-14
2,3,4,7,8-PeCDF	E1 max	5.7E-15	3.1E-15	1.1E-11	8.5E-13	1.5E-14	4.1E-15	9.5E-15	1.8E-12	2.4E-12	1.3E-12	6.0E-14	5.0E-13	2.5E-12	1 9E-14
1,2,3,4,7,8-HxCDF	E1 max	1.1E-14	6.1E-15	5.8E-12	5.4E-13	2.2E-14	6.0E-15	1.4E-14	1.0E-12	1.3E-12	7.1E-13	3.3E-14	2 7E-13	1.3E-12	1 5E-14
1,2,3,6,7,8-HxCDF	E1 max	1.1E-14	5 7E-15	1 1E-11	8.7E-13	1.8E-14	4.9E-15	1.1E-14	1.9E-12	2.4E-12	1.3E-12	6.1E-14	5 1E-13	2.5E-12	3 1E-14
1,2,3,7,8,9-HxCDF	E1 max	2.6E-15	1 4E-15	2.5E-12	2.0E-13	4.3E-15	1.2E-15	2.7E-15	4.2E-13	5 5E-13	3.0E-13	1.4E-14	1.2E-13	5.7E-13	7.0E-15
2,3,4,6,7,8-HxCDF	E1 max	1 2E-14	6 5E-15	7.1E-12	6.1E-13	1.8E-14	4.9E-15	1.1E-14	1.2E-12	1.6E-12	8.7E-13	4.0E-14	3 3E-13	1.6E-12	2 3E-14
1,2,3,4,6,7,8-HpCDF	E1 max	7 0E-14	3.8E-14	5.6E-12	5.4E-13	2.4E-14	6.6E-15	1.5E-14	9.6E-13	1.2E-12	6.8E-13	3.1E-14	2.6E-13	1.3E-12	8 0E-14
1,2,3,4,7,8,9-HpCDF	E1 max	8 9E-15	4 8E-15	1.1E-12	1.2E-13	7.4E-15	2.0E-15	4.7E-15	1.9E-13	2.5E-13	1.3E-13	6.2E-15	5 1E-14	2.5E-13	6 7E-15
OCDF	E1 max	1 3E-13	7.0E-14	6 3E-11	4 6E-12	2.2E-14	5.9E-15	1.4E-14	1.1E-11	1.4E-11	7.7E-12	3.6E-13	3.0E-12	1.5E-11	1 8E-12
Tetrachlorobiphenyl	E1 max	2.1E-13	1 1E-13	3.0E-11	9.0E-12	1.1E-12	2.9E-13	6.9E-13	4 9E-12	6.5E-12	3.5E-12	1.6E-13	1.3E-12	6.6E-12	4 4E-14
Hexachlorobiphenyl	E1 max	3 4E-13	1 9E-13	1 9E-11	5.6E-12	6.4E-13	1.7E-13	4.1E-13	3 2E-12	4.2E-12	2.3E-12	1.0E-13	8 7E-13	4.3E-12	4 4E-14
Heptachlorobiphenyl	E1 max	3.4E-13	1 8E-13	4 9E-10	4.0E-11	6.6E-13	1.8E-13	4 2E-13	8.5E-11	1.1E-10	6.0E-11	2.8E-12	2 3E-11	1.1E-10	1 2E-12
Benzo(a)pyrene	E1 max	4.0E-12	4 4E-12	4.1E-08	1.1E-09	6.1E-14	1.7E-14	3 5E-11	3.7E-08	3.2E-09	4.0E-09	1.2E-09	8.0E-10	1.2E-09	1 4E-10
Benzo(b)fluoranthene	E1 max	2 0E-11	2.2E-11	2 4E-08	8.0E-10	3.9E-13	1.0E-13	2.2E-10	2.2E-08	1.9E-09	2.4E-09	7.1E-10	4.7E-10	7.1E-10	6 5E-11
Bis(2-ethylhexyl)phthalate	E1 max	1 3E-12	1.5E-12	3 4E-06	9.3E-08	3.1E-15	8.4E-16	1.8E-12	3.1E-06	2.7E-07	3.3E-07	1.0E-07	8.6E-08	1 0E-07	7 2E-08
Carbon tetrachloride	E1 max	1.2E-11	1 3E-11	1.8E-12	2.9E-13	1.8E-15	4.8E-16	1 0E-12	1.7E-12	1.5E-13	1.9E-13	5.6E-14	3 8E-14	5 6E-14	1 1E-09
Dibenz(a,h)anthracene	E1 max	7.0E-12	7 7E-12	3.9E-09	1.8E-10	4.1E-13	1.1E-13	2.3E-10	3.4E-09	3.0E-10	3.7E-10	1.1E-10	7 5E-11	1.1E-10	6 8E-12
Di(n)octyl phthalate	E1 max	5.1E-13	5.5E-13	9.2E-06	2.5E-07	6.8E-13	1.8E-13	3.9E-10	8.2E-06	7.2E-07	9.0E-07	2.7E-07	1 8E-07	2.7E-07	3 4E-10
Heptachlor	E1 max	1.0E-14	1.1E-14	2.7E-11	8.0E-13	2.2E-16	5.9E-17	1.2E-13	2.4E-11	2.1E-12	2.6E-12	7.7E-13	5 2E-13	7.7E-13	6 2E-14
Hexachlorobenzene	E1 max	1.9E-11	2.1E-11	2.6E-10	7.3E-11	1 9E-13	5.1E-14	1.1E-10	2.0E-10	1.8E-11	2.2E-11	6 6E-12	4.4E-12	6 6E-12	6 7E-12
Hexachlorobutadiene	E1 max	5.3E-11	5.7E-11	4.9E-11	1.7E-11	4 5E-14	1.2E-14	2.6E-11	3.8E-11	3.3E-12	4.2E-12	1.2E-12	8.3E-13	1 2E-12	2 9E-11
Hexachlorocyclopentadiene	E1 max	8 6E-13	9.4E-13	3 0E-12	1.0E-12	2.6E-15	7.0E-16	1.5E-12	2.4E-12	2.0E-13	2.6E-13	7 7E-14	5 1E-14	7 7E-14	1 9E-13
Hexachlorophene	E1 max	1 9E-11	2.1E-11	1 5E-07	3.7E-09	7.8E-12	2.1E-12	4.5E-09	1.3E-07	1.2E-08	1.5E-08	4.4E-09	2.9E-09	4 4E-09	3 8E-11
Indeno(1,2,3-cd)pyrene	E1 max	8.0E-12	8 7E-12	3 6E-09	1.8E-10	4.2E-13	1.1E-13	2.4E-10	3.2E-09	2 8E-10	3.5E-10	1 0E-10	6 9E-11	1 0E-10	6 9E-12
Antimony	E1 max	1.2E-12	2.2E-13	1.5E-11	2.4E-12	2.5E-14	6.7E-15	1.3E-13	4.1E-12	3.6E-13	4.5E-13	1 3E-13	9.0E-14	1 3E-13	6 9E-12
Arsenic	E1 max	4.6E-11	8.4E-12	2.7E-10	3.4E-11	1.8E-11	5.0E-12	1.1E-11	2 2E-11	1.9E-12	2.4E-12	7 2E-13	4 8E-13	7 2E-13	3 8E-11
Barium	E1 max	5.7E-11	1.0E-11	7 8E-11	1.4E-10	7.3E-14	2.0E-14	2.7E-11	5 1E-10	4 4E-11	5.6E-11	1 7E-11	1 1E-11	1 7E-11	1 9E-10
Beryllium	E1 max	1.2E-13	2 2E-14	1.5E-13	4.6E-14	2.5E-15	6.8E-16	1.4E-15	3.7E-16	3 2E-17	4.0E-17	1 2E-17	8 0E-18	1 2E-17	2 5E-14
Cadmium	E1 max	6 8E-13	1 2E-13	7.8E-12	1.4E-13	8 3E-13	2.2E-13	9.0E-15	1.4E-12	1 2E-13	1.5E-13	4 5E-14	3 0E-14	4 5E-14	2 4E-11
Chromium (hexavalent)	E1 max	3.2E-12	5 9E-13	2.0E-11	9.2E-12	1.5E-13	3.9E-14	1.1E-13	1 4E-11	1 2E-12	1.6E-12	4 7E-13	3 1E-13	4 7E-13	6 9E-13
Lead	E1 max	2 0E-10	3 7E-11	7 0E-11	7.0E-11	3.1E-09	8.3E-10	1.4E-09	1 5E-10	1 3E-11	1.7E-11	5 0E-12	3 4E-12	5 0E-12	5 6E-11
Mercury	E1 max	9 8E-10	1 8E-10	1.2E-09	1 6E-09	4.3E-10	1.2E-10	1.7E-11	4 2E-09	3 7E-10	4 6E-10	1 4E-10	9 2E-11	1 4E-10	2 7E-08
Nickel	E1 max	4.7E-12	8.6E-13	1.1E-10	1.9E-10	4 0E-13	1 1E-13	3.0E-13	5 1E-11	4 4E-12	5 5E-12	1 7E-12	1 1E-12	1 7E-12	2 1E-11
Selenium	E1 max	8.7E-10	1 6E-10	5 4E-09	5 1E-08	2 3E-09	6 2E-10	1.1E-09	2 2E-07	1 9E-08	2 4E-08	7 3E-09	4 9E-09	7 3E-09	1 1E-09
Silver	E1 max	4.3E-12	7 8E-13	1 8E-10	1 7E-12	2 8E-14	7 5E-15	2 5E-13	3 5E-09	3 1E-10	3 8E-10	1 1E-10	7 6E-11	1 1E-10	6 0E-11
Thallium	E1 max	2 2E-10	3.9E-11	8 1E-09	1 1E-08	3 1E-09	8 5E-10	1 4E-09	1 0E-09	9 1E-11	1 1E-10	3 4E-11	2 3E-11	3 4E-11	2 3E-11
Zinc	E1 max	3 1E-11	5 5E-12	1.1E-10	1.2E-11	1 4E-11	3 9E-12	6 5E-12	8 0E-11	7 0E-12	8 7E-12	2 6E-12	1 7E-12	2 6E-12	3 4E-09

TABLE 13 Max Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d
2,3,7,8-TCDD	E1 max	2.2E-17	1.2E-14	4 6E-17	5.0E-16	5.2E-17	2.8E-21	1.2E-17	NA	NA
1,2,3,7,8-PeCDD	E1 max	9.4E-17	2.2E-13	2 0E-16	8.6E-15	2.2E-16	1.2E-20	4.1E-17	NA	NA
1,2,3,4,7,8-HxCDD	E1 max	1.9E-17	3.0E-13	1.0E-16	1.2E-14	4 6E-17	2.8E-21	5.0E-17	NA	NA
1,2,3,6,7,8-HxCDD	E1 max	6.2E-17	8 1E-14	2.4E-16	3.8E-15	1.5E-16	1 1E-20	8.5E-17	NA	NA
1,2,3,7,8,9-HxCDD	E1 max	2.0E-17	9.3E-14	1.5E-16	4.0E-15	4.9E-17	6.8E-21	1.2E-16	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 max	1.3E-16	4 9E-12	9.9E-16	1.9E-13	3.2E-16	1.5E-20	4.1E-16	NA	NA
OCDD	E1 max	1.4E-15	6.3E-10	6.5E-15	2.4E-11	3.4E-15	2.3E-19	1.8E-15	NA	NA
2,3,7,8-TCDF	E1 max	2.4E-16	1.8E-13	4.6E-16	7.2E-15	5.7E-16	2.8E-20	1.1E-16	NA	NA
1,2,3,7,8-PeCDF	E1 max	4 9E-16	1.1E-12	1.2E-15	4.3E-14	1.2E-15	7.0E-20	3.4E-16	NA	NA
2,3,4,7,8-PeCDF	E1 max	4.8E-16	1.5E-12	1.3E-15	5.8E-14	1.1E-15	7.4E-20	4.4E-16	NA	NA
1,2,3,4,7,8-HxCDF	E1 max	5.6E-16	9 8E-13	2.1E-15	4.3E-14	1.3E-15	9.8E-20	8.6E-16	NA	NA
1,2,3,6,7,8-HxCDF	E1 max	5.3E-16	2.3E-12	2.0E-15	9.2E-14	1.3E-15	9.2E-20	8.1E-16	NA	NA
1,2,3,7,8,9-HxCDF	E1 max	1.3E-16	5 1E-13	4.9E-16	2.1E-14	3.1E-16	2.2E-20	2.0E-16	NA	NA
2,3,4,6,7,8-HxCDF	E1 max	6.0E-16	1.6E-12	2 3E-15	6.9E-14	1.4E-15	1.0E-19	9.2E-16	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 max	1.6E-15	5.3E-12	9.3E-15	2.4E-13	3.8E-15	2.2E-19	4.1E-15	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 max	2.0E-16	4 1E-13	1 2E-15	2.0E-14	4.8E-16	2.8E-20	5.1E-16	NA	NA
OCDF	E1 max	8.8E-16	1.3E-10	1 0E-14	5.3E-12	2.1E-15	5.9E-20	3.7E-15	NA	NA
Tetrachlorobiphenyl	E1 max	6.9E-14	1.6E-12	1 2E-12	1.3E-13	1.7E-13	6.3E-18	1.7E-14	NA	NA
Hexachlorobiphenyl	E1 max	2.1E-14	2.8E-12	1.9E-13	1.3E-13	5.0E-14	5.2E-18	4.0E-14	NA	NA
Heptachlorobiphenyl	E1 max	1.0E-14	9.2E-11	1.1E-12	3 5E-12	2.5E-14	6.1E-18	8.8E-14	NA	NA
Benzo(a)pyrene	E1 max	9.4E-13	1.0E-08	2.6E-13	4.1E-10	2.2E-12	7.9E-17	2.3E-13	NA	NA
Benzo(b)fluoranthene	E1 max	4.3E-12	4.9E-09	1 1E-11	1.9E-10	1.0E-11	3.8E-16	1.3E-12	NA	NA
Bis(2-ethylhexyl)phthalate	E1 max	6 4E-14	5.5E-06	2.3E-13	2.1E-07	1.5E-13	1.3E-16	1.0E-12	NA	NA
Carbon tetrachloride	E1 max	3.3E-09	8.6E-10	9.3E-10	3.3E-09	8.0E-09	1.9E-15	4.4E-14	NA	NA
Dibenz(a,h)anthracene	E1 max	7.7E-13	1.3E-11	3.1E-12	2.0E-11	1.8E-12	1.6E-16	1.0E-12	NA	NA
Di(n)octyl phthalate	E1 max	9.0E-15	2.6E-08	2.2E-10	1.0E-09	2.1E-14	1.0E-17	2.7E-13	NA	NA
Heptachlor	E1 max	1.9E-15	4.7E-12	1.1E-13	1.8E-13	4.6E-15	2.0E-19	3.2E-16	NA	NA
Hexachlorobenzene	E1 max	1.9E-11	2.6E-11	1.1E-09	2.0E-11	4.6E-11	1.1E-15	1.7E-12	NA	NA
Hexachlorobutadiene	E1 max	8.6E-11	2.6E-11	3.2E-10	8.6E-11	2.0E-10	1.2E-15	4.1E-13	NA	NA
Hexachlorocyclopentadiene	E1 max	5.5E-13	4.5E-13	1.5E-11	5.6E-13	1.3E-12	1.8E-17	1.4E-14	NA	NA
Hexachlorophene	E1 max	7.1E-13	7.8E-11	7.3E-10	1.1E-10	1.7E-12	6.8E-16	7.1E-12	NA	NA
Indeno(1,2,3-cd)pyrene	E1 max	9.2E-13	1.4E-11	3.4E-12	2.0E-11	2.2E-12	1.7E-16	1.0E-12	NA	NA
Antimony	E1 max	1.3E-11	2.7E-11	3.0E-14	2.1E-11	3.1E-11	2.5E-16	9.1E-17	NA	NA
Arsenic	E1 max	4.2E-11	1.2E-10	3.0E-14	1.1E-10	1.0E-10	5.5E-15	2.0E-15	NA	NA
Barium	E1 max	2.7E-10	9.0E-10	4 9E-13	5 6E-10	6.5E-10	1.1E-14	4.1E-15	NA	NA
Beryllium	E1 max	1.1E-14	6.1E-14	1.8E-18	7.4E-14	2.6E-14	6.4E-18	2.3E-18	NA	NA
Cadmium	E1 max	4.2E-11	6 0E-11	1.5E-13	7.2E-11	1.0E-10	2.4E-16	8.7E-17	NA	NA
Chromium (hexavalent)	E1 max	7.1E-13	1.2E-12	8.9E-17	2.1E-12	1.7E-12	1.4E-16	5.1E-17	NA	NA
Lead	E1 max	8.6E-11	1.7E-10	1.1E-13	1.7E-10	2.1E-10	8.6E-15	3.1E-15	NA	NA
Mercury	E1 max	8.1E-08	1.2E-07	3.0E-11	8 2E-08	1.9E-07	1.9E-13	6.9E-14	NA	NA
Nickel	E1 max	5.3E-11	2 0E-11	2.5E-15	6 2E-11	1.3E-10	6 6E-16	2.4E-16	NA	NA
Selenium	E1 max	2.4E-09	1.2E-09	6 6E-13	3.3E-09	5 7E-09	7.9E-14	2 9E-14	NA	NA
Silver	E1 max	1 5E-10	1.8E-10	3.6E-13	1.8E-10	3 6E-10	8 9E-16	3 2E-16	NA	NA
Thallium	E1 max	3.1E-12	4 5E-11	2 2E-16	6.8E-11	7.4E-12	7.1E-15	2.6E-15	NA	NA
Zinc	E1 max	1.0E-08	4.5E-09	3.0E-12	1.0E-08	2.4E-08	6.5E-15	2.4E-15	NA	NA

External Review Draft, [illegible]d Cite or Quote

TABLE 13 Max Cancer and Noncancer Exposure Dose, Adult Subsistence Farmer

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 max	6.2E-16	3.4E-16	4.4E-13	4.6E-14	2.3E-15	6 3E-16	1.5E-15	7 6E-14	9 9E-14	5.4E-14	2 5E-15	2.1E-14	1.0E-13	5 9E-16
1,2,3,7,8-PeCDD	E1 max	2 7E-15	1.5E-15	7.5E-12	5.9E-13	9 6E-15	2.6E-15	6 0E-15	1.3E-12	1 7E-12	9.1E-13	4 2E-14	3.5E-13	1.7E-12	1 0E-14
1,2,3,4,7,8-HxCDD	E1 max	2.6E-15	1.4E-15	5.0E-12	3.8E-13	4 4E-15	1.2E-15	2.8E-15	8 7E-13	1 1E-12	6.1E-13	2 8E-14	2.4E-13	1.2E-12	1 4E-14
1,2,3,6,7,8-HxCDD	E1 max	4.3E-15	2.4E-15	1.3E-12	1.3E-13	6 4E-15	1 7E-15	4.0E-15	2 2E-13	2.9E-13	1.6E-13	7.2E-15	6 0E-14	3.0E-13	4 4E-15
1,2,3,7,8,9-HxCDD	E1 max	2.7E-15	1.5E-15	1.8E-12	1.6E-13	5.2E-15	1.4E-15	3.3E-15	3.1E-13	4.1E-13	2.2E-13	1.0E-14	8.5E-14	4.2E-13	4.7E-15
1,2,3,4,6,7,8-HpCDD	E1 max	3.1E-14	1.7E-14	1.5E-11	1.1E-12	9.5E-15	2.6E-15	6.0E-15	2.5E-12	3 3E-12	1 8E-12	8.2E-14	6.8E-13	3.4E-12	2 3E-13
OCDD	E1 max	1.5E-13	8 0E-14	2.7E-09	1.9E-10	6.5E-14	1.8E-14	4.1E-14	4 6E-10	6.0E-10	3 2E-10	1 5E-11	1.2E-10	6.1E-10	2 9E-11
2,3,7,8-TCDF	E1 max	5.9E-15	3.2E-15	1.4E-12	1.3E-13	4.8E-15	1 3E-15	3.0E-15	2.4E-13	3.1E-13	1.7E-13	7 8E-15	6.5E-14	3.2E-13	8 4E-15
1,2,3,7,8-PeCDF	E1 max	1.7E-14	9 3E-15	6.5E-12	5.3E-13	1 1E-14	2.9E-15	6 8E-15	1.1E-12	1 5E-12	7 9E-13	3 7E-14	3 0E-13	1.5E-12	5 0E-14
2,3,4,7,8-PeCDF	E1 max	2.0E-14	1.1E-14	3.7E-11	3.0E-12	5 3E-14	1.4E-14	3.3E-14	6.4E-12	8.4E-12	4.6E-12	2.1E-13	1.8E-12	8.6E-12	6 8E-14
1,2,3,4,7,8-HxCDF	E1 max	3.9E-14	2 1E-14	2.0E-11	1.9E-12	7 8E-14	2.1E-14	4.9E-14	3.5E-12	4.6E-12	2.5E-12	1.1E-13	9.5E-13	4.7E-12	5 1E-14
1,2,3,6,7,8-HxCDF	E1 max	3.7E-14	2 0E-14	3 8E-11	3.1E-12	6.3E-14	1.7E-14	4.0E-14	6.5E-12	8.5E-12	4.6E-12	2 1E-13	1.8E-12	8.7E-12	1 1E-13
1,2,3,7,8,9-HxCDF	E1 max	9.0E-15	4 9E-15	8 6E-12	7.0E-13	1.5E-14	4.1E-15	9.6E-15	1.5E-12	1 9E-12	1.1E-12	4.8E-14	4.0E-13	2.0E-12	2 4E-14
2,3,4,6,7,8-HxCDF	E1 max	4.2E-14	2.3E-14	2 5E-11	2.1E-12	6 3E-14	1.7E-14	4.0E-14	4.3E-12	5.6E-12	3.0E-12	1 4E-13	1.2E-12	5 7E-12	8 0E-14
1,2,3,4,6,7,8-HpCDF	E1 max	2.5E-13	1 3E-13	2 0E-11	1.9E-12	8.6E-14	2 3E-14	5.4E-14	3.3E-12	4 4E-12	2 4E-12	1.1E-13	9.1E-13	4 5E-12	2 8E-13
1,2,3,4,7,8,9-HpCDF	E1 max	3.1E-14	1.7E-14	3 9E-12	4.2E-13	2.6E-14	7.0E-15	1.6E-14	6 6E-13	8 6E-13	4.7E-13	2 2E-14	1.8E-13	8.8E-13	2 4E-14
OCDF	E1 max	4.5E-13	2 5E-13	2.2E-10	1 6E-11	7.6E-14	2.1E-14	4.8E-14	3 8E-11	5.0E-11	2.7E-11	1.2E-12	1.0E-11	5.1E-11	6 2E-12
Tetrachlorobiphenyl	E1 max	7.3E-13	4 0E-13	1 0E-10	3.2E-11	3.8E-12	1.0E-12	2.4E-12	1.7E-11	2 3E-11	1.2E-11	5 6E-13	4.7E-12	2.3E-11	1 6E-13
Hexachlorobiphenyl	E1 max	1 2E-12	6.6E-13	6.7E-11	1.9E-11	2.3E-12	6.1E-13	1.4E-12	1.1E-11	1.5E-11	7.9E-12	3 7E-13	3.0E-12	1.5E-11	1 5E-13
Heptachlorobiphenyl	E1 max	1.2E-12	6.4E-13	1.7E-09	1.4E-10	2.3E-12	6.2E-13	1.5E-12	3.0E-10	3.9E-10	2.1E-10	9.7E-12	8.1E-11	4.0E-10	4 2E-12
Benzo(a)pyrene	E1 max	1 4E-11	1.5E-11	1 4E-07	3.9E-09	2.1E-13	5.8E-14	1.2E-10	1.3E-07	1.1E-08	1.4E-08	4.2E-09	2.8E-09	4.2E-09	4 8E-10
Benzo(b)fluoranthene	E1 max	7 2E-11	7.8E-11	8 6E-08	2.8E-09	1.3E-12	3.7E-13	7.8E-10	7.6E-08	6.6E-09	8.3E-09	2.5E-09	1.7E-09	2.5E-09	2 3E-10
Bis(2-ethylhexyl)phthalate	E1 max	4.7E-12	5.1E-12	1.2E-05	3.3E-07	1.1E-14	3.0E-15	6.3E-12	1.1E-05	9.3E-07	1.2E-06	3.5E-07	2.3E-07	3.5E-07	2 5E-07
Carbon tetrachloride	E1 max	4.2E-11	4 5E-11	6.2E-12	1.0E-12	6.2E-15	1.7E-15	3.6E-12	6.1E-12	5 3E-13	6.6E-13	2 0E-13	1.3E-13	2.0E-13	3 9E-09
Dibenz(a,h)anthracene	E1 max	2.5E-11	2.7E-11	1.4E-08	6.2E-10	1.4E-12	3 8E-13	8.2E-10	1.2E-08	1.0E-09	1.3E-09	3.9E-10	2.6E-10	3.9E-10	2 4E-11
Di(n)octyl phthalate	E1 max	1.8E-12	1.9E-12	3.2E-05	8.8E-07	2.4E-12	6.5E-13	1.4E-09	2.9E-05	2.5E-06	3.1E-06	9.4E-07	6.3E-07	9.4E-07	1 2E-09
Heptachlor	E1 max	3.5E-14	3.8E-14	9.3E-11	2.8E-12	7.6E-16	2.1E-16	4.4E-13	8.3E-11	7.2E-12	9.0E-12	2 7E-12	1.8E-12	2.7E-12	2 2E-13
Hexachlorobenzene	E1 max	6.7E-11	7.3E-11	8 9E-10	2.5E-10	6 6E-13	1.8E-13	3.8E-10	7.1E-10	6.2E-11	7.7E-11	2.3E-11	1.5E-11	2.3E-11	2 3E-11
Hexachlorobutadiene	E1 max	1.8E-10	2.0E-10	1.7E-10	5.8E-11	1.6E-13	4.3E-14	9.0E-11	1.3E-10	1 2E-11	1.5E-11	4.4E-12	2.9E-12	4 4E-12	1 0E-10
Hexachlorocyclopentadiene	E1 max	3.0E-12	3.3E-12	1.1E-11	3.5E-12	9.1E-15	2.5E-15	5.2E-12	8.2E-12	7.2E-13	9 0E-13	2.7E-13	1.8E-13	2.7E-13	6 6E-13
Hexachlorophene	E1 max	6.7E-11	7.3E-11	5.3E-07	1.3E-08	2.7E-11	7.4E-12	1.6E-08	4.7E-07	4 1E-08	5.1E-08	1 5E-08	1.0E-08	1.5E-08	1 3E-10
Indeno(1,2,3-cd)pyrene	E1 max	2.8E-11	3.0E-11	1.3E-08	6.3E-10	1 5E-12	4.0E-13	8.4E-10	1.1E-08	9 7E-10	1 2E-09	3 6E-10	2.4E-10	3.6E-10	2 4E-11
Antimony	E1 max	4.2E-12	7.6E-13	5.1E-11	8.5E-12	8 7E-14	2.3E-14	4.6E-13	1.4E-11	1.3E-12	1 6E-12	4.7E-13	3.1E-13	4 7E-13	2 4E-11
Arsenic	E1 max	1 6E-10	2 9E-11	9 3E-10	1.2E-10	6.5E-11	1.7E-11	3.8E-11	7.7E-11	6 7E-12	8.4E-12	2 5E-12	1.7E-12	2 5E-12	1 3E-10
Barium	E1 max	2.0E-10	3.6E-11	2 7E-10	4.9E-10	2.6E-13	6.9E-14	9.4E-11	1.8E-09	1.6E-10	1 9E-10	5 8E-11	3 9E-11	5.8E-11	6 5E-10
Beryllium	E1 max	4 3E-13	7.8E-14	5.4E-13	1.6E-13	8 8E-15	2.4E-15	4 8E-15	1 3E-15	1 1E-16	1 4E-16	4 2E-17	2 8E-17	4 2E-17	8 6E-14
Cadmium	E1 max	2.4E-12	4.3E-13	2 7E-11	5.1E-13	2.9E-12	7 8E-13	3 1E-14	4 9E-12	4 2E-13	5 3E-13	1 6E-13	1.1E-13	1 6E-13	8 5E-11
Chromium (hexavalent)	E1 max	1.1E-11	2.1E-12	7.0E-11	3.2E-11	5.1E-13	1.4E-13	3 8E-13	5 0E-11	4 4E-12	5 4E-12	1 6E-12	1 1E-12	1 6E-12	2 4E-12
Lead	E1 max	7 1E-10	1.3E-10	2 4E-10	2.4E-10	1 1E-08	2.9E-09	4 9E-09	5 4E-10	4 7E-11	5 9E-11	1 8E-11	1 2E-11	1 8E-11	2 0E-10
Mercury	E1 max	3 4E-09	6.2E-10	4 1E-09	5.6E-09	1 5E-09	4.1E-10	5 8E-11	1 5E-08	1 3E-09	1 6E-09	4 8E-10	3 2E-10	4 8E-10	9 6E-08
Nickel	E1 max	1.7E-11	3 0E-12	3 8E-10	6.5E-10	1.4E-12	3.8E-13	1.0E-12	1 8E-10	1 5E-11	1 9E-11	5 8E-12	3 9E-12	5 8E-12	7 3E-11
Selenium	E1 max	3.1E-09	5 6E-10	1.9E-08	1.8E-07	8 1E-09	2.2E-09	3 7E-09	7 8E-07	6 8E-08	8 5E-08	2 6E-08	1 7E-08	2 6E-08	3 8E-09
Silver	E1 max	1 5E-11	2 7E-12	6 5E-10	5.8E-12	9 7E-14	2 6E-14	8 9E-13	1 2E-08	1 1E-09	1 3E-09	4 0E-10	2 7E-10	4 0E-10	2 1E-10
Thallium	E1 max	7.5E-10	1 4E-10	2 8E-08	3.9E-08	1 1E-08	3 0E-09	5 0E-09	3 7E-09	3 2E-10	4 0E-10	1 2E-10	8 0E-11	1 2E-10	7 9E-11
Zinc	E1 max	1.1E-10	1 9E-11	3 8E-10	4.1E-11	5 0E-11	1.4E-11	2 3E-11	2 8E-10	2 4E-11	3 1E-11	9 2E-12	6 1E-12	9 2E-12	1 2E-08

APPENDIX V-14

Estimation of Inhalation Cancer Risks and Hazard Quotients

TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E1 avg	1.9E-06	6 8E-11	1 7E-10	1.0E-10	1.5E-10	5 3E-10	2.0E-09	1 2E-09	5 3E-10
Acenaphthylene	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	6 8E-11	1.7E-10	1 0E-10	1.5E-10	5 3E-10	2.0E-09	1.2E-09	5.3E-10
Acetaldehyde	7 7E-03	0.00225	6 4E-04	3.0E-04	E1 avg	8.7E-05	3 1E-09	7.7E-09	4.6E-09	6.8E-09	2 4E-08	8 9E-08	5 4E-08	2 4E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	E1 avg	8.4E-04	3.0E-08	7.4E-08	4.5E-08	6.6E-08	2 3E-07	8.6E-07	5 2E-07	2.3E-07
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E1 avg	8.5E-05	3.0E-09	7.5E-09	4.5E-09	6.6E-09	2 3E-08	8.7E-08	5 3E-08	2.3E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E1 avg	5.9E-05	2.1E-09	5.1E-09	3.1E-09	4.6E-09	1.6E-08	6.0E-08	3 6E-08	1.6E-08
Anthracene	NA	0.2625	7.5E-02	5 5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1 6E-09	9.9E-10	4.4E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E1 avg	4.3E-06	1.5E-10	3.7E-10	2 3E-10	3.3E-10	1.2E-09	4.4E-09	2 6E-09	1.2E-09
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E1 avg	3.3E-06	1.2E-10	2.9E-10	1.7E-10	2.6E-10	9.0E-10	3 4E-09	2.0E-09	9 0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E1 avg	9.3E-06	3.3E-10	8.1E-10	4.9E-10	7.3E-10	2.5E-09	9.5E-09	5 7E-09	2.5E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1 6E-09	9.9E-10	4.4E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E1 avg	1.6E-06	5 6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4.4E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E1 avg	1.6E-06	5 6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4 4E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4 4E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1.2E-09	5 3E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E1 avg	3.9E-06	1 4E-10	3.4E-10	2.0E-10	3.0E-10	1.1E-09	3.9E-09	2 4E-09	1.1E-09
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E1 avg	1.9E-06	6 8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	E1 avg	1.1E-05	3.8E-10	9 5E-10	5.7E-10	8 4E-10	3.0E-09	1.1E-08	6 7E-09	3.0E-09
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	E1 avg	3.0E-05	1.1E-09	2.6E-09	1.6E-09	2.3E-09	8.2E-09	3.1E-08	1 8E-08	8.2E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5 5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4.4E-10
Bromomethane	NA	0 00125	3 6E-04	4.9E-04	E1 avg	1.4E-04	5.0E-09	1.2E-08	7.5E-09	1.1E-08	3.9E-08	1.5E-07	8 8E-08	3.9E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5 1E-05	E1 avg	1.5E-05	5.3E-10	1.3E-09	7.9E-10	1.2E-09	4.1E-09	1.5E-08	9 2E-09	4.1E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E1 avg	2.6E-05	9.1E-10	2.3E-09	1.4E-09	2.0E-09	7.1E-09	2.6E-08	1 6E-08	7.1E-09
Carbon tetrachloride	5 3E-02	0.0005	1.4E-04	1.6E-04	E1 avg	4.6E-05	1.6E-09	4.0E-09	2.4E-09	3.6E-09	1.3E-08	4.7E-08	2 8E-08	1.3E-08
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E1 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1.2E-09	5.3E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2 0E-09	1 2E-09	5.3E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E1 avg	1.1E-05	3.8E-10	9.4E-10	5.7E-10	8.4E-10	2 9E-09	1.1E-08	6 6E-09	2.9E-09
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	E1 avg	1.4E-04	5.0E-09	1.2E-08	7.5E-09	1.1E-08	3.9E-08	1.5E-07	8 8E-08	3.9E-08
Chloroform	8.1E-02	0 00875	2.5E-03	2.7E-04	E1 avg	7.7E-05	2.7E-09	6.8E-09	4 1E-09	6.0E-09	2.1E-08	7 9E-08	4 8E-08	2.1E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	E1 avg	7.1E-05	2.5E-09	6.2E-09	3.8E-09	5.6E-09	1.9E-08	7.3E-08	4 4E-08	1.9E-08
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2 0E-09	1 2E-09	5.3E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1 2E-10	4.4E-10	1 6E-09	9 9E-10	4 4E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1 0E-10	1.5E-10	5.3E-10	2 0E-09	1 2E-09	5.3E-10
Chrysene	NA	NA	NA	5 5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1 2E-10	4.4E-10	1 6E-09	9 9E-10	4 4E-10
Cresol, m-	NA	0.04375	1 3E-02	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8 5E-11	1.2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	E1 avg	1.6E-06	5.6E-11	1 4E-10	8 5E-11	1 2E-10	4 4E-10	1 6E-09	9 9E-10	4.4E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8 5E-11	1 2E-10	4.4E-10	1 6E-09	9.9E-10	4 4E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	E1 avg	4 0E-05	1.4E-09	3 5E-09	2 1E-09	3 2E-09	1.1E-08	4 1E-08	2 5E-08	1 1E-08
Cumene	NA	0 00225	6 4E-04	5.5E-06	E1 avg	1 6E-06	5 6E-11	1 4E-10	8 5E-11	1 2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	E1 avg	1 6E-07	5.6E-12	1 4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9.9E-11	4 4E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E1 avg	1 6E-06	5 6E-11	1 4E-10	8 5E-11	1 2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	E1 avg	7 6E-06	2.7E-10	6 7E-10	4 0E-10	6 0E-10	2 1E-09	7 8E-09	4 7E-09	2 1E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	E1 avg	1 6E-06	5 6E-11	1 4E-10	8 5E-11	1 2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	E1 avg	1 6E-06	5.6E-11	1 4E-10	8 5E-11	1 2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	E1 avg	1 6E-06	5.6E-11	1 4E-10	8 5E-11	1 2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	E1 avg	9 7E-06	3 4E-10	8 5E-10	5 1E-10	7 6E-10	2 6E-09	9 9E-09	6 0E-09	2 6E-09
Dichlorobiphenyl	NA	NA	NA	4 7E-08	E1 avg	1 4E-08	4 8E-13	1 2E-12	7 2E-13	1 1E-12	3 7E-12	1 4E-11	8 4E-12	3 7E-12

External Review Draft Do Not Cite or Quote

TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E1 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	8.0E-08	3.5E-08
Acenaphthylene	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	E1 avg	2.4E-11	5.9E-11	3.6E-11	5.3E-11	3 7E-05	1.4E-04	8 4E-05	3 7E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	E1 avg	NT	NT	NT	NT	9 2E-06	3.4E-05	2.1E-05	9.2E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E1 avg	NT	NT	NT	NT	9.3E-07	3.5E-06	2.1E-06	9.3E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E1 avg	4.9E-10	1.2E-09	7.4E-10	1.1E-09	1.1E-04	4.2E-04	2.5E-04	1.1E-04
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E1 avg	NT	NT	NT	NT	5.8E-09	2.2E-08	1.3E-08	5.8E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E1 avg	4.4E-12	1.1E-11	6.6E-12	9 7E-12	2.7E-06	1.0E-05	6.2E-06	2.7E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E1 avg	NT	NT	NT	NT	9.0E-10	3.4E-09	2.0E-09	9.0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E1 avg	1.5E-10	3.7E-10	2.2E-10	3.3E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	E1 avg	NT	NT	NT	NT	5.9E-07	2.2E-06	1.3E-06	5.9E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	E1 avg	NT	NT	NT	NT	1.6E-06	6.1E-06	3.7E-06	1 6E-06
Bromoform	3.9E-03	0.0175	5.0E-03	5 5E-06	E1 avg	2 2E-13	5.4E-13	3.3E-13	4.8E-13	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Bromomethane	NA	0.00125	3 6E-04	4.9E-04	E1 avg	NT	NT	NT	NT	1.1E-04	4.1E-04	2.5E-04	1.1E-04
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5 1E-05	E1 avg	NT	NT	NT	NT	5.7E-08	2.1E-07	1.3E-07	5.7E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E1 avg	NT	NT	NT	NT	8.7E-09	3.3E-08	2.0E-08	8.7E-09
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	E1 avg	NT	NT	NT	NT	9.9E-06	3.7E-05	2.2E-05	9.9E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E1 avg	8.5E-11	2.1E-10	1.3E-10	1.9E-10	8.8E-05	3.3E-04	2.0E-04	8.8E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E1 avg	7.3E-12	1.8E-11	1.1E-11	1.6E-11	2.9E-06	1.1E-05	6.8E-06	2.9E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E1 avg	NT	NT	NT	NT	5.3E-07	2.0E-06	1.2E-06	5.3E-07
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	E1 avg	NT	NT	NT	NT	3.1E-07	1.1E-06	6.9E-07	3.1E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E1 avg	1.0E-10	2.6E-10	1.5E-10	2.3E-10	5.8E-07	2.2E-06	1.3E-06	5.8E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E1 avg	NT	NT	NT	NT	5.4E-08	2.0E-07	1.2E-07	5.4E-08
Chloroform	8.1E-02	0.00875	2 5E-03	2.7E-04	E1 avg	2.2E-10	5.4E-10	3.3E-10	4.9E-10	8.5E-06	3.2E-05	1.9E-05	8.5E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	E1 avg	1.6E-11	3.9E-11	2.4E-11	3.5E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	2.7E-08	9.9E-08	6.0E-08	2.7E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E1 avg	NT	NT	NT	NT	3.5E-07	1.3E-06	7.9E-07	3.5E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	E1 avg	NT	NT	NT	NT	3 5E-08	1.3E-07	7 9E-08	3.5E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	E1 avg	NT	NT	NT	NT	3 5E-08	1.3E-07	7 9E-08	3.5E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E1 avg	NT	NT	NT	NT	3.5E-07	1.3E-06	7.9E-07	3.5E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	E1 avg	NT	NT	NT	NT	6 8E-07	2.5E-06	1 5E-06	6.8E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	E1 avg	NT	NT	NT	NT	4 2E-07	1 6E-06	9.4E-07	4 2E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	E1 avg	NT	NT	NT	NT	7 6E-09	2 9E-08	1 7E-08	7.6E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	E1 avg	NT	NT	NT	NT	3 1E-08	1 1E-07	6.9E-08	3 1E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E1 avg	7 1E-05	2.5E-09	6.2E-09	3.8E-09	5.6E-09	1.9E-08	7.3E-08	4 4E-08	1 9E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2.2E-09	9 9E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1 9E-10	2.8E-10	9 9E-10	3.7E-09	2 2E-09	9 9E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2 2E-09	9 9E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2.2E-09	9.9E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2.2E-09	9 9E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2.2E-09	9 9E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2.2E-09	9.9E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E1 avg	4.9E-06	1.7E-10	4.3E-10	2.6E-10	3.8E-10	1.3E-09	5.0E-09	3.0E-09	1.3E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E1 avg	3.3E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4.4E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E1 avg	4.5E-06	1.6E-10	4.0E-10	2.4E-10	3.6E-10	1.2E-09	4.6E-09	2 8E-09	1.2E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4 4E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4.4E-10
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4.4E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E1 avg	1.4E-04	5.0E-09	1.3E-08	7.6E-09	1.1E-08	3.9E-08	1.5E-07	8 9E-08	3.9E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
D,2,4-	NA	0.00875	2.5E-03	3.9E-05	E1 avg	1.1E-05	4.0E-10	9.9E-10	6.0E-10	8.8E-10	3.1E-09	1.2E-08	7 0E-09	3.1E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	E1 avg	7.1E-05	2.5E-09	6.2E-09	3.8E-09	5.6E-09	1.9E-08	7.3E-08	4 4E-08	1.9E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E1 avg	1.4E-04	5.1E-09	1.3E-08	7.7E-09	1.1E-08	4.0E-08	1.5E-07	8.9E-08	4.0E-08
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1.2E-04	E1 avg	3.3E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.1E-09	3.4E-08	2 1E-08	9.1E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E1 avg	8.8E-06	3.1E-10	7.8E-10	4.7E-10	6.9E-10	2.4E-09	9.1E-09	5 5E-09	2.4E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E1 avg	4.2E-11	1.5E-15	3.7E-15	2.2E-15	3.3E-15	1.2E-14	4.3E-14	2.6E-14	1.2E-14
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E1 avg	1.8E-04	6.2E-09	1.5E-08	9.3E-09	1.4E-08	4.8E-08	1.8E-07	1.1E-07	4.8E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E1 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	4.1E-09	1.4E-13	3.6E-13	2.2E-13	3.2E-13	1.1E-12	4.2E-12	2 5E-12	1.1E-12
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	4.1E-09	1.4E-13	3.6E-13	2.2E-13	3.2E-13	1.1E-12	4.2E-12	2.5E-12	1.1E-12
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	E1 avg	2.9E-05	1.0E-09	2.6E-09	1.6E-09	2.3E-09	8.0E-09	3 0E-08	1 8E-08	8.0E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E1 avg	1.6E-05	5.6E-10	1.4E-09	8.4E-10	1.2E-09	4.4E-09	1 6E-08	9 8E-09	4 4E-09
Hexachlorocyclopentadiene	NA	0 000018	5.0E-06	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4 4E-10	1.6E-09	9 9E-10	4 4E-10
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4 4E-10	1.6E-09	9 9E-10	4 4E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E1 avg	9.3E-06	3.3E-10	8.1E-10	4.9E-10	7.3E-10	2.5E-09	9 5E-09	5.7E-09	2.5E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	E1 avg	1.9E-05	6.6E-10	1.6E-09	9.9E-10	1.5E-09	5 1E-09	1 9E-08	1 2E-08	5 1E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1 6E-09	9 9E-10	4 4E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1 0E-10	1.5E-10	5 3E-10	2 0E-09	1 2E-09	5 3E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	E1 avg	3.3E-05	1.2E-09	2 9E-09	1 8E-09	2 6E-09	9 1E-09	3 4E-08	2 1E-08	9 1E-09
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	E1 avg	1.6E-07	5 6E-12	1.4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	E1 avg	3.6E-06	1 3E-10	3 2E-10	1 9E-10	2 8E-10	9 9E-10	3 7E-09	2 2E-09	9 9E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	E1 avg	3 6E-06	1 3E-10	3 2E-10	1 9E-10	2 8E-10	9 9E-10	3 7E-09	2 2E-09	9 9E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4 0E-04	E1 avg	1.1E-04	4 0E-09	1 0E-08	6 1E-09	9 0E-09	3 1E-08	1 2E-07	7 1E-08	3 1E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	E1 avg	1 2E-05	4.3E-10	1 1E-09	6 4E-10	9 5E-10	3 3E-09	1.2E-08	7 5E-09	3 3E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E1 avg	4 8E-09	1 7E-13	4.2E-13	2 6E-13	3 8E-13	1 3E-12	4 9E-12	3.0E-12	1 3E-12
Naphthalene	NA	0.035	1.0E-02	5 5E-06	E1 avg	1 6E-06	5 6E-11	1 4E-10	8 5E-11	1 2E-10	4 4E-10	1 6E-09	9.9E-10	4 4E-10
Nitroaniline, 2-	NA	0 00005	1.4E-05	6 7E-06	E1 avg	1 9E-06	6 8E-11	1 7E-10	1 0E-10	1 5E-10	5 3E-10	2 0E-09	1 2E-09	5 3E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	6 8E-11	1 7E-10	1 0E-10	1 5E-10	5 3E-10	2 0E-09	1 2E-09	5 3E-10

External Review Draft Do Not Cite or Quote

TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E1 avg	NT	NT	NT	NT	1 4E-06	5.1E-06	3.1E-06	1 4E-06
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E1 avg	NT	NT	NT	NT	2.8E-08	1.0E-07	6.3E-08	2 8E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E1 avg	1 2E-11	2.9E-11	1.7E-11	2.6E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E1 avg	1.5E-10	3 8E-10	2.3E-10	3.4E-10	4.4E-07	1.6E-06	1 0E-06	4.4E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E1 avg	NT	NT	NT	NT	2.0E-07	7.4E-07	4.5E-07	2.0E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E1 avg	NT	NT	NT	NT	5.8E-07	2.2E-06	1.3E-06	5.8E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E1 avg	NT	NT	NT	NT	3.5E-06	1.3E-05	7.8E-06	3 5E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E1 avg	1.7E-11	4.1E-11	2.5E-11	3.7E-11	6.9E-07	2.6E-06	1.6E-06	6.9E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E1 avg	1.7E-11	4.1E-11	2.5E-11	3.7E-11	6.9E-07	2.6E-06	1.6E-06	6.9E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E1 avg	NT	NT	NT	NT	6.7E-09	2.5E-08	1.5E-08	6.7E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E1 avg	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	E1 avg	NT	NT	NT	NT	5.0E-08	1.9E-07	1.1E-07	5.0E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E1 avg	NT	NT	NT	NT	1.7E-06	6.5E-06	3.9E-06	1.7E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E1 avg	NT	NT	NT	NT	8.7E-07	3.3E-06	2.0E-06	8.7E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E1 avg	NT	NT	NT	NT	8.7E-07	3.3E-06	2.0E-06	8.7E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	E1 avg	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
D,2,4-	NA	0.00875	2.5E-03	3.9E-05	E1 avg	NT	NT	NT	NT	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Ethyl methacrylate	NA	0.07875	2 3E-02	2.5E-04	E1 avg	NT	NT	NT	NT	6.6E-07	3.2E-06	2.0E-06	6.6E-07
Ethylbenzene	NA	0.25	7 1E-02	5.0E-04	E1 avg	NT	NT	NT	NT	5.5E-07	2.1E-06	1.3E-06	5.5E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E1 avg	8.9E-10	2.2E-09	1 3E-09	2.0E-09	6.4E-04	2.4E-03	1.4E-03	6.4E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E1 avg	1.1E-10	2.7E-10	1.6E-10	2.4E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2 0E-05	1.5E-10	E1 avg	NT	NT	NT	NT	5.8E-10	2.2E-09	1.3E-09	5.8E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E1 avg	NT	NT	NT	NT	4.4E-08	1.6E-07	9.9E-08	4.4E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5 3E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E1 avg	2 8E-10	6.9E-10	4.2E-10	6.2E-10	9.6E-07	3.6E-06	2.2E-06	9.6E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	E1 avg	NT	NT	NT	NT	1.2E-07	4.6E-07	2.8E-07	1.2E-07
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E1 avg	2.5E-11	6.3E-11	3.8E-11	5.6E-11	3.5E-07	1.3E-06	7.9E-07	3.5E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E1 avg	9.0E-11	2.3E-10	1.4E-10	2.0E-10	2.2E-06	8.2E-06	4.9E-06	2.2E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	E1 avg	8.0E-11	2.0E-10	1.2E-10	1.8E-10	1 6E-04	6.0E-04	3.6E-04	1.6E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E1 avg	NT	NT	NT	NT	5.8E-05	2.2E-04	1.3E-04	5.8E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	E1 avg	NT	NT	NT	NT	8.7E-05	3.3E-04	2.0E-04	8.7E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E1 avg	7.9E-13	2.0E-12	1.2E-12	1.7E-12	1 7E-06	6.5E-06	3 9E-06	1.7E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E1 avg	NT	NT	NT	NT	3.4E-05	1.3E-04	7.7E-05	3.4E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	1.1E-08	4 0E-08	2 4E-08	1.1E-08
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E1 avg	NT	NT	NT	NT	7 3E-08	2.7E-07	1.6E-07	7 3E-08
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	E1 avg	NT	NT	NT	NT	3 5E-08	1.3E-07	7 9E-08	3 5E-08
Methyl-t-butyl ether	NA	0 75	2 1E-01	1.3E-05	E1 avg	NT	NT	NT	NT	4 6E-09	1 7E-08	1 0E-08	4 6E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	E1 avg	NT	NT	NT	NT	1 7E-07	6 5E-07	3.9E-07	1 7E-07
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	E1 avg	6.7E-12	1.7E-11	1 0E-11	1 5E-11	1 5E-07	5 5E-07	3.3E-07	1 5E-07
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	E1 avg	NT	NT	NT	NT	4 4E-08	1 6E-07	9 9E-08	4 4E-08
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	E1 avg	NT	NT	NT	NT	3 7E-05	1 4E-04	8 4E-05	3 7E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1 5E-10	5 3E-10	2 0E-09	1.2E-09	5 3E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1 2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E1 avg	1 9E-06	6 8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2 0E-09	1 2E-09	5 3E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E1 avg	1 6E-06	5.6E-11	1 4E-10	8 5E-11	1.2E-10	4 4E-10	1 6E-09	9 9E-10	4 4E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E1 avg	3.5E-05	1.2E-09	3.1E-09	1 9E-09	2.7E-09	9.6E-09	3 6E-08	2 2E-08	9 6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1.2E-09	5 3E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1 0E-10	1.5E-10	5.3E-10	2.0E-09	1 2E-09	5 3E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	4.1E-09	1.4E-13	3 6E-13	2.2E-13	3.2E-13	1.1E-12	4.2E-12	2.5E-12	1 1E-12
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	4.1E-09	1.4E-13	3.6E-13	2.2E-13	3.2E-13	1.1E-12	4.2E-12	2 5E-12	1 1E-12
Pentachlorobenzene	NA	NA	NA	4.8E-05	E1 avg	1.4E-05	4.9E-10	1.2E-09	7.3E-10	1.1E-09	3 8E-09	1.4E-08	8.5E-09	3 8E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	4.1E-09	1.4E-13	3.6E-13	2.2E-13	3.2E-13	1.1E-12	4.2E-12	2 5E-12	1 1E-12
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E1 avg	9.8E-06	3.4E-10	8.6E-10	5.2E-10	7.6E-10	2.7E-09	1.0E-08	6 0E-09	2 7E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9.9E-10	4.4E-10
Phenanthrene	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	6.8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1.2E-09	5.3E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Pyrene	NA	0 02625	7.5E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E1 avg	3.3E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.1E-09	3.4E-08	2 1E-08	9.1E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	E1 avg	6.5E-06	2.3E-10	5.7E-10	3.5E-10	5.1E-10	1.8E-09	6.7E-09	4.0E-09	1.8E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	4.1E-09	1.4E-13	3.6E-13	2 2E-13	3.2E-13	1.1E-12	4.2E-12	2 5E-12	1.1E-12
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8 5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4 4E-10
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	E1 avg	1 6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4 4E-10
Tetrachloroethene	2 0E-03	0.00875	2.5E-03	5.1E-05	E1 avg	1.5E-05	5.2E-10	1.3E-09	7.9E-10	1.2E-09	4.1E-09	1.5E-08	9.2E-09	4 1E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E1 avg	2.0E-06	6.9E-11	1.7E-10	1.0E-10	1.5E-10	5.4E-10	2.0E-09	1 2E-09	5 4E-10
Toluene	NA	0.1	2 9E-02	6.1E-04	E1 avg	1.8E-04	6.3E-09	1.6E-08	9.4E-09	1.4E-08	4.9E-08	1.8E-07	1.1E-07	4.9E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E1 avg	9 6E-05	3.4E-09	8.4E-09	5.1E-09	7.5E-09	2.6E-08	9.8E-08	5 9E-08	2.6E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E1 avg	8.8E-09	3.1E-13	7.7E-13	4.6E-13	6.9E-13	2.4E-12	9.0E-12	5 4E-12	2 4E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2 2E-09	9.9E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E1 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2 2E-09	9.9E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E1 avg	5.4E-06	1.9E-10	4.7E-10	2 9E-10	4.2E-10	1.5E-09	5.5E-09	3.3E-09	1.5E-09
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E1 avg	7.1E-05	2.5E-09	6.2E-09	3.8E-09	5.6E-09	1.9E-08	7.3E-08	4 4E-08	1.9E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4 4E-10	1.6E-09	9 9E-10	4.4E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E1 avg	1.9E-05	6.6E-10	1.6E-09	9.9E-10	1.5E-09	5.1E-09	1.9E-08	1 2E-08	5.1E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E1 avg	7.1E-05	2.5E-09	6.2E-09	3.8E-09	5.6E-09	1.9E-08	7.3E-08	4 4E-08	1 9E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E1 avg	1.1E-04	3.9E-09	9.7E-09	5 8E-09	8.6E-09	3.0E-08	1.1E-07	6 8E-08	3 0E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E1 avg	1.6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4 4E-10	1.6E-09	9.9E-10	4.4E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E1 avg	3.1E-12	1.1E-16	2.7E-16	1.7E-16	2 5E-16	8 6E-16	3 2E-15	1 9E-15	8 6E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E1 avg	2.0E-11	6.9E-16	1.7E-15	1.0E-15	1.5E-15	5 4E-15	2 0E-14	1 2E-14	5 4E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E1 avg	2.6E-11	9.1E-16	2 3E-15	1 4E-15	2.0E-15	7.1E-15	2 7E-14	1.6E-14	7 1E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E1 avg	4 8E-11	1.7E-15	4 2E-15	2 5E-15	3 8E-15	1 3E-14	4 9E-14	3 0E-14	1 3E-14
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	E1 avg	3.2E-11	1 1E-15	2 8E-15	1 7E-15	2 5E-15	8 6E-15	3 2E-14	2 0E-14	8 6E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	E1 avg	3.6E-10	1.3E-14	3 2E-14	1 9E-14	2 8E-14	9 9E-14	3.7E-13	2 2E-13	9 9E-14
OCDD	1.5E+02	NA	NA	6.15E-09	E1 avg	1.8E-09	6 3E-14	1 6E-13	9 4E-14	1 4E-13	4 9E-13	1 8E-12	1 1E-12	4 9E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	E1 avg	2 5E-11	9 0E-16	2 2E-15	1 3E-15	2 0E-15	7 0E-15	2 6E-14	1 6E-14	7 0E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	E1 avg	1 0E-10	3 5E-15	8 8E-15	5 3E-15	7 8E-15	2 7E-14	1 0E-13	6 2E-14	2 7E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E1 avg	1 4E-10	4 8E-15	1 2E-14	7 2E-15	1 1E-14	3 7E-14	1 4E-13	8 4E-14	3 7E-14
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1 43E-09	E1 avg	4 1E-10	1 5E-14	3 6E-14	2 2E-14	3 2E-14	1 1E-13	4 2E-13	2.6E-13	1 1E-13
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	E1 avg	3 9E-10	1 4E-14	3 4E-14	2 1E-14	3 0E-14	1 1E-13	4 0E-13	2 4E-13	1 1E-13
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E1 avg	4 4E-10	1.5E-14	3 8E-14	2.3E-14	3 4E-14	1 2E-13	4 5E-13	2 7E-13	1 2E-13

External Review Draft, Do Not Cite or Quote

TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5 5E-06	E1 avg	NT	NT	NT	NT	3 1E-06	1.1E-05	6.9E-06	3.1E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5 4E+00	NA	NA	1.2E-04	E1 avg	6.7E-09	1.7E-08	1.0E-08	1 5E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E1 avg	NT	NT	NT	NT	3 6E-06	1.3E-05	8.1E-06	3.6E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5 5E-06	E1 avg	NT	NT	NT	NT	5.8E-08	2.2E-07	1.3E-07	5.8E-08
Phenanthrene	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	E1 avg	NT	NT	NT	NT	2.9E-09	1.1E-08	6.6E-09	2.9E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E1 avg	NT	NT	NT	NT	5.8E-08	2.2E-07	1.3E-07	5.8E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	E1 avg	NT	NT	NT	NT	2 5E-08	9.3E-08	5.6E-08	2.5E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	E1 avg	1.5E-12	3.6E-12	2.2E-12	3.2E-12	5.8E-08	2.2E-07	1.3E-07	5.8E-08
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	E1 avg	1.1E-11	2.6E-11	1.7E-11	2.5E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2 5E-03	5.1E-05	E1 avg	1.1E-12	2 6E-12	1.6E-12	2.4E-12	1.6E-06	6.1E-06	3.7E-06	1.6E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E1 avg	NT	NT	NT	NT	7 2E-08	2.7E-07	1.6E-07	7.2E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	E1 avg	NT	NT	NT	NT	1 7E-06	6.4E-06	3.8E-06	1.7E-06
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E1 avg	NT	NT	NT	NT	1 2E-08	4.6E-08	2.8E-08	1.2E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E1 avg	NT	NT	NT	NT	3 1E-08	1.1E-07	6.9E-08	3.1E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E1 avg	NT	NT	NT	NT	1.4E-08	5.2E-08	3.1E-08	1.4E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E1 avg	7.3E-12	1.8E-11	1.1E-11	1.6E-11	9.9E-07	3.7E-06	2.2E-06	9.9E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E1 avg	1.1E-12	2.8E-12	1.7E-12	2.5E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E1 avg	NT	NT	NT	NT	3 9E-07	1.5E-06	8.8E-07	3.9E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E1 avg	NT	NT	NT	NT	1.7E-08	6.5E-08	3.9E-08	1.7E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E1 avg	5.6E-13	1.4E-12	8.5E-13	1.2E-12	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E1 avg	NT	NT	NT	NT	3.6E-07	1.3E-06	8.1E-07	3.6E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E1 avg	7.5E-10	1.9E-09	1.1E-09	1.7E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5 0E-01	3.8E-04	E1 avg	NT	NT	NT	NT	6.0E-08	2.3E-07	1.4E-07	6.0E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E1 avg	NT	NT	NT	NT	8.7E-10	3.3E-09	2.0E-09	8.7E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E1 avg	1.7E-11	4.1E-11	2.5E-11	3.7E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E1 avg	5.2E-11	1.3E-10	7.8E-11	1.2E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E1 avg	1.4E-11	3.4E-11	2 1E-11	3 0E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E1 avg	2.5E-11	6.3E-11	3 8E-11	5.6E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	E1 avg	1.7E-11	4.2E-11	2.5E-11	3.7E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	E1 avg	1 9E-11	4 7E-11	2 9E-11	4.2E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	E1 avg	9.4E-12	2.3E-11	1 4E-11	2 1E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	E1 avg	1.3E-11	3.3E-11	2 0E-11	3 0E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	E1 avg	2 6E-11	6.6E-11	4 0E-11	5 9E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	E1 avg	3.6E-10	8.9E-10	5.4E-10	7 9E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	E1 avg	2.2E-10	5 4E-10	3 3E-10	4 9E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	E1 avg	2.0E-10	5 1E-10	3 1E-10	4 5E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E1 avg	2 3E-10	5 7E-10	3 5E-10	5 1E-10	NT	NT	NT	NT

TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	2.93E-10	E1 avg	8.5E-11	3.0E-15	7 5E-15	4.5E-15	6 6E-15	2.3E-14	8.7E-14	5.3E-14	2 3E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	E1 avg	2.7E-09	9.5E-14	2.4E-13	1 4E-13	2.1E-13	7.4E-13	2 8E-12	1 7E-12	7.4E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E1 avg	3.5E-10	1 2E-14	3.1E-14	1 9E-14	2 8E-14	9 7E-14	3 6E-13	2.2E-13	9.7E-14
OCDF	1.5E+02	NA	NA	1.89E-08	E1 avg	5.5E-09	1 9E-13	4.8E-13	2 9E-13	4.3E-13	1 5E-12	5.6E-12	3 4E-12	1.5E-12
Dioxin TEQ				4.28E-08		1.2E-08	4.4E-13	1.1E-12	6.6E-13	9.7E-13	3.4E-12	1.3E-11	7.7E-12	3.4E-12
Aluminum	NA	NA	NA	2.4E-04	E1 avg	7.0E-05	2.5E-09	6.1E-09	3.7E-09	5.4E-09	1.9E-08	7.1E-08	4 3E-08	1 9E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	E1 avg	1.2E-06	4.3E-11	1.1E-10	6.5E-11	9.5E-11	3.3E-10	1.2E-09	7.5E-10	3.3E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	E1 avg	1.1E-05	3.8E-10	9 4E-10	5.7E-10	8.4E-10	2.9E-09	1.1E-08	6 6E-09	2.9E-09
Barium	NA	0 000125	3.6E-05	1.5E-04	E1 avg	4.4E-05	1.5E-09	3.8E-09	2.3E-09	3.4E-09	1.2E-08	4.5E-08	2 7E-08	1.2E-08
Beryllium	8.4	0.004375	1 3E-03	3.3E-08	E1 avg	9.6E-09	3.4E-13	8 4E-13	5.1E-13	7.5E-13	2.6E-12	9.8E-12	5 9E-12	2.6E-12
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E1 avg	4.6E-06	1.6E-10	4 1E-10	2.5E-10	3.6E-10	1.3E-09	4.7E-09	2.9E-09	1.3E-09
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	E1 avg	2.1E-07	7.2E-12	1 8E-11	1.1E-11	1.6E-11	5.6E-11	2.1E-10	1.3E-10	5.6E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E1 avg	2.1E-07	7.2E-12	1.8E-11	1.1E-11	1.6E-11	5.6E-11	2 1E-10	1.3E-10	5 6E-11
Copper	NA	NA	NA	9.4E-05	E1 avg	2.7E-05	9.6E-10	2 4E-09	1.4E-09	2.1E-09	7.5E-09	2.8E-08	1.7E-08	7 5E-09
Lead	NA	NA	NA	4 3E-05	E1 avg	1.2E-05	4 4E-10	1.1E-09	6.6E-10	9.8E-10	3.4E-09	1 3E-08	7.7E-09	3 4E-09
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	E1 avg	4.1E-04	1.4E-08	3.6E-08	2.2E-08	3.2E-08	1.1E-07	4.2E-07	2 5E-07	1.1E-07
Nickel	0.84	0.0175	5 0E-03	5.0E-06	E1 avg	1.5E-06	5.1E-11	1.3E-10	7.7E-11	1.1E-10	4.0E-10	1.5E-09	9 0E-10	4.0E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	E1 avg	1.4E-04	4.8E-09	1 2E-08	7.2E-09	1.1E-08	3.7E-08	1.4E-07	8.4E-08	3.7E-08
Silver	NA	0.004375	1 3E-03	1.5E-05	E1 avg	4 4E-06	1.5E-10	3 8E-10	2.3E-10	3.4E-10	1.2E-09	4.5E-09	2 7E-09	1 2E-09
Thallium	NA	0.000061	1.8E-05	3.4E-05	E1 avg	9.9E-06	3.5E-10	8.6E-10	5.2E-10	7.7E-10	2.7E-09	1.0E-08	6 1E-09	2 7E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	E1 avg	3.5E-05	1.2E-09	3.1E-09	1.8E-09	2.7E-09	9.5E-09	3.6E-08	2 2E-08	9.5E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E1 avg	9.3E-03	3.3E-07	8.1E-07	4.9E-07	7.3E-07	2.5E-06	9.5E-06	5 7E-06	2.5E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E1 avg	7.0E-01	2.5E-05	6.2E-05	3.7E-05	5.5E-05	1.9E-04	7.2E-04	4 3E-04	1.9E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E1 avg	2.6E-02	9.3E-07	2 3E-06	1.4E-06	2.1E-06	7.2E-06	2.7E-05	1 6E-05	7.2E-06
Particulate matter	NA	NA	NA	7.2E-02	E1 avg	2.1E-02	7.4E-07	1.8E-06	1.1E-06	1.6E-06	5.7E-06	2.1E-05	1 3E-05	5.7E-06
Respirable particulates	NF	NF	NF	7.2E-02	E1 avg	2.1E-02	7.4E-07	1.8E-06	1.1E-06	1.6E-06	5.7E-06	2.1E-05	1.3E-05	5.7E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 1 Average Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E1 avg	4.5E-11	1.1E-10	6 8E-11	1 0E-10		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9 30E-09	E1 avg	1.4E-10	3.5E-10	2.1E-10	3.2E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E1 avg	1 9E-11	4.7E-11	2.8E-11	4.2E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	E1 avg	2.9E-11	7 2E-11	4.4E-11	6.4E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		1.4E-09	3 6E-09	2.2E-09	3.2E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	E1 avg	NT	NT	NT	NT		3.3E-06	1.2E-05	7.5E-06	3.3E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	E1 avg	1.9E-08	4.7E-08	2.8E-08	4.2E-08		3.9E-05	1.5E-04	6.8E-05	3 9E-05
Barium	NA	0 000125	3.6E-05	1.5E-04	E1 avg	NT	NT	NT	NT		3.3E-04	1.2E-03	7.5E-04	3 3E-04
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	E1 avg	2.8E-12	7.1E-12	4.3E-12	6.3E-12		2.1E-09	7.8E-09	4.7E-09	2.1E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E1 avg	1.0E-09	2.5E-09	1.5E-09	2.2E-09		1.0E-05	3.8E-05	2.3E-05	1 0E-05
Chromium (hexavalent)	41	0.004375	1 3E-03	7.1E-07	E1 avg	3.0E-10	7.4E-10	4.5E-10	6.6E-10		4 5E-08	1.7E-07	1.0E-07	4 5E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E1 avg	NT	NT	NT	NT		2.3E-10	8.4E-10	5.1E-10	2.3E-10
Copper	NA	NA	NA	9.4E-05	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E1 avg	NT	NT	NT	NT		5.2E-03	1.9E-02	1.2E-02	5.2E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	E1 avg	4.3E-11	1.1E-10	6.5E-11	9.5E-11		7.9E-08	3.0E-07	1.8E-07	7.9E-08
Selenium	NA	0.004375	1 3E-03	4.7E-04	E1 avg	NT	NT	NT	NT		3.0E-05	1.1E-04	6.7E-05	3.0E-05
Silver	NA	0.004375	1.3E-03	1.5E-05	E1 avg	NT	NT	NT	NT		9.5E-07	3.6E-06	2.2E-06	9.5E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	E1 avg	NT	NT	NT	NT		1.5E-04	5.8E-04	3 5E-04	1.5E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	E1 avg	NT	NT	NT	NT		1.3E-07	4.7E-07	2.9E-07	1.3E-07
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E1 avg	NT	NT	NT	NT		5.1E-03	1.9E-02	1.1E-02	5.1E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	3.2E-08	7.9E-08	4.8E-08	7.1E-08					
										Total HI	1.2E-02	4.6E-02	2.8E-02	1.2E-02

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Acenaphthylene	NF	NF	NF	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	E2 avg	4.2E-05	1.5E-09	3.7E-09	2.2E-09	3.3E-09	1.2E-08	4.3E-08	2 6E-08	1.2E-08
Acetone	NA	0.0875	2 5E-02	2.9E-03	E2 avg	4.1E-04	1.4E-08	3 6E-08	2.2E-08	3.2E-08	1.1E-07	4 2E-07	2 5E-07	1.1E-07
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	E2 avg	4.1E-05	1.4E-09	3 6E-09	2 2E-09	3.2E-09	1.1E-08	4.2E-08	2 5E-08	1.1E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E2 avg	2.8E-05	1.0E-09	2 5E-09	1.5E-09	2 2E-09	7.7E-09	2.9E-08	1.7E-08	7.7E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E2 avg	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.6E-10	2.1E-09	1 3E-09	5 6E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E2 avg	1.6E-06	5.6E-11	1 4E-10	8.4E-11	1 2E-10	4.3E-10	1.6E-09	9 8E-10	4 3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E2 avg	4.5E-06	1.6E-10	3.9E-10	2.4E-10	3.5E-10	1 2E-09	4.6E-09	2 8E-09	1.2E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2 1E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E2 avg	1.9E-06	6.6E-11	1.6E-10	9.9E-11	1.5E-10	5.1E-10	1.9E-09	1.2E-09	5.1E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	E2 avg	5.2E-06	1.8E-10	4.6E-10	2.8E-10	4.1E-10	1.4E-09	5.3E-09	3 2E-09	1.4E-09
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	E2 avg	1.4E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	8 9E-09	4.0E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E2 avg	6.9E-05	2.4E-09	6 0E-09	3.6E-09	5.4E-09	1 9E-08	7.0E-08	4 2E-08	1.9E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E2 avg	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.4E-09	4 5E-09	2 0E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	E2 avg	1.2E-05	4.4E-10	1.1E-09	6.6E-10	9 8E-10	3.4E-09	1.3E-08	7.7E-09	3 4E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E2 avg	2.2E-05	7.8E-10	1.9E-09	1.2E-09	1 7E-09	6.1E-09	2.3E-08	1 4E-08	6 1E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E2 avg	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7.9E-11	4 8E-11	2.1E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1 0E-03	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E2 avg	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.0E-10	1.4E-09	5.3E-09	3 2E-09	1.4E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4 9E-04	E2 avg	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4.2E-08	1.9E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E2 avg	3.7E-05	1.3E-09	3.3E-09	2.0E-09	2.9E-09	1.0E-08	3.8E-08	2 3E-08	1.0E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	E2 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9 4E-09	3 5E-08	2 1E-08	9 4E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E2 avg	9.4E-07	3 3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E2 avg	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2 6E-10	9 6E-10	5 8E-10	2.6E-10
Chrysene	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Cresol, m-	NA	0.04375	1 3E-02	5 5E-06	E2 avg	7 7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	E2 avg	1.9E-05	6.9E-10	1 7E-09	1 0E-09	1 5E-09	5.3E-09	2 0E-08	1 2E-08	5.3E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	E2 avg	7.7E-08	2.7E-12	6 8E-12	4 1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2.6E-05	E2 avg	3 7E-06	1 3E-10	3 2E-10	2 0E-10	2 9E-10	1 0E-09	3 8E-09	2 3E-09	1 0E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	E2 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5 5E-06	E2 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	E2 avg	4 7E-06	1 6E-10	4 1E-10	2 5E-10	3 6E-10	1 3E-09	4 8E-09	2 9E-09	1 3E-09
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E2 avg	6 6E-09	2.3E-13	5 8E-13	3 5E-13	5 1E-13	1 8E-12	6 7E-12	4 1E-12	1 8E-12

External Review Draft, Do Not Cite or Quote

TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E2 avg	NT	NT	NT	NT	1.7E-06	6.4E-06	3.9E-06	1.7E-06
Acenaphthylene	NF	NF	NF	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	E2 avg	1 1E-11	2.8E-11	1.7E-11	2.5E-11	1.8E-05	6.7E-05	4.1E-05	1.8E-05
Acetone	NA	0 0875	2.5E-02	2.9E-03	E2 avg	NT	NT	NT	NT	4 4E-06	1.7E-05	1.0E-05	4.4E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E2 avg	NT	NT	NT	NT	4 5E-07	1.7E-06	1.0E-06	4.5E-07
Acrylonitrile	2.4E-01	0 0005	1.4E-04	2.0E-04	E2 avg	2.4E-10	5.9E-10	3.6E-10	5.3E-10	5.4E-05	2.0E-04	1.2E-04	5.4E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E2 avg	NT	NT	NT	NT	2.8E-09	1.1E-08	6 3E-09	2.8E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E2 avg	2.1E-12	5.2E-12	3.2E-12	4.7E-12	1.3E-06	4.9E-06	3.0E-06	1.3E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E2 avg	NT	NT	NT	NT	4.3E-10	1.6E-09	9.8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E2 avg	7.2E-11	1.8E-10	1.1E-10	1.6E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E2 avg	NT	NT	NT	NT	2.6E-06	9.8E-06	5.8E-06	2.6E-06
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	E2 avg	NT	NT	NT	NT	2.9E-07	1.1E-06	6.4E-07	2.9E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	E2 avg	NT	NT	NT	NT	7.9E-07	3.0E-06	1.8E-06	7.9E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	E2 avg	1.0E-13	2.6E-13	1.6E-13	2.3E-13	4.2E-06	1.6E-07	9.5E-06	4.2E-06
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E2 avg	NT	NT	NT	NT	5.3E-05	2.0E-04	1.2E-04	5.3E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E2 avg	NT	NT	NT	NT	2 8E-06	1.0E-07	6.2E-06	2.8E-06
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E2 avg	NT	NT	NT	NT	4.2E-09	1.6E-06	9.5E-09	4.2E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E2 avg	NT	NT	NT	NT	4.8E-06	1.8E-05	1.1E-05	4.8E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E2 avg	4.1E-11	1.0E-10	6.2E-11	9.1E-11	4.2E-05	1.6E-04	9.6E-05	4.2E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E2 avg	3.5E-12	8.7E-12	5.3E-12	7.8E-12	1.4E-06	5.3E-06	3.2E-06	1.4E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E2 avg	NT	NT	NT	NT	2.6E-07	9.6E-07	5.8E-07	2.6E-07
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	E2 avg	NT	NT	NT	NT	1.5E-07	5.5E-07	3.3E-07	1.5E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E2 avg	5.0E-11	1.2E-10	7.5E-11	1.1E-10	2 8E-07	1.1E-06	6 4E-07	2.8E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E2 avg	NT	NT	NT	NT	2.6E-06	9.8E-06	5 9E-06	2.6E-06
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E2 avg	1.1E-10	2.6E-10	1.6E-10	2.3E-10	4.1E-06	1.5E-05	9.2E-06	4.1E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	E2 avg	7.6E-12	1.9E-11	1.1E-11	1.7E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E2 avg	NT	NT	NT	NT	1.3E-06	4.8E-06	2.9E-06	1.3E-06
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E2 avg	NT	NT	NT	NT	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1 3E-02	5.5E-06	E2 avg	NT	NT	NT	NT	1 7E-06	6.3E-06	3 8E-06	1.7E-06
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	E2 avg	NT	NT	NT	NT	1.7E-06	6 3E-06	3 8E-06	1.7E-06
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E2 avg	NT	NT	NT	NT	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	E2 avg	NT	NT	NT	NT	3 3E-07	1.2E-06	7.4E-07	3 3E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5 0E-03	2 6E-05	E2 avg	NT	NT	NT	NT	2 0E-07	7 5E-07	4 6E-07	2 0E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	E2 avg	NT	NT	NT	NT	3 7E-09	1 4E-08	8 3E-09	3.7E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	E2 avg	NT	NT	NT	NT	1 5E-08	5 5E-08	3 3E-08	1.5E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	E2 avg	3.4E-05	1.2E-09	3 0E-09	1.8E-09	2.7E-09	9 4E-09	3.5E-08	2 1E-08	9 4E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E2 avg	1.8E-06	6.2E-11	1 5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1 1E-09	4 8E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E2 avg	1.8E-06	6.2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1 2E+00	0.007875	2.3E-03	1.3E-05	E2 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E2 avg	1 8E-06	6.2E-11	1 5E-10	9.3E-11	1 4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7.9E-10	4 8E-10	2.1E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E2 avg	1 8E-06	6.2E-11	1.5E-10	9.3E-11	1 4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1 4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E2 avg	2.4E-06	8.3E-11	2.1E-10	1.3E-10	1.8E-10	6 5E-10	2.4E-09	1 5E-09	6.5E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E2 avg	1 6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4.4E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	E2 avg	2.2E-06	7.7E-11	1.9E-10	1.2E-10	1.7E-10	6.0E-10	2.2E-09	1 4E-09	6 0E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2 1E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E2 avg	6.9E-05	2.4E-09	6.1E-09	3.7E-09	5.4E-09	1.9E-08	7.1E-08	4 3E-08	1.9E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E2 avg	5.4E-06	1.9E-10	4.8E-10	2.9E-10	4.3E-10	1.5E-09	5.6E-09	3.4E-09	1.5E-09
Ethyl methacrylate	NA	0 07875	2.3E-02	2.5E-04	E2 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9 4E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E2 avg	7.0E-05	2.5E-09	6.1E-09	3.7E-09	5.5E-09	1.9E-08	7.1E-08	4 3E-08	1 9E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E2 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4 4E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E2 avg	4.3E-06	1.5E-10	3.7E-10	2.3E-10	3.3E-10	1.2E-09	4.4E-09	2 6E-09	1.2E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E2 avg	2.0E-11	7.2E-16	1.8E-15	1.1E-15	1.6E-15	5.6E-15	2.1E-14	1 3E-14	5.6E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	E2 avg	8.5E-05	3.0E-09	7.5E-09	4.5E-09	6.6E-09	2.3E-08	8 7E-08	5 3E-08	2.3E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E2 avg	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7.9E-11	4 8E-11	2.1E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	E2 avg	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1.4E-08	8.7E-09	3.9E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E2 avg	7.7E-06	2.7E-10	6.7E-10	4.1E-10	6.0E-10	2.1E-09	7 9E-09	4 7E-09	2.1E-09
Hexachlorocyclopentadiene	NA	0 000018	5.0E-06	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7 9E-10	4 8E-10	2.1E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E2 avg	4 5E-06	1 6E-10	3.9E-10	2 4E-10	3.5E-10	1.2E-09	4 6E-09	2 8E-09	1 2E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	E2 avg	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.0E-10	2.5E-09	9.2E-09	5 6E-09	2.5E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6 0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	E2 avg	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2 6E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E2 avg	1 6E-05	5.7E-10	1.4E-09	8.5E-10	1 3E-09	4.4E-09	1 6E-08	1 0E-08	4 4E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	E2 avg	7.7E-08	2.7E-12	6 8E-12	4 1E-12	6 0E-12	2.1E-11	7 9E-11	4 8E-11	2 1E-11
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	E2 avg	1.8E-06	6.2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4.8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	E2 avg	1.8E-06	6 2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	E2 avg	5 5E-05	2 0E-09	4 9E-09	2 9E-09	4 3E-09	1 5E-08	5 7E-08	3 4E-08	1 5E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E2 avg	5 9E-06	2.1E-10	5 1E-10	3 1E-10	4 6E-10	1 6E-09	6 0E-09	3 6E-09	1 6E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E2 avg	2 3E-09	8 2E-14	2 0E-13	1 2E-13	1 8E-13	6 4E-13	2 4E-12	1 4E-12	6 4E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	E2 avg	7.7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	E2 avg	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E2 avg	9 4E-07	3.3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10

External Review Draft, Do Not Cite or Quote

TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E2 avg	NT	NT	NT	NT	6 6E-07	2 5E-06	1.5E-06	6.6E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E2 avg	NT	NT	NT	NT	1 3E-08	5.0E-08	3.0E-08	1.3E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E2 avg	5.6E-12	1.4E-11	8.4E-12	1.2E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E2 avg	7.4E-11	1.8E-10	1.1E-10	1.6E-10	2.1E-07	8.0E-07	4.8E-07	2.1E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E2 avg	NT	NT	NT	NT	9.6E-08	3.6E-07	2.2E-07	9.6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E2 avg	NT	NT	NT	NT	2 8E-07	1.1E-06	6 3E-07	2.8E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E2 avg	NT	NT	NT	NT	1.7E-06	6.3E-06	3.8E-06	1.7E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3 4E-07	1.3E-06	7.6E-07	3.4E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3 4E-07	1.3E-06	7.6E-07	3.4E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E2 avg	NT	NT	NT	NT	3.2E-09	1.2E-08	7.3E-09	3.2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E2 avg	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E2 avg	NT	NT	NT	NT	2 4E-08	9.0E-08	5.4E-08	2.4E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E2 avg	NT	NT	NT	NT	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E2 avg	NT	NT	NT	NT	4 2E-07	1.6E-06	9.5E-07	4.2E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E2 avg	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E2 avg	NT	NT	NT	NT	4 2E-08	1.6E-07	9.5E-08	4.2E-08
D, 2,4-	NA	0.00875	2 5E-03	3.9E-05	E2 avg	NT	NT	NT	NT	6.0E-07	2.2E-06	1.3E-06	6 0E-07
Ethyl methacrylate	NA	0.07875	2 3E-02	2.5E-04	E2 avg	NT	NT	NT	NT	4.2E-07	1.6E-06	9.4E-07	4.2E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E2 avg	NT	NT	NT	NT	2.7E-07	1.0E-06	6.0E-07	2.7E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E2 avg	4.3E-10	1.1E-09	6.5E-10	9.6E-10	3.1E-04	1.2E-03	7.0E-04	3.1E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E2 avg	5.3E-11	1.3E-10	7.9E-11	1.2E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E2 avg	NT	NT	NT	NT	2.8E-10	1.0E-09	6.3E-10	2.8E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E2 avg	NT	NT	NT	NT	2.1E-08	7.9E-08	4.8E-08	2.1E-08
Fluorene	NA	0.035	1 0E-02	6.7E-06	E2 avg	NT	NT	NT	NT	2.6E-08	9.6E-08	5.8E-08	2.6E-08
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	E2 avg	1.3E-10	3.4E-10	2.0E-10	3.0E-10	4 7E-07	1.7E-06	1.1E-06	4.7E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	E2 avg	NT	NT	NT	NT	5.9E-08	2.2E-07	1.3E-07	5.9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E2 avg	1.2E-11	3.0E-11	1.8E-11	2.7E-11	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E2 avg	4.4E-11	1.1E-10	6.6E-11	9.7E-11	1.1E-06	3.9E-06	2.4E-06	1.1E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	E2 avg	3.9E-11	9.7E-11	5.8E-11	8.6E-11	7.7E-05	2.9E-04	1.7E-04	7 7E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E2 avg	NT	NT	NT	NT	2 8E-05	1.0E-04	6.3E-05	2.8E-05
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	E2 avg	NT	NT	NT	NT	4 2E-05	1.6E-04	9.5E-05	4.2E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E2 avg	3.8E-13	9.5E-13	5.7E-13	8.4E-13	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E2 avg	NT	NT	NT	NT	1 6E-05	6.1E-05	3.7E-05	1.6E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	E2 avg	NT	NT	NT	NT	5 1E-09	1.9E-08	1 2E-08	5.1E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E2 avg	NT	NT	NT	NT	3 5E-08	1.3E-07	8 0E-08	3.5E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	E2 avg	NT	NT	NT	NT	1 7E-08	6 3E-08	3 8E-08	1 7E-08
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	E2 avg	NT	NT	NT	NT	2 2E-09	8 4E-09	5 1E-09	2 2E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5 7E-03	1.3E-05	E2 avg	NT	NT	NT	NT	8 4E-08	3 1E-07	1 9E-07	8 4E-08
Methylene chloride	1 6E-03	0.75	2.1E-01	4.0E-04	E2 avg	3.2E-12	8 0E-12	4 8E-12	7 1E-12	7 1E-08	2 6E-07	1.6E-07	7.1E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	E2 avg	NT	NT	NT	NT	2 1E-08	7 9E-08	4 8E-08	2.1E-08
Nitroaniline, 2-	NA	0.00005	1 4E-05	6.7E-06	E2 avg	NT	NT	NT	NT	1 8E-05	6.7E-05	4.1E-05	1.8E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E2 avg	9.4E-07	3.3E-11	8 2E-11	5.0E-11	7 3E-11	2.6E-10	9 6E-10	5 8E-10	2 6E-10
Nitrobenzene	NA	0.0005	1.4E-04	5 5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2 6E-10	9.6E-10	5 8E-10	2.6E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E2 avg	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E2 avg	1.7E-05	6.0E-10	1.5E-09	9.0E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4 6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2 6E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E2 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5 4E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	E2 avg	6.7E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1.8E-09	6.8E-09	4.1E-09	1.8E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5 4E-13	2 0E-12	1 2E-12	5.4E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E2 avg	4.7E-06	1.7E-10	4 1E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2 9E-09	1.3E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Phenanthrene	NA	NA	NA	6.7E-06	E2 avg	9.4E-07	3.3E-11	8 2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7 9E-10	4.8E-10	2.1E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2 1E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E2 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1.0E-08	4 4E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	E2 avg	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 6E-10	3.2E-09	1.9E-09	8.6E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2 0E-12	1.2E-12	5.4E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2 1E-10
Tetrachloroethene	2 0E-03	0 00875	2.5E-03	5.1E-05	E2 avg	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.3E-09	4.4E-09	2.0E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E2 avg	9.5E-07	3.4E-11	8.4E-11	5.0E-11	7.4E-11	2.6E-10	9.7E-10	5.9E-10	2.6E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	E2 avg	8.6E-05	3.0E-09	7.5E-09	4.5E-09	6.7E-09	2.3E-08	8.6E-08	5 3E-08	2.3E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3 3E-04	E2 avg	4.6E-05	1.6E-09	4.1E-09	2.4E-09	3.6E-09	1.3E-08	4.7E-08	2 9E-08	1.3E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5 5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E2 avg	4.2E-09	1.5E-13	3.7E-13	2.2E-13	3.3E-13	1.2E-12	4 3E-12	2.6E-12	1 2E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E2 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Trichloroethane, 1,1,2-	5 7E-02	0.0035	1.0E-03	1.3E-05	E2 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E2 avg	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.0E-10	7.1E-10	2.7E-09	1 6E-09	7.1E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E2 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9.4E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E2 avg	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.0E-10	2.5E-09	9.2E-09	5 6E-09	2.5E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E2 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2 1E-08	9.4E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E2 avg	5.3E-05	1.9E-09	4.7E-09	2.8E-09	4.2E-09	1.5E-08	5.4E-08	3.3E-08	1.5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E2 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E2 avg	1.5E-12	5.3E-17	1.3E-16	8 0E-17	1.2E-16	4 1E-16	1.5E-15	9 4E-16	4 1E-16
1,2,3,7,8-PCDD	7 5E+04	NA	NA	6.78E-11	E2 avg	9 5E-12	3.3E-16	8.3E-16	5.0E-16	7 4E-16	2.6E-15	9 7E-15	5 9E-15	2 6E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E2 avg	1 3E-11	4.4E-16	1 1E-15	6 6E-16	9 8E-16	3 4E-15	1.3E-14	7 7E-15	3.4E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E2 avg	2 3E-11	8.2E-16	2 0E-15	1 2E-15	1.8E-15	6.3E-15	2.4E-14	1 4E-14	6.3E-15
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	E2 avg	1 5E-11	5 4E-16	1 3E-15	8 1E-16	1 2E-15	4 2E-15	1 6E-14	9 4E-15	4 2E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	E2 avg	1 7E-10	6 1E-15	1 5E-14	9 2E-15	1 4E-14	4 8E-14	1 8E-13	1 1E-13	4 8E-14
OCDD	1 5E+02	NA	NA	6.15E-09	E2 avg	8 6E-10	3 0E-14	7 5E-14	4 6E-14	6 7E-14	2 4E-13	8 8E-13	5 3E-13	2 4E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8 77E-11	E2 avg	1 2E-11	4 3E-16	1 1E-15	6 5E-16	9 6E-16	3 4E-15	1 3E-14	7 6E-15	3 4E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	E2 avg	4.8E-11	1.7E-15	4 2E-15	2 6E-15	3 8E-15	1 3E-14	4 9E-14	3 0E-14	1 3E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E2 avg	6.5E-11	2 3E-15	5 7E-15	3 5E-15	5 1E-15	1 8E-14	6 7E-14	4 0E-14	1 8E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1 43E-09	E2 avg	2 0E-10	7 0E-15	1 8E-14	1 1E-14	1 6E-14	5 5E-14	2 0E-13	1 2E-13	5 5E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	E2 avg	1 9E-10	6 6E-15	1 6E-14	9 9E-15	1 5E-14	5 1E-14	1 9E-13	1 2E-13	5 1E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E2 avg	2.1E-10	7 4E-15	1 8E-14	1 1E-14	1 6E-14	5 8E-14	2 2E-13	1 3E-13	5 8E-14

TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	E2 avg	NT	NT	NT	NT	1.5E-06	5.5E-06	3.3E-06	1.5E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E2 avg	3.2E-09	8.0E-09	4.8E-09	7.2E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E2 avg	NT	NT	NT	NT	1.7E-06	6.4E-06	3.9E-06	1.7E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E2 avg	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Phenanthrene	NA	NA	NA	6.7E-06	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	E2 avg	NT	NT	NT	NT	1.4E-09	5.3E-09	3.2E-09	1.4E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E2 avg	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	E2 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	E2 avg	7.0E-13	1.7E-12	1.1E-12	1.6E-12	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	E2 avg	5.5E-12	1.4E-11	8.3E-12	1.2E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	E2 avg	5.1E-13	1.3E-12	7.7E-13	1.1E-12	7.9E-07	2.9E-06	1.8E-06	7.9E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E2 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	7.8E-08	3.5E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	E2 avg	NT	NT	NT	NT	8.2E-07	3.1E-06	1.9E-06	8.2E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E2 avg	NT	NT	NT	NT	5.9E-09	2.2E-08	1.3E-08	5.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E2 avg	NT	NT	NT	NT	1.5E-08	5.5E-08	3.3E-08	1.5E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E2 avg	NT	NT	NT	NT	6.7E-09	2.5E-08	1.5E-08	6.7E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E2 avg	3.5E-12	8.7E-12	5.3E-12	7.8E-12	4.8E-07	1.8E-06	1.1E-06	4.8E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E2 avg	5.5E-13	1.4E-12	8.2E-13	1.2E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E2 avg	NT	NT	NT	NT	1.9E-07	7.0E-07	4.2E-07	1.9E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E2 avg	NT	NT	NT	NT	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E2 avg	2.7E-13	6.8E-13	4.1E-13	6.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E2 avg	NT	NT	NT	NT	1.7E-07	6.4E-07	3.9E-07	1.7E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E2 avg	3.6E-10	9.0E-10	5.5E-10	8.1E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E2 avg	NT	NT	NT	NT	2.9E-08	1.1E-07	6.6E-08	2.9E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E2 avg	NT	NT	NT	NT	4.2E-10	1.6E-09	9.5E-10	4.2E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E2 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E2 avg	2.5E-11	6.2E-11	3.6E-11	5.6E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E2 avg	6.6E-12	1.6E-11	1.0E-11	1.5E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E2 avg	1.2E-11	3.1E-11	1.8E-11	2.7E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	E2 avg	8.1E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	E2 avg	9.2E-12	2.3E-11	1.4E-11	2.0E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	E2 avg	4.5E-12	1.1E-11	6.8E-12	1.0E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	E2 avg	6.5E-12	1.6E-11	9.8E-12	1.4E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	E2 avg	1.3E-11	3.2E-11	1.9E-11	2.8E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E2 avg	1.7E-10	4.3E-10	2.6E-10	3.8E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	E2 avg	1.1E-10	2.6E-10	1.6E-10	2.3E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	E2 avg	9.9E-11	2.5E-10	1.5E-10	2.2E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E2 avg	1.1E-10	2.8E-10	1.7E-10	2.5E-10	NT	NT	NT	NT

TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E2 avg	4.1E-11	1.4E-15	3.6E-15	2 2E-15	3 2E-15	1 1E-14	4.2E-14	2 5E-14	1.1E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	E2 avg	1.3E-09	4.6E-14	1.1E-13	6 9E-14	1 0E-13	3 6E-13	1.3E-12	8 1E-13	3 6E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E2 avg	1.7E-10	6 0E-15	1 5E-14	9 1E-15	1 3E-14	4 7E-14	1.7E-13	1 1E-13	4 7E-14
OCDF	1.5E+02	NA	NA	1.89E-08	E2 avg	2.7E-09	9 3E-14	2.3E-13	1.4E-13	2.1E-13	7.3E-13	2.7E-12	1 6E-12	7 3E-13
Dioxin TEQ				4.28E-08		6.0E-09	2.1E-13	5 3E-13	3.2E-13	4.7E-13	1.6E-12	6.1E-12	3.7E-12	1.6E-12
Aluminum	NA	NA	NA	2.4E-04	E2 avg	3.4E-05	1.2E-09	2 9E-09	1.8E-09	2.6E-09	9.2E-09	3.4E-08	2.1E-08	9.2E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	E2 avg	5.9E-07	2.1E-11	5.2E-11	3.1E-11	4.6E-11	1.6E-10	6.0E-10	3 6E-10	1 6E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	E2 avg	5.2E-06	1.8E-10	4 5E-10	2.7E-10	4.1E-10	1.4E-09	5.3E-09	3 2E-09	1 4E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	E2 avg	2.1E-05	7.4E-10	1.8E-09	1.1E-09	1.6E-09	5.8E-09	2.1E-08	1.3E-08	5.8E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E2 avg	4.6E-09	1.6E-13	4.1E-13	2.4E-13	3.6E-13	1.3E-12	4.7E-12	2 9E-12	1.3E-12
Cadmium	6.1	0.000438	1 3E-04	1.6E-05	E2 avg	2.2E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6.1E-10	2.3E-09	1 4E-09	6 1E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	E2 avg	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6.1E-11	2.7E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E2 avg	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6.1E-11	2.7E-11
Copper	NA	NA	NA	9.4E-05	E2 avg	1.3E-05	4.6E-10	1.2E-09	7.0E-10	1.0E-09	3 6E-09	1.3E-08	8 1E-09	3 6E-09
Lead	NA	NA	NA	4.3E-05	E2 avg	6.0E-06	2.1E-10	5.3E-10	3.2E-10	4.7E-10	1.6E-09	6.2E-09	3.7E-09	1.6E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E2 avg	2.0E-04	6.9E-09	1.7E-08	1.0E-08	1 5E-08	5.4E-08	2.0E-07	1 2E-07	5.4E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-08	E2 avg	7.0E-07	2.5E-11	6.1E-11	3.7E-11	5.5E-11	1.9E-10	7.2E-10	4 3E-10	1.9E-10
Selenium	NA	0.004375	1 3E-03	4.7E-04	E2 avg	6.6E-05	2.3E-09	5.8E-09	3 5E-09	5.1E-09	1.8E-08	6.7E-08	4.1E-08	1 8E-08
Silver	NA	0.004375	1 3E-03	1.5E-05	E2 avg	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.8E-10	2.1E-09	1.3E-09	5 8E-10
Thallium	NA	0.000081	1 8E-05	3 4E-05	E2 avg	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2 9E-09	1 3E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	E2 avg	1.7E-05	5.9E-10	1.5E-09	8.9E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4 6E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E2 avg	4.5E-03	1.6E-07	3.9E-07	2.4E-07	3.5E-07	1.2E-06	4.6E-06	2 8E-06	1 2E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E2 avg	3.4E-01	1.2E-05	3.0E-05	1.8E-05	2.7E-05	9.3E-05	3.5E-04	2.1E-04	9 3E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E2 avg	1.3E-02	4.5E-07	1.1E-06	6.8E-07	1.0E-06	3.5E-06	1.3E-05	7 9E-06	3 5E-06
Particulate matter	NA	NA	NA	7.2E-02	E2 avg	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6 2E-06	2.8E-06
Respirable particulates	NF	NF	NF	7.2E-02	E2 avg	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6.2E-06	2.8E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 2 Average Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	2.93E-10	E2 avg	2 2E-11	5.4E-11	3 3E-11	4 8E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	E2 avg	6.9E-11	1.7E-10	1.0E-10	1 5E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E2 avg	9 0E-12	2.2E-11	1 4E-11	2 0E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	E2 avg	1.4E-11	3.5E-11	2.1E-11	3 1E-11		NT	NT	NT	NT
Dioxin TEQ				4 28E-08		6.9E-10	1.7E-09	1.0E-09	1.5E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	E2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	E2 avg	NT	NT	NT	NT		1.6E-06	6 0E-06	3.6E-06	1.6E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	E2 avg	9.1E-09	2.3E-08	1.4E-08	2.0E-08		1 9E-05	7 1E-05	4.3E-05	1.9E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	E2 avg	NT	NT	NT	NT		1.6E-04	6.0E-04	3.6E-04	1.6E-04
Beryllium	8.4	0.004375	1.3E-03	3 3E-08	E2 avg	1 4E-12	3.4E-12	2.1E-12	3.0E-12		1.0E-09	3.8E-09	2.3E-09	1.0E-09
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	E2 avg	4.8E-10	1.2E-09	7.2E-10	1.1E-09		4.9E-06	1.8E-05	1.1E-05	4.9E-06
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	E2 avg	1.4E-10	3.6E-10	2.2E-10	3.2E-10		2.2E-08	8.1E-08	4.9E-08	2 2E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E2 avg	NT	NT	NT	NT		1.1E-10	4.1E-10	2.5E-10	1.1E-10
Copper	NA	NA	NA	9.4E-05	E2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	E2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (elemental)	NA	0.000075	2.1E-05	1.4E-03	E2 avg	NT	NT	NT	NT		2.5E-03	9.4E-03	5.7E-03	2.5E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	E2 avg	2.1E-11	5.2E-11	3.1E-11	4.6E-11		3 8E-08	1.4E-07	8.7E-08	3.8E-08
Selenium	NA	0.004375	1 3E-03	4 7E-04	E2 avg	NT	NT	NT	NT		1 4E-05	5.4E-05	3.3E-05	1.4E-05
Silver	NA	0 004375	1.3E-03	1.5E-05	E2 avg	NT	NT	NT	NT		4.6E-07	1.7E-06	1.0E-06	4.6E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	E2 avg	NT	NT	NT	NT		7.4E-05	2.8E-04	1.7E-04	7.4E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	E2 avg	NT	NT	NT	NT		6.1E-06	2.3E-07	1.4E-07	6.1E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E2 avg	NT	NT	NT	NT		2.5E-03	9.2E-03	5.5E-03	2.5E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	E2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	E2 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.5E-08	3.8E-08	2.3E-08	3.4E-08					
										Total HI	5.9E-03	2.2E-02	1.3E-02	5.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E3 avg	4 0E-07	1.4E-11	3 5E-11	2 1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Acenaphthylene	NF	NF	NF	6.7E-06	E3 avg	4.0E-07	1.4E-11	3 5E-11	2.1E-11	3.1E-11	1 1E-10	4.1E-10	2 5E-10	1 1E-10
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	E3 avg	1.8E-05	6 4E-10	1.6E-09	9 6E-10	1 4E-09	4 9E-09	1.8E-08	1 1E-08	4 9E-09
Acetone	NA	0.0875	2.5E-02	2.9E-03	E3 avg	1 7E-04	6 1E-09	1 5E-08	9.2E-09	1 4E-08	4.8E-08	1 8E-07	1 1E-07	4.8E-08
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E3 avg	1.8E-05	6.2E-10	1.5E-09	9.3E-10	1.4E-09	4 8E-09	1.8E-08	1 1E-08	4 8E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E3 avg	1.2E-05	4.3E-10	1.1E-09	6.4E-10	9.5E-10	3.3E-09	1.2E-08	7 5E-09	3 3E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E3 avg	8 8E-07	3.1E-11	7 7E-11	4.7E-11	6.9E-11	2.4E-10	9.0E-10	5 5E-10	2.4E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E3 avg	6.8E-07	2.4E-11	5 9E-11	3.6E-11	5.3E-11	1.9E-10	6.9E-10	4 2E-10	1 9E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E3 avg	1.9E-06	6 8E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1 2E-09	5 3E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9 0E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9 0E-11	3.4E-10	2 0E-10	9.0E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2 1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	E3 avg	8.0E-07	2.8E-11	7.0E-11	4.2E-11	6.2E-11	2.2E-10	8.2E-10	4 9E-10	2.2E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3 1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	E3 avg	2 2E-06	7.9E-11	2.0E-10	1.2E-10	1.7E-10	6.1E-10	2.3E-09	1 4E-09	6.1E-10
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	E3 avg	6.2E-06	2.2E-10	5.4E-10	3.3E-10	4.8E-10	1.7E-09	6.3E-09	3 8E-09	1.7E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E3 avg	2.9E-05	1.0E-09	2.6E-09	1.6E-09	2.3E-09	8.1E-09	3.0E-08	1 8E-08	8.1E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E3 avg	3.1E-06	1.1E-10	2.7E-10	1.6E-10	2.4E-10	8.5E-10	3.2E-09	1.9E-09	8 5E-10
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	E3 avg	3.3E-07	1 2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9.0E-11
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E3 avg	5.3E-06	1 9E-10	4.7E-10	2.8E-10	4.2E-10	1.5E-09	5.5E-09	3 3E-09	1.5E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E3 avg	9.5E-06	3.3E-10	8.3E-10	5.0E-10	7.4E-10	2 6E-09	9.7E-09	5 9E-09	2 6E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E3 avg	3.3E-08	1.2E-12	2.9E-12	1.7E-12	2.6E-12	9.0E-12	3.4E-11	2 0E-11	9.0E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E3 avg	4.0E-07	1.4E-11	3 5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9 0E-11	3.4E-10	2.0E-10	9.0E-11
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E3 avg	2.2E-06	7.8E-11	1.9E-10	1.2E-10	1.7E-10	6.0E-10	2 3E-09	1.4E-09	6 0E-10
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	E3 avg	2.9E-05	1.0E-09	2 6E-09	1.6E-09	2.3E-09	8.1E-09	3.0E-08	1.8E-08	8 1E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E3 avg	1.6E-05	5.6E-10	1.4E-09	8.5E-10	1.2E-09	4.4E-09	1.6E-08	9 9E-09	4.4E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	E3 avg	1.5E-05	5.2E-10	1.3E-09	7.8E-10	1.2E-09	4.0E-09	1.5E-08	9 1E-09	4.0E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1 1E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E3 avg	3 3E-07	1.2E-11	2.9E-11	1 7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E3 avg	4.0E-07	1.4E-11	3 5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Chrysene	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2 9E-11	1.7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9.0E-11
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	E3 avg	3.3E-07	1.2E-11	2 9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	E3 avg	3 3E-07	1.2E-11	2 9E-11	1.7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1 7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Crotonaldehyde	NA	NA	NA	1.4E-04	E3 avg	8 3E-06	2 9E-10	7 3E-10	4 4E-10	6 5E-10	2.3E-09	8 5E-09	5 2E-09	2 3E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	E3 avg	3 3E-07	1 2E-11	2 9E-11	1 7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9.0E-11
DDE, 4,4'-	NA	NA	NA	5 5E-07	E3 avg	3 3E-08	1 2E-12	2 9E-12	1 7E-12	2 6E-12	9 0E-12	3 4E-11	2 0E-11	9 0E-12
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	E3 avg	3 3E-07	1 2E-11	2 9E-11	1 7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Dibromochloromethane	NA	0 0175	5.0E-03	2 6E-05	E3 avg	1 6E-06	5.6E-11	1 4E-10	8 4E-11	1 2E-10	4 3E-10	1 6E-09	9 8E-10	4 3E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	E3 avg	3 3E-07	1.2E-11	2 9E-11	1 7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	E3 avg	3 3E-07	1 2E-11	2 9E-11	1 7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	E3 avg	3 3E-07	1.2E-11	2 9E-11	1 7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	E3 avg	2 0E-06	7 0E-11	1 8E-10	1 1E-10	1 6E-10	5 5E-10	2 0E-09	1 2E-09	5 5E-10
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E3 avg	2 8E-09	9 9E-14	2 5E-13	1 5E-13	2 2E-13	7 7E-13	2 9E-12	1 7E-12	7 7E-13

External Review Draft, Do Not Cite or Quote

TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E3 avg	NT	NT	NT	NT	7.3E-09	2.7E-08	1.7E-08	7.3E-09
Acenaphthylene	NF	NF	NF	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	E3 avg	4.9E-12	1.2E-11	7.4E-12	1.1E-11	7.7E-06	2.9E-05	1.7E-05	7.7E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	E3 avg	NT	NT	NT	NT	1.9E-06	7.1E-06	4.3E-06	1.9E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E3 avg	NT	NT	NT	NT	1 9E-07	7.2E-07	4.3E-07	1.9E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2 0E-04	E3 avg	1.0E-10	2.5E-10	1.5E-10	2.3E-10	2.3E-05	8.7E-05	5.2E-05	2.3E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E3 avg	NT	NT	NT	NT	1 2E-09	4.5E-09	2.7E-09	1.2E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E3 avg	9.0E-13	2.2E-12	1.4E-12	2 0E-12	5 6E-07	2.1E-06	1.3E-06	5 6E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E3 avg	NT	NT	NT	NT	1.9E-10	6.9E-10	4.2E-10	1.9E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E3 avg	3.1E-11	7.7E-11	4.7E-11	6.9E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E3 avg	NT	NT	NT	NT	1.1E-06	4.1E-06	2.5E-06	1.1E-06
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	E3 avg	NT	NT	NT	NT	1.2E-07	4.6E-07	2.8E-07	1.2E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	E3 avg	NT	NT	NT	NT	3.4E-07	1.3E-06	7.7E-07	3.4E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	E3 avg	4.5E-14	1.1E-13	6.7E-14	9.9E-14	1.8E-06	6.8E-06	4.1E-06	1.8E-06
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E3 avg	NT	NT	NT	NT	2.3E-05	8.4E-05	5.1E-05	2.3E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E3 avg	NT	NT	NT	NT	1.2E-08	4.4E-08	2.7E-08	1.2E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E3 avg	NT	NT	NT	NT	1.8E-09	6.8E-09	4.1E-09	1.8E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E3 avg	NT	NT	NT	NT	2.1E-06	7.7E-06	4.6E-06	2.1E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E3 avg	1.8E-11	4.4E-11	2.6E-11	3.9E-11	1.8E-05	6.8E-05	4.1E-05	1.8E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E3 avg	1.5E-12	3.7E-12	2.3E-12	3.3E-12	6.0E-07	2.3E-06	1.4E-06	6.0E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E3 avg	NT	NT	NT	NT	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E3 avg	NT	NT	NT	NT	6.3E-08	2.4E-07	1.4E-07	6.3E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E3 avg	2.1E-11	5.3E-11	3.2E-11	4.7E-11	1.2E-07	4.5E-07	2.7E-07	1.2E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E3 avg	NT	NT	NT	NT	1.1E-08	4.2E-08	2.5E-08	1.1E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E3 avg	4.5E-11	1.1E-10	6.8E-11	1.0E-10	1.7E-06	6.5E-06	3.9E-06	1.7E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	E3 avg	3.3E-12	8.1E-12	4.9E-12	7.2E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E3 avg	NT	NT	NT	NT	5.5E-09	2.1E-08	1.2E-08	5 5E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E3 avg	NT	NT	NT	NT	7.2E-08	2.7E-07	1.6E-07	7.2E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	E3 avg	NT	NT	NT	NT	7.2E-09	2.7E-08	1.6E-08	7.2E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	E3 avg	NT	NT	NT	NT	7.2E-09	2.7E-08	1.6E-08	7.2E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E3 avg	NT	NT	NT	NT	7 2E-08	2.7E-07	1.6E-07	7.2E-08
Crotonaldehyde	NA	NA	NA	1 4E-04	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	E3 avg	NT	NT	NT	NT	1 4E-07	5.3E-07	3.2E-07	1.4E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2 6E-05	E3 avg	NT	NT	NT	NT	8 6E-08	3 2E-07	2 0E-07	8 6E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5 5E-06	E3 avg	NT	NT	NT	NT	1 6E-09	5 9E-09	3 6E-09	1.6E-09
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5 5E-06	E3 avg	NT	NT	NT	NT	6 3E-09	2 4E-08	1 4E-08	6.3E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	E3 avg	1.5E-05	5 2E-10	1 3E-09	7.8E-10	1 2E-09	4.0E-09	1.5E-08	9 1E-09	4 0E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E3 avg	7.5E-07	2.6E-11	6 6E-11	4 0E-11	5 9E-11	2.1E-10	7.7E-10	4 6E-10	2 1E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E3 avg	7 5E-07	2.6E-11	6 6E-11	4.0E-11	5 9E-11	2.1E-10	7.7E-10	4 6E-10	2 1E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E3 avg	7 5E-07	2 6E-11	6 6E-11	4 0E-11	5 9E-11	2.1E-10	7.7E-10	4 6E-10	2 1E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E3 avg	7.5E-07	2.6E-11	6.6E-11	4.0E-11	5.9E-11	2.1E-10	7.7E-10	4 6E-10	2 1E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E3 avg	7.5E-07	2.6E-11	6.6E-11	4.0E-11	5.9E-11	2.1E-10	7.7E-10	4 6E-10	2.1E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E3 avg	7.5E-07	2.6E-11	6.6E-11	4 0E-11	5 9E-11	2.1E-10	7.7E-10	4 6E-10	2.1E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E3 avg	7.5E-07	2.6E-11	6.6E-11	4.0E-11	5.9E-11	2.1E-10	7.7E-10	4 6E-10	2.1E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E3 avg	1.0E-06	3.6E-11	8.9E-11	5.4E-11	7.9E-11	2.8E-10	1.0E-09	6.3E-10	2.8E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E3 avg	6.9E-06	2.4E-10	6.1E-10	3.7E-10	5.4E-10	1.9E-09	7.1E-09	4.3E-09	1.9E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9 0E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9.0E-11
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E3 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.4E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9 0E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9.0E-11
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E3 avg	3.0E-05	1.0E-09	2.6E-09	1.6E-09	2.3E-09	8.1E-09	3.0E-08	1.8E-08	8 1E-09
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9.0E-11
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E3 avg	2.3E-06	8.2E-11	2.0E-10	1.2E-10	1.8E-10	6.4E-10	2.4E-09	1.4E-09	6 4E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	E3 avg	1.5E-05	5.2E-10	1.3E-09	7.8E-10	1.2E-09	4.0E-09	1.5E-08	9.1E-09	4 0E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E3 avg	3.0E-05	1.1E-09	2.6E-09	1.6E-09	2.3E-09	8.2E-09	3.1E-08	1 8E-08	8.2E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E3 avg	6.9E-06	2.4E-10	6.1E-10	3.7E-10	5.4E-10	1.9E-09	7.1E-09	4 3E-09	1.9E-09
Ethylene oxide	3 5E-01	NA	NA	3.1E-05	E3 avg	1.8E-06	6.4E-11	1.6E-10	9.7E-11	1.4E-10	5.0E-10	1.9E-09	1.1E-09	5.0E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E3 avg	8.8E-12	3.1E-16	7.7E-16	4.6E-16	6.9E-16	2.4E-15	9.0E-15	5.4E-15	2.4E-15
Fluoranthene	NA	0 035	1 0E-02	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9.0E-11
Fluorene	NA	0.035	1.0E-02	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E3 avg	3.6E-05	1.3E-09	3.2E-09	1.9E-09	2.8E-09	1.0E-08	3.7E-08	2 3E-08	1.0E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9.0E-11
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E3 avg	3.3E-08	1.2E-12	2.9E-12	1.7E-12	2.6E-12	9.0E-12	3.4E-11	2 0E-11	9.0E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	8.4E-10	3.0E-14	7.4E-14	4.5E-14	6.6E-14	2.3E-13	8.6E-13	5 2E-13	2.3E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9.0E-11
Hexachlorobiphenyl	NA	NA	NA	1 4E-08	E3 avg	8.4E-10	3.0E-14	7.4E-14	4.5E-14	6.6E-14	2.3E-13	8.6E-13	5 2E-13	2.3E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E3 avg	6.1E-06	2.1E-10	5.3E-10	3 2E-10	4.7E-10	1.7E-09	6 2E-09	3 7E-09	1.7E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E3 avg	3.3E-06	1.2E-10	2.9E-10	1.7E-10	2.6E-10	9.0E-10	3 4E-09	2 0E-09	9 0E-10
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1 7E-11	2.6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9 0E-11	3.4E-10	2 0E-10	9 0E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E3 avg	1 9E-06	6.8E-11	1.7E-10	1 0E-10	1.5E-10	5 3E-10	2.0E-09	1 2E-09	5.3E-10
Hexanone, 2-	NF	NF	NF	6 4E-05	E3 avg	3.9E-06	1.4E-10	3 4E-10	2.0E-10	3 0E-10	1.1E-09	3 9E-09	2 4E-09	1.1E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Isophorone	NA	0.175	5.0E-02	6.7E-06	E3 avg	4 0E-07	1.4E-11	3.5E-11	2 1E-11	3.1E-11	1.1E-10	4 1E-10	2 5E-10	1 1E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E3 avg	6 9E-06	2.4E-10	6.1E-10	3 7E-10	5.4E-10	1.9E-09	7 1E-09	4 3E-09	1 9E-09
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	E3 avg	3 3E-08	1.2E-12	2.9E-12	1.7E-12	2 6E-12	9 0E-12	3 4E-11	2 0E-11	9 0E-12
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	E3 avg	7.5E-07	2 6E-11	6 6E-11	4 0E-11	5 9E-11	2 1E-10	7 7E-10	4 6E-10	2 1E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1 3E-05	E3 avg	7.5E-07	2 6E-11	6 6E-11	4 0E-11	5 9E-11	2 1E-10	7 7E-10	4 6E-10	2 1E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4 0E-04	E3 avg	2 4E-05	8 4E-10	2 1E-09	1 3E-09	1 9E-09	6 5E-09	2 4E-08	1 5E-08	6 5E-09
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E3 avg	2.5E-06	8 8E-11	2 2E-10	1 3E-10	2 0E-10	6 9E-10	2 6E-09	1 6E-09	6 9E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E3 avg	1 0E-09	3.5E-14	8 8E-14	5 3E-14	7 8E-14	2 7E-13	1 0E-12	6 2E-13	2 7E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	E3 avg	3.3E-07	1 2E-11	2 9E-11	1 7E-11	2 6E-11	9 0E-11	3 4E-10	2 0E-10	9 0E-11
Nitroaniline, 2-	NA	0 00005	1.4E-05	6.7E-06	E3 avg	4 0E-07	1 4E-11	3 5E-11	2 1E-11	3 1E-11	1 1E-10	4 1E-10	2 5E-10	1 1E-10
Nitroaniline, 3-	NF	NF	NF	6 7E-06	E3 avg	4 0E-07	1 4E-11	3 5E-11	2 1E-11	3 1E-11	1 1E-10	4 1E-10	2 5E-10	1 1E-10

External Review Draft, Do Not Cite or Quote

TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E3 avg	NT	NT	NT	NT	2.8E-07	1.1E-06	6.4E-07	2.8E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E3 avg	NT	NT	NT	NT	5.8E-09	2.1E-08	1.3E-08	5.8E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E3 avg	2.4E-12	6.0E-12	3.6E-12	5.3E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1 3E-05	E3 avg	3.2E-11	7.9E-11	4.8E-11	7.0E-11	9 1E-08	3.4E-07	2.1E-07	9.1E-08
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E3 avg	NT	NT	NT	NT	4 1E-08	1.5E-07	9.3E-08	4 1E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E3 avg	NT	NT	NT	NT	1.2E-07	4.5E-07	2.7E-07	1.2E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E3 avg	NT	NT	NT	NT	7.2E-07	2.7E-06	1.6E-06	7.2E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E3 avg	3.4E-12	8.5E-12	5.1E-12	7.6E-12	1.4E-07	5.4E-07	3.2E-07	1.4E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E3 avg	3.4E-12	8.5E-12	5.1E-12	7.6E-12	1.4E-07	5.4E-07	3.2E-07	1.4E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E3 avg	NT	NT	NT	NT	1.4E-09	5.2E-09	3.1E-09	1.4E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E3 avg	NT	NT	NT	NT	1.8E-08	6.8E-08	4.1E-08	1.8E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E3 avg	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E3 avg	NT	NT	NT	NT	3.6E-07	1.4E-06	8.2E-07	3.6E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5 5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E3 avg	NT	NT	NT	NT	1.8E-07	6.8E-07	4.1E-07	1.8E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E3 avg	NT	NT	NT	NT	1.8E-07	6.8E-07	4.1E-07	1.8E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E3 avg	NT	NT	NT	NT	1.8E-08	6.8E-08	4.1E-08	1.8E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E3 avg	NT	NT	NT	NT	2.6E-07	9.5E-07	5.8E-07	2.6E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	E3 avg	NT	NT	NT	NT	1.8E-07	6.7E-07	4.0E-07	1.8E-07
Ethylbenzene	NA	0.25	7 1E-02	5.0E-04	E3 avg	NT	NT	NT	NT	1.1E-07	4.3E-07	2.6E-07	1.1E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E3 avg	1.8E-10	4.6E-10	2.8E-10	4.1E-10	1.3E-04	4.9E-04	3.0E-04	1.3E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E3 avg	2.3E-11	5.8E-11	3.4E-11	5.0E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E3 avg	NT	NT	NT	NT	1.2E-10	4.5E-10	2.7E-10	1.2E-10
Fluoranthene	NA	0.035	1 0E-02	5.5E-06	E3 avg	NT	NT	NT	NT	9.0E-09	3.4E-08	2.0E-08	9.0E-09
Fluorene	NA	0.035	1 0E-02	6.7E-06	E3 avg	NT	NT	NT	NT	1.1E-08	4.1E-08	2.5E-08	1.1E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E3 avg	5.8E-11	1.4E-10	8.7E-11	1.3E-10	2.0E-07	7.5E-07	4.5E-07	2.0E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	E3 avg	NT	NT	NT	NT	2.5E-08	9.5E-08	5.7E-08	2.5E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E3 avg	5.2E-12	1.3E-11	7.9E-12	1.2E-11	7.2E-08	2.7E-07	1.6E-07	7.2E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E3 avg	1.9E-11	4.7E-11	2.8E-11	4.2E-11	4.5E-07	1.7E-06	1.0E-06	4.5E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E3 avg	1.7E-11	4.1E-11	2.5E-11	3.7E-11	3.3E-05	1.2E-04	7.5E-05	3.3E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E3 avg	NT	NT	NT	NT	1.2E-05	4 5E-05	2.7E-05	1.2E-05
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	E3 avg	NT	NT	NT	NT	1 8E-05	6.8E-05	4 1E-05	1 8E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E3 avg	1.6E-13	4.1E-13	2.4E-13	3.6E-13	3 6E-07	1.4E-06	8.2E-07	3 6E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E3 avg	NT	NT	NT	NT	7.0E-06	2.6E-05	1.6E-05	7.0E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5 5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	E3 avg	NT	NT	NT	NT	2 2E-09	8.2E-09	5 0E-09	2 2E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E3 avg	NT	NT	NT	NT	1 5E-08	5.6E-08	3.4E-08	1 5E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	E3 avg	NT	NT	NT	NT	7 2E-09	2 7E-08	1.6E-08	7 2E-09
Methyl-t-butyl ether	NA	0.75	2 1E-01	1 3E-05	E3 avg	NT	NT	NT	NT	9 6E-10	3 6E-09	2 2E-09	9 6E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	E3 avg	NT	NT	NT	NT	3 6E-08	1 3E-07	8 1E-08	3 6E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	E3 avg	1.4E-12	3.4E-12	2.1E-12	3 1E-12	3 0E-08	1 1E-07	6 9E-08	3.0E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	E3 avg	NT	NT	NT	NT	9 0E-09	3 4E-08	2 0E-08	9.0E-09
Nitroaniline, 2-	NA	0.00005	1 4E-05	6.7E-06	E3 avg	NT	NT	NT	NT	7 7E-06	2 9E-05	1 7E-05	7 7E-06
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1 1E-10	4.1E-10	2 5E-10	1 1E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2 6E-11	9 0E-11	3.4E-10	2 0E-10	9 0E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4 1E-10	2 5E-10	1 1E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E3 avg	3.3E-07	1.2E-11	2 9E-11	1.7E-11	2.6E-11	9 0E-11	3.4E-10	2 0E-10	9.0E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E3 avg	7.3E-06	2.6E-10	6.4E-10	3.8E-10	5.7E-10	2.0E-09	7.4E-09	4.5E-09	2 0E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2.5E-10	1.1E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1 1E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	8.4E-10	3.0E-14	7.4E-14	4.5E-14	6.6E-14	2.3E-13	8.6E-13	5.2E-13	2 3E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	8.4E-10	3.0E-14	7.4E-14	4.5E-14	6.6E-14	2 3E-13	8 6E-13	5 2E-13	2 3E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	E3 avg	2.9E-06	1.0E-10	2.5E-10	1.5E-10	2.2E-10	7.8E-10	2.9E-09	1.8E-09	7.8E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	8.4E-10	3.0E-14	7.4E-14	4.5E-14	6.6E-14	2.3E-13	8.6E-13	5 2E-13	2 3E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E3 avg	2.0E-06	7.1E-11	1.8E-10	1 1E-10	1.6E-10	5.5E-10	2.1E-09	1 3E-09	5 5E-10
Pentachlorophenol	NA	0 02625	7.5E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Phenanthrene	NA	NA	NA	6.7E-06	E3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.1E-11	1.1E-10	4.1E-10	2 5E-10	1.1E-10
Phenol	NA	0.525	1 5E-01	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E3 avg	6.9E-06	2.4E-10	6.1E-10	3.7E-10	5.4E-10	1.9E-09	7.1E-09	4 3E-09	1 9E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	E3 avg	1.4E-06	4.8E-11	1.2E-10	7.2E-11	1.1E-10	3.7E-10	1.4E-09	8 3E-10	3 7E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	8.4E-10	3.0E-14	7.4E-14	4.5E-14	6.6E-14	2.3E-13	8.6E-13	5 2E-13	2 3E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	E3 avg	3.3E-07	1.2E-11	2 9E-11	1 7E-11	2.6E-11	9 0E-11	3.4E-10	2 0E-10	9 0E-11
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2.0E-10	9 0E-11
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	E3 avg	3.1E-06	1.1E-10	2 7E-10	1.6E-10	2.4E-10	8.4E-10	3.1E-09	1 9E-09	8.4E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E3 avg	4.1E-07	1.4E-11	3.6E-11	2.2E-11	3.2E-11	1.1E-10	4.2E-10	2.5E-10	1 1E-10
Toluene	NA	0.1	2 9E-02	6.1E-04	E3 avg	3.7E-05	1.3E-09	3.2E-09	1.9E-09	2.9E-09	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E3 avg	2.0E-05	7.0E-10	1.7E-09	1.0E-09	1.5E-09	5.4E-09	2.0E-08	1.2E-08	5 4E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E3 avg	3.3E-07	1.2E-11	2 9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E3 avg	1.8E-09	6.4E-14	1.6E-13	9.6E-14	1.4E-13	5.0E-13	1.9E-12	1.1E-12	5 0E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E3 avg	7.5E-07	2.6E-11	6.6E-11	4.0E-11	5.9E-11	2.1E-10	7.7E-10	4 6E-10	2.1E-10
Trichloroethane, 1,1,2-	5 7E-02	0.0035	1.0E-03	1.3E-05	E3 avg	7.5E-07	2.6E-11	6.6E-11	4.0E-11	5.9E-11	2.1E-10	7.7E-10	4.6E-10	2.1E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E3 avg	1.1E-06	3.9E-11	9.8E-11	5.9E-11	8.8E-11	3.1E-10	1.1E-09	6 9E-10	3.1E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E3 avg	1.5E-05	5.2E-10	1 3E-09	7.8E-10	1.2E-09	4.0E-09	1.5E-08	9 1E-09	4.0E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E3 avg	3.3E-07	1.2E-11	2 9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E3 avg	3 3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9 0E-11	3.4E-10	2 0E-10	9.0E-11
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E3 avg	3.9E-06	1.4E-10	3.4E-10	2.0E-10	3.0E-10	1 1E-09	3.9E-09	2 4E-09	1 1E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E3 avg	1.5E-05	5.2E-10	1.3E-09	7.8E-10	1.2E-09	4 0E-09	1.5E-08	9 1E-09	4 0E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5 0E-01	3.8E-04	E3 avg	2.3E-05	8.0E-10	2 0E-09	1.2E-09	1 8E-09	6 2E-09	2.3E-08	1.4E-08	6 2E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E3 avg	6 5E-13	2.3E-17	5.7E-17	3 4E-17	5 1E-17	1 8E-16	6 6E-16	4 0E-16	1 8E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E3 avg	4.1E-12	1.4E-16	3 6E-16	2.2E-16	3.2E-16	1.1E-15	4 2E-15	2 5E-15	1 1E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E3 avg	5.4E-12	1.9E-16	4 7E-16	2.8E-16	4 2E-16	1 5E-15	5 5E-15	3 3E-15	1 5E-15
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	E3 avg	9.9E-12	3.5E-16	8 7E-16	5 3E-16	7.8E-16	2 7E-15	1 0E-14	6 1E-15	2.7E-15
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	E3 avg	6.5E-12	2 3E-16	5 7E-16	3 5E-16	5.1E-16	1 8E-15	6 7E-15	4 0E-15	1 8E-15
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	E3 avg	7 4E-11	2.6E-15	6 5E-15	3 9E-15	5 8E-15	2 0E-14	7 6E-14	4 6E-14	2 0E-14
OCDD	1.5E+02	NA	NA	6.15E-09	E3 avg	3.7E-10	1.3E-14	3 2E-14	2 0E-14	2 9E-14	1 0E-13	3 8E-13	2 3E-13	1 0E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	E3 avg	5.3E-12	1.9E-16	4 6E-16	2 8E-16	4 1E-16	1 4E-15	5 4E-15	3 3E-15	1 4E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	E3 avg	2.1E-11	7.3E-16	1 8E-15	1 1E-15	1 6E-15	5 7E-15	2 1E-14	1 3E-14	5 7E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E3 avg	2.8E-11	9.9E-16	2 5E-15	1 5E-15	2 2E-15	7 7E-15	2 9E-14	1 7E-14	7 7E-15
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	E3 avg	8.6E-11	3 0E-15	7.5E-15	4 5E-15	6 7E-15	2 3E-14	8 8E-14	5 3E-14	2 3E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	E3 avg	8.0E-11	2 8E-15	7 0E-15	4 2E-15	6 3E-15	2 2E-14	8 2E-14	5 0E-14	2 2E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E3 avg	9 0E-11	3 2E-15	7 9E-15	4 8E-15	7 1E-15	2 5E-14	9 2E-14	5 6E-14	2 5E-14

TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	E3 avg	NT	NT	NT	NT	6.3E-07	2.4E-06	1.4E-06	6.3E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E3 avg	1.4E-09	3.4E-09	2.1E-09	3.1E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E3 avg	NT	NT	NT	NT	7.4E-07	2.8E-06	1.7E-06	7.4E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E3 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Phenanthrene	NA	NA	NA	6.7E-06	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	E3 avg	NT	NT	NT	NT	6.0E-10	2.3E-09	1.4E-09	6.0E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E3 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	E3 avg	NT	NT	NT	NT	5.2E-09	1.9E-08	1.2E-08	5.2E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	E3 avg	3.0E-13	7.5E-13	4 5E-13	6.7E-13	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	E3 avg	2.4E-12	5.9E-12	3.6E-12	5.2E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2 5E-03	5.1E-05	E3 avg	2.2E-13	5.5E-13	3.3E-13	4.9E-13	3.4E-07	1.3E-06	7.6E-07	3.4E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E3 avg	NT	NT	NT	NT	1.5E-08	5.6E-08	3.4E-08	1.5E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	E3 avg	NT	NT	NT	NT	3.5E-07	1.3E-06	8.0E-07	3.5E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E3 avg	NT	NT	NT	NT	2.5E-09	9.5E-09	5.7E-09	2.5E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E3 avg	NT	NT	NT	NT	6.3E-09	2.4E-08	1.4E-08	6.3E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E3 avg	NT	NT	NT	NT	2.9E-09	1.1E-08	6.5E-09	2.9E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E3 avg	1.5E-12	3.7E-12	2.3E-12	3.3E-12	2.1E-07	7.7E-07	4.6E-07	2.1E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E3 avg	2.3E-13	5.8E-13	3.5E-13	5.2E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	E3 avg	NT	NT	NT	NT	8.1E-08	3.0E-07	1.8E-07	8 1E-08
Trichlorophenol, 2,4,5-	NA	.0.0875	2.5E-02	5.5E-06	E3 avg	NT	NT	NT	NT	3.6E-09	1.4E-08	8.2E-09	3.6E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E3 avg	1.2E-13	2.9E-13	1.7E-13	2.6E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E3 avg	NT	NT	NT	NT	7.4E-08	2.8E-07	1.7E-07	7.4E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E3 avg	1.6E-10	3.9E-10	2.3E-10	3.5E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E3 avg	NT	NT	NT	NT	1.2E-08	4.7E-08	2.8E-08	1 2E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E3 avg	NT	NT	NT	NT	1.8E-10	6.8E-10	4.1E-10	1.8E-10
2,3,7,8-TCDD	1 5E+05	NA	NA	1.08E-11	E3 avg	3.4E-12	8.5E-12	5 2E-12	7.6E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E3 avg	1.1E-11	2.7E-11	1 6E-11	2.4E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E3 avg	2.8E-12	7.1E-12	4 3E-12	6.3E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E3 avg	5.2E-12	1.3E-11	7 9E-12	1 2E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	E3 avg	3.5E-12	8.6E-12	5 2E-12	7.7E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	E3 avg	3.9E-12	9 8E-12	5 9E-12	8.7E-12	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6.15E-09	E3 avg	1.9E-12	4 9E-12	2 9E-12	4 3E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	E3 avg	2.8E-12	6.9E-12	4.2E-12	6 2E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	E3 avg	5.5E-12	1 4E-11	8 2E-12	1 2E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E3 avg	7.4E-11	1.8E-10	1 1E-10	1.6E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	E3 avg	4.5E-11	1 1E-10	6 8E-11	1 0E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	E3 avg	4 2E-11	1.1E-10	6 4E-11	9 4E-11	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E3 avg	4.8E-11	1.2E-10	7 2E-11	1.1E-10	NT	NT	NT	NT

TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E3 avg	1.8E-11	6.2E-16	1 5E-15	9 3E-16	1.4E-15	4.8E-15	1.8E-14	1 1E-14	4 8E-15
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	E3 avg	5.6E-10	2.0E-14	4 9E-14	3.0E-14	4.4E-14	1.5E-13	5.7E-13	3.5E-13	1.5E-13
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1.22E-09	E3 avg	7.3E-11	2.6E-15	6 4E-15	3.9E-15	5.7E-15	2 0E-14	7.5E-14	4 5E-14	2 0E-14
OCDF	1.5E+02	NA	NA	1.89E-08	E3 avg	1.1E-09	4.0E-14	1.0E-13	6.0E-14	8.9E-14	3.1E-13	1.2E-12	7 0E-13	3 1E-13
Dioxin TEQ				4.28E-08		2.6E-09	9.0E-14	2.3E-13	1.4E-13	2.0E-13	7.0E-13	2.6E-12	1 6E-12	7.0E-13
Aluminum	NA	NA	NA	2.4E-04	E3 avg	1.4E-05	5.1E-10	1.3E-09	7.6E-10	1.1E-09	3.9E-09	1.5E-08	8 9E-09	3 9E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	E3 avg	2.5E-07	8.9E-12	2.2E-11	1.3E-11	2.0E-11	6.9E-11	2 6E-10	1 6E-10	6.9E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	E3 avg	2.2E-06	7.8E-11	1.9E-10	1.2E-10	1.7E-10	6.1E-10	2.3E-09	1 4E-09	6.1E-10
Barium	NA	0.000125	3.6E-05	1.5E-04	E3 avg	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.0E-10	2.5E-09	9 2E-09	5 6E-09	2.5E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E3 avg	2.0E-09	7.0E-14	1.7E-13	1.0E-13	1.5E-13	5 4E-13	2.0E-12	1.2E-12	5 4E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E3 avg	9.6E-07	3.4E-11	8.4E-11	5.1E-11	7.5E-11	2.6E-10	9.8E-10	5 9E-10	2.6E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	E3 avg	4.3E-08	1.5E-12	3.7E-12	2.3E-12	3.3E-12	1.2E-11	4.4E-11	2 6E-11	1.2E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E3 avg	4.3E-08	1.5E-12	3.7E-12	2.3E-12	3.3E-12	1.2E-11	4 4E-11	2 6E-11	1.2E-11
Copper	NA	NA	NA	9.4E-05	E3 avg	5.6E-06	2.0E-10	4.9E-10	3.0E-10	4.4E-10	1.5E-09	5 8E-09	3 5E-09	1.5E-09
Lead	NA	NA	NA	4.3E-05	E3 avg	2 6E-06	9.1E-11	2.3E-10	1.4E-10	2 0E-10	7.1E-10	2.6E-09	1 6E-09	7.1E-10
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	E3 avg	8.4E-05	3.0E-09	7.4E-09	4.5E-09	6.6E-09	2.3E-08	8.6E-08	5 2E-08	2 3E-08
Nickel	0.84	0.0175	5 0E-03	5.0E-06	E3 avg	3.0E-07	1.1E-11	2.6E-11	1.6E-11	2.3E-11	8.2E-11	3.1E-10	1.9E-10	8.2E-11
Selenium	NA	0 004375	1.3E-03	4.7E-04	E3 avg	2.8E-05	9.9E-10	2.5E-09	1.5E-09	2.2E-09	7.7E-09	2 9E-08	1 7E-08	7.7E-09
Silver	NA	0.004375	1.3E-03	1.5E-05	E3 avg	9.0E-07	3.2E-11	7.9E-11	4 8E-11	7.0E-11	2.5E-10	9.2E-10	5 6E-10	2 5E-10
Thallium	NA	0.000061	1 8E-05	3.4E-05	E3 avg	2.0E-06	7.2E-11	1.8E-10	1.1E-10	1.6E-10	5.6E-10	2.1E-09	1 3E-09	5 6E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	E3 avg	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.4E-09	4.5E-09	2 0E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E3 avg	1.9E-03	6.8E-08	1.7E-07	1.0E-07	1.5E-07	5.3E-07	2.0E-06	1 2E-06	5 3E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E3 avg	1.5E-01	5.1E-06	1.3E-05	7.7E-06	1.1E-05	4.0E-05	1.5E-04	9 0E-05	4.0E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E3 avg	5.5E-03	1.9E-07	4.8E-07	2.9E-07	4.3E-07	1.5E-06	5.6E-06	3 4E-06	1.5E-06
Particulate matter	NA	NA	NA	7.2E-02	E3 avg	4.3E-03	1.5E-07	3.8E-07	2.3E-07	3.4E-07	1 2E-06	4.4E-06	2 7E-06	1.2E-06
Respirable particulates	NF	NF	NF	7.2E-02	E3 avg	4.3E-03	1.5E-07	3.8E-07	2.3E-07	3.4E-07	1.2E-06	4.4E-06	2.7E-06	1.2E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 3 Average Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E3 avg	9.3E-12	2.3E-11	1 4E-11	2 1E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	E3 avg	2.9E-11	7.3E-11	4 4E-11	6 6E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E3 avg	3.9E-12	9 6E-12	5 8E-12	8 6E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	E3 avg	6 0E-12	1.5E-11	9.0E-12	1.3E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		3.0E-10	7.4E-10	4.5E-10	6.6E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	E3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	E3 avg	NT	NT	NT	NT		6.9E-07	2.6E-06	1.6E-06	6.9E-07
Arsenic	50	0.000263	7 5E-05	3.7E-05	E3 avg	3.9E-09	9.7E-09	5.9E-09	8.7E-09		8.1E-06	3.0E-05	1.8E-05	8.1E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	E3 avg	NT	NT	NT	NT		6.9E-05	2.6E-04	1.6E-04	6.9E-05
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E3 avg	5.9E-13	1.5E-12	8 8E-13	1.3E-12		4.3E-10	1.6E-09	9.8E-10	4.3E-10
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E3 avg	2.1E-10	5.1E-10	3.1E-10	4.6E-10		2.1E-06	7.9E-06	4.7E-06	2.1E-06
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	E3 avg	6.1E-11	1.5E-10	9.3E-11	1.4E-10		9.3E-09	3.5E-08	2.1E-08	9.3E-09
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E3 avg	NT	NT	NT	NT		4.7E-11	1.7E-10	1.1E-10	4.7E-11
Copper	NA	NA	NA	9.4E-05	E3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	E3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E3 avg	NT	NT	NT	NT		1.1E-03	4.0E-03	2.4E-03	1.1E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	E3 avg	8.9E-12	2.2E-11	1.3E-11	2.0E-11		1.6E-08	6.1E-08	3.7E-08	1.6E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	E3 avg	NT	NT	NT	NT		6 2E-06	2.3E-05	1.4E-05	6.2E-06
Silver	NA	0.004375	1 3E-03	1.5E-05	E3 avg	NT	NT	NT	NT		2 0E-07	7.4E-07	4.5E-07	2.0E-07
Thallium	NA	0.000061	1 8E-05	3.4E-05	E3 avg	NT	NT	NT	NT		3.2E-05	1.2E-04	7.2E-05	3 2E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	E3 avg	NT	NT	NT	NT		2.6E-08	9.8E-08	5.9E-08	2.6E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E3 avg	NT	NT	NT	NT		1.1E-03	3.9E-03	2.4E-03	1.1E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	E3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	E3 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	6.6E-09	1.6E-08	9.9E-09	1.5E-08	Total HI	2.5E-03	9.5E-03	5.7E-03	2.5E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1 5E-02	6.7E-06	N1 avg	9 4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2 6E-10	9.6E-10	5 8E-10	2 6E-10
Acenaphthylene	NF	NF	NF	6.7E-06	N1 avg	9.4E-07	3.3E-11	8 2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	N1 avg	4.2E-05	1.5E-09	3 7E-09	2 2E-09	3 3E-09	1.2E-08	4.3E-08	2.6E-08	1.2E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	N1 avg	4 1E-04	1.4E-08	3.6E-08	2.2E-08	3.2E-08	1.1E-07	4.2E-07	2 5E-07	1.1E-07
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	N1 avg	4.1E-05	1.4E-09	3.6E-09	2.2E-09	3.2E-09	1.1E-08	4.2E-08	2.5E-08	1.1E-08
Acrylonitrile	2.4E-01	0.0005	1 4E-04	2.0E-04	N1 avg	2 8E-05	1.0E-09	2.5E-09	1.5E-09	2.2E-09	7.7E-09	2.9E-08	1 7E-08	7.7E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N1 avg	2.1E-06	7.3E-11	1 8E-10	1.1E-10	1.6E-10	5.6E-10	2.1E-09	1 3E-09	5.6E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N1 avg	1.6E-06	5.6E-11	1.4E-10	8.4E-11	1.2E-10	4.3E-10	1 6E-09	9 8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N1 avg	4.5E-06	1.6E-10	3.9E-10	2 4E-10	3 5E-10	1.2E-09	4.6E-09	2 8E-09	1.2E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7 3E-11	2.6E-10	9.6E-10	5.8E-10	2 6E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N1 avg	1.9E-06	6.6E-11	1.6E-10	9.9E-11	1.5E-10	5.1E-10	1.9E-09	1 2E-09	5 1E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N1 avg	9.4E-07	3.3E-11	8 2E-11	5.0E-11	7 3E-11	2.6E-10	9.6E-10	5.8E-10	2 6E-10
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	N1 avg	5 2E-06	1.8E-10	4.6E-10	2.8E-10	4.1E-10	1.4E-09	5.3E-09	3.2E-09	1 4E-09
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	N1 avg	1.4E-05	5.1E-10	1.3E-09	7.7E-10	1 1E-09	4.0E-09	1.5E-08	8.9E-09	4 0E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N1 avg	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4 2E-08	1 9E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N1 avg	7.2E-06	2.5E-10	6 3E-10	3.8E-10	5.6E-10	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	N1 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N1 avg	1 2E-05	4.4E-10	1.1E-09	6.6E-10	9.8E-10	3.4E-09	1.3E-08	7 7E-09	3.4E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N1 avg	2.2E-05	7.8E-10	1.9E-09	1.2E-09	1.7E-09	6.1E-09	2.3E-08	1 4E-08	6.1E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N1 avg	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7.9E-11	4 8E-11	2.1E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2.6E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Chlorobenzilate	2.7E-01	0.0175	5 0E-03	3.7E-05	N1 avg	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.0E-10	1 4E-09	5 3E-09	3 2E-09	1.4E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N1 avg	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4.2E-08	1 9E-08
Chloroform	8 1E-02	0.00875	2.5E-03	2.7E-04	N1 avg	3.7E-05	1.3E-09	3.3E-09	2.0E-09	2.9E-09	1 0E-08	3 8E-08	2.3E-08	1 0E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	N1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2 1E-08	9.4E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5 0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N1 avg	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2 6E-10
Chrysene	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Cresol, m-	NA	0 04375	1 3E-02	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6 0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Cresol, p-	NA	0.004375	1 3E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	N1 avg	1 9E-05	6.9E-10	1 7E-09	1 0E-09	1 5E-09	5.3E-09	2 0E-08	1 2E-08	5 3E-09
Cumene	NA	0.00225	6 4E-04	5.5E-06	N1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	N1 avg	7 7E-08	2 7E-12	6 8E-12	4 1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2.1E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N1 avg	7 7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2.6E-05	N1 avg	3 7E-06	1 3E-10	3 2E-10	2 0E-10	2 9E-10	1 0E-09	3 8E-09	2 3E-09	1 0E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	N1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	N1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N1 avg	4 7E-06	1 6E-10	4 1E-10	2 5E-10	3 6E-10	1 3E-09	4 8E-09	2 9E-09	1 3E-09
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N1 avg	6 6E-09	2 3E-13	5 8E-13	3 5E-13	5 1E-13	1 8E-12	6 7E-12	4 1E-12	1 8E-12

External Review Draft, Do Not Cite or Quote

TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N1 avg	NT	NT	NT	NT	1 7E-08	6.4E-08	3.9E-08	1.7E-08
Acenaphthylene	NF	NF	NF	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	N1 avg	1 1E-11	2.8E-11	1 7E-11	2.5E-11	1 8E-05	6.7E-05	4.1E-05	1 8E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	N1 avg	NT	NT	NT	NT	4.4E-06	1.7E-05	1.0E-05	4 4E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	N1 avg	NT	NT	NT	NT	4.5E-07	1.7E-06	1.0E-06	4 5E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N1 avg	2.4E-10	5.9E-10	3.6E-10	5.3E-10	5.4E-05	2.0E-04	1 2E 04	5.4E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N1 avg	NT	NT	NT	NT	2.8E-09	1.1E-08	6 3E 09	2.8E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N1 avg	2.1E-12	5.2E-12	3.2E-12	4.7E-12	1.3E-06	4.9E-06	3 0E-06	1.3E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N1 avg	NT	NT	NT	NT	4.3E-10	1.6E-09	9.8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N1 avg	7.2E-11	1.8E-10	1.1E-10	1.6E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N1 avg	NT	NT	NT	NT	2.6E-08	9.6E-08	5 6E-08	2.6E-08
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	N1 avg	NT	NT	NT	NT	2 9E-07	1.1E-06	6 4E-07	2.9E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	N1 avg	NT	NT	NT	NT	7 9E-07	3.0E-06	1.8E-06	7.9E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N1 avg	1.0E-13	2.6E-13	1.6E-13	2.3E-13	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N1 avg	NT	NT	NT	NT	5.3E-05	2.0E-04	1.2E-04	5.3E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N1 avg	NT	NT	NT	NT	2.8E-08	1.0E-07	6.2E-08	2.8E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N1 avg	NT	NT	NT	NT	4.2E-09	1.6E-08	9.5E-09	4 2E-09
Carbon disulfide	NA	0.0025	7.1E-04	6.9E-05	N1 avg	NT	NT	NT	NT	4.8E-06	1.8E-05	1.1E-05	4.8E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N1 avg	4.1E-11	1.0E-10	6.2E-11	9.1E-11	4 2E-05	1.6E-04	9.6E-05	4.2E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N1 avg	3.5E-12	8.7E-12	5.3E-12	7.8E-12	1.4E-06	5.3E-06	3.2E-06	1.4E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N1 avg	NT	NT	NT	NT	2.6E-07	9.6E-07	5.8E-07	2.6E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N1 avg	NT	NT	NT	NT	1.5E-07	5.5E-07	3.3E-07	1 5E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N1 avg	5.0E-11	1.2E-10	7.5E-11	1.1E-10	2 6E-07	1.1E-06	6 4E-07	2 8E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N1 avg	NT	NT	NT	NT	2 6E-08	9.8E-08	5 9E-08	2.6E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N1 avg	1.1E-10	2.6E-10	1.6E-10	2.3E-10	4.1E-06	1.5E-05	9.2E-06	4.1E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	N1 avg	7.6E-12	1.9E-11	1.1E-11	1.7E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N1 avg	NT	NT	NT	NT	1 3E-08	4.8E-08	2 9E-08	1.3E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N1 avg	NT	NT	NT	NT	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	N1 avg	NT	NT	NT	NT	1.7E-08	6.3E-08	3.8E-08	1.7E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N1 avg	NT	NT	NT	NT	1.7E-08	6 3E-08	3 8E-08	1.7E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N1 avg	NT	NT	NT	NT	1.7E-07	6.3E-07	3 8E-07	1 7E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	N1 avg	NT	NT	NT	NT	3 3E-07	1.2E-06	7 4E-07	3.3E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	N1 avg	NT	NT	NT	NT	2 0E-07	7 5E-07	4 6E-07	2 0E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	N1 avg	NT	NT	NT	NT	3 7E-09	1 4E-08	8 3E-09	3.7E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	N1 avg	NT	NT	NT	NT	1 5E-08	5 5E-08	3.3E-08	1.5E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N1 avg	3.4E-05	1.2E-09	3.0E-09	1 8E-09	2.7E-09	9.4E-09	3.5E-08	2 1E-08	9 4E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1 4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1 1E-09	4 8E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2 3E-03	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9 3E-11	1.4E-10	4 8E-10	1.8E-09	1 1E-09	4 8E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N1 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 avg	1.8E-06	6 2E-11	1.5E-10	9.3E-11	1 4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N1 avg	2.4E-06	8.3E-11	2.1E-10	1.3E-10	1.8E-10	6 5E-10	2.4E-09	1.5E-09	6 5E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N1 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1.0E-08	4 4E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N1 avg	2.2E-06	7.7E-11	1.9E-10	1.2E-10	1.7E-10	6.0E-10	2.2E-09	1.4E-09	6.0E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N1 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N1 avg	6.9E-05	2.4E-09	6.1E-09	3.7E-09	5.4E-09	1.9E-08	7.1E-08	4.3E-08	1.9E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N1 avg	5.4E-06	1.9E-10	4.8E-10	2.9E-10	4.3E-10	1.5E-09	5.6E-09	3 4E-09	1.5E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9 4E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N1 avg	7.0E-05	2.5E-09	6.1E-09	3.7E-09	5.5E-09	1.9E-08	7.1E-08	4.3E-08	1 9E-08
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1.2E-04	N1 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4 4E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N1 avg	4.3E-06	1.5E-10	3.7E-10	2.3E-10	3.3E-10	1.2E-09	4 4E-09	2 6E-09	1 2E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N1 avg	2.0E-11	7.2E-16	1.8E-15	1 1E-15	1.6E-15	5.6E-15	2.1E-14	1.3E-14	5.6E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	N1 avg	8.5E-05	3.0E-09	7.5E-09	4 5E-09	6.6E-09	2.3E-08	8.7E-08	5 3E-08	2.3E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N1 avg	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6 0E-12	2.1E-11	7 9E-11	4 8E-11	2 1E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N1 avg	7 7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5 4E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N1 avg	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1.4E-08	8 7E-09	3.9E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N1 avg	7.7E-06	2.7E-10	6.7E-10	4.1E-10	6.0E-10	2.1E-09	7.9E-09	4 7E-09	2 1E-09
Hexachlorocyclopentadiene	NA	0 000018	5 0E-06	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachloroethane	1.4E-02	0.000875	2 5E-04	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N1 avg	4.5E-06	1.6E-10	3 9E-10	2.4E-10	3 5E-10	1 2E-09	4 6E-09	2 8E-09	1.2E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	N1 avg	9.0E-06	3.2E-10	7.9E-10	4 8E-10	7.0E-10	2.5E-09	9.2E-09	5 6E-09	2 5E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6 0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	N1 avg	9 4E-07	3.3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1 2E-04	N1 avg	1.6E-05	5 7E-10	1 4E-09	8 5E-10	1 3E-09	4 4E-09	1 6E-08	1 0E-08	4 4E-09
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	N1 avg	7.7E-08	2 7E-12	6 8E-12	4 1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	N1 avg	1.8E-06	6 2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	N1 avg	1 8E-06	6 2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4 0E-04	N1 avg	5.5E-05	2 0E-09	4 9E-09	2 9E-09	4 3E-09	1 5E-08	5 7E-08	3 4E-08	1 5E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	N1 avg	5 9E-06	2 1E-10	5 1E-10	3 1E-10	4 6E-10	1 6E-09	6 0E-09	3 6E-09	1 6E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N1 avg	2.3E-09	8 2E-14	2 0E-13	1 2E-13	1 8E-13	6 4E-13	2 4E-12	1 4E-12	6 4E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	N1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Nitroaniline, 2-	NA	0 00005	1.4E-05	6 7E-06	N1 avg	9.4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Nitroaniline, 3-	NF	NF	NF	6 7E-06	N1 avg	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10

External Review Draft Do Not Cite or Quote

TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	N1 avg	NT	NT	NT	NT	6 6E-07	2.5E-06	1.5E-06	6.6E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N1 avg	NT	NT	NT	NT	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N1 avg	5.6E-12	1.4E-11	8 4E-12	1.2E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N1 avg	7.4E-11	1.8E-10	1.1E-10	1.6E-10	2.1E-07	8.0E-07	4.8E-07	2.1E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N1 avg	NT	NT	NT	NT	9.6E-08	3.6E-07	2.2E-07	9 6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N1 avg	NT	NT	NT	NT	2.8E-07	1.1E-06	6.3E-07	2.8E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0 001	2.9E-04	1.3E-05	N1 avg	NT	NT	NT	NT	1.7E-06	6.3E-06	3.8E-06	1.7E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3 4E-07	1.3E-06	7.6E-07	3.4E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3.4E-07	1.3E-06	7.6E-07	3.4E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N1 avg	NT	NT	NT	NT	3.2E-09	1.2E-08	7.3E-09	3.2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N1 avg	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Dimethylphthalate	NA	NA	NA	5 5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	N1 avg	NT	NT	NT	NT	2 4E-08	9.0E-08	5.4E-08	2.4E-08
Dinitrotoluene, 2,6-	NA	0 000875	2.5E-04	5.5E-06	N1 avg	NT	NT	NT	NT	6.4E-07	3.2E-06	1.9E-06	6.4E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N1 avg	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N1 avg	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	N1 avg	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
D,2,4-	NA	0 00875	2.5E-03	3.9E-05	N1 avg	NT	NT	NT	NT	6.0E-07	2.2E-06	1.3E-06	6.0E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N1 avg	NT	NT	NT	NT	4.2E-07	1.6E-06	9.4E-07	4.2E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N1 avg	NT	NT	NT	NT	2.7E-07	1.0E-06	6.0E-07	2.7E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N1 avg	4.3E-10	1.1E-09	6.5E-10	9.6E-10	3.1E-04	1.2E-03	7.0E-04	3.1E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N1 avg	5.3E-11	1.3E-10	7.9E-11	1.2E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N1 avg	NT	NT	NT	NT	2.8E-10	1.0E-09	6.3E-10	2.8E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N1 avg	NT	NT	NT	NT	2.1E-08	7.9E-08	4.8E-08	2.1E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	N1 avg	NT	NT	NT	NT	2.6E-08	9.6E-08	5.8E-08	2 6E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N1 avg	1.3E-10	3.4E-10	2.0E-10	3.0E-10	4.7E-07	1.7E-06	1.1E-06	4.7E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	N1 avg	NT	NT	NT	NT	5.9E-08	2.2E-07	1.3E-07	5.9E-08
Heptachlor	4 5E+00	0.000438	1.3E-04	5.5E-07	N1 avg	1.2E-11	3.0E-11	1.8E-11	2.7E-11	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N1 avg	4.4E-11	1.1E-10	6.6E-11	9.7E-11	1.1E-06	3.9E-06	2.4E-06	1.1E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N1 avg	3.9E-11	9.7E-11	5.8E-11	8.6E-11	7.7E-05	2.9E-04	1.7E-04	7.7E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N1 avg	NT	NT	NT	NT	2.8E-05	1.0E-04	6.3E-05	2.8E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N1 avg	NT	NT	NT	NT	4.2E-05	1.6E-04	9.5E-05	4 2E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	N1 avg	3.8E-13	9.5E-13	5.7E-13	8.4E-13	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N1 avg	NT	NT	NT	NT	1.6E-05	6.1E-05	3.7E-05	1.6E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	N1 avg	NT	NT	NT	NT	5 1E-09	1 9E-08	1 2E-08	5 1E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	N1 avg	NT	NT	NT	NT	3 5E-08	1.3E-07	8.0E-08	3.5E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	N1 avg	NT	NT	NT	NT	1 7E-08	6 3E-08	3.8E-08	1.7E-08
Methyl-t-butyl ether	NA	0 75	2 1E-01	1.3E-05	N1 avg	NT	NT	NT	NT	2 2E-09	8 4E-09	5.1E-09	2 2E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	N1 avg	NT	NT	NT	NT	8 4E-08	3 1E-07	1.9E-07	8 4E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	N1 avg	3.2E-12	8.0E-12	4 8E-12	7.1E-12	7 1E-08	2 6E-07	1.6E-07	7.1E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	N1 avg	NT	NT	NT	NT	2.1E-08	7 9E-08	4 8E-08	2.1E-08
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	N1 avg	NT	NT	NT	NT	1 8E-05	6 7E-05	4 1E-05	1 8E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2 6E-10	9.6E-10	5.8E-10	2 6E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N1 avg	7.7E-07	2 7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7.9E-10	4 8E-10	2 1E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N1 avg	1.7E-05	6.0E-10	1.5E-09	9.0E-10	1.3E-09	4.6E-09	1.7E-08	1 0E-08	4 6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2.6E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5 4E-13	2 0E-12	1.2E-12	5 4E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	N1 avg	6.7E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1.8E-09	6.8E-09	4.1E-09	1.8E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5.4E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N1 avg	4.7E-06	1.7E-10	4.1E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2.9E-09	1.3E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Phenanthrene	NA	NA	NA	6.7E-06	N1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7 3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Phenol	NA	0.525	1 5E-01	5.5E-06	N1 avg	7.7E-07	2 7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Pyrene	NA	0 02625	7.5E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7.9E-10	4.8E-10	2.1E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N1 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4 4E-09	1.6E-08	1.0E-08	4.4E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	N1 avg	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.6E-10	3.2E-09	1.9E-09	8 6E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5 4E-13
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	N1 avg	7.7E-07	2 7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7.9E-10	4 8E-10	2 1E-10
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	N1 avg	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.3E-09	4 4E-09	2.0E-09
Tetrachlorophenol, 2,3,4,6-	NA	0 02625	7.5E-03	6.8E-06	N1 avg	9.5E-07	3.4E-11	8.4E-11	5.0E-11	7.4E-11	2.6E-10	9.7E-10	5 9E-10	2.6E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	N1 avg	8.6E-05	3.0E-09	7.5E-09	4.5E-09	6.7E-09	2.3E-08	8.6E-08	5 3E-08	2.3E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N1 avg	4.6E-05	1.6E-09	4.1E-09	2.4E-09	3.6E-09	1.3E-08	4.7E-08	2.9E-08	1.3E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N1 avg	4.2E-09	1.5E-13	3.7E-13	2.2E-13	3.3E-13	1 2E-12	4.3E-12	2.6E-12	1.2E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1.1E-09	4.8E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1 8E-09	1.1E-09	4 8E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N1 avg	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.0E-10	7.1E-10	2.7E-09	1.6E-09	7.1E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3 5E-08	2.1E-08	9.4E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N1 avg	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.0E-10	2.5E-09	9.2E-09	5 6E-09	2.5E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N1 avg	3.4E-05	1.2E-09	3.0E-09	1 8E-09	2.7E-09	9.4E-09	3.5E-08	2 1E-08	9.4E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N1 avg	5.3E-05	1.9E-09	4 7E-09	2.8E-09	4.2E-09	1.5E-08	5 4E-08	3 3E-08	1.5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5 0E-01	5.5E-06	N1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
2,3,7,8-TCDD	1 5E+05	NA	NA	1.08E-11	N1 avg	1.5E-12	5.3E-17	1 3E-16	8 0E-17	1.2E-16	4 1E-16	1 5E-15	9 4E-16	4 1E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N1 avg	9.5E-12	3.3E-16	8.3E-16	5.0E-16	7 4E-16	2 6E-15	9 7E-15	5 9E-15	2 6E-15
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	6.95E-11	N1 avg	1.3E-11	4 4E-16	1.1E-15	6 6E-16	9 8E-16	3 4E-15	1 3E-14	7 7E-15	3 4E-15
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	N1 avg	2 3E-11	8 2E-16	2 0E-15	1 2E-15	1 8E-15	6.3E-15	2 4E-14	1 4E-14	6 3E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N1 avg	1 5E-11	5.4E-16	1 3E-15	8 1E-16	1.2E-15	4 2E-15	1 6E-14	9 4E-15	4 2E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1 24E-09	N1 avg	1 7E-10	6 1E-15	1 5E-14	9 2E-15	1 4E-14	4 8E-14	1 8E-13	1 1E-13	4 8E-14
OCDD	1.5E+02	NA	NA	6.15E-09	N1 avg	8 6E-10	3 0E-14	7 5E-14	4 6E-14	6 7E-14	2 4E-13	8 8E-13	5 3E-13	2 4E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	N1 avg	1 2E-11	4 3E-16	1 1E-15	6 5E-16	9 6E-16	3 4E-15	1 3E-14	7 6E-15	3 4E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	N1 avg	4 8E-11	1 7E-15	4 2E-15	2 6E-15	3 8E-15	1 3E-14	4 9E-14	3 0E-14	1 3E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N1 avg	6 5E-11	2 3E-15	5 7E-15	3 5E-15	5 1E-15	1 8E-14	6 7E-14	4 0E-14	1 8E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	N1 avg	2 0E-10	7 0E-15	1 8E-14	1 1E-14	1 6E-14	5 5E-14	2 0E-13	1 2E-13	5 5E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	N1 avg	1 9E-10	6 6E-15	1 6E-14	9 9E-15	1 5E-14	5 1E-14	1 9E-13	1 2E-13	5 1E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N1 avg	2 1E-10	7 4E-15	1 8E-14	1 1E-14	1 6E-14	5 8E-14	2 2E-13	1 3E-13	5 8E-14

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TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N1 avg	NT	NT	NT	NT	1.5E-06	5.5E-06	3.3E-06	1.5E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N1 avg	3.2E-09	8.0E-09	4.8E-09	7.2E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N1 avg	NT	NT	NT	NT	1.7E-06	6.4E-06	3.9E-06	1.7E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N1 avg	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Phenanthrene	NA	NA	NA	6.7E-06	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	N1 avg	NT	NT	NT	NT	1 4E-09	5.3E-09	3.2E-09	1.4E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N1 avg	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	N1 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	N1 avg	7.0E-13	1.7E-12	1.1E-12	1.6E-12	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	N1 avg	5.5E-12	1.4E-11	8.3E-12	1 2E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	N1 avg	5.1E-13	1.3E-12	7.7E-13	1.1E-12	7.9E-07	2.9E-06	1.8E-06	7.9E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	N1 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	7.8E-08	3.5E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	N1 avg	NT	NT	NT	NT	8.2E-07	3.1E-06	1.9E-06	8.2E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N1 avg	NT	NT	NT	NT	5.9E-09	2.2E-08	1.3E-08	5.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N1 avg	NT	NT	NT	NT	1.5E-08	5.5E-08	3.3E-08	1.5E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N1 avg	NT	NT	NT	NT	6.7E-09	2.5E-08	1.5E-08	6.7E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N1 avg	3.5E-12	8.7E-12	5.3E-12	7.8E-12	4.8E-07	1.8E-06	1.1E-06	4.8E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N1 avg	5.5E-13	1.4E-12	8.2E-13	1.2E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N1 avg	NT	NT	NT	NT	1.9E-07	7.0E-07	4.2E-07	1.9E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N1 avg	NT	NT	NT	NT	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N1 avg	2.7E-13	6.8E-13	4.1E-13	6.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N1 avg	NT	NT	NT	NT	1.7E-07	6.4E-07	3.9E-07	1.7E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N1 avg	3.6E-10	9.0E-10	5.5E-10	8.1E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5 0E-01	3.8E-04	N1 avg	NT	NT	NT	NT	2.9E-08	1.1E-07	6.6E-08	2.9E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N1 avg	NT	NT	NT	NT	4.2E-10	1.6E-09	9.5E-10	4.2E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N1 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N1 avg	2.5E-11	6.2E-11	3.8E-11	5.6E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N1 avg	6.6E-12	1.6E-11	1 0E-11	1 5E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N1 avg	1.2E-11	3.1E-11	1.8E-11	2 7E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N1 avg	8.1E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	N1 avg	9.2E-12	2 3E-11	1 4E-11	2 0E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	N1 avg	4.5E-12	1.1E-11	6 8E-12	1 0E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	N1 avg	6.5E-12	1.6E-11	9 8E-12	1 4E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	N1 avg	1.3E-11	3.2E-11	1.9E-11	2 8E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N1 avg	1.7E-10	4.3E-10	2 6E-10	3.8E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	N1 avg	1.1E-10	2 6E-10	1 6E-10	2 3E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	N1 avg	9 9E-11	2 5E-10	1 5E-10	2 2E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N1 avg	1.1E-10	2 8E-10	1 7E-10	2 5E-10	NT	NT	NT	NT

TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N1 avg	4 1E-11	1.4E-15	3 6E-15	2 2E-15	3.2E-15	1.1E-14	4.2E-14	2 5E-14	1.1E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N1 avg	1 3E-09	4.6E-14	1.1E-13	6.9E-14	1.0E-13	3.6E-13	1.3E-12	8 1E-13	3.6E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N1 avg	1.7E-10	6.0E-15	1.5E-14	9 1E-15	1.3E-14	4.7E-14	1 7E-13	1.1E-13	4.7E-14
OCDF	1.5E+02	NA	NA	1.89E-08	N1 avg	2.7E-09	9.3E-14	2.3E-13	1 4E-13	2.1E-13	7.3E-13	2 7E-12	1 6E-12	7.3E-13
Dioxin TEQ				4.28E-08		6.0E-09	2.1E-13	5.3E-13	3.2E-13	4.7E-13	1.6E-12	6.1E-12	3.7E-12	1.6E-12
Aluminum	NA	NA	NA	2.4E-04	N1 avg	3.4E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.2E-09	3.4E-08	2.1E-08	9.2E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	N1 avg	5.9E-07	2.1E-11	5.2E-11	3.1E-11	4.6E-11	1.6E-10	6.0E-10	3.6E-10	1.6E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	N1 avg	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.1E-10	1.4E-09	5.3E-09	3.2E-09	1 4E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	N1 avg	2.1E-05	7.4E-10	1.8E-09	1.1E-09	1.6E-09	5.8E-09	2.1E-08	1.3E-08	5 8E-09
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	N1 avg	4.6E-09	1.6E-13	4.1E-13	2.4E-13	3.6E-13	1.3E-12	4.7E-12	2.9E-12	1 3E-12
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N1 avg	2 2E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6.1E-10	2.3E-09	1.4E-09	6.1E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N1 avg	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6.1E-11	2 7E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N1 avg	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1 0E-10	6.1E-11	2.7E-11
Copper	NA	NA	NA	9.4E-05	N1 avg	1.3E-05	4.6E-10	1.2E-09	7.0E-10	1.0E-09	3.6E-09	1.3E-08	8.1E-09	3 6E-09
Lead	NA	NA	NA	4.3E-05	N1 avg	6.0E-06	2.1E-10	5.3E-10	3.2E-10	4.7E-10	1.6E-09	6.2E-09	3.7E-09	1.6E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N1 avg	2.0E-04	6.9E-09	1.7E-08	1.0E-08	1.5E-08	5.4E-08	2.0E-07	1.2E-07	5.4E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N1 avg	7.0E-07	2.5E-11	6.1E-11	3.7E-11	5.5E-11	1.9E-10	7.2E-10	4 3E-10	1 9E-10
Selenium	NA	0 004375	1.3E-03	4.7E-04	N1 avg	6.6E-05	2.3E-09	5.8E-09	3.5E-09	5.1E-09	1 8E-08	6.7E-08	4 1E-08	1.8E-08
Silver	NA	0.004375	1 3E-03	1.5E-05	N1 avg	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.8E-10	2.1E-09	1.3E-09	5.8E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	N1 avg	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2 9E-09	1.3E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	N1 avg	1.7E-05	5.9E-10	1.5E-09	8.9E-10	1.3E-09	4.6E-09	1.7E-08	1 0E-08	4.6E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N1 avg	4.5E-03	1 6E-07	3.9E-07	2.4E-07	3.5E-07	1.2E-06	4.6E-06	2 8E-06	1.2E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N1 avg	3.4E-01	1.2E-05	3.0E-05	1.8E-05	2.7E-05	9.3E-05	3.5E-04	2 1E-04	9.3E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N1 avg	1.3E-02	4.5E-07	1.1E-06	6.8E-07	1.0E-06	3.5E-06	1.3E-05	7 9E-06	3.5E-06
Particulate matter	NA	NA	NA	7.2E-02	N1 avg	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6 2E-06	2.8E-06
Respirable particulates	NF	NF	NF	7.2E-02	N1 avg	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6.2E-06	2.8E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 4 Average Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N1 avg	2.2E-11	5 4E-11	3.3E-11	4.8E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N1 avg	6.9E-11	1.7E-10	1 0E-10	1.5E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N1 avg	9 0E-12	2 2E-11	1.4E-11	2.0E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	N1 avg	1 4E-11	3 5E-11	2 1E-11	3 1E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		6.9E-10	1.7E-09	1.0E-09	1.5E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	N1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	N1 avg	NT	NT	NT	NT		1.6E-06	6.0E-06	3.6E-06	1.6E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	N1 avg	9.1E-09	2.3E-08	1.4E-08	2.0E-08		1.9E-05	7.1E-05	4.3E-05	1.9E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	N1 avg	NT	NT	NT	NT		1.6E-04	6.0E-04	3.6E-04	1.6E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	N1 avg	1.4E-12	3.4E-12	2.1E-12	3.0E-12		1.0E-09	3.8E-09	2.3E-09	1.0E-09
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	N1 avg	4.8E-10	1.2E-09	7.2E-10	1.1E-09		4.9E-06	1.8E-05	1.1E-05	4 9E-06
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N1 avg	1.4E-10	3.6E-10	2.2E-10	3.2E-10		2.2E-08	8.1E-08	4.9E-08	2.2E-08
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	N1 avg	NT	NT	NT	NT		1.1E-10	4.1E-10	2.5E-10	1.1E-10
Copper	NA	NA	NA	9.4E-05	N1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	N1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N1 avg	NT	NT	NT	NT		2.5E-03	9.4E-03	5.7E-03	2.5E-03
Nickel	0.84	0.0175	5 0E-03	5.0E-06	N1 avg	2.1E-11	5.2E-11	3.1E-11	4.6E-11		3 8E-08	1.4E-07	8.7E-08	3.8E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	N1 avg	NT	NT	NT	NT		1.4E-05	5.4E-05	3.3E-05	1.4E-05
Silver	NA	0.004375	1 3E-03	1.5E-05	N1 avg	NT	NT	NT	NT		4.6E-07	1.7E-06	1.0E-06	4.6E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	N1 avg	NT	NT	NT	NT		7.4E-05	2.8E-04	1.7E-04	7.4E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	N1 avg	NT	NT	NT	NT		6.1E-06	2.3E-07	1.4E-07	6.1E-06
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N1 avg	NT	NT	NT	NT		2.5E-03	9.2E-03	5.5E-03	2.5E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	N1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	N1 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.5E-08	3.8E-08	2.3E-08	3.4E-08					
										Total HI	5.9E-03	2.2E-02	1.3E-02	5.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N2 avg	3 7E-07	1.3E-11	3 2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1 0E-10
Acenaphthylene	NF	NF	NF	6.7E-06	N2 avg	3 7E-07	1.3E-11	3 2E-11	2 0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1 0E-10
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	N2 avg	1.7E-05	5 8E-10	1.5E-09	8 8E-10	1.3E-09	4.5E-09	1.7E-08	1 0E-08	4 5E-09
Acetone	NA	0.0875	2 5E-02	2.9E-03	N2 avg	1.6E-04	5.6E-09	1.4E-08	8.5E-09	1 2E-08	4.4E-08	1.6E-07	9 9E-08	4 4E-08
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	N2 avg	1 6E-05	5.7E-10	1.4E-09	8.5E-10	1 3E-09	4.4E-09	1.6E-08	1 0E-08	4.4E-09
Acrylonitrile	2.4E-01	0.0005	1 4E-04	2.0E-04	N2 avg	1 1E-05	3.9E-10	9.7E-10	5.9E-10	8.7E-10	3.0E-09	1.1E-08	6 9E-09	3 0E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8 3E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N2 avg	8.1E-07	2.8E-11	7.1E-11	4.3E-11	6.3E-11	2 2E-10	8.3E-10	5 0E-10	2.2E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N2 avg	6.2E-07	2.2E-11	5.5E-11	3.3E-11	4.9E-11	1.7E-10	6.4E-10	3.8E-10	1 7E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N2 avg	1 8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4 8E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8 3E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N2 avg	3 0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8 3E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8.3E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8 3E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N2 avg	3 0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8 3E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N2 avg	7 3E-07	2.6E-11	6.4E-11	3.9E-11	5.7E-11	2.0E-10	7.5E-10	4 5E-10	2.0E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2 9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	N2 avg	2.0E-06	7.2E-11	1.8E-10	1.1E-10	1.6E-10	5.6E-10	2.1E-09	1.3E-09	5 6E-10
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	N2 avg	5.7E-06	2.0E-10	5.0E-10	3.0E-10	4.4E-10	1.6E-09	5.8E-09	3 5E-09	1 6E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N2 avg	3.0E-07	1 1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8 3E-11
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N2 avg	2.7E-05	9.5E-10	2.4E-09	1.4E-09	2.1E-09	7.4E-09	2.8E-08	1 7E-08	7 4E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N2 avg	2.8E-06	1.0E-10	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1.7E-09	7 7E-10
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8.3E-11
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N2 avg	4.9E-06	1.7E-10	4.3E-10	2.6E-10	3.8E-10	1.3E-09	5.0E-09	3.0E-09	1.3E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N2 avg	8.7E-06	3.1E-10	7.6E-10	4.6E-10	6.8E-10	2.4E-09	8.9E-09	5.4E-09	2.4E-09
Chlordane	1.3E+00	0.000053	1 5E-05	5.5E-07	N2 avg	3.0E-08	1.1E-12	2.7E-12	1.6E-12	2.4E-12	8.3E-12	3.1E-11	1.9E-11	8.3E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1 0E-10	3.8E-10	2 3E-10	1.0E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8.3E-11
Chlorobenzilate	2.7E-01	0.0175	5 0E-03	3.7E-05	N2 avg	2.0E-06	7.1E-11	1.8E-10	1.1E-10	1.6E-10	5.5E-10	2.1E-09	1 3E-09	5.5E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N2 avg	2.7E-05	9.5E-10	2.4E-09	1.4E-09	2.1E-09	7.4E-09	2.8E-08	1 7E-08	7.4E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N2 avg	1.5E-05	5.2E-10	1.3E-09	7.8E-10	1.1E-09	4.0E-09	1.5E-08	9 1E-09	4.0E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	N2 avg	1.3E-05	4.7E-10	1.2E-09	7.1E-10	1.1E-09	3.7E-09	1.4E-08	8 3E-09	3.7E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1 0E-10	3.8E-10	2 3E-10	1 0E-10
Chlorophenol, 2-	NA	0.004375	1 3E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N2 avg	3 7E-07	1.3E-11	3 2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Chrysene	NA	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2 4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	N2 avg	3 0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	N2 avg	3 0E-07	1.1E-11	2 7E-11	1 6E-11	2 4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1 6E-11	2 4E-11	8.3E-11	3 1E-10	1 9E-10	8 3E-11
Crotonaldehyde	NA	NA	NA	1.4E-04	N2 avg	7.6E-06	2.7E-10	6 7E-10	4 1E-10	6 0E-10	2.1E-09	7 8E-09	4 7E-09	2 1E-09
Cumene	NA	0.00225	6 4E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2 7E-11	1 6E-11	2.4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
DDE, 4,4'-	NA	NA	NA	5.5E-07	N2 avg	3 0E-08	1 1E-12	2 7E-12	1 6E-12	2 4E-12	8 3E-12	3 1E-11	1 9E-11	8 3E-12
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N2 avg	3 0E-07	1 1E-11	2 7E-11	1 6E-11	2 4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Dibromochloromethane	NA	0.0175	5.0E-03	2 6E-05	N2 avg	1 4E-06	5.1E-11	1 3E-10	7 7E-11	1 1E-10	4 0E-10	1 5E-09	8 9E-10	4 0E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2 7E-11	1 6E-11	2 4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	N2 avg	3 0E-07	1 1E-11	2 7E-11	1 6E-11	2 4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	N2 avg	3 0E-07	1 1E-11	2 7E-11	1 6E-11	2 4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	N2 avg	1 8E-06	6 4E-11	1 6E-10	9 7E-11	1 4E-10	5 0E-10	1 9E-09	1 1E-09	5 0E-10
Dichlorobiphenyl	NA	NA	NA	4 7E-08	N2 avg	2 6E-09	9 1E-14	2 3E-13	1 4E-13	2 0E-13	7 1E-13	2 6E-12	1 6E-12	7 1E-13

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TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N2 avg	NT	NT	NT	NT	6.7E-09	2.5E-08	1.5E-08	6.7E-09
Acenaphthylene	NF	NF	NF	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	N2 avg	4.5E-12	1.1E-11	6.8E-12	1.0E-11	7.1E-06	2.6E-05	1.6E-05	7.1E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	N2 avg	NT	NT	NT	NT	1 7E-06	6.5E-06	3.9E-06	1.7E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	N2 avg	NT	NT	NT	NT	1.8E-07	6 6E-07	4.0E-07	1 8E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N2 avg	9.3E-11	2.3E-10	1.4E-10	2.1E-10	2.1E-05	8.0E-05	4.8E-05	2.1E-05
Anthracene	NA	0 2625	7.5E-02	5.5E-06	N2 avg	NT	NT	NT	NT	1.1E-09	4.1E-09	2.5E-09	1.1E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N2 avg	8.3E-13	2.1E-12	1.2E-12	1.8E-12	5.2E-07	1.9E-06	1.2E-06	5.2E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N2 avg	NT	NT	NT	NT	1.7E-10	6.4E-10	3.8E-10	1.7E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N2 avg	2.8E-11	7.1E-11	4.3E-11	6.3E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N2 avg	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	N2 avg	NT	NT	NT	NT	1.1E-07	4.2E-07	2.5E-07	1.1E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	N2 avg	NT	NT	NT	NT	3.1E-07	1.2E-06	7.0E-07	3.1E-07
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	N2 avg	4.1E-14	1.0E-13	6.2E-14	9.1E-14	1.7E-08	6.2E-08	3.7E-08	1.7E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N2 avg	NT	NT	NT	NT	2.1E-05	7.7E-05	4.7E-05	2.1E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	N2 avg	NT	NT	NT	NT	1.1E-08	4.1E-08	2.4E-08	1.1E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N2 avg	NT	NT	NT	NT	1.7E-09	6.2E-09	3.7E-09	1.7E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N2 avg	NT	NT	NT	NT	1.9E-06	7.0E-06	4.2E-06	1.9E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N2 avg	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.7E-05	6.2E-05	3.8E-05	1.7E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N2 avg	1.4E-12	3.4E-12	2.1E-12	3.1E-12	5.5E-07	2.1E-06	1.2E-06	5.5E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1 0E-03	6.7E-06	N2 avg	NT	NT	NT	NT	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N2 avg	NT	NT	NT	NT	5.8E-08	2.2E-07	1.3E-07	5.8E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N2 avg	1.9E-11	4.8E-11	2.9E-11	4.3E-11	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N2 avg	NT	NT	NT	NT	1.0E-08	3.9E-08	2.3E-08	1 0E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N2 avg	4.1E-11	1.0E-10	6.2E-11	9.2E-11	1.6E-06	6.0E-06	3.6E-06	1.6E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	N2 avg	3.0E-12	7.4E-12	4.5E-12	6.6E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N2 avg	NT	NT	NT	NT	5 0E-09	1.9E-08	1.1E-08	5.0E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N2 avg	NT	NT	NT	NT	6.6E-08	2.5E-07	1.5E-07	6.6E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1 3E-02	5.5E-06	N2 avg	NT	NT	NT	NT	6 6E-09	2.5E-08	1 5E-08	6 6E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N2 avg	NT	NT	NT	NT	6 6E-09	2.5E-08	1.5E-08	6.6E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N2 avg	NT	NT	NT	NT	6 6E-08	2 5E-07	1.5E-07	6.6E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	N2 avg	NT	NT	NT	NT	1 3E-07	4 8E-07	2 9E-07	1 3E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	N2 avg	NT	NT	NT	NT	7 9E-08	3 0E-07	1 8E-07	7 9E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	N2 avg	NT	NT	NT	NT	1 4E-09	5 4E-09	3 3E-09	1 4E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	N2 avg	NT	NT	NT	NT	5 8E-09	2 2E-08	1 3E-08	5.8E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N2 avg	1.3E-05	4.7E-10	1.2E-09	7.1E-10	1.1E-09	3.7E-09	1.4E-08	8.3E-09	3.7E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N2 avg	9.3E-07	3.3E-11	8.1E-11	4.9E-11	7.3E-11	2.5E-10	9.5E-10	5.7E-10	2.5E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N2 avg	6.3E-06	2.2E-10	5.5E-10	3.4E-10	4.9E-10	1.7E-09	6.5E-09	3.9E-09	1.7E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N2 avg	8.6E-07	3.0E-11	7.6E-11	4.6E-11	6.7E-11	2.4E-10	8.8E-10	5.3E-10	2.4E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N2 avg	2.7E-05	9.6E-10	2.4E-09	1.4E-09	2.1E-09	7.4E-09	2.8E-08	1.7E-08	7.4E-09
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N2 avg	2.1E-06	7.5E-11	1.9E-10	1.1E-10	1.7E-10	5.8E-10	2.2E-09	1.3E-09	5.8E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N2 avg	1.3E-05	4.7E-10	1.2E-09	7.1E-10	1.1E-09	3.7E-09	1.4E-08	8.3E-09	3.7E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N2 avg	2.7E-05	9.7E-10	2.4E-09	1.5E-09	2.1E-09	7.5E-09	2.8E-08	1.7E-08	7.5E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N2 avg	6.3E-06	2.2E-10	5.5E-10	3.4E-10	4.9E-10	1.7E-09	6.5E-09	3.9E-09	1.7E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N2 avg	1.7E-06	5.9E-11	1.5E-10	8.9E-11	1.3E-10	4.6E-10	1.7E-09	1.0E-09	4.6E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N2 avg	8.0E-12	2.8E-16	7.0E-16	4.3E-16	6.3E-16	2.2E-15	8.2E-15	5.0E-15	2.2E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Fluorene	NA	0.035	1.0E-02	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N2 avg	3.3E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Furfural	NA	0.0125	3.6E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N2 avg	3.0E-08	1.1E-12	2.7E-12	1.6E-12	2.4E-12	8.3E-12	3.1E-11	1.9E-11	8.3E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	7.7E-10	2.7E-14	6.8E-14	4.1E-14	6.0E-14	2.1E-13	7.9E-13	4.8E-13	2.1E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	7.7E-10	2.7E-14	6.8E-14	4.1E-14	6.0E-14	2.1E-13	7.9E-13	4.8E-13	2.1E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N2 avg	5.6E-06	2.0E-10	4.9E-10	2.9E-10	4.3E-10	1.5E-09	5.7E-09	3.4E-09	1.5E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N2 avg	3.0E-06	1.1E-10	2.6E-10	1.6E-10	2.4E-10	8.3E-10	3.1E-09	1.9E-09	8.3E-10
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N2 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	N2 avg	3.5E-06	1.2E-10	3.1E-10	1.9E-10	2.8E-10	9.7E-10	3.6E-09	2.2E-09	9.7E-10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Isophorone	NA	0.175	5.0E-02	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	N2 avg	6.3E-06	2.2E-10	5.5E-10	3.4E-10	4.9E-10	1.7E-09	6.5E-09	3.9E-09	1.7E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	N2 avg	3.0E-08	1.1E-12	2.7E-12	1.6E-12	2.4E-12	8.3E-12	3.1E-11	1.9E-11	8.3E-12
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4.3E-10	1.9E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	N2 avg	2.2E-05	7.7E-10	1.9E-09	1.2E-09	1.7E-09	6.0E-09	2.2E-08	1.3E-08	6.0E-09
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	N2 avg	2.3E-06	8.1E-11	2.0E-10	1.2E-10	1.8E-10	6.3E-10	2.4E-09	1.4E-09	6.3E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N2 avg	9.2E-10	3.2E-14	8.0E-14	4.9E-14	7.2E-14	2.5E-13	9.4E-13	5.7E-13	2.5E-13
Naphthalene	NA	0.035	1.0E-02	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10

TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N2 avg	NT	NT	NT	NT	2.6E-07	9.7E-07	5.8E-07	2 6E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N2 avg	NT	NT	NT	NT	5.3E-09	2.0E-08	1.2E-08	5 3E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N2 avg	2.2E-12	5.5E-12	3.3E-12	4 9E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N2 avg	2.9E-11	7.2E-11	4.4E-11	6.5E-11	8.4E-08	3.1E-07	1.9E-07	8 4E-08
Dichloroethene (trans), 1,2-	NA	0.0175	5 0E-03	1.3E-05	N2 avg	NT	NT	NT	NT	3.8E-08	1.4E-07	8.5E-08	3.8E-08
Dichlorophenol, 2,4-	NA	0.002625	7 9E-04	5.5E-06	N2 avg	NT	NT	NT	NT	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	3 0E-04	1.3E-05	N2 avg	NT	NT	NT	NT	6.6E-07	2.5E-06	1.5E-06	6.6E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 avg	3.1E-12	7.8E-12	4.7E-12	7.0E-12	1.3E-07	4.9E-07	3.0E-07	1.3E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 avg	3.1E-12	7.8E-12	4.7E-12	7.0E-12	1 3E-07	4.9E-07	3.0E-07	1.3E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N2 avg	NT	NT	NT	NT	1.3E-09	4.7E-09	2.9E-09	1.3E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N2 avg	NT	NT	NT	NT	1.7E-08	6.2E-08	3.7E-08	1 7E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1 6E-05	N2 avg	NT	NT	NT	NT	9.4E-09	3.5E-08	2.1E-08	9.4E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N2 avg	NT	NT	NT	NT	3.3E-07	1.2E-06	7.5E-07	3.3E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	N2 avg	NT	NT	NT	NT	1.7E-07	6.2E-07	3.7E-07	1.7E-07
Dinitrotoluene, 2,4-	NA	0.00175	5 0E-04	5.5E-06	N2 avg	NT	NT	NT	NT	1.7E-07	6.2E-07	3.7E-07	1.7E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	N2 avg	NT	NT	NT	NT	1.7E-08	6.2E-08	3.7E-08	1.7E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N2 avg	[illegible]	NT	NT	NT	2.3E-07	8.7E-07	5.3E-07	2.3E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N2 avg	NT	NT	NT	NT	1.6E-07	6.1E-07	3.7E-07	1.6E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N2 avg	NT	NT	NT	NT	1.1E-07	3.9E-07	2.4E-07	1.1E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N2 avg	1.7E-10	4.2E-10	2.5E-10	3.8E-10	1.2E-04	4.5E-04	2.7E-04	1.2E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N2 avg	2.1E-11	5.1E-11	3.1E-11	4.6E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N2 avg	NT	NT	NT	NT	1.1E-10	4.1E-10	2.5E-10	1 1E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N2 avg	NT	NT	NT	NT	8.3E-09	3.1E-08	1.9E-08	8.3E-09
Fluorene	NA	0.035	1.0E-02	6.7E-06	N2 avg	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N2 avg	5.3E-11	1.3E-10	8.0E-11	1.2E-10	1.8E-07	6.8E-07	4.1E-07	1.8E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	N2 avg	NT	NT	NT	NT	2 3E-08	8.7E-08	5.2E-08	2.3E-08
Heptachlor	4.5E+00	0 000438	1 3E-04	5.5E-07	N2 avg	4.8E-12	1.2E-11	7.2E-12	1.1E-11	6.6E-08	2.5E-07	1.5E-07	6.6E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N2 avg	1.7E-11	4.3E-11	2.6E-11	3.8E-11	4.1E-07	1.5E-06	9.4E-07	4.1E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N2 avg	1.5E-11	3.8E-11	2.3E-11	3.4E-11	3.0E-05	1.1E-04	6.9E-05	3.0E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N2 avg	NT	NT	NT	NT	1.1E-05	4.1E-05	2.5E-05	1.1E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N2 avg	NT	NT	NT	NT	1.7E-05	6.2E-05	3.7E-05	1.7E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	N2 avg	1.5E-13	3.7E-13	2.2E-13	3.3E-13	3 3E-07	1.2E-06	7.5E-07	3.3E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N2 avg	NT	NT	NT	NT	6 4E-06	2.4E-05	1.5E-05	6.4E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	N2 avg	NT	NT	NT	NT	2.0E-09	7.5E-09	4.6E-09	2.0E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	N2 avg	NT	NT	NT	NT	1.4E-08	5.2E-08	3.1E-08	1.4E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	N2 avg	NT	NT	NT	NT	6 6E-09	2 5E-08	1 5E-08	6 6E-09
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	N2 avg	NT	NT	NT	NT	8 8E-10	3 3E-09	2.0E-09	8 8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1 3E-05	N2 avg	NT	NT	NT	NT	3 3E-08	1 2E-07	7.4E-08	3 3E-08
Methylene chloride	1.6E-03	0 75	2.1E-01	4.0E-04	N2 avg	1.3E-12	3.1E-12	1 9E-12	2 8E-12	2 8E-08	1 0E-07	6.3E-08	2 8E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5 5E-06	N2 avg	NT	NT	NT	NT	8 3E-09	3 1E-08	1 9E-08	8 3E-09
Nitroaniline, 2-	NA	0.00005	1.4E-05	6 7E-06	N2 avg	NT	NT	NT	NT	7 1E-06	2 6E-05	1.6E-05	7.1E-06
Nitroaniline, 3-	NF	NF	NF	6 7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3 8E-10	2 3E-10	1 0E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8 3E-11	3.1E-10	1 9E-10	8 3E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2 9E-11	1 0E-10	3.8E-10	2 3E-10	1 0E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3 1E-10	1.9E-10	8 3E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N2 avg	6.7E-06	2.3E-10	5 8E-10	3.5E-10	5.2E-10	1.8E-09	6 8E-09	4 1E-09	1 8E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3 8E-10	2.3E-10	1.0E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N2 avg	3.7E-07	1.3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	7.7E-10	2.7E-14	6.8E-14	4.1E-14	6.0E-14	2 1E-13	7 9E-13	4 8E-13	2.1E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	7.7E-10	2.7E-14	6 8E-14	4.1E-14	6.0E-14	2 1E-13	7.9E-13	4 8E-13	2.1E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	N2 avg	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.0E-10	7.2E-10	2.7E-09	1.6E-09	7.2E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	7.7E-10	2.7E-14	6.8E-14	4 1E-14	6.0E-14	2.1E-13	7.9E-13	4.8E-13	2 1E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N2 avg	1.9E-06	6.5E-11	1.6E-10	9.8E-11	1.5E-10	5.1E-10	1.9E-09	1.1E-09	5.1E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8.3E-11
Phenanthrene	NA	NA	NA	6.7E-06	N2 avg	3.7E-07	1 3E-11	3.2E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Phenol	NA	0.525	1 5E-01	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8 3E-11	3 1E-10	1 9E-10	8 3E-11
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1 6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8 3E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N2 avg	6.3E-06	2.2E-10	5.5E-10	3.4E-10	4.9E-10	1 7E-09	6.5E-09	3.9E-09	1.7E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	N2 avg	1 2E-06	4.4E-11	1.1E-10	6.6E-11	9.7E-11	3.4E-10	1.3E-09	7.7E-10	3 4E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	7.7E-10	2.7E-14	6.8E-14	4 1E-14	6 0E-14	2.1E-13	7.9E-13	4 8E-13	2.1E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8 3E-11
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8 3E-11	3.1E-10	1.9E-10	8 3E-11
Tetrachloroethene	2 0E-03	0 00875	2.5E-03	5.1E-05	N2 avg	2 8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1.7E-09	7 7E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	N2 avg	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	N2 avg	3.4E-05	1.2E-09	3.0E-09	1 8E-09	2.6E-09	9 2E-09	3 4E-08	2.1E-08	9 2E-09
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N2 avg	1.8E-05	6.4E-10	1.6E-09	9.6E-10	1.4E-09	5.0E-09	1.9E-08	1.1E-08	5.0E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1.9E-10	8 3E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N2 avg	1.7E-09	5.9E-14	1.5E-13	8.8E-14	1.3E-13	4.6E-13	1.7E-12	1 0E-12	4.6E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3 6E-11	5.4E-11	1.9E-10	7 0E-10	4 3E-10	1.9E-10
Trichloroethane, 1,1,2-	5 7E-02	0.0035	1.0E-03	1.3E-05	N2 avg	6.9E-07	2.4E-11	6.0E-11	3.6E-11	5.4E-11	1.9E-10	7.0E-10	4 3E-10	1.9E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N2 avg	1.0E-06	3.6E-11	9.0E-11	5.4E-11	8.0E-11	2.8E-10	1.0E-09	6.3E-10	2.8E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N2 avg	1.3E-05	4.7E-10	1.2E-09	7.1E-10	1.1E-09	3.7E-09	1.4E-08	8.3E-09	3.7E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8 3E-11	3.1E-10	1 9E-10	8 3E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2.4E-11	8.3E-11	3.1E-10	1 9E-10	8.3E-11
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N2 avg	3.5E-06	1.2E-10	3.1E-10	1.9E-10	2.8E-10	9.7E-10	3.6E-09	2 2E-09	9.7E-10
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N2 avg	1.3E-05	4.7E-10	1.2E-09	7.1E-10	1.1E-09	3 7E-09	1 4E-08	8 3E-09	3 7E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3 8E-04	N2 avg	2.1E-05	7.4E-10	1.8E-09	1.1E-09	1 6E-09	5.7E-09	2 1E-08	1 3E-08	5 7E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N2 avg	3.0E-07	1.1E-11	2.7E-11	1.6E-11	2 4E-11	8.3E-11	3.1E-10	1 9E-10	8.3E-11
2,3,7,8-TCDD	1 5E+05	NA	NA	1.08E-11	N2 avg	5.9E-13	2 1E-17	5 2E-17	3 1E-17	4 6E-17	1 6E-16	6 1E-16	3 7E-16	1.6E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N2 avg	3 7E-12	1.3E-16	3 3E-16	2 0E-16	2.9E-16	1 0E-15	3 8E-15	2 3E-15	1 0E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N2 avg	4 9E-12	1.7E-16	4 3E-16	2 6E-16	3 9E-16	1 3E-15	5 0E-15	3 0E-15	1 3E-15
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	N2 avg	9.1E-12	3.2E-16	8 0E-16	4 8E-16	7 1E-16	2 5E-15	9 3E-15	5 6E-15	2 5E-15
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	N2 avg	6 0E-12	2 1E-16	5 3E-16	3 2E-16	4 7E-16	1 6E-15	6 1E-15	3 7E-15	1 6E-15
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	N2 avg	6 8E-11	2 4E-15	6 0E-15	3 6E-15	5 3E-15	1 9E-14	7 0E-14	4 2E-14	1 9E-14
OCDD	1 5E+02	NA	NA	6.15E-09	N2 avg	3 4E-10	1 2E-14	3 0E-14	1 8E-14	2 6E-14	9 3E-14	3 5E-13	2 1E-13	9 3E-14
2,3,7,8-TCDF	1 5E+04	NA	NA	8 77E-11	N2 avg	4 8E-12	1 7E-16	4 2E-16	2 6E-16	3 8E-16	1 3E-15	4 9E-15	3 0E-15	1 3E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3 45E-10	N2 avg	1 9E-11	6 7E-16	1 7E-15	1 0E-15	1 5E-15	5 2E-15	1 9E-14	1 2E-14	5 2E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N2 avg	2 6E-11	9 0E-16	2 3E-15	1 4E-15	2 0E-15	7 0E-15	2 6E-14	1 6E-14	7 0E-15
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	N2 avg	7 8E-11	2 8E-15	6 9E-15	4 2E-15	6 1E-15	2 1E-14	8 0E-14	4 8E-14	2 1E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	N2 avg	7 3E-11	2 6E-15	6 4E-15	3 9E-15	5 7E-15	2 0E-14	7 5E-14	4 5E-14	2 0E-14
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1 50E-09	N2 avg	8 3E-11	2 9E-15	7 3E-15	4 4E-15	6 5E-15	2 3E-14	8 5E-14	5 1E-14	2 3E-14

External Review Draft Do Not Cite or Quote

TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N2 avg	NT	NT	NT	NT	5.8E-07	2.2E-06	1.3E-06	5.8E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N2 avg	1.3E-09	3.2E-09	1.9E-09	2.8E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N2 avg	NT	NT	NT	NT	6.8E-07	2.5E-06	1.5E-06	6.8E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N2 avg	NT	NT	NT	NT	1.1E-08	4.1E-08	2.5E-08	1.1E-08
Phenanthrene	NA	NA	NA	6.7E-06	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	N2 avg	NT	NT	NT	NT	5.5E-10	2.1E-09	1.2E-09	5.5E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N2 avg	NT	NT	NT	NT	1.1E-08	4.1E-08	2.5E-08	1.1E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	N2 avg	NT	NT	NT	NT	4.7E-09	1.8E-08	1.1E-08	4.7E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	N2 avg	2.8E-13	6.9E-13	4.2E-13	6.1E-13	1.1E-08	4.1E-08	2.5E-08	1.1E-08
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	N2 avg	2.2E-12	5.4E-12	3.3E-12	4.8E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	N2 avg	2.0E-13	5.0E-13	3.0E-13	4.5E-13	3.1E-07	1.2E-06	7.0E-07	3.1E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	N2 avg	NT	NT	NT	NT	1.4E-08	5.1E-08	3.1E-08	1.4E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	N2 avg	NT	NT	NT	NT	3.2E-07	1.2E-06	7.3E-07	3.2E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N2 avg	NT	NT	NT	NT	2.3E-09	8.7E-09	5.2E-09	2.3E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N2 avg	NT	NT	NT	NT	5.8E-09	2.2E-08	1.3E-08	5.8E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N2 avg	NT	NT	NT	NT	2.6E-09	9.8E-09	6.0E-09	2.6E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N2 avg	1.4E-12	3.4E-12	2.1E-12	3.1E-12	1.9E-07	7.0E-07	4.3E-07	1.9E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N2 avg	2.1E-13	5.4E-13	3.2E-13	4.8E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N2 avg	NT	NT	NT	NT	7.4E-08	2.8E-07	1.7E-07	7.4E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N2 avg	NT	NT	NT	NT	3.3E-09	1.2E-08	7.5E-09	3.3E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N2 avg	1.1E-13	2.7E-13	1.6E-13	2.4E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N2 avg	NT	NT	NT	NT	6.8E-08	2.5E-07	1.5E-07	6.8E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N2 avg	1.4E-10	3.5E-10	2.1E-10	3.2E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N2 avg	NT	NT	NT	NT	1.1E-08	4.3E-08	2.6E-08	1.1E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N2 avg	NT	NT	NT	NT	1.7E-10	6.2E-10	3.7E-10	1.7E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N2 avg	3.1E-12	7.8E-12	4.7E-12	7.0E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N2 avg	9.8E-12	2.5E-11	1.5E-11	2.2E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N2 avg	2.6E-12	6.5E-12	3.9E-12	5.8E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N2 avg	4.8E-12	1.2E-11	7.2E-12	1.1E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N2 avg	3.2E-12	7.9E-12	4.8E-12	7.0E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	N2 avg	3.6E-12	9.0E-12	5.4E-12	8.0E-12	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	N2 avg	1.8E-12	4.4E-12	2.7E-12	4.0E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	N2 avg	2.5E-12	6.3E-12	3.8E-12	5.7E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	N2 avg	5.0E-12	1.2E-11	7.5E-12	1.1E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N2 avg	6.8E-11	1.7E-10	1.0E-10	1.5E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	N2 avg	4.1E-11	1.0E-10	6.2E-11	9.2E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	N2 avg	3.9E-11	9.7E-11	5.8E-11	8.6E-11	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N2 avg	4.4E-11	1.1E-10	6.6E-11	9.7E-11	NT	NT	NT	NT

TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N2 avg	1 6E-11	5.7E-16	1.4E-15	8 5E-16	1 3E-15	4.4E-15	1.6E-14	1.0E-14	4.4E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N2 avg	5 1E-10	1.8E-14	4.5E-14	2 7E-14	4.0E-14	1 4E-13	5 2E-13	3 2E-13	1 4E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1 22E-09	N2 avg	6 7E-11	2 4E-15	5.9E-15	3 6E-15	5.3E-15	1 8E-14	6 9E-14	4 2E-14	1.8E-14
OCDF	1.5E+02	NA	NA	1.89E-08	N2 avg	1.0E-09	3.7E-14	9.1E-14	5.5E-14	8.2E-14	2 9E-13	1.1E-12	6 4E-13	2.9E-13
Dioxin TEQ				4 28E-08		2.4E-09	8.3E-14	2.1E-13	1.2E-13	1.8E-13	6.4E-13	2.4E-12	1.5E-12	6.4E-13
Aluminum	NA	NA	NA	2.4E-04	N2 avg	1.3E-05	4.6E-10	1.2E-09	7.0E-10	1.0E-09	3.6E-09	1.4E-08	8 2E-09	3 6E-09
Antimony	NA	0.00035	1.0E-04	4 2E-06	N2 avg	2.3E-07	8.1E-12	2 0E-11	1.2E-11	1.8E-11	6 3E-11	2.4E-10	1.4E-10	6 3E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	N2 avg	2.0E-06	7.2E-11	1.8E-10	1.1E-10	1 6E-10	5.6E-10	2.1E-09	1.3E-09	5 6E-10
Barium	NA	0 000125	3.6E-05	1.5E-04	N2 avg	8.3E-06	2.9E-10	7.2E-10	4.4E-10	6.5E-10	2 3E-09	8.4E-09	5.1E-09	2 3E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	N2 avg	1.8E-09	6.4E-14	1.6E-13	9.6E-14	1.4E-13	5.0E-13	1.9E-12	1.1E-12	5 0E-13
Cadmium	6.1	0.000438	1 3E-04	1.6E-05	N2 avg	8.8E-07	3.1E-11	7.7E-11	4.7E-11	6.9E-11	2.4E-10	9.0E-10	5.4E-10	2 4E-10
Chromium (hexavalent)	41	0 004375	1 3E-03	7.1E-07	N2 avg	3.9E-08	1.4E-12	3.4E-12	2.1E-12	3.1E-12	1.1E-11	4.0E-11	2 4E-11	1.1E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N2 avg	3.9E-08	1.4E-12	3.4E-12	2.1E-12	3.1E-12	1.1E-11	4.0E-11	2.4E-11	1.1E-11
Copper	NA	NA	NA	9.4E-05	N2 avg	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.0E-10	1 4E-09	5.3E-09	3 2E-09	1.4E-09
Lead	NA	NA	NA	4.3E-05	N2 avg	2.4E-06	8.3E-11	2 1E-10	1.3E-10	1.9E-10	6.5E-10	2.4E-09	1.5E-09	6 5E-10
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	N2 avg	7.7E-05	2.7E-09	6.8E-09	4.1E-09	6.0E-09	2.1E-08	7.9E-08	4.8E-08	2 1E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N2 avg	2 8E-07	9.7E-12	2.4E-11	1.5E-11	2.2E-11	7.5E-11	2.8E-10	1.7E-10	7.5E-11
Selenium	NA	0.004375	1 3E-03	4.7E-04	N2 avg	2 6E-05	9.1E-10	2.3E-09	1.4E-09	2.0E-09	7 1E-09	2.6E-08	1.6E-08	7.1E-09
Silver	NA	0.004375	1 3E-03	1.5E-05	N2 avg	8 3E-07	2.9E-11	7.2E-11	4.4E-11	6.5E-11	2 3E-10	8.4E-10	5.1E-10	2.3E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	N2 avg	1.9E-06	6.6E-11	1.6E-10	9.9E-11	1.5E-10	5.1E-10	1.9E-09	1 2E-09	5 1E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	N2 avg	6.6E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1.8E-09	6.8E-09	4.1E-09	1.8E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N2 avg	1.8E-03	6.2E-08	1.5E-07	9.3E-08	1.4E-07	4.8E-07	1.8E-06	1.1E-06	4 8E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N2 avg	1 3E-01	4.7E-06	1.2E-05	7.1E-06	1.0E-05	3.6E-05	1.4E-04	8.2E-05	3.6E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N2 avg	5.0E-03	1.8E-07	4.4E-07	2.7E-07	3.9E-07	1.4E-06	5.1E-06	3.1E-06	1.4E-06
Particulate matter	NA	NA	NA	7.2E-02	N2 avg	4 0E-03	1.4E-07	3.5E-07	2.1E-07	3.1E-07	1.1E-06	4.1E-06	2 4E-06	1.1E-06
Respirable particulates	NF	NF	NF	7.2E-02	N2 avg	4.0E-03	1.4E-07	3.5E-07	2.1E-07	3.1E-07	1.1E-06	4.1E-06	2.4E-06	1.1E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 5 Average Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N2 avg	8.5E-12	2.1E-11	1.3E-11	1.9E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N2 avg	2.7E-11	6.7E-11	4.1E-11	6.0E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N2 avg	3.5E-12	8.8E-12	5.3E-12	7.9E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	N2 avg	5.5E-12	1.4E-11	8.3E-12	1.2E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		2.7E-10	6.8E-10	4.1E-10	6.1E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	N2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	N2 avg	NT	NT	NT	NT		6.3E-07	2.4E-06	1.4E-06	6.3E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	N2 avg	3.6E-09	8.9E-09	5.4E-09	8.0E-09		7.4E-06	2.8E-05	1.7E-05	7.4E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	N2 avg	NT	NT	NT	NT		6.3E-05	2.4E-04	1.4E-04	6.3E-05
Beryllium	8.4	0.004375	1.3E-03	3.3E-06	N2 avg	5.4E-13	1.3E-12	8.1E-13	1.2E-12		4.0E-10	1.5E-09	9.0E-10	4.0E-10
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N2 avg	1.9E-10	4.7E-10	2.8E-10	4.2E-10		1.9E-06	7.2E-06	4.4E-06	1.9E-06
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N2 avg	5.6E-11	1.4E-10	8.5E-11	1.3E-10		8.6E-09	3.2E-08	1.9E-08	8.6E-09
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N2 avg	NT	NT	NT	NT		4.3E-11	1.6E-10	9.7E-11	4.3E-11
Copper	NA	NA	NA	9.4E-05	N2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	N2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N2 avg	NT	NT	NT	NT		9.8E-04	3.7E-03	2.2E-03	9.8E-04
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N2 avg	8.1E-12	2.0E-11	1.2E-11	1.8E-11		1.5E-08	5.6E-08	3.4E-08	1.5E-08
Selenium	NA	0.004375	1.3E-03	4.7E-04	N2 avg	NT	NT	NT	NT		5.7E-06	2.1E-05	1.3E-05	5.7E-06
Silver	NA	0.004375	1.3E-03	1.5E-05	N2 avg	NT	NT	NT	NT		1.8E-07	6.8E-07	4.1E-07	1.8E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	N2 avg	NT	NT	NT	NT		2.9E-05	1.1E-04	6.6E-05	2.9E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	N2 avg	NT	NT	NT	NT		2.4E-08	9.0E-08	5.4E-08	2.4E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N2 avg	NT	NT	NT	NT		9.6E-04	3.6E-03	2.2E-03	9.6E-04
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	N2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	N2 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	6.0E-09	1.5E-08	9.1E-09	1.3E-08	Total HI	2.3E-03	8.7E-03	5.3E-03	2.3E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0 0525	1 5E-02	6.7E-06	N3 avg	1.6E-07	5 7E-12	1.4E-11	8 5E-12	1 3E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Acenaphthylene	NF	NF	NF	6.7E-06	N3 avg	1 6E-07	5 7E-12	1.4E-11	8.5E-12	1 3E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	N3 avg	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5 7E-10	2 0E-09	7.4E-09	4 5E-09	2 0E-09
Acetone	NA	0.0875	2 5E-02	2.9E-03	N3 avg	7.0E-05	2.5E-09	6 1E-09	3.7E-09	5 4E-09	1 9E-08	7.1E-08	4 3E-08	1.9E-08
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	N3 avg	7 0E-06	2.5E-10	6.2E-10	3 7E-10	5.5E-10	1.9E-09	7.2E-09	4 3E-09	1.9E-09
Acrylonitrile	2.4E-01	0.0005	1 4E-04	2.0E-04	N3 avg	4 8E-06	1.7E-10	4.3E-10	2 6E-10	3.8E-10	1 3E-09	5.0E-09	3 0E-09	1 3E-09
Anthracene	NA	0.2625	7 5E-02	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N3 avg	3.5E-07	1.2E-11	3 1E-11	1.9E-11	2.8E-11	9.7E-11	3.6E-10	2.2E-10	9.7E-11
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N3 avg	2.7E-07	9.5E-12	2.4E-11	1.4E-11	2.1E-11	7.4E-11	2.8E-10	1 7E-10	7.4E-11
Benzotrichloride	NA	NA	NA	3.2E-05	N3 avg	7.7E-07	2.7E-11	6.7E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 7E-10	2 1E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3 6E-11	1.4E-10	8 2E-11	3.6E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3 6E-11	1.4E-10	8 2E-11	3 6E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8.2E-11	3 6E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N3 avg	3.2E-07	1.1E-11	2.8E-11	1.7E-11	2.5E-11	8.7E-11	3.3E-10	2 0E-10	8 7E-11
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	N3 avg	8.9E-07	3 1E-11	7.8E-11	4.7E-11	7.0E-11	2 4E-10	9.1E-10	5 5E-10	2 4E-10
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	N3 avg	2.5E-06	8.7E-11	2.2E-10	1.3E-10	1.9E-10	6.8E-10	2.5E-09	1 5E-09	6 8E-10
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3 6E-11	1.4E-10	8 2E-11	3 6E-11
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N3 avg	1.2E-05	4.1E-10	1.0E-09	6.2E-10	9.2E-10	3.2E-09	1.2E-08	7 3E-09	3 2E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N3 avg	1.2E-06	4.3E-11	1.1E-10	6.5E-11	9.7E-11	3.4E-10	1.3E-09	7 6E-10	3.4E-10
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N3 avg	2.1E-06	7.5E-11	1.9E-10	1.1E-10	1.7E-10	5.9E-10	2.2E-09	1 3E-09	5.9E-10
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N3 avg	3.8E-06	1.3E-10	3.3E-10	2.0E-10	3 0E-10	1.0E-09	3.9E-09	2 3E-09	1.0E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N3 avg	1.3E-08	4.6E-13	1.2E-12	7.0E-13	1.0E-12	3.6E-12	1.4E-11	8 2E-12	3 6E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N3 avg	8.8E-07	3.1E-11	7 7E-11	4.7E-11	6.9E-11	2.4E-10	9.0E-10	5 5E-10	2 4E-10
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	N3 avg	1.2E-05	4.1E-10	1.0E-09	6.2E-10	9.2E-10	3.2E-09	1 2E-08	7 3E-09	3.2E-09
Chloroform	8.1E-02	0.00875	2 5E-03	2.7E-04	N3 avg	6.4E-06	2.2E-10	5.6E-10	3.4E-10	5 0E-10	1.7E-09	6 5E-09	3 9E-09	1 7E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	N3 avg	5 9E-06	2.1E-10	5 2E-10	3.1E-10	4.6E-10	1.6E-09	6 0E-09	3 6E-09	1 6E-09
Chloronaphthalene, beta	NA	0.07	2 0E-02	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1 3E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1 2E-11	7.0E-12	1.0E-11	3 6E-11	1 4E-10	8 2E-11	3.6E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8 5E-12	1.3E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Chrysene	NA	NA	NA	5.5E-06	N3 avg	1.3E-07	4 6E-12	1 2E-11	7.0E-12	1 0E-11	3 6E-11	1.4E-10	8 2E-11	3 6E-11
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	N3 avg	1.3E-07	4.6E-12	1 2E-11	7.0E-12	1.0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	N3 avg	1.3E-07	4 6E-12	1.2E-11	7 0E-12	1.0E-11	3 6E-11	1.4E-10	8 2E-11	3 6E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1 2E-11	7.0E-12	1.0E-11	3 6E-11	1 4E-10	8 2E-11	3.6E-11
Crotonaldehyde	NA	NA	NA	1 4E-04	N3 avg	3.3E-06	1 2E-10	2 9E-10	1 8E-10	2 6E-10	9.1E-10	3 4E-09	2 1E-09	9 1E-10
Cumene	NA	0.00225	6.4E-04	5.5E-06	N3 avg	1 3E-07	4 6E-12	1.2E-11	7 0E-12	1 0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
DDE, 4,4'-	NA	NA	NA	5 5E-07	N3 avg	1.3E-08	4 6E-13	1 2E-12	7 0E-13	1 0E-12	3 6E-12	1 4E-11	8 2E-12	3 6E-12
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	N3 avg	1 3E-07	4 6E-12	1 2E-11	7 0E-12	1 0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
Dibromochloromethane	NA	0 0175	5 0E-03	2.6E-05	N3 avg	6 3E-07	2 2E-11	5 5E-11	3 3E-11	4 9E-11	1 7E-10	6 5E-10	3 9E-10	1 7E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N3 avg	1 3E-07	4 6E-12	1 2E-11	7 0E-12	1 0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	N3 avg	1 3E-07	4.6E-12	1 2E-11	7 0E-12	1 0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5 5E-06	N3 avg	1 3E-07	4 6E-12	1 2E-11	7 0E-12	1 0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N3 avg	8 0E-07	2 8E-11	7 0E-11	4 2E-11	6 3E-11	2 2E-10	8 2E-10	4 9E-10	2 2E-10
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N3 avg	1 1E-09	4 0E-14	9 9E-14	6 0E-14	8 8E-14	3 1E-13	1 2E-12	7 0E-13	3 1E-13

TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N3 avg	NT	NT	NT	NT	2.9E-09	1.1E-08	6.6E-09	2.9E-09
Acenaphthylene	NF	NF	NF	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	N3 avg	2.0E-12	4.9E-12	2.9E-12	4.4E-12	3.1E-06	1.1E-05	6.9E-06	3.1E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	N3 avg	NT	NT	NT	NT	7.6E-07	2.8E-06	1.7E-06	7.6E-07
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	N3 avg	NT	NT	NT	NT	7.7E-08	2.9E-07	1.7E-07	7.7E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N3 avg	4.1E-11	1.0E-10	6.1E-11	9.0E-11	9.3E-06	3.5E-05	2.1E-05	9.3E-06
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N3 avg	NT	NT	NT	NT	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N3 avg	3.6E-13	9.0E-13	5.4E-13	8.0E-13	2.3E-07	8.4E-07	5.1E-07	2.3E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N3 avg	NT	NT	NT	NT	7.4E-11	2.8E-10	1.7E-10	7.4E-11
Benzotrichloride	NA	NA	NA	3.2E-05	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N3 avg	1.2E-11	3.1E-11	1.9E-11	2.7E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N3 avg	NT	NT	NT	NT	4.4E-09	1.6E-08	9.9E-09	4.4E-09
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	N3 avg	NT	NT	NT	NT	4.9E-08	1.8E-07	1.1E-07	4.9E-08
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	N3 avg	NT	NT	NT	NT	1.4E-07	5.1E-07	3.1E-07	1.4E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N3 avg	1.8E-14	4.5E-14	2.7E-14	4.0E-14	7.2E-09	2.7E-08	1.6E-08	7.2E-09
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N3 avg	NT	NT	NT	NT	9.0E-06	3.4E-05	2.0E-05	9.0E-06
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N3 avg	NT	NT	NT	NT	4.7E-09	1.8E-08	1.1E-08	4.7E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N3 avg	NT	NT	NT	NT	7.2E-10	2.7E-09	1.6E-09	7.2E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N3 avg	NT	NT	NT	NT	8.2E-07	3.1E-06	1.9E-06	8.2E-07
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N3 avg	7.0E-12	1.7E-11	1.1E-11	1.6E-11	7.3E-06	2.7E-05	1.6E-05	7.3E-06
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N3 avg	6.0E-13	1.5E-12	9.1E-13	1.3E-12	2.4E-07	9.0E-07	5.4E-07	2.4E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N3 avg	NT	NT	NT	NT	4.4E-08	1.6E-07	9.9E-08	4.4E-08
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N3 avg	NT	NT	NT	NT	2.5E-08	9.5E-08	5.7E-08	2.5E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N3 avg	8.5E-12	2.1E-11	1.3E-11	1.9E-11	4.8E-08	1.8E-07	1.1E-07	4.8E-08
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N3 avg	NT	NT	NT	NT	4.5E-09	1.7E-08	1.0E-08	4.5E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N3 avg	1.8E-11	4.5E-11	2.7E-11	4.0E-11	7.0E-07	2.6E-06	1.6E-06	7.0E-07
Chloromethane	6.3E-03	NA	NA	2.5E-04	N3 avg	1.3E-12	3.2E-12	2.0E-12	2.9E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N3 avg	NT	NT	NT	NT	2.2E-09	8.2E-09	5.0E-09	2.2E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N3 avg	NT	NT	NT	NT	2.9E-08	1.1E-07	6.5E-08	2.9E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	N3 avg	NT	NT	NT	NT	2.9E-09	1.1E-08	6.5E-09	2.9E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N3 avg	NT	NT	NT	NT	2.9E-09	1.1E-08	6.5E-09	2.9E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N3 avg	NT	NT	NT	NT	2.9E-08	1.1E-07	6.5E-08	2.9E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	N3 avg	NT	NT	NT	NT	5.6E-08	2.1E-07	1.3E-07	5.6E-08
DDE, 4,4'-	NA	NA	NA	5.5E-07	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	N3 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	7.8E-08	3.5E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	N3 avg	NT	NT	NT	NT	6.3E-10	2.4E-09	1.4E-09	6.3E-10
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	N3 avg	NT	NT	NT	NT	2.5E-09	9.5E-09	5.7E-09	2.5E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N3 avg	5.9E-06	2.1E-10	5.2E-10	3 1E-10	4.6E-10	1.6E-09	6.0E-09	3.6E-09	1 6E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N3 avg	3.0E-07	1.1E-11	2.6E-11	1 6E-11	2 3E-11	8 2E-11	3 1E-10	1 9E-10	8 2E-11
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N3 avg	3.0E-07	1.1E-11	2 6E-11	1 6E-11	2.3E-11	8.2E-11	3.1E-10	1 9E-10	8 2E-11
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N3 avg	3 0E-07	1.1E-11	2.6E-11	1.6E-11	2 3E-11	8.2E-11	3.1E-10	1 9E-10	8 2E-11
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N3 avg	3.0E-07	1.1E-11	2.6E-11	1.6E-11	2 3E-11	8 2E-11	3.1E-10	1 9E-10	8 2E-11
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7 0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N3 avg	3.0E-07	1.1E-11	2.6E-11	1.6E-11	2.3E-11	8.2E-11	3.1E-10	1 9E-10	8 2E-11
Dichloropropene (cis), 1,3-	1 3E-01	0.005	1.4E-03	1.3E-05	N3 avg	3.0E-07	1.1E-11	2.6E-11	1 6E-11	2.3E-11	8.2E-11	3.1E-10	1 9E-10	8 2E-11
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N3 avg	3.0E-07	1.1E-11	2.6E-11	1.6E-11	2.3E-11	8.2E-11	3.1E-10	1 9E-10	8.2E-11
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N3 avg	4.0E-07	1.4E-11	3.5E-11	2.1E-11	3.2E-11	1.1E-10	4 1E-10	2 5E-10	1 1E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N3 avg	2.8E-06	9.7E-11	2.4E-10	1.5E-10	2.2E-10	7.6E-10	2.8E-09	1 7E-09	7 6E-10
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8.2E-11	3 6E-11
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N3 avg	3.8E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N3 avg	1.2E-05	4.2E-10	1.0E-09	6.3E-10	9.3E-10	3.2E-09	1.2E-08	7.3E-09	3 2E-09
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8.2E-11	3 6E-11
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N3 avg	9.3E-07	3.3E-11	8.2E-11	4 9E-11	7.3E-11	2.6E-10	9.5E-10	5 8E-10	2.6E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N3 avg	5.9E-06	2.1E-10	5.2E-10	3.1E-10	4.6E-10	1.6E-09	6.0E-09	3.6E-09	1 6E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N3 avg	1.2E-05	4.2E-10	1.0E-09	6.3E-10	9.4E-10	3.3E-09	1.2E-08	7 4E-09	3 3E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N3 avg	2.8E-06	9.7E-11	2.4E-10	1.5E-10	2.2E-10	7.6E-10	2.8E-09	1 7E-09	7 6E-10
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N3 avg	7.3E-07	2.6E-11	6.4E-11	3.9E-11	5.7E-11	2.0E-10	7.5E-10	4 5E-10	2.0E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N3 avg	3.5E-12	1.2E-16	3.1E-16	1.9E-16	2.7E-16	9.6E-16	3.6E-15	2.2E-15	9 6E-16
Fluoranthene	NA	0 035	1.0E-02	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Fluorene	NA	0.035	1.0E-02	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N3 avg	1.5E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	9 0E-09	4 0E-09
Furfural	NA	0.0125	3.6E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8.2E-11	3.6E-11
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N3 avg	1.3E-08	4.6E-13	1.2E-12	7.0E-13	1.0E-12	3.6E-12	1.4E-11	8.2E-12	3.6E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	3.4E-10	1.2E-14	2.9E-14	1.8E-14	2.6E-14	9.2E-14	3.4E-13	2.1E-13	9.2E-14
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	3.4E-10	1.2E-14	2.9E-14	1.8E-14	2.6E-14	9.2E-14	3 4E-13	2 1E-13	9.2E-14
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N3 avg	2.4E-06	8.5E-11	2.1E-10	1.3E-10	1.9E-10	6.6E-10	2.5E-09	1 5E-09	6 6E-10
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N3 avg	1.3E-06	4.6E-11	1.2E-10	7.0E-11	1.0E-10	3.6E-10	1.3E-09	8.1E-10	3 6E-10
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7 0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	N3 avg	1.3E-07	4 6E-12	1.2E-11	7.0E-12	1 0E-11	3 6E-11	1.4E-10	8 2E-11	3 6E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N3 avg	7.7E-07	2.7E-11	6 7E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4.7E-10	2.1E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	N3 avg	1.5E-06	5.4E-11	1 4E-10	8.2E-11	1.2E-10	4 2E-10	1 6E-09	9 5E-10	4 2E-10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5 5E-06	N3 avg	1.3E-07	4.6E-12	1 2E-11	7 0E-12	1.0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
Isophorone	NA	0.175	5.0E-02	6.7E-06	N3 avg	1 6E-07	5 7E-12	1 4E-11	8 5E-12	1.3E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Maleic hydrazide	NA	0.4375	1 3E-01	1 2E-04	N3 avg	2.8E-06	9 7E-11	2 4E-10	1 5E-10	2 2E-10	7.6E-10	2 8E-09	1 7E-09	7 6E-10
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	N3 avg	1 3E-08	4 6E-13	1 2E-12	7 0E-13	1.0E-12	3 6E-12	1 4E-11	8 2E-12	3 6E-12
Methyl-t-butyl ether	NA	0 75	2.1E-01	1 3E-05	N3 avg	3 0E-07	1.1E-11	2 6E-11	1 6E-11	2 3E-11	8 2E-11	3 1E-10	1 9E-10	8 2E-11
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1 3E-05	N3 avg	3 0E-07	1 1E-11	2 6E-11	1 6E-11	2 3E-11	8 2E-11	3 1E-10	1 9E-10	8 2E-11
Methylene chloride	1 6E-03	0.75	2 1E-01	4 0E-04	N3 avg	9 5E-06	3 3E-10	8 3E-10	5 0E-10	7 4E-10	2 6E-09	9 7E-09	5 9E-09	2 6E-09
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	N3 avg	1.0E-06	3 5E-11	8 8E-11	5 3E-11	7 8E-11	2 7E-10	1 0E-09	6 2E-10	2 7E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N3 avg	4.0E-10	1 4E-14	3 5E-14	2 1E-14	3 1E-14	1 1E-13	4 1E-13	2 5E-13	1 1E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	N3 avg	1.3E-07	4 6E-12	1 2E-11	7 0E-12	1 0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
Nitroaniline, 2-	NA	0 00005	1 4E-05	6.7E-06	N3 avg	1.6E-07	5 7E-12	1 4E-11	8 5E-12	1 3E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Nitroaniline, 3-	NF	NF	NF	6.7E-06	N3 avg	1 6E-07	5 7E-12	1 4E-11	8 5E-12	1 3E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11

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TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N3 avg	NT	NT	NT	NT	1 1E-07	4.2E-07	2.5E-07	1.1E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N3 avg	NT	NT	NT	NT	2.3E-09	8.6E-09	5.2E-09	2.3E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N3 avg	9.6E-13	2.4E-12	1.4E-12	2 1E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2 3E-03	1.3E-05	N3 avg	1.3E-11	3.2E-11	1.9E-11	2.8E-11	3.7E-08	1.4E-07	8.2E-08	3.7E-08
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N3 avg	NT	NT	NT	NT	1 6E-08	6.1E-08	3.7E-08	1 6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N3 avg	NT	NT	NT	NT	4.8E-08	1.8E-07	1.1E-07	4 8E-08
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N3 avg	NT	NT	NT	NT	2.9E-07	1.1E-06	6.5E-07	2.9E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N3 avg	1.4E-12	3.4E-12	2.1E-12	3.0E-12	5 8E-08	2.1E-07	1.3E-07	5.8E-08
Dichloropropene (trans), 1,3-	1 3E-01	0.005	1.4E-03	1.3E-05	N3 avg	1.4E-12	3.4E-12	2.1E-12	3.0E-12	5 8E-08	2.1E-07	1.3E-07	5 8E-08
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N3 avg	NT	NT	NT	NT	5.5E-10	2.1E-09	1.3E-09	5.5E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N3 avg	NT	NT	NT	NT	7.2E-09	2.7E-08	1.6E-08	7.2E-09
Dimethylphthalate	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N3 avg	NT	NT	NT	NT	4.1E-09	1.5E-08	9.3E-09	4.1E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N3 avg	NT	NT	NT	NT	1.4E-07	5.4E-07	3.3E-07	1.4E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	N3 avg	NT	NT	NT	NT	7.2E-08	2.7E-07	1.6E-07	7.2E-08
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N3 avg	NT	NT	NT	NT	7.2E-08	2.7E-07	1.6E-07	7.2E-08
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	N3 avg	NT	NT	NT	NT	7.2E-09	2.7E-08	1.6E-08	7.2E-09
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N3 avg	NT	NT	NT	NT	1 0E-07	3.8E-07	2.3E-07	1.0E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N3 avg	NT	NT	NT	NT	7 2E-08	2.7E-07	1.6E-07	7.2E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N3 avg	NT	NT	NT	NT	4.6E-08	1.7E-07	1.0E-07	4.6E-08
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1 2E-04	N3 avg	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.3E-05	2.0E-04	1.2E-04	5.3E-05
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N3 avg	9.0E-12	2.2E-11	1.4E-11	2.0E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N3 avg	NT	NT	NT	NT	4.8E-11	1.8E-10	1.1E-10	4 8E-11
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N3 avg	NT	NT	NT	NT	3.6E-09	1.4E-08	8.2E-09	3 6E-09
Fluorene	NA	0.035	1.0E-02	6.7E-06	N3 avg	NT	NT	NT	NT	4 4E-09	1.6E-08	9.9E-09	4.4E-09
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N3 avg	2.3E-11	5.8E-11	3.5E-11	5.1E-11	8.0E-08	3.0E-07	1.8E-07	8.0E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	N3 avg	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N3 avg	2.1E-12	5.2E-12	3.1E-12	4.6E-12	2.9E-08	1.1E-07	6.5E-08	2.9E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N3 avg	7.5E-12	1.9E-11	1.1E-11	1.7E-11	1.8E-07	6.8E-07	4.1E-07	1.8E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N3 avg	6.7E-12	1.7E-11	1.0E-11	1.5E-11	1 3E-05	5.0E-05	3.0E-05	1 3E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N3 avg	NT	NT	NT	NT	4.8E-06	1.8E-05	1.1E-05	4 8E-06
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N3 avg	NT	NT	NT	NT	7.2E-06	2.7E-05	1.6E-05	7.2E-06
Hexachloroethane	1.4E-02	0 000875	2 5E-04	5.5E-06	N3 avg	6.5E-14	1.6E-13	9.8E-14	1.4E-13	1.4E-07	5.4E-07	3 3E-07	1 4E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N3 avg	NT	NT	NT	NT	2.8E-06	1.0E-05	6 3E-06	2 8E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	N3 avg	NT	NT	NT	NT	8 8E-10	3.3E-09	2 0E-09	8 8E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	N3 avg	NT	NT	NT	NT	6 0E-09	2.3E-08	1 4E-08	6.0E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	N3 avg	NT	NT	NT	NT	2 9E-09	1 1E-08	6 5E-09	2 9E-09
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	N3 avg	NT	NT	NT	NT	3 8E-10	1 4E-09	8 7E-10	3 8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1.3E-05	N3 avg	NT	NT	NT	NT	1 4E-08	5 4E-08	3 2E-08	1 4E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	N3 avg	5.5E-13	1.4E-12	8.3E-13	1 2E-12	1 2E-08	4.5E-08	2.7E-08	1 2E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1 7E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5.5E-06	N3 avg	NT	NT	NT	NT	3 6E-09	1 4E-08	8 2E-09	3 6E-09
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	N3 avg	NT	NT	NT	NT	3 1E-06	1.2E-05	7 0E-06	3 1E-06
Nitroaniline, 3-	NF	NF	NF	6 7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6 7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8 5E-12	1 3E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1 0E-11	3.6E-11	1 4E-10	8 2E-11	3 6E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N3 avg	1.3E-07	4.6E-12	1 2E-11	7.0E-12	1.0E-11	3 6E-11	1 4E-10	8 2E-11	3 6E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N3 avg	2.9E-06	1 0E-10	2 5E-10	1.5E-10	2.3E-10	8.0E-10	3.0E-09	1 8E-09	8 0E-10
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1 3E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	3.4E-10	1.2E-14	2.9E-14	1.8E-14	2 6E-14	9.2E-14	3.4E-13	2.1E-13	9 2E-14
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	3.4E-10	1.2E-14	2.9E-14	1.8E-14	2 6E-14	9.2E-14	3.4E-13	2.1E-13	9.2E-14
Pentachlorobenzene	NA	NA	NA	4.8E-05	N3 avg	1.1E-06	4.0E-11	1.0E-10	6.1E-11	8.9E-11	3 1E-10	1.2E-09	7 1E-10	3.1E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	3.4E-10	1.2E-14	2.9E-14	1 8E-14	2.6E-14	9 2E-14	3.4E-13	2.1E-13	9 2E-14
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N3 avg	8.1E-07	2.8E-11	7.1E-11	4.3E-11	6.3E-11	2.2E-10	8.3E-10	5.0E-10	2.2E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Phenanthrene	NA	NA	NA	6.7E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.5E-12	1.3E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Phenol	NA	0.525	1.5E-01	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3 6E-11	1.4E-10	8 2E-11	3 6E-11
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N3 avg	1.3E-07	4 6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N3 avg	2.8E-06	9.7E-11	2.4E-10	1.5E-10	2.2E-10	7.6E-10	2.8E-09	1 7E-09	7 6E-10
Styrene	NA	0.25	7.1E-02	2.3E-05	N3 avg	5.4E-07	1.9E-11	4.7E-11	2.9E-11	4 2E-11	1.5E-10	5.5E-10	3 3E-10	1.5E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	3.4E-10	1.2E-14	2.9E-14	1.8E-14	2 6E-14	9.2E-14	3.4E-13	2 1E-13	9 2E-14
Tetrachloroethane, 1,1,1,2-	2.6E-02	0 02625	7.5E-03	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3 6E-11	1.4E-10	8 2E-11	3 6E-11
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	N3 avg	1.2E-06	4.3E-11	1 1E-10	6.5E-11	9.6E-11	3 4E-10	1.3E-09	7 6E-10	3 4E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	N3 avg	1.6E-07	5.7E-12	1.4E-11	8.7E-12	1.3E-11	4.5E-11	1.7E-10	1 0E-10	4 5E-11
Toluene	NA	0.1	2.9E-02	6.1E-04	N3 avg	1.5E-05	5.2E-10	1.3E-09	7.8E-10	1.2E-09	4.0E-09	1.5E-08	9 1E-09	4 0E-09
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N3 avg	7.9E-06	2.8E-10	6.9E-10	4.2E-10	6.2E-10	2.2E-09	8.1E-09	4 9E-09	2.2E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N3 avg	7.3E-10	2.6E-14	6.4E-14	3.8E-14	5.7E-14	2.0E-13	7.4E-13	4 5E-13	2 0E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N3 avg	3.0E-07	1.1E-11	2.6E-11	1.6E-11	2.3E-11	8 2E-11	3.1E-10	1 9E-10	8.2E-11
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N3 avg	3.0E-07	1.1E-11	2.6E-11	1.6E-11	2.3E-11	8.2E-11	3.1E-10	1 9E-10	8.2E-11
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N3 avg	4.5E-07	1.6E-11	3.9E-11	2.4E-11	3.5E-11	1.2E-10	4.6E-10	2 8E-10	1.2E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N3 avg	5.9E-06	2.1E-10	5.2E-10	3.1E-10	4.6E-10	1.6E-09	6 0E-09	3 6E-09	1.6E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3 6E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N3 avg	1.5E-06	5.4E-11	1.4E-10	8.2E-11	1.2E-10	4.2E-10	1.6E-09	9 5E-10	4 2E-10
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N3 avg	5.9E-06	2.1E-10	5.2E-10	3.1E-10	4.6E-10	1.6E-09	6 0E-09	3 6E-09	1.6E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N3 avg	9.1E-06	3.2E-10	8.0E-10	4.8E-10	7.1E-10	2.5E-09	9.3E-09	5 6E-09	2 5E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N3 avg	1.3E-07	4.6E-12	1.2E-11	7.0E-12	1.0E-11	3.6E-11	1.4E-10	8 2E-11	3.6E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N3 avg	2.6E-13	9 1E-18	2.3E-17	1 4E-17	2 0E-17	7 1E-17	2.7E-16	1 6E-16	7.1E-17
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N3 avg	1.6E-12	5 7E-17	1 4E-16	8 6E-17	1.3E-16	4 5E-16	1 7E-15	1 0E-15	4 5E-16
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N3 avg	2.1E-12	7.6E-17	1.9E-16	1.1E-16	1 7E-16	5 9E-16	2 2E-15	1 3E-15	5 9E-16
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N3 avg	4.0E-12	1.4E-16	3 5E-16	2.1E-16	3 1E-16	1.1E-15	4 1E-15	2 5E-15	1 1E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N3 avg	2 6E-12	9.2E-17	2.3E-16	1 4E-16	2 0E-16	7 2E-16	2 7E-15	1 6E-15	7 2E-16
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	N3 avg	3.0E-11	1 0E-15	2 6E-15	1 6E-15	2 3E-15	8 2E-15	3 0E-14	1 8E-14	8 2E-15
OCDD	1.5E+02	NA	NA	6.15E-09	N3 avg	1.5E-10	5 2E-15	1 3E-14	7 8E-15	1 2E-14	4 0E-14	1 5E-13	9 1E-14	4 0E-14
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	N3 avg	2 1E-12	7 4E-17	1.8E-16	1 1E-16	1 6E-16	5 8E-16	2 2E-15	1 3E-15	5 8E-16
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	N3 avg	8.3E-12	2 9E-16	7 3E-16	4 4E-16	6 5E-16	2 3E-15	8 5E-15	5 1E-15	2 3E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N3 avg	1 1E-11	3 9E-16	9 8E-16	5 9E-16	8 8E-16	3 1E-15	1 1E-14	6 9E-15	3 1E-15
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	N3 avg	3 4E-11	1 2E-15	3 0E-15	1 8E-15	2 7E-15	9 4E-15	3 5E-14	2 1E-14	9 4E-15
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	N3 avg	3.2E-11	1 1E-15	2 8E-15	1 7E-15	2 5E-15	8 8E-15	3 3E-14	2 0E-14	8 8E-15
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N3 avg	3.6E-11	1.3E-15	3.2E-15	1 9E-15	2 8E-15	9 9E-15	3 7E-14	2 2E-14	9 9E-15

TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N3 avg	NT	NT	NT	NT	2.5E-07	9.5E-07	5.7E-07	2.5E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N3 avg	5.5E-10	1.4E-09	8.3E-10	1.2E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N3 avg	NT	NT	NT	NT	3.0E-07	1.1E-06	6.7E-07	3.0E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N3 avg	NT	NT	NT	NT	4.8E-09	1.8E-08	1.1E-08	4.8E-09
Phenanthrene	NA	NA	NA	6.7E-06	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	N3 avg	NT	NT	NT	NT	2.4E-10	9.0E-10	5.4E-10	2.4E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N3 avg	NT	NT	NT	NT	4.8E-09	1.8E-08	1.1E-08	4.8E-09
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	N3 avg	NT	NT	NT	NT	2.1E-09	7.7E-09	4.7E-09	2.1E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	N3 avg	1.2E-13	3.0E-13	1.8E-13	2.7E-13	4.8E-09	1.8E-08	1.1E-08	4.8E-09
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	N3 avg	9.4E-13	2.4E-12	1.4E-12	2.1E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	N3 avg	8.8E-14	2.2E-13	1.3E-13	2.0E-13	1.3E-07	5.0E-07	3.0E-07	1.3E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	N3 avg	NT	NT	NT	NT	6.0E-09	2.2E-08	1.3E-08	6.0E-09
Toluene	NA	0.1	2.9E-02	6.1E-04	N3 avg	NT	NT	NT	NT	1.4E-07	5.3E-07	3.2E-07	1.4E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N3 avg	NT	NT	NT	NT	1.0E-09	3.8E-09	2.3E-09	1.0E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N3 avg	NT	NT	NT	NT	2.5E-09	9.5E-09	5.7E-09	2.5E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N3 avg	NT	NT	NT	NT	1.2E-09	4.3E-09	2.6E-09	1.2E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N3 avg	6.0E-13	1.5E-12	9.1E-13	1.3E-12	8.2E-08	3.1E-07	1.9E-07	8.2E-08
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N3 avg	9.4E-14	2.3E-13	1.4E-13	2.1E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N3 avg	NT	NT	NT	NT	3.2E-08	1.2E-07	7.3E-08	3.2E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N3 avg	NT	NT	NT	NT	1.4E-09	5.4E-09	3.3E-09	1.4E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N3 avg	4.6E-14	1.2E-13	7.0E-14	1.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N3 avg	NT	NT	NT	NT	3.0E-08	1.1E-07	6.7E-08	3.0E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N3 avg	6.2E-11	1.5E-10	9.4E-11	1.4E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N3 avg	NT	NT	NT	NT	5.0E-09	1.9E-08	1.1E-08	5.0E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N3 avg	NT	NT	NT	NT	7.2E-11	2.7E-10	1.6E-10	7.2E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N3 avg	1.4E-12	3.4E-12	2.1E-12	3.0E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N3 avg	4.3E-12	1.1E-11	6.5E-12	9.5E-12	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N3 avg	1.1E-12	2.8E-12	1.7E-12	2.5E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N3 avg	2.1E-12	5.2E-12	3.2E-12	4.7E-12	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N3 avg	1.4E-12	3.4E-12	2.1E-12	3.1E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	N3 avg	1.6E-12	3.9E-12	2.4E-12	3.5E-12	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	N3 avg	7.8E-13	1.9E-12	1.2E-12	1.7E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	N3 avg	1.1E-12	2.8E-12	1.7E-12	2.5E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	N3 avg	2.2E-12	5.4E-12	3.3E-12	4.9E-12	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N3 avg	3.0E-11	7.4E-11	4.5E-11	6.6E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	N3 avg	1.8E-11	4.5E-11	2.7E-11	4.0E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	N3 avg	1.7E-11	4.2E-11	2.5E-11	3.8E-11	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N3 avg	1.9E-11	4.8E-11	2.9E-11	4.2E-11	NT	NT	NT	NT

TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N3 avg	7.0E-12	2.5E-16	6 2E-16	3.7E-16	5 5E-16	1 9E-15	7.2E-15	4.3E-15	1 9E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N3 avg	2.2E-10	7.9E-15	2.0E-14	1.2E-14	1.7E-14	6 1E-14	2.3E-13	1.4E-13	6 1E-14
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N3 avg	2.9E-11	1 0E-15	2.6E-15	1.6E-15	2.3E-15	8 0E-15	3.0E-14	1.8E-14	8.0E-15
OCDF	1.5E+02	NA	NA	1.89E-08	N3 avg	4.5E-10	1.6E-14	4.0E-14	2.4E-14	3.6E-14	1.2E-13	4.7E-13	2 8E-13	1 2E-13
Dioxin TEQ				4.28E-08		1.0E-09	3.6E-14	9.0E-14	5.4E-14	8.0E-14	2.8E-13	1.1E-12	6.3E-13	2 8E-13
Aluminum	NA	NA	NA	2.4E-04	N3 avg	5.8E-06	2.0E-10	5.1E-10	3.1E-10	4.5E-10	1.6E-09	5.9E-09	3 6E-09	1 6E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	N3 avg	1.0E-07	3.5E-12	8.8E-12	5.3E-12	7.9E-12	2.8E-11	1.0E-10	6 2E-11	2 8E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	N3 avg	8.9E-07	3.1E-11	7.8E-11	4.7E-11	6.9E-11	2.4E-10	9 1E-10	5.5E-10	2.4E-10
Barium	NA	0.000125	3.6E-05	1.5E-04	N3 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2.8E-10	9.9E-10	3.7E-09	2 2E-09	9.9E-10
Beryllium	8.4	0.004375	1 3E-03	3.3E-08	N3 avg	7.9E-10	2.8E-14	6.9E-14	4.2E-14	6.2E-14	2.2E-13	8.1E-13	4 9E-13	2.2E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N3 avg	3.8E-07	1.4E-11	3.4E-11	2.0E-11	3.0E-11	1.1E-10	3.9E-10	2.4E-10	1 1E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N3 avg	1.7E-08	6.0E-13	1.5E-12	9.0E-13	1.3E-12	4.7E-12	1.7E-11	1.1E-11	4.7E-12
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N3 avg	1.7E-08	6 0E-13	1.5E-12	9.0E-13	1.3E-12	4.7E-12	1.7E-11	1 1E-11	4 7E-12
Copper	NA	NA	NA	9.4E-05	N3 avg	2.3E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6 2E-10	2.3E-09	1.4E-09	6 2E-10
Lead	NA	NA	NA	4.3E-05	N3 avg	1.0E-06	3.6E-11	9.1E-11	5.5E-11	8 1E-11	2.8E-10	1.1E-09	6 4E-10	2 8E-10
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N3 avg	3.4E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.2E-09	3.4E-08	2.1E-08	9.2E-09
Nickel	0.84	0.0175	5 0E-03	5.0E-06	N3 avg	1.2E-07	4 2E-12	1.1E-11	6.4E-12	9.4E-12	3.3E-11	1.2E-10	7 4E-11	3 3E-11
Selenium	NA	0 004375	1 3E-03	4.7E-04	N3 avg	1.1E-05	4.0E-10	9.9E-10	6.0E-10	8.8E-10	3.1E-09	1.2E-08	7 0E-09	3 1E-09
Silver	NA	0 004375	1.3E-03	1.5E-05	N3 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9 9E-11
Thallium	NA	0.000061	1.8E-05	3.4E-05	N3 avg	8.2E-07	2.9E-11	7.2E-11	4.3E-11	6.4E-11	2.2E-10	8.4E-10	5 0E-10	2 2E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	N3 avg	2.9E-06	1.0E-10	2.5E-10	1.5E-10	2.3E-10	7.9E-10	2.9E-09	1.8E-09	7.9E-10
Hydrogen chloride	NA	0.00175	5 0E-04	3.2E-02	N3 avg	7.7E-04	2.7E-08	6.7E-08	4.1E-08	6.0E-08	2.1E-07	7.9E-07	4 7E-07	2.1E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N3 avg	5.8E-02	2.0E-06	5.1E-06	3.1E-06	4.5E-06	1.6E-05	5.9E-05	3.6E-05	1.6E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N3 avg	2.2E-03	7.7E-08	1.9E-07	1.2E-07	1.7E-07	6.0E-07	2.2E-06	1 4E-06	6 0E-07
Particulate matter	NA	NA	NA	7.2E-02	N3 avg	1.7E-03	6 1E-08	1.5E-07	9.2E-08	1.4E-07	4.7E-07	1.8E-06	1.1E-06	4.7E-07
Respirable particulates	NF	NF	NF	7.2E-02	N3 avg	1.7E-03	6.1E-08	1.5E-07	9.2E-08	1.4E-07	4.7E-07	1.8E-06	1.1E-06	4.7E-07

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 6 Average Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N3 avg	3.7E-12	9.3E-12	5.6E-12	8.3E-12		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N3 avg	1.2E-11	2.9E-11	1.8E-11	2.6E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N3 avg	1.5E-12	3.9E-12	2.3E-12	3.4E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	N3 avg	2.4E-12	6.0E-12	3.6E-12	5.3E-12		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		1.2E-10	3.0E-10	1.8E-10	2.6E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	N3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	N3 avg	NT	NT	NT	NT		2.8E-07	1.0E-06	6.2E-07	2.8E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	N3 avg	1.6E-09	3.9E-09	2.4E-09	3.5E-09		3.2E-06	1.2E-05	7.3E-06	3.2E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	N3 avg	NT	NT	NT	NT		2.8E-05	1.0E-04	6.2E-05	2.8E-05
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	N3 avg	2.3E-13	5.8E-13	3.5E-13	5.2E-13		1.7E-10	6.5E-10	3.9E-10	1.7E-10
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N3 avg	8.2E-11	2.1E-10	1.2E-10	1.8E-10		8.4E-07	3.1E-06	1.9E-06	8.4E-07
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N3 avg	2.5E-11	6.1E-11	3.7E-11	5.5E-11		3.7E-09	1.4E-08	8.4E-09	3.7E-09
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N3 avg	NT	NT	NT	NT		1.9E-11	7.0E-11	4.2E-11	1.9E-11
Copper	NA	NA	NA	9.4E-05	N3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	N3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N3 avg	NT	NT	NT	NT		4.3E-04	1.6E-03	9.7E-04	4.3E-04
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N3 avg	3.5E-12	8.8E-12	5.3E-12	7.9E-12		6.6E-09	2.5E-08	1.5E-08	6.6E-09
Selenium	NA	0.004375	1.3E-03	4.7E-04	N3 avg	NT	NT	NT	NT		2.5E-06	9.2E-06	5.6E-06	2.5E-06
Silver	NA	0.004375	1.3E-03	1.5E-05	N3 avg	NT	NT	NT	NT		7.9E-08	2.9E-07	1.8E-07	7.9E-08
Thallium	NA	0.000061	1.8E-05	3.4E-05	N3 avg	NT	NT	NT	NT		1.3E-05	4.8E-05	2.9E-05	1.3E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	N3 avg	NT	NT	NT	NT		1.1E-08	3.9E-08	2.4E-08	1.1E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N3 avg	NT	NT	NT	NT		4.2E-04	1.6E-03	9.5E-04	4.2E-04
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	N3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	N3 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	2.6E-09	6.6E-09	4.0E-09	5.9E-09					
										Total HI	1.0E-03	3.8E-03	2.3E-03	1.0E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S1 avg	9 4E-07	3.3E-11	8 2E-11	5.0E-11	7 3E-11	2 6E-10	9.6E-10	5 8E-10	2 6E-10
Acenaphthylene	NF	NF	NF	6.7E-06	S1 avg	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Acetaldehyde	7 7E-03	0.00225	6 4E-04	3.0E-04	S1 avg	4.2E-05	1.5E-09	3.7E-09	2.2E-09	3.3E-09	1 2E-08	4 3E-08	2 6E-08	1.2E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	S1 avg	4.1E-04	1.4E-08	3.6E-08	2.2E-08	3.2E-08	1.1E-07	4.2E-07	2 5E-07	1 1E-07
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	S1 avg	4.1E-05	1.4E-09	3.6E-09	2.2E-09	3.2E-09	1.1E-08	4.2E-08	2 5E-08	1.1E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S1 avg	2.8E-05	1.0E-09	2.5E-09	1.5E-09	2.2E-09	7.7E-09	2.9E-08	1 7E-08	7.7E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S1 avg	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.6E-10	2 1E-09	1 3E-09	5.6E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S1 avg	1 6E-06	5.6E-11	1.4E-10	8.4E-11	1 2E-10	4 3E-10	1.6E-09	9 8E-10	4 3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S1 avg	4.5E-06	1.6E-10	3 9E-10	2.4E-10	3.5E-10	1.2E-09	4.6E-09	2 8E-09	1.2E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5 0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S1 avg	1.9E-06	6.6E-11	1.6E-10	9.9E-11	1.5E-10	5.1E-10	1.9E-09	1 2E-09	5.1E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	S1 avg	5.2E-06	1.8E-10	4.6E-10	2.8E-10	4.1E-10	1.4E-09	5.3E-09	3 2E-09	1 4E-09
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	S1 avg	1.4E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	8 9E-09	4 0E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S1 avg	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4 2E-08	1 9E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	S1 avg	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S1 avg	7.7E-07	2 7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	S1 avg	1.2E-05	4.4E-10	1.1E-09	6.6E-10	9.8E-10	3.4E-09	1.3E-08	7.7E-09	3 4E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S1 avg	2.2E-05	7.8E-10	1.9E-09	1.2E-09	1.7E-09	6.1E-09	2.3E-08	1.4E-08	6.1E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S1 avg	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7.9E-11	4 8E-11	2 1E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S1 avg	9.4E-07	3.3E-11	8 2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Chlorobenzilate	2.7E-01	0.0175	5 0E-03	3.7E-05	S1 avg	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.0E-10	1.4E-09	5.3E-09	3 2E-09	1.4E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S1 avg	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4 2E-08	1.9E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S1 avg	3.7E-05	1.3E-09	3.3E-09	2.0E-09	2.9E-09	1 0E-08	3 8E-08	2 3E-08	1.0E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	S1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9.4E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2 6E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5 0E-11	7 3E-11	2 6E-10	9.6E-10	5 8E-10	2.6E-10
Chrysene	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	S1 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6 0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Crotonaldehyde	NA	NA	NA	1 4E-04	S1 avg	1.9E-05	6.9E-10	1 7E-09	1.0E-09	1 5E-09	5.3E-09	2 0E-08	1 2E-08	5 3E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	S1 avg	7.7E-07	2 7E-11	6 8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	S1 avg	7.7E-08	2 7E-12	6 8E-12	4 1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	S1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2.6E-05	S1 avg	3 7E-06	1.3E-10	3 2E-10	2 0E-10	2 9E-10	1 0E-09	3 8E-09	2 3E-09	1 0E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5 5E-06	S1 avg	7.7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	S1 avg	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	S1 avg	4 7E-06	1 6E-10	4 1E-10	2 5E-10	3 6E-10	1 3E-09	4 8E-09	2 9E-09	1 3E-09
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S1 avg	6.6E-09	2.3E-13	5 8E-13	3 5E-13	5 1E-13	1 8E-12	6 7E-12	4 1E-12	1 8E-12

External Review Draft, Do Not Cite or Quote

TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6 7E-06	S1 avg	NT	NT	NT	NT	1.7E-08	6.4E-08	3.9E-08	1.7E-08
Acenaphthylene	NF	NF	NF	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S1 avg	1.1E-11	2.8E-11	1.7E-11	2.5E-11	1 8E-05	6 7E-05	4.1E-05	1.8E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	S1 avg	NT	NT	NT	NT	4 4E-06	1.7E-05	1.0E-05	4 4E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S1 avg	NT	NT	NT	NT	4.5E-07	1.7E-06	1.0E-06	4 5E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S1 avg	2.4E-10	5.9E-10	3.6E-10	5.3E-10	5.4E-05	2.0E-04	1.2E-04	5 4E-05
Anthracene	NA	0 2625	7.5E-02	5.5E-06	S1 avg	NT	NT	NT	NT	2.8E-09	1.1E-08	6.3E-09	2.8E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S1 avg	2.1E-12	5.2E-12	3.2E-12	4 7E-12	1.3E-06	4.9E-06	3.0E-06	1 3E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S1 avg	NT	NT	NT	NT	4.3E-10	1.6E-09	9.8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S1 avg	7.2E-11	1.8E-10	1.1E-10	1.6E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	S1 avg	NT	NT	NT	NT	2 6E-08	9.6E-08	5.8E-08	2.6E-08
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	S1 avg	NT	NT	NT	NT	2 9E-07	1.1E-06	6.4E-07	2.9E-07
Bromodichloromethane	NA	0.0175	5 0E-03	1.0E-04	S1 avg	NT	NT	NT	NT	7.9E-07	3.0E-06	1.8E-06	7.9E-07
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	S1 avg	1.0E-13	2.6E-13	1 6E-13	2.3E-13	4.2E-08	1.6E-07	9.5E-08	4 2E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S1 avg	NT	NT	NT	NT	5.3E-05	2.0E-04	1.2E-04	5 3E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	S1 avg	NT	NT	NT	NT	2.6E-08	1.0E-07	6.2E-08	2 6E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S1 avg	NT	NT	NT	NT	4.2E-09	1.6E-08	9.5E-09	4 2E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S1 avg	NT	NT	NT	NT	4.8E-06	1.8E-05	1.1E-05	4 8E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S1 avg	4.1E-11	1.0E-10	6.2E-11	9.1E-11	4.2E-05	1.6E-04	9.6E-05	4 2E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S1 avg	3.5E-12	8.7E-12	5.3E-12	7.8E-12	1.4E-06	5.3E-06	3.2E-06	1.4E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1 0E-03	6.7E-06	S1 avg	NT	NT	NT	NT	2 6E-07	9.6E-07	5.8E-07	2.6E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	S1 avg	NT	NT	NT	NT	1.5E-07	5.5E-07	3.3E-07	1.5E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S1 avg	5.0E-11	1.2E-10	7.5E-11	1.1E-10	2.8E-07	1.1E-06	6.4E-07	2.8E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S1 avg	NT	NT	NT	NT	2.6E-08	9.8E-08	5.9E-08	2 6E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S1 avg	1.1E-10	2.6E-10	1.6E-10	2.3E-10	4.1E-06	1.5E-05	9.2E-06	4 1E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	S1 avg	7.6E-12	1.9E-11	1.1E-11	1.7E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S1 avg	NT	NT	NT	NT	1.3E-08	4.8E-08	2.9E-08	1.3E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S1 avg	NT	NT	NT	NT	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	S1 avg	NT	NT	NT	NT	1 7E-08	6 3E-08	3 8E-08	1 7E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S1 avg	NT	NT	NT	NT	1.7E-08	6 3E-08	3 8E-08	1 7E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S1 avg	NT	NT	NT	NT	1.7E-07	6 3E-07	3 8E-07	1 7E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	S1 avg	NT	NT	NT	NT	3 3E-07	1 2E-06	7 4E-07	3 3E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0 0175	5.0E-03	2.6E-05	S1 avg	NT	NT	NT	NT	2 0E-07	7 5E-07	4 6E-07	2 0E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	S1 avg	NT	NT	NT	NT	3 7E-09	1 4E-08	8 3E-09	3 7E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	S1 avg	NT	NT	NT	NT	1 5E-08	5 5E-08	3.3E-08	1 5E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9 4E-09	3.5E-08	2 1E-08	9.4E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S1 avg	1.8E-06	6.2E-11	1 5E-10	9.3E-11	1 4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S1 avg	1.8E-06	6.2E-11	1.5E-10	9 3E-11	1 4E-10	4.8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S1 avg	1.8E-06	6.2E-11	1 5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1 4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S1 avg	2.4E-06	8.3E-11	2.1E-10	1.3E-10	1.8E-10	6.5E-10	2.4E-09	1.5E-09	6.5E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S1 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1.0E-08	4.4E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	S1 avg	2.2E-06	7.7E-11	1.9E-10	1.2E-10	1.7E-10	6.0E-10	2.2E-09	1 4E-09	6.0E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S1 avg	6.9E-05	2.4E-09	6.1E-09	3.7E-09	5 4E-09	1.9E-08	7.1E-08	4 3E-08	1.9E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	S1 avg	5.4E-06	1.9E-10	4.8E-10	2.9E-10	4.3E-10	1.5E-09	5.6E-09	3 4E-09	1.5E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9 4E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S1 avg	7.0E-05	2.5E-09	6.1E-09	3.7E-09	5.5E-09	1.9E-08	7.1E-08	4 3E-08	1 9E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S1 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4.4E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S1 avg	4.3E-06	1.5E-10	3.7E-10	2.3E-10	3.3E-10	1.2E-09	4.4E-09	2.6E-09	1.2E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S1 avg	2.0E-11	7.2E-16	1.8E-15	1.1E-15	1.6E-15	5.6E-15	2.1E-14	1 3E-14	5.6E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S1 avg	8.5E-05	3.0E-09	7.5E-09	4.5E-09	6.6E-09	2.3E-08	8.7E-08	5 3E-08	2.3E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7 9E-10	4 8E-10	2.1E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S1 avg	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7 9E-11	4 8E-11	2.1E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5.4E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S1 avg	7 7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7 9E-10	4.8E-10	2.1E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2 0E-12	1 2E-12	5.4E-13
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	S1 avg	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1 4E-08	8 7E-09	3.9E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S1 avg	7.7E-06	2.7E-10	6.7E-10	4.1E-10	6 0E-10	2.1E-09	7.9E-09	4 7E-09	2.1E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	S1 avg	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachlorophene	NA	0.000263	7.5E-05	3 2E-05	S1 avg	4.5E-06	1.6E-10	3.9E-10	2.4E-10	3 5E-10	1 2E-09	4.6E-09	2 8E-09	1 2E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	S1 avg	9.0E-06	3.2E-10	7 9E-10	4 8E-10	7.0E-10	2 5E-09	9 2E-09	5 6E-09	2 5E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S1 avg	7.7E-07	2 7E-11	6 8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	S1 avg	9 4E-07	3.3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S1 avg	1.6E-05	5.7E-10	1 4E-09	8.5E-10	1 3E-09	4.4E-09	1 6E-08	1 0E-08	4 4E-09
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	S1 avg	7.7E-08	2.7E-12	6 8E-12	4.1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	S1 avg	1.8E-06	6.2E-11	1 5E-10	9 3E-11	1.4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	S1 avg	1 8E-06	6 2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methylene chloride	1.6E-03	0.75	2 1E-01	4.0E-04	S1 avg	5 5E-05	2 0E-09	4 9E-09	2 9E-09	4 3E-09	1 5E-08	5 7E-08	3 4E-08	1 5E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S1 avg	5 9E-06	2.1E-10	5 1E-10	3 1E-10	4 6E-10	1 6E-09	6 0E-09	3 6E-09	1 6E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S1 avg	2 3E-09	8 2E-14	2 0E-13	1 2E-13	1 8E-13	6 4E-13	2 4E-12	1 4E-12	6 4E-13
Naphthalene	NA	0.035	1.0E-02	5.5E-06	S1 avg	7.7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Nitroaniline, 2-	NA	0 00005	1 4E-05	6.7E-06	S1 avg	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S1 avg	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10

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TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S1 avg	NT	NT	NT	NT	6 6E-07	2.5E-06	1.5E-06	6 6E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1 3E-05	S1 avg	NT	NT	NT	NT	1 3E-08	5.0E-08	3.0E-08	1.3E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S1 avg	5.6E-12	1.4E-11	8 4E-12	1 2E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S1 avg	7.4E-11	1.8E-10	1.1E-10	1 6E-10	2 1E-07	8.0E-07	4 8E-07	2.1E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S1 avg	NT	NT	NT	NT	9 6E-08	3.6E-07	2.2E-07	9.6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S1 avg	NT	NT	NT	NT	2.8E-07	1.1E-06	6.3E-07	2.8E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2 9E-04	1.3E-05	S1 avg	NT	NT	NT	NT	1.7E-06	6.3E-06	3.8E-06	1.7E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3.4E-07	1.3E-06	7.6E-07	3.4E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3.4E-07	1.3E-06	7.6E-07	3 4E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S1 avg	NT	NT	NT	NT	3.2E-09	1.2E-08	7.3E-09	3.2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S1 avg	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	S1 avg	NT	NT	NT	NT	2.4E-08	9.0E-08	5.4E-08	2.4E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S1 avg	NT	NT	NT	NT	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	S1 avg	NT	NT	NT	NT	4 2E-07	1.6E-06	9.5E-07	4 2E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S1 avg	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	S1 avg	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4 2E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	S1 avg	NT	NT	NT	NT	6.0E-07	2.2E-06	1.3E-06	6.0E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S1 avg	NT	NT	NT	NT	4.2E-07	1.6E-06	9.4E-07	4.2E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S1 avg	NT	NT	NT	NT	2.7E-07	1.0E-06	6.0E-07	2.7E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S1 avg	4.3E-10	1.1E-09	6.5E-10	9.6E-10	3.1E-04	1.2E-03	7.0E-04	3.1E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S1 avg	5.3E-11	1.3E-10	7.9E-11	1.2E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S1 avg	NT	NT	NT	NT	2.8E-10	1.0E-09	6.3E-10	2.8E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S1 avg	NT	NT	NT	NT	2.1E-08	7.9E-08	4.8E-08	2 1E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	S1 avg	NT	NT	NT	NT	2.6E-08	9.6E-08	5.8E-08	2.6E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S1 avg	1.3E-10	3.4E-10	2.0E-10	3.0E-10	4.7E-07	1.7E-06	1.1E-06	4.7E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	S1 avg	NT	NT	NT	NT	5.9E-08	2.2E-07	1.3E-07	5.9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S1 avg	1.2E-11	3.0E-11	1.8E-11	2.7E-11	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S1 avg	4.4E-11	1.1E-10	6.6E-11	9.7E-11	1.1E-06	3.9E-06	2.4E-06	1.1E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	S1 avg	3.9E-11	9.7E-11	5.8E-11	8.6E-11	7.7E-05	2.9E-04	1.7E-04	7.7E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S1 avg	NT	NT	NT	NT	2.8E-05	1.0E-04	6.3E-05	2.8E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S1 avg	NT	NT	NT	NT	4.2E-05	1.6E-04	9.5E-05	4.2E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	S1 avg	3.8E-13	9.5E-13	5.7E-13	8.4E-13	8 4E-07	3.2E-06	1.9E-06	8.4E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S1 avg	NT	NT	NT	NT	1.6E-05	6.1E-05	3.7E-05	1.6E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	S1 avg	NT	NT	NT	NT	5 1E-09	1.9E-08	1.2E-08	5.1E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S1 avg	NT	NT	NT	NT	3 5E-08	1.3E-07	8 0E-08	3.5E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S1 avg	NT	NT	NT	NT	1 7E-08	6 3E-08	3 8E-08	1 7E-08
Methyl-t-butyl ether	NA	0 75	2.1E-01	1.3E-05	S1 avg	NT	NT	NT	NT	2 2E-09	8 4E-09	5 1E-09	2 2E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1.3E-05	S1 avg	NT	NT	NT	NT	8 4E-08	3 1E-07	1 9E-07	8 4E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S1 avg	3.2E-12	8.0E-12	4 8E-12	7.1E-12	7 1E-08	2 6E-07	1 6E-07	7 1E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5 5E-06	S1 avg	NT	NT	NT	NT	2 1E-08	7.9E-08	4 8E-08	2.1E-08
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	S1 avg	NT	NT	NT	NT	1 8E-05	6 7E-05	4 1E-05	1 8E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2.6E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2.6E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S1 avg	1.7E-05	6.0E-10	1.5E-09	9.0E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4.6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2.6E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2.6E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5.4E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5.4E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	S1 avg	6.7E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1.8E-09	6.8E-09	4.1E-09	1.8E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5.4E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S1 avg	4.7E-06	1.7E-10	4.1E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2.9E-09	1.3E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Phenanthrene	NA	NA	NA	6.7E-06	S1 avg	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2.6E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S1 avg	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1.0E-08	4.4E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	S1 avg	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.6E-10	3.2E-09	1.9E-09	8.6E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5.4E-13
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	S1 avg	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.3E-09	4.4E-09	2.0E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S1 avg	9.5E-07	3.4E-11	8.4E-11	5.0E-11	7.4E-11	2.6E-10	9.7E-10	5.9E-10	2.6E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	S1 avg	8.6E-05	3.0E-09	7.5E-09	4.5E-09	6.7E-09	2.3E-08	8.6E-08	5.3E-08	2.3E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S1 avg	4.6E-05	1.6E-09	4.1E-09	2.4E-09	3.6E-09	1.3E-08	4.7E-08	2.9E-08	1.3E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S1 avg	4.2E-09	1.5E-13	3.7E-13	2.2E-13	3.3E-13	1.2E-12	4.3E-12	2.6E-12	1.2E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S1 avg	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S1 avg	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.0E-10	7.1E-10	2.7E-09	1.6E-09	7.1E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	S1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9.4E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S1 avg	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.0E-10	2.5E-09	9.2E-09	5.6E-09	2.5E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S1 avg	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9.4E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S1 avg	5.3E-05	1.9E-09	4.7E-09	2.8E-09	4.2E-09	1.5E-08	5.4E-08	3.3E-08	1.5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S1 avg	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S1 avg	1.5E-12	5.3E-17	1.3E-16	8.0E-17	1.2E-16	4.1E-16	1.5E-15	9.4E-16	4.1E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S1 avg	9.5E-12	3.3E-16	8.3E-16	5.0E-16	7.4E-16	2.6E-15	9.7E-15	5.9E-15	2.6E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S1 avg	1.3E-11	4.4E-16	1.1E-15	6.6E-16	9.8E-16	3.4E-15	1.3E-14	7.7E-15	3.4E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S1 avg	2.3E-11	8.2E-16	2.0E-15	1.2E-15	1.8E-15	6.3E-15	2.4E-14	1.4E-14	6.3E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S1 avg	1.5E-11	5.4E-16	1.3E-15	8.1E-16	1.2E-15	4.2E-15	1.6E-14	9.4E-15	4.2E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	S1 avg	1.7E-10	6.1E-15	1.5E-14	9.2E-15	1.4E-14	4.8E-14	1.8E-13	1.1E-13	4.8E-14
OCDD	1.5E+02	NA	NA	6.15E-09	S1 avg	8.6E-10	3.0E-14	7.5E-14	4.6E-14	6.7E-14	2.4E-13	8.8E-13	5.3E-13	2.4E-13
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	S1 avg	1.2E-11	4.3E-16	1.1E-15	6.5E-16	9.6E-16	3.4E-15	1.3E-14	7.6E-15	3.4E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S1 avg	4.8E-11	1.7E-15	4.2E-15	2.6E-15	3.8E-15	1.3E-14	4.9E-14	3.0E-14	1.3E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S1 avg	6.5E-11	2.3E-15	5.7E-15	3.5E-15	5.1E-15	1.8E-14	6.7E-14	4.0E-14	1.8E-14
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	S1 avg	2.0E-10	7.0E-15	1.8E-14	1.1E-14	1.6E-14	5.5E-14	2.0E-13	1.2E-13	5.5E-14
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	S1 avg	1.9E-10	6.6E-15	1.6E-14	9.9E-15	1.5E-14	5.1E-14	1.9E-13	1.2E-13	5.1E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S1 avg	2.1E-10	7.4E-15	1.8E-14	1.1E-14	1.6E-14	5.8E-14	2.2E-13	1.3E-13	5.8E-14

TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S1 avg	NT	NT	NT	NT	1 5E-06	5.5E-06	3.3E-06	1.5E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S1 avg	3.2E-09	8.0E-09	4.8E-09	7.2E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S1 avg	NT	NT	NT	NT	1.7E-06	6.4E-06	3.9E-06	1.7E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S1 avg	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Phenanthrene	NA	NA	NA	6.7E-06	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	S1 avg	NT	NT	NT	NT	1.4E-09	5.3E-09	3.2E-09	1.4E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S1 avg	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	S1 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	S1 avg	7.0E-13	1.7E-12	1.1E-12	1.6E-12	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	S1 avg	5.5E-12	1.4E-11	8.3E-12	1.2E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	S1 avg	5.1E-13	1.3E-12	7.7E-13	1.1E-12	7.9E-07	2.9E-06	1.8E-06	7.9E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S1 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	7.8E-08	3.5E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	S1 avg	NT	NT	NT	NT	8.2E-07	3.1E-06	1.9E-06	8.2E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S1 avg	NT	NT	NT	NT	5.9E-09	2.2E-08	1.3E-08	5.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S1 avg	NT	NT	NT	NT	1.5E-08	5.5E-08	3.3E-08	1.5E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S1 avg	NT	NT	NT	NT	6.7E-09	2.5E-08	1.5E-08	6.7E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S1 avg	3.5E-12	8.7E-12	5.3E-12	7.8E-12	4.8E-07	1.8E-06	1.1E-06	4.8E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S1 avg	5.5E-13	1.4E-12	8.2E-13	1.2E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	S1 avg	NT	NT	NT	NT	1.9E-07	7.0E-07	4.2E-07	1.9E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S1 avg	NT	NT	NT	NT	6.4E-09	3.2E-08	1.9E-08	6.4E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S1 avg	2.7E-13	6.8E-13	4.1E-13	6.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S1 avg	NT	NT	NT	NT	1.7E-07	6.4E-07	3.9E-07	1.7E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S1 avg	3.6E-10	9.0E-10	5.5E-10	8.1E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S1 avg	NT	NT	NT	NT	2.9E-08	1.1E-07	6 6E-08	2.9E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S1 avg	NT	NT	NT	NT	4.2E-10	1.6E-09	9.5E-10	4 2E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S1 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S1 avg	2.5E-11	6.2E-11	3.8E-11	5.6E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S1 avg	6.6E-12	1.6E-11	1.0E-11	1.5E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S1 avg	1.2E-11	3.1E-11	1.8E-11	2.7E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S1 avg	8.1E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	S1 avg	9.2E-12	2.3E-11	1 4E-11	2.0E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	S1 avg	4.5E-12	1.1E-11	6 8E-12	1.0E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	S1 avg	6.5E-12	1 6E-11	9 8E-12	1 4E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S1 avg	1.3E-11	3 2E-11	1 9E-11	2 8E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S1 avg	1.7E-10	4.3E-10	2 6E-10	3 8E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	S1 avg	1 1E-10	2 6E-10	1 6E-10	2 3E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	S1 avg	9.9E-11	2 5E-10	1 5E-10	2 2E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S1 avg	1 1E-10	2 8E-10	1 7E-10	2 5E-10	NT	NT	NT	NT

TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S1 avg	4.1E-11	1.4E-15	3.6E-15	2 2E-15	3 2E-15	1.1E-14	4.2E-14	2 5E-14	1.1E-14
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	S1 avg	1.3E-09	4.6E-14	1.1E-13	6 9E-14	1 0E-13	3.6E-13	1.3E-12	8 1E-13	3 6E-13
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1.22E-09	S1 avg	1.7E-10	6.0E-15	1 5E-14	9.1E-15	1.3E-14	4 7E-14	1.7E-13	1.1E-13	4.7E-14
OCDF	1.5E+02	NA	NA	1.89E-08	S1 avg	2.7E-09	9.3E-14	2.3E-13	1.4E-13	2.1E-13	7.3E-13	2.7E-12	1.6E-12	7.3E-13
Dioxin TEQ				4.28E-08		6.0E-09	2.1E-13	5.3E-13	3.2E-13	4.7E-13	1.6E-12	6.1E-12	3 7E-12	1.6E-12
Aluminum	NA	NA	NA	2.4E-04	S1 avg	3.4E-05	1.2E-09	2 9E-09	1.8E-09	2 6E-09	9.2E-09	3.4E-08	2.1E-08	9.2E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	S1 avg	5.9E-07	2.1E-11	5.2E-11	3.1E-11	4.6E-11	1.6E-10	6.0E-10	3.6E-10	1.6E-10
Arsenic	50	0 000263	7.5E-05	3.7E-05	S1 avg	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.1E-10	1.4E-09	5.3E-09	3 2E-09	1.4E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	S1 avg	2.1E-05	7.4E-10	1.8E-09	1.1E-09	1.6E-09	5.8E-09	2.1E-08	1.3E-08	5.8E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S1 avg	4.6E-09	1.6E-13	4 1E-13	2.4E-13	3.6E-13	1.3E-12	4.7E-12	2 9E-12	1 3E-12
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	S1 avg	2.2E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6.1E-10	2.3E-09	1.4E-09	6.1E-10
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	S1 avg	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6.1E-11	2.7E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S1 avg	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6.1E-11	2.7E-11
Copper	NA	NA	NA	9.4E-05	S1 avg	1.3E-05	4.6E-10	1.2E-09	7.0E-10	1.0E-09	3.6E-09	1.3E-08	8 1E-09	3.6E-09
Lead	NA	NA	NA	4.3E-05	S1 avg	6.0E-06	2.1E-10	5.3E-10	3.2E-10	4.7E-10	1.6E-09	6.2E-09	3 7E-09	1.6E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	S1 avg	2 0E-04	6.9E-09	1.7E-08	1 0E-08	1.5E-08	5.4E-08	2.0E-07	1 2E-07	5 4E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S1 avg	7.0E-07	2.5E-11	6.1E-11	3.7E-11	5.5E-11	1.9E-10	7.2E-10	4 3E-10	1.9E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	S1 avg	6 6E-05	2.3E-09	5 8E-09	3.5E-09	5.1E-09	1.8E-08	6.7E-08	4.1E-08	1.8E-08
Silver	NA	0.004375	1.3E-03	1.5E-05	S1 avg	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.8E-10	2.1E-09	1.3E-09	5.8E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	S1 avg	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2.9E-09	1.3E-09
Zinc	NA	0 2625	7.5E-02	1.2E-04	S1 avg	1.7E-05	5.9E-10	1.5E-09	8.9E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S1 avg	4.5E-03	1.6E-07	3 9E-07	2.4E-07	3 5E-07	1.2E-06	4 6E-06	2 8E-06	1.2E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S1 avg	3.4E-01	1.2E-05	3.0E-05	1.8E-05	2.7E-05	9.3E-05	3.5E-04	2 1E-04	9.3E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S1 avg	1.3E-02	4.5E-07	1.1E-06	6.8E-07	1.0E-06	3.5E-06	1.3E-05	7 9E-06	3 5E-06
Particulate matter	NA	NA	NA	7.2E-02	S1 avg	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6 2E-06	2.8E-06
Respirable particulates	NF	NF	NF	7.2E-02	S1 avg	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6.2E-06	2.8E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

External Review Draft Do Not Cite or Quote

TABLE 7 Average Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S1 avg	2.2E-11	5.4E-11	3.3E-11	4.8E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S1 avg	6.9E-11	1.7E-10	1.0E-10	1.5E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S1 avg	9.0E-12	2.2E-11	1.4E-11	2.0E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	S1 avg	1.4E-11	3.5E-11	2.1E-11	3.1E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		6.9E-10	1.7E-09	1.0E-09	1.5E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	S1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	S1 avg	NT	NT	NT	NT		1.6E-06	6.0E-06	3.6E-06	1.6E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	S1 avg	9.1E-09	2.3E-08	1.4E-08	2.0E-08		1.9E-05	7.1E-05	4.3E-05	1.9E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	S1 avg	NT	NT	NT	NT		1.6E-04	6.0E-04	3.6E-04	1.6E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S1 avg	1.4E-12	3.4E-12	2.1E-12	3.0E-12		1.0E-09	3.8E-09	2.3E-09	1.0E-09
Cadmium	6.1	0.000429	1.3E-04	1.6E-05	S1 avg	4.8E-10	1.2E-09	7.2E-10	1.1E-09		4.9E-06	1.8E-05	1.1E-05	4.9E-06
Chromium (hexavalent)	41	0.0043	1.3E-03	7.1E-07	S1 avg	1.4E-10	3.6E-10	2.2E-10	3.2E-10		2.2E-08	8.1E-08	4.9E-08	2.2E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S1 avg	NT	NT	NT	NT		1.1E-10	4.1E-10	2.5E-10	1.1E-10
Copper	NA	NA	NA	9.4E-05	S1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	S1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	S1 avg	NT	NT	NT	NT		[illegible]	9.4E-03	5.7E-03	2.5E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S1 avg	2.1E-11	5.2E-11	3.1E-11	4.6E-11		3.8E-[illegible]	1.4E-07	8.7E-08	3.8E-08
Selenium	NA	0.004375	1.3E-03	4.7E-04	S1 avg	NT	NT	NT	NT		1.4E-05	5.4E-05	3.3E-05	1.4E-05
Silver	NA	0.004375	1.3E-03	1.5E-05	S1 avg	NT	NT	NT	NT		4.6E-07	1.7E-06	1.0E-06	4.6E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	S1 avg	NT	NT	NT	NT		7.4E-05	2.8E-04	1.7E-04	7.4E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	S1 avg	NT	NT	NT	NT		6.1E-08	2.3E-07	1.4E-07	6.1E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S1 avg	NT	NT	NT	NT		2.5E-01	9.2E-03	5.5E-03	2.5E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	S1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	S1 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.5E-08	3.8E-08	2.3E-08	3.4E-08	Total HI	5.9E-03	2.2E-02	1.3E-02	5.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S2 avg	4 4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1 2E-10	4 5E-10	2 7E-10	1 2E-10
Acenaphthylene	NF	NF	NF	6.7E-06	S2 avg	4.4E-07	1.6E-11	3 9E-11	2 3E-11	3.5E-11	1.2E-10	4.5E-10	2 7E-10	1.2E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S2 avg	2.0E-05	7.0E-10	1.7E-09	1.1E-09	1 6E-09	5 4E-09	2.0E-08	1 2E-08	5.4E-09
Acetone	NA	0.0875	2 5E-02	2.9E-03	S2 avg	1.9E-04	6.7E-09	1.7E-08	1.0E-08	1.5E-08	5.2E-08	2.0E-07	1.2E-07	5.2E-08
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S2 avg	1.9E-05	6 8E-10	1.7E-09	1.0E-09	1.5E-09	5.3E-09	2.0E-08	1 2E-08	5.3E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S2 avg	1.3E-05	4 7E-10	1.2E-09	7.1E-10	1.0E-09	3 7E-09	1.4E-08	8 2E-09	3.7E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S2 avg	9.7E-07	3.4E-11	8.5E-11	5.1E-11	7.6E-11	2 7E-10	9.9E-10	6 0E-10	2.7E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S2 avg	7.5E-07	2.6E-11	6.5E-11	4.0E-11	5.8E-11	2 0E-10	7.6E-10	4 6E-10	2.0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S2 avg	2.1E-06	7.4E-11	1.9E-10	1.1E-10	1.7E-10	5.8E-10	2.2E-09	1 3E-09	5 8E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9 9E-11	3.7E-10	2 2E-10	9.9E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9 9E-11	3.7E-10	2 2E-10	9.9E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9 9E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4.5E-10	2 7E-10	1 2E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S2 avg	8 8E-07	3.1E-11	7.7E-11	4.7E-11	6.9E-11	2.4E-10	9.0E-10	5 4E-10	2 4E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4.5E-10	2 7E-10	1.2E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	S2 avg	2.5E-06	8.6E-11	2.2E-10	1.3E-10	1.9E-10	6.7E-10	2 5E-09	1.5E-09	6 7E-10
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	S2 avg	6.8E-06	2.4E-10	6.0E-10	3.6E-10	5.3E-10	1.9E-09	7.0E-09	4 2E-09	1.9E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	S2 avg	3 6E-07	1.3E-11	3.2E-11	1.9E-11	2 8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S2 avg	3.2E-05	1.1E-09	2.8E-09	1.7E-09	2 5E-09	8 9E-09	3 3E-08	2 0E-08	8 9E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4.5E-10	2 7E-10	1.2E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	S2 avg	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.3E-10	3.5E-09	2 1E-09	9 3E-10
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S2 avg	5.9E-06	2.1E-10	5.2E-10	3.1E-10	4.6E-10	1.6E-09	6.0E-09	3 6E-09	1 6E-09
Carbon tetrachloride	5 3E-02	0.0005	1 4E-04	1.6E-04	S2 avg	1.0E-05	3.7E-10	9.2E-10	5.5E-10	8.2E-10	2 9E-09	1.1E-08	6 5E-09	2 9E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S2 avg	3.6E-08	1.3E-12	3.2E-12	1.9E-12	2 8E-12	9.9E-12	3.7E-11	2.2E-11	9.9E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4 5E-10	2 7E-10	1 2E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S2 avg	4.4E-07	1 6E-11	3.9E-11	2.3E-11	3.5E-11	1 2E-10	4 5E-10	2 7E-10	1 2E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S2 avg	2.4E-06	8.6E-11	2.1E-10	1.3E-10	1.9E-10	6.7E-10	2.5E-09	1 5E-09	6.7E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S2 avg	3.2E-05	1.1E-09	2.8E-09	1.7E-09	2.5E-09	8.9E-09	3.3E-08	2 0E-08	8.9E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S2 avg	1.8E-05	6.2E-10	1.5E-09	9.3E-10	1.4E-09	4.8E-09	1.8E-08	1 1E-08	4.8E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	S2 avg	1.6E-05	5 7E-10	1.4E-09	8.6E-10	1.3E-09	4.4E-09	1.7E-08	1 0E-08	4.4E-09
Chloronaphthalene, beta	NA	0.07	2 0E-02	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1 2E-10	4.5E-10	2.7E-10	1.2E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1 9E-11	2.8E-11	9.9E-11	3 7E-10	2 2E-10	9.9E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S2 avg	4.4E-07	1 6E-11	3 9E-11	2 3E-11	3.5E-11	1 2E-10	4 5E-10	2 7E-10	1 2E-10
Chrysene	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	S2 avg	3.6E-07	1.3E-11	3 2E-11	1.9E-11	2 8E-11	9 9E-11	3 7E-10	2.2E-10	9 9E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S2 avg	3.6E-07	1.3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S2 avg	3 6E-07	1.3E-11	3 2E-11	1 9E-11	2 8E-11	9.9E-11	3 7E-10	2 2E-10	9 9E-11
Crotonaldehyde	NA	NA	NA	1.4E-04	S2 avg	9.2E-06	3.2E-10	8 0E-10	4 9E-10	7 2E-10	2.5E-09	9 4E-09	5 7E-09	2 5E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	S2 avg	3 6E-07	1 3E-11	3 2E-11	1.9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
DDE, 4,4'-	NA	NA	NA	5 5E-07	S2 avg	3 6E-08	1 3E-12	3 2E-12	1 9E-12	2 8E-12	9 9E-12	3 7E-11	2 2E-11	9 9E-12
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	S2 avg	3 6E-07	1 3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	S2 avg	1 7E-06	6 1E-11	1 5E-10	9 2E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S2 avg	3 6E-07	1 3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5 5E-06	S2 avg	3 6E-07	1 3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	S2 avg	3 6E-07	1 3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2.2E-10	9 9E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	S2 avg	2 2E-06	7 7E-11	1 9E-10	1 2E-10	1 7E-10	6 0E-10	2 2E-09	1 4E-09	6 0E-10
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S2 avg	3 1E-09	1.1E-13	2 7E-13	1 6E-13	2 4E-13	8 5E-13	3 2E-12	1 9E-12	8 5E-13

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TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S2 avg	NT	NT	NT	NT	8 1E-09	3.0E-08	1.8E-08	8.1E-09
Acenaphthylene	NF	NF	NF	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S2 avg	5.4E-12	1.3E-11	8.1E-12	1.2E-11	8 5E-06	3.2E-05	1.9E-05	8.5E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	S2 avg	NT	NT	NT	NT	2.1E-06	7.8E-06	4.7E-06	2.1E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S2 avg	NT	NT	NT	NT	2.1E-07	7.9E-07	4.8E-07	2.1E-07
Acrylonitrile	2.4E-01	0.0005	1 4E-04	2.0E-04	S2 avg	1.1E-10	2.8E-10	1.7E-10	2.5E-10	2 6E-05	9.6E-05	5.8E-05	2.6E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S2 avg	NT	NT	NT	NT	1.3E-09	5.0E-09	3.0E-09	1.3E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S2 avg	9.9E-13	2.5E-12	1.5E-12	2 2E-12	6 2E-07	2.3E-08	1.4E-06	6 2E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S2 avg	NT	NT	NT	NT	2.0E-10	7.6E-10	4.6E-10	2.0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S2 avg	3.4E-11	8.5E-11	5.1E-11	7.6E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	S2 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	S2 avg	NT	NT	NT	NT	1.3E-07	5.0E-07	3.0E-07	1.3E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	S2 avg	NT	NT	NT	NT	3.7E-07	1.4E-06	8.4E-07	3.7E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	S2 avg	4.9E-14	1.2E-13	7.4E-14	1.1E-13	2.0E-08	7.4E-08	4.5E-08	2.0E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S2 avg	NT	NT	NT	NT	2.5E-05	9.3E-05	5.6E-05	2.5E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	S2 avg	NT	NT	NT	NT	1.3E-08	4.9E-08	2.9E-08	1.3E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S2 avg	NT	NT	NT	NT	2.0E-09	7.4E-09	4.5E-09	2.0E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S2 avg	NT	NT	NT	NT	2.3E-06	8.4E-06	5.1E-06	2.3E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S2 avg	1.9E-11	4.8E-11	2.9E-11	4.3E-11	2.0E-05	7.5E-05	4.5E-05	2.0E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S2 avg	1.7E-12	4.1E-12	2.5E-12	3.7E-12	6.6E-07	2.5E-06	1.5E-06	6.6E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S2 avg	NT	NT	NT	NT	1.2E-07	4.5E-07	2.7E-07	1.2E-07
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	S2 avg	NT	NT	NT	NT	7.0E-08	2.6E-07	1.6E-07	7.0E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S2 avg	2.3E-11	5.8E-11	3.5E-11	5.2E-11	1.3E-07	5.0E-07	3.0E-07	1 3E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S2 avg	NT	NT	NT	NT	1.2E-08	4.6E-08	2.8E-08	1.2E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S2 avg	5.0E-11	1.2E-10	7.5E-11	1.1E-10	1.9E-06	7.2E-06	4.3E-06	1.9E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	S2 avg	3.6E-12	8.9E-12	5.4E-12	8.0E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S2 avg	NT	NT	NT	NT	6.0E-09	2.3E-08	1.4E-08	6.0E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S2 avg	NT	NT	NT	NT	8.0E-08	3.0E-07	1.8E-07	8.0E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	S2 avg	NT	NT	NT	NT	8.0E-09	3.0E-08	1 8E-08	8.0E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S2 avg	NT	NT	NT	NT	8 0E-09	3 0E-08	1 8E-08	8 0E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S2 avg	NT	NT	NT	NT	8.0E-08	3.0E-07	1.8E-07	8 0E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	S2 avg	NT	NT	NT	NT	1 5E-07	5.8E-07	3 5E-07	1 5E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	S2 avg	NT	NT	NT	NT	9 5E-08	3 6E-07	2 1E-07	9 5E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	S2 avg	NT	NT	NT	NT	1 7E-09	6 5E-09	3 9E-09	1 7E-09
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	S2 avg	NT	NT	NT	NT	7 0E-09	2 6E-08	1 6E-08	7 0E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S2 avg	1.6E-05	5.7E-10	1.4E-09	8 6E-10	1 3E-09	4.4E-09	1.7E-08	1 0E-08	4.4E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S2 avg	8.3E-07	2.9E-11	7.2E-11	4 4E-11	6 5E-11	2.3E-10	8.4E-10	5 1E-10	2 3E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S2 avg	8.3E-07	2.9E-11	7.2E-11	4 4E-11	6.5E-11	2.3E-10	8.4E-10	5.1E-10	2 3E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S2 avg	8.3E-07	2.9E-11	7 2E-11	4 4E-11	6.5E-11	2.3E-10	8 4E-10	5 1E-10	2.3E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5 0E-03	1.3E-05	S2 avg	8.3E-07	2.9E-11	7 2E-11	4 4E-11	6.5E-11	2.3E-10	8.4E-10	5 1E-10	2.3E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1 9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S2 avg	8.3E-07	2.9E-11	7 2E-11	4.4E-11	6.5E-11	2.3E-10	8.4E-10	5.1E-10	2.3E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S2 avg	8.3E-07	2.9E-11	7.2E-11	4.4E-11	6.5E-11	2.3E-10	8.4E-10	5 1E-10	2.3E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S2 avg	8.3E-07	2.9E-11	7.2E-11	4 4E-11	6.5E-11	2.3E-10	8.4E-10	5 1E-10	2.3E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S2 avg	1.1E-06	3.9E-11	9.8E-11	5.9E-11	8.7E-11	3.0E-10	1.1E-09	6 9E-10	3.0E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S2 avg	7.6E-06	2.7E-10	6.7E-10	4.0E-10	5.9E-10	2.1E-09	7.8E-09	4.7E-09	2.1E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9 9E-11	3.7E-10	2 2E-10	9 9E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9 9E-11
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	S2 avg	1.0E-06	3.6E-11	9.1E-11	5.5E-11	8.1E-11	2.8E-10	1.1E-09	6.4E-10	2.8E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2 8E-11	9.9E-11	3.7E-10	2 2E-10	9 9E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S2 avg	3.3E-05	1.1E-09	2.9E-09	1.7E-09	2.6E-09	8.9E-09	3.3E-08	2.0E-08	8 9E-09
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2 8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
D, 2,4-	NA	0 00875	2 5E-03	3.9E-05	S2 avg	2.6E-06	9.0E-11	2.2E-10	1.4E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S2 avg	1.6E-05	5.7E-10	1.4E-09	8.6E-10	1.3E-09	4.4E-09	1.7E-08	1 0E-08	4 4E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S2 avg	3.3E-05	1.2E-09	2.9E-09	1.7E-09	2.6E-09	9.0E-09	3.4E-08	2 0E-08	9.0E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S2 avg	7.6E-06	2.7E-10	6.7E-10	4.0E-10	5.9E-10	2.1E-09	7.8E-09	4 7E-09	2 1E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S2 avg	2.0E-06	7.1E-11	1.8E-10	1.1E-10	1.6E-10	5.5E-10	2.1E-09	1 2E-09	5 5E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S2 avg	9.6E-12	3.4E-16	8.5E-16	5.1E-16	7.5E-16	2.6E-15	9.9E-15	6.0E-15	2.6E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Fluorene	NA	0.035	1.0E-02	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2 3E-11	3.5E-11	1.2E-10	4.5E-10	2 7E-10	1.2E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S2 avg	4.0E-05	1.4E-09	3.5E-09	2.1E-09	3.1E-09	1.1E-08	4.1E-08	2 5E-08	1.1E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Heptachlor	4.5E+00	0.000438	1 3E-04	5.5E-07	S2 avg	3.6E-08	1.3E-12	3.2E-12	1.9E-12	2.8E-12	9.9E-12	3.7E-11	2 2E-11	9.9E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	9.2E-10	3.3E-14	8.1E-14	4.9E-14	7.2E-14	2 5E-13	9.5E-13	5 7E-13	2.5E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	9.2E-10	3.3E-14	8.1E-14	4.9E-14	7.2E-14	2.5E-13	9.5E-13	5 7E-13	2.5E-13
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	S2 avg	6.7E-06	2.3E-10	5.8E-10	3.5E-10	5 2E-10	1.8E-09	6 8E-09	4 1E-09	1.8E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S2 avg	3.6E-06	1.3E-10	3.2E-10	1.9E-10	2 8E-10	9 9E-10	3.7E-09	2 2E-09	9.9E-10
Hexachlorocyclopentadiene	NA	0 000018	5 0E-06	5.5E-06	S2 avg	3.6E-07	1.3E-11	3 2E-11	1.9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1 9E-11	2.8E-11	9 9E-11	3.7E-10	2 2E-10	9.9E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S2 avg	2.1E-06	7.4E-11	1.9E-10	1.1E-10	1.7E-10	5 8E-10	2 2E-09	1 3E-09	5.8E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	S2 avg	4.2E-06	1.5E-10	3.7E-10	2.2E-10	3 3E-10	1.2E-09	4.3E-09	2 6E-09	1 2E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S2 avg	3.6E-07	1 3E-11	3.2E-11	1 9E-11	2 8E-11	9.9E-11	3 7E-10	2 2E-10	9.9E-11
Isophorone	NA	0.175	5.0E-02	6.7E-06	S2 avg	4.4E-07	1 6E-11	3 9E-11	2.3E-11	3 5E-11	1.2E-10	4 5E-10	2 7E-10	1 2E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S2 avg	7.6E-06	2.7E-10	6 7E-10	4 0E-10	5 9E-10	2 1E-09	7 8E-09	4 7E-09	2 1E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S2 avg	3.6E-08	1.3E-12	3 2E-12	1 9E-12	2 8E-12	9 9E-12	3 7E-11	2 2E-11	9 9E-12
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	S2 avg	8.3E-07	2.9E-11	7 2E-11	4.4E-11	6 5E-11	2 3E-10	8 4E-10	5 1E-10	2 3E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	S2 avg	8 3E-07	2 9E-11	7 2E-11	4 4E-11	6 5E-11	2 3E-10	8 4E-10	5 1E-10	2 3E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S2 avg	2 6E-05	9.2E-10	2 3E-09	1 4E-09	2.0E-09	7 2E-09	2 7E-08	1 6E-08	7 2E-09
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S2 avg	2.8E-06	9.7E-11	2 4E-10	1 5E-10	2 2E-10	7 6E-10	2 8E-09	1 7E-09	7 6E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S2 avg	1.1E-09	3 9E-14	9 6E-14	5 8E-14	8 6E-14	3 0E-13	1 1E-12	6 8E-13	3 0E-13
Naphthalene	NA	0.035	1.0E-02	5.5E-06	S2 avg	3 6E-07	1 3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	S2 avg	4 4E-07	1 6E-11	3 9E-11	2 3E-11	3 5E-11	1 2E-10	4 5E-10	2 7E-10	1 2E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S2 avg	4 4E-07	1 6E-11	3 9E-11	2 3E-11	3 5E-11	1 2E-10	4 5E-10	2 7E-10	1 2E-10

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TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S2 avg	NT	NT	NT	NT	3 1E-07	1.2E-06	7.0E-07	3 1E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S2 avg	NT	NT	NT	NT	6.3E-09	2.4E-08	1.4E-08	6.3E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S2 avg	2.6E-12	6 6E-12	4.0E-12	5.9E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S2 avg	3.5E-11	8.7E-11	5.2E-11	7.7E-11	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S2 avg	NT	NT	NT	NT	4.5E-08	1.7E-07	1.0E-07	4 5E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S2 avg	NT	NT	NT	NT	1 3E-07	5.0E-07	3.0E-07	1.3E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S2 avg	NT	NT	NT	NT	7.9E-07	3.0E-06	1.8E-06	7.9E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S2 avg	3 8E-12	9.4E-12	5.7E-12	8.4E-12	1 6E-07	5.9E-07	3.6E-07	1 6E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S2 avg	3.8E-12	9.4E-12	5.7E-12	8.4E-12	1 6E-07	5.9E-07	3.6E-07	1 6E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S2 avg	NT	NT	NT	NT	1.5E-09	5.7E-09	3.4E-09	1.5E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S2 avg	NT	NT	NT	NT	2.0E-08	7.4E-08	4.5E-08	2.0E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	S2 avg	NT	NT	NT	NT	1.1E-08	4.2E-08	2.6E-08	1.1E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S2 avg	NT	NT	NT	NT	4.0E-07	1.5E-06	9.0E-07	4.0E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S2 avg	NT	NT	NT	NT	2.0E-07	7.4E-07	4.5E-07	2 0E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S2 avg	NT	NT	NT	NT	2.0E-07	7.4E-07	4.5E-07	2.0E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	S2 avg	NT	NT	NT	NT	2.0E-08	7.4E-08	4.5E-08	2 0E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	S2 avg	NT	NT	NT	NT	2 8E-07	1.0E-06	6.3E-07	2 8E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S2 avg	NT	NT	NT	NT	2.0E-07	7.4E-07	4.4E-07	2.0E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S2 avg	NT	NT	NT	NT	1.3E-07	4.7E-07	2.8E-07	1.3E-07
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1.2E-04	S2 avg	2.0E-10	5.1E-10	3.1E-10	4.5E-10	1.5E-04	5.4E-04	3.3E-04	1.5E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S2 avg	2.5E-11	6.2E-11	3.7E-11	5.5E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S2 avg	NT	NT	NT	NT	1.3E-10	4.9E-10	3.0E-10	1.3E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S2 avg	NT	NT	NT	NT	9.9E-09	3.7E-08	2.2E-08	9.9E-09
Fluorene	NA	0.035	1.0E-02	6.7E-06	S2 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	S2 avg	6.3E-11	1.6E-10	9.6E-11	1.4E-10	2.2E-07	8.2E-07	5.0E-07	2.2E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	S2 avg	NT	NT	NT	NT	2.8E-08	1.0E-07	6.3E-08	2 8E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S2 avg	5.8E-12	1.4E-11	8.7E-12	1.3E-11	8.0E-08	3.0E-07	1.8E-07	8.0E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S2 avg	2.1E-11	5.1E-11	3.1E-11	4.6E-11	5.0E-07	1.9E-06	1.1E-06	5.0E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	S2 avg	1.8E-11	4.6E-11	2.8E-11	4.1E-11	3 7E-05	1.4E-04	8.2E-05	3.7E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7 5E-05	5.5E-05	S2 avg	NT	NT	NT	NT	1.3E-05	4.9E-05	3.0E-05	1 3E-05
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	S2 avg	NT	NT	NT	NT	2.0E-05	7.4E-05	4.5E-05	2.0E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	S2 avg	1.8E-13	4.5E-13	2.7E-13	4.0E-13	4 0E-07	1.5E-06	9.0E-07	4.0E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S2 avg	NT	NT	NT	NT	7.7E-06	2.9E-05	1.7E-05	7.7E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	S2 avg	NT	NT	NT	NT	2.4E-09	9 0E-09	5.5E-09	2 4E-09
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	S2 avg	NT	NT	NT	NT	1 7E-08	6.2E-08	3 8E-08	1.7E-08
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	S2 avg	NT	NT	NT	NT	8 0E-09	3 0E-08	1.8E-08	8 0E-09
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	S2 avg	NT	NT	NT	NT	1 1E-09	3 9E-09	2.4E-09	1.1E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1 3E-05	S2 avg	NT	NT	NT	NT	4 0E-08	1 5E-07	8 9E-08	4 0E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S2 avg	1 5E-12	3.8E-12	2 3E-12	3 4E-12	3 3E-08	1 2E-07	7.5E-08	3 3E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	S2 avg	NT	NT	NT	NT	9 9E-09	3 7E-08	2 2E-08	9 9E-09
Nitroaniline, 2-	NA	0.00005	1 4E-05	6.7E-06	S2 avg	NT	NT	NT	NT	8 5E-06	3 2E-05	1 9E-05	8 5E-06
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2 3E-11	3.5E-11	1 2E-10	4.5E-10	2.7E-10	1 2E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S2 avg	3.6E-07	1.3E-11	3 2E-11	1.9E-11	2.8E-11	9 9E-11	3.7E-10	2 2E-10	9.9E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4.5E-10	2.7E-10	1 2E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9 9E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S2 avg	8.0E-06	2.8E-10	7 0E-10	4.2E-10	6.2E-10	2.2E-09	8.2E-09	4.9E-09	2.2E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4.5E-10	2.7E-10	1.2E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4.5E-10	2 7E-10	1.2E-10
Nonachlorobiphenyl	NA	NA	NA	1 4E-08	S2 avg	9.2E-10	3.3E-14	8.1E-14	4.9E-14	7.2E-14	2.5E-13	9.5E-13	5.7E-13	2.5E-13
Octachlorobiphenyl	NA	NA	NA	1 4E-08	S2 avg	9.2E-10	3.3E-14	8.1E-14	4.9E-14	7.2E-14	2.5E-13	9.5E-13	5.7E-13	2.5E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	S2 avg	3.1E-06	1.1E-10	2.8E-10	1.7E-10	2 5E-10	8.6E-10	3.2E-09	1.9E-09	8.6E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	9.2E-10	3.3E-14	8.1E-14	4.9E-14	7.2E-14	2.5E-13	9.5E-13	5.7E-13	2.5E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S2 avg	2.2E-06	7.8E-11	2.0E-10	1.2E-10	1.7E-10	6.1E-10	2.3E-09	1 4E-09	6.1E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Phenanthrene	NA	NA	NA	6.7E-06	S2 avg	4.4E-07	1.6E-11	3.9E-11	2.3E-11	3.5E-11	1.2E-10	4.5E-10	2.7E-10	1.2E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9 9E-11
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S2 avg	3 6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S2 avg	7.6E-06	2.7E-10	6.7E-10	4.0E-10	5.9E-10	2.1E-09	7.8E-09	4 7E-09	2.1E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	S2 avg	1.5E-06	5.2E-11	1.3E-10	7.9E-11	1.2E-10	4 1E-10	1.5E-09	9 2E-10	4 1E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	9.2E-10	3.3E-14	8.1E-14	4.9E-14	7.2E-14	2.5E-13	9.5E-13	5.7E-13	2.5E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	S2 avg	3.6E-07	1.3E-11	3 2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9 9E-11
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5 5E-06	S2 avg	3.6E-07	1.3E-11	3 2E-11	1.9E-11	2.8E-11	9.9E-11	3 7E-10	2 2E-10	9.9E-11
Tetrachloroethene	2.0E-03	0 00875	2 5E-03	5.1E-05	S2 avg	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.6E-10	9.3E-10	3 5E-09	2 1E-09	9 3E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S2 avg	4.5E-07	1.6E-11	3.9E-11	2.4E-11	3.5E-11	1.2E-10	4.6E-10	2 8E-10	1.2E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	S2 avg	4.0E-05	1.4E-09	3.5E-09	2.1E-09	3.2E-09	1.1E-08	4.1E-08	2 5E-08	1.1E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S2 avg	2.2E-05	7.7E-10	1.9E-09	1.2E-09	1.7E-09	6.0E-09	2.2E-08	1.3E-08	6.0E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5 5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S2 avg	2.0E-09	7.0E-14	1.7E-13	1.1E-13	1.6E-13	5.5E-13	2.0E-12	1 2E-12	5.5E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S2 avg	8.3E-07	2.9E-11	7.2E-11	4.4E-11	6.5E-11	2.3E-10	8.4E-10	5.1E-10	2.3E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S2 avg	8.3E-07	2.9E-11	7.2E-11	4.4E-11	6.5E-11	2.3E-10	8.4E-10	5 1E-10	2.3E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S2 avg	1.2E-06	4.3E-11	1.1E-10	6.5E-11	9.6E-11	3.4E-10	1.3E-09	7.6E-10	3.4E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	S2 avg	1.6E-05	5.7E-10	1.4E-09	8.6E-10	1.3E-09	4 4E-09	1.7E-08	1.0E-08	4 4E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S2 avg	4.2E-06	1.5E-10	3.7E-10	2.2E-10	3.3E-10	1.2E-09	4 3E-09	2 6E-09	1.2E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S2 avg	1.6E-05	5.7E-10	1.4E-09	8.6E-10	1.3E-09	4.4E-09	1 7E-08	1 0E-08	4.4E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S2 avg	2.5E-05	8.8E-10	2.2E-09	1.3E-09	2 0E-09	8.9E-09	2 6E-08	1 6E-08	8 9E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S2 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9 9E-11	3.7E-10	2 2E-10	9.9E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S2 avg	7.1E-13	2.5E-17	6 3E-17	3.6E-17	5 6E-17	2 0E-16	7 3E-16	4 4E-16	2 0E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S2 avg	4.5E-12	1.6E-16	3.9E-16	2.4E-16	3.5E-16	1.2E-15	4 6E-15	2 8E-15	1 2E-15
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	8.95E-11	S2 avg	5 9E-12	2.1E-16	5 2E-16	3 1E-16	4 6E-16	1 6E-15	6 0E-15	3 7E-15	1 6E-15
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	S2 avg	1.1E-11	3.8E-16	9 6E-16	5.8E-16	8 6E-16	3.0E-15	1.1E-14	6 8E-15	3 0E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S2 avg	7 2E-12	2.5E-16	6 3E-16	3 8E-16	5 6E-16	2 0E-15	7 4E-15	4 4E-15	2 0E-15
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	S2 avg	8 2E-11	2 9E-15	7 2E-15	4 3E-15	6 4E-15	2 2E-14	8 4E-14	5 1E-14	2 2E-14
OCDD	1 5E+02	NA	NA	6 15E-09	S2 avg	4 1E-10	1.4E-14	3 6E-14	2 2E-14	3 2E-14	1 1E-13	4 2E-13	2 5E-13	1 1E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	S2 avg	5 8E-12	2.0E-16	5 1E-16	3 1E-16	4 5E-16	1 6E-15	5 9E-15	3 6E-15	1 6E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3 45E-10	S2 avg	2 3E-11	8 0E-16	2 0E-15	1 2E-15	1 8E-15	6 2E-15	2 3E-14	1 4E-14	6 2E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S2 avg	3.1E-11	1 1E-15	2 7E-15	1 6E-15	2 4E-15	8 4E-15	3 2E-14	1 9E-14	8.4E-15
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1 43E-09	S2 avg	9 4E-11	3 3E-15	8 3E-15	5 0E-15	7 4E-15	2 6E-14	9 6E-14	5 8E-14	2 6E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	S2 avg	8 8E-11	3 1E-15	7 7E-15	4 7E-15	6 9E-15	2 4E-14	9 0E-14	5 4E-14	2 4E-14
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1 50E-09	S2 avg	9 9E-11	3 5E-15	8 7E-15	5 3E-15	7 8E-15	2 7E-14	1 0E-13	6 1E-14	2 7E-14

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TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S2 avg	NT	NT	NT	NT	7 0E-07	2.6E-06	1.6E-06	7 0E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S2 avg	1.5E-09	3 8E-09	2.3E-09	3.4E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S2 avg	NT	NT	NT	NT	8.1E-07	3.0E-06	1.8E-06	8.1E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S2 avg	NT	NT	NT	NT	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Phenanthrene	NA	NA	NA	6.7E-06	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	S2 avg	NT	NT	NT	NT	6 6E-10	2.5E-09	1.5E-09	6.6E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S2 avg	NT	NT	NT	NT	1 3E-08	5.0E-08	3.0E-08	1.3E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7 1E-02	2.3E-05	S2 avg	NT	NT	NT	NT	5.7E-09	2.1E-08	1.3E-08	5.7E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	S2 avg	3 3E-13	8.2E-13	5.0E-13	7.4E-13	1 3E-08	5.0E-08	3.0E-08	1.3E-08
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	S2 avg	2.6E-12	6.5E-12	3.9E-12	5.8E-12	NT	NT	NT	NT
Tetrachloroethene	2 0E-03	0 00875	2 5E-03	5.1E-05	S2 avg	2.4E-13	6.0E-13	3.6E-13	5.4E-13	3.7E-07	1.4E-06	8.4E-07	3.7E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S2 avg	NT	NT	NT	NT	1.6E-08	6.1E-08	3.7E-08	1 6E-08
Toluene	NA	0.1	2 9E-02	6.1E-04	S2 avg	NT	NT	NT	NT	3.9E-07	1.4E-06	8.8E-07	3 9E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S2 avg	NT	NT	NT	NT	2.8E-09	1.0E-08	6.3E-09	2 8E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S2 avg	NT	NT	NT	NT	7.0E-09	2.6E-08	1.6E-08	7 0E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S2 avg	NT	NT	NT	NT	3.2E-09	1.2E-08	7.1E-09	3 2E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S2 avg	1 7E-12	4.1E-12	2.5E-12	3.7E-12	2.3E-07	8.4E-07	5.1E-07	2.3E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S2 avg	2.6E-13	6.4E-13	3.9E-13	5.7E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	S2 avg	NT	NT	NT	NT	8.9E-08	3.3E-07	2.0E-07	8 9E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S2 avg	NT	NT	NT	NT	4.0E-09	1.5E-08	9.0E-09	4.0E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S2 avg	1.3E-13	3.2E-13	1.9E-13	2.8E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1 4E-02	6.4E-05	S2 avg	NT	NT	NT	NT	8.1E-08	3.0E-07	1.8E-07	8.1E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S2 avg	1.7E-10	4.3E-10	2.6E-10	3.8E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S2 avg	NT	NT	NT	NT	1.4E-08	5.1E-08	3.1E-08	1.4E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S2 avg	NT	NT	NT	NT	2.0E-10	7.4E-10	4.5E-10	2.0E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S2 avg	3.8E-12	9.4E-12	5.7E-12	8.4E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S2 avg	1.2E-11	2.9E-11	1.8E-11	2.6E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S2 avg	3.1E-12	7.8E-12	4 7E-12	6.9E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S2 avg	5.8E-12	1.4E-11	8 7E-12	1.3E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S2 avg	3.8E-12	9 5E-12	5 7E-12	8 4E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	S2 avg	4 3E-12	1.1E-11	6 5E-12	9 6E-12	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6.15E-09	S2 avg	2.1E-12	5 3E-12	3 2E-12	4 8E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	S2 avg	3.1E-12	7 6E-12	4 6E-12	6 8E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S2 avg	6.0E-12	1 5E-11	9 0E-12	1 3E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4 67E-10	S2 avg	8 1E-11	2 0E-10	1 2E-10	1 8E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	S2 avg	5.0E-11	1 2E-10	7 5E-11	1 1E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	S2 avg	4.7E-11	1.2E-10	7 0E-11	1 0E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1 50E-09	S2 avg	5 2E-11	1 3E-10	7 9E-11	1 2E-10	NT	NT	NT	NT

TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S2 avg	1.9E-11	6.8E-16	1.7E-15	1 0E-15	1 5E-15	5.3E-15	2.0E-14	1 2E-14	5 3E-15
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	S2 avg	6.1E-10	2 2E-14	5 4E-14	3.3E-14	4 8E-14	1 7E-13	6.3E-13	3 8E-13	1.7E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S2 avg	8.1E-11	2.8E-15	7.1E-15	4.3E-15	6.3E-15	2.2E-14	8.2E-14	5 0E-14	2.2E-14
OCDF	1.5E+02	NA	NA	1.89E-08	S2 avg	1.3E-09	4.4E-14	1.1E-13	6.6E-14	9.8E-14	3 4E-13	1.3E-12	7.7E-13	3.4E-13
Dioxin TEQ				4.28E-08		2.8E-09	9.9E-14	2.5E-13	1.5E-13	2.2E-13	7.7E-13	2.9E-12	1.7E-12	7.7E-13
Aluminum	NA	NA	NA	2.4E-04	S2 avg	1.6E-05	5.6E-10	1.4E-09	8.4E-10	1 2E-09	4.3E-09	1.6E-08	9.8E-09	4 3E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	S2 avg	2.8E-07	9.8E-12	2.4E-11	1.5E-11	2.2E-11	7.6E-11	2.8E-10	1.7E-10	7 6E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	S2 avg	2.4E-06	8.6E-11	2.1E-10	1.3E-10	1.9E-10	6.7E-10	2.5E-09	1 5E-09	6 7E-10
Barium	NA	0.000125	3.6E-05	1.5E-04	S2 avg	9.9E-06	3.5E-10	8.7E-10	5.2E-10	7.7E-10	2.7E-09	1.0E-08	6.1E-09	2.7E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S2 avg	2 2E-09	7.7E-14	1.9E-13	1.2E-13	1.7E-13	6 0E-13	2.2E-12	1.3E-12	6 0E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	S2 avg	1.1E-06	3.7E-11	9.3E-11	5.6E-11	8.3E-11	2.9E-10	1.1E-09	6 5E-10	2 9E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	S2 avg	4.7E-08	1.6E-12	4.1E-12	2.5E-12	3.7E-12	1.3E-11	4.8E-11	2 9E-11	1 3E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S2 avg	4.7E-08	1.6E-12	4.1E-12	2.5E-12	3.7E-12	1.3E-11	4.8E-11	2.9E-11	1.3E-11
Copper	NA	NA	NA	9.4E-05	S2 avg	6.2E-06	2.2E-10	5.4E-10	3.3E-10	4.9E-10	1.7E-09	6.3E-09	3 8E-09	1 7E-09
Lead	NA	NA	NA	4.3E-05	S2 avg	2.8E-06	1.0E-10	2.5E-10	1.5E-10	2.2E-10	7.8E-10	2.9E-09	1 8E-09	7.8E-10
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	S2 avg	9 2E-05	3.3E-09	8.1E-09	4.9E-09	7.2E-09	2 5E-08	9.5E-08	5 7E-08	2 5E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S2 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2.6E-11	9.0E-11	3.4E-10	2 0E-10	9.0E-11
Selenium	NA	0 004375	1 3E-03	4.7E-04	S2 avg	3.1E-05	1.1E-09	2.7E-09	1.6E-09	2.4E-09	8.5E-09	3.2E-08	1 9E-08	8 5E-09
Silver	NA	0 004375	1.3E-03	1.5E-05	S2 avg	9 9E-07	3.5E-11	8.7E-11	5.2E-11	7.7E-11	2.7E-10	1.0E-09	6 1E-10	2.7E-10
Thallium	NA	0.000061	1 8E-05	3.4E-05	S2 avg	2.2E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6.1E-10	2.3E-09	1 4E-09	6.1E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	S2 avg	7.9E-06	2.8E-10	6.9E-10	4.2E-10	6.2E-10	2.2E-09	8.1E-09	4 9E-09	2.2E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S2 avg	2.1E-03	7.4E-08	1.9E-07	1.1E-07	1.7E-07	5.8E-07	2.2E-06	1 3E-06	5 8E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S2 avg	1.6E-01	5.6E-06	1.4E-05	8.5E-06	1.2E-05	4.4E-05	1.6E-04	9 9E-05	4.4E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S2 avg	6.0E-03	2.1E-07	5.3E-07	3.2E-07	4.7E-07	1.6E-06	6.1E-06	3 7E-06	1.6E-06
Particulate matter	NA	NA	NA	7.2E-02	S2 avg	4.8E-03	1.7E-07	4.2E-07	2.5E-07	3.7E-07	1.3E-06	4.9E-06	2.9E-06	1.3E-06
Respirable particulates	NF	NF	NF	7.2E-02	S2 avg	4.8E-03	1.7E-07	4.2E-07	2.5E-07	3.7E-07	1.3E-06	4.9E-06	2 9E-06	1.3E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 8 Average Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	2.93E-10	S2 avg	1.0E-11	2.5E-11	1 5E-11	2.3E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S2 avg	3.2E-11	8 1E-11	4 9E-11	7 2E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1.22E-09	S2 avg	4.3E-12	1 1E-11	6 4E-12	9.5E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	S2 avg	6.6E-12	1.6E-11	9.9E-12	1.5E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		3.3E-10	8.2E-10	4.9E-10	7.3E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	S2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	S2 avg	NT	NT	NT	NT		7.6E-07	2.8E-06	1.7E-06	7 6E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	S2 avg	4.3E-09	1.1E-08	6.5E-09	9.6E-09		8.9E-06	3.3E-05	2 0E-05	8.9E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	S2 avg	NT	NT	NT	NT		7.6E-05	2.8E-04	1.7E-04	7 6E-05
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S2 avg	6 4E-13	1.6E-12	9.7E-13	1.4E-12		4.8E-10	1.8E-09	1.1E-09	4 8E-10
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	S2 avg	2.3E-10	5.7E-10	3.4E-10	5 0E-10		2.3E-06	8.6E-06	5.2E-06	2.3E-06
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	S2 avg	6.8E-11	1.7E-10	1.0E-10	1.5E-10		1 0E-08	3.8E-08	2.3E-08	1 0E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S2 avg	NT	NT	NT	NT		5.1E-11	1.9E-10	1 2E-10	5.1E-11
Copper	NA	NA	NA	9.4E-05	S2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	S2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	S2 avg	NT	NT	NT	NT		1 2E-03	4.4E-03	2.7E-03	1 2E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S2 avg	9.8E-12	2.4E-11	1.5E-11	2.2E-11		1.8E-08	6.8E-08	4.1E-08	1.8E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	S2 avg	NT	NT	NT	NT		6.8E-06	2.5E-05	1.5E-05	6.8E-06
Silver	NA	0.004375	1.3E-03	1.5E-05	S2 avg	NT	NT	NT	NT		2.2E-07	8.1E-07	4.9E-07	2 2E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	S2 avg	NT	NT	NT	NT		3.5E-05	1.3E-04	7.9E-05	3 5E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	S2 avg	NT	NT	NT	NT		2.9E-08	1.1E-07	6.5E-08	2.9E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S2 avg	NT	NT	NT	NT		1.2E-03	4.3E-03	2.6E-03	1.2E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	S2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	S2 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	7.3E-09	1.8E-08	1.1E-08	1.6E-08	Total HI	2.8E-03	1.0E-02	6.3E-03	2.8E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1 5E-11	5 3E-11	2 0E-10	1.2E-10	5 3E-11
Acenaphthylene	NF	NF	NF	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1 5E-11	5 3E-11	2.0E-10	1 2E-10	5 3E-11
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S3 avg	8.7E-06	3.1E-10	7 7E-10	4 6E-10	6.8E-10	2.4E-09	8.9E-09	5 4E-09	2 4E-09
Acetone	NA	0.0875	2.5E-02	2.9E-03	S3 avg	8.4E-05	3.0E-09	7.4E-09	4 5E-09	6 6E-09	2.3E-08	8.6E-08	5 2E-08	2 3E-08
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S3 avg	8.5E-06	3.0E-10	7 5E-10	4.5E-10	6 6E-10	2.3E-09	8 7E-09	5 3E-09	2 3E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S3 avg	5.9E-06	2.1E-10	5 1E-10	3.1E-10	4 6E-10	1.6E-09	6.0E-09	3 6E-09	1 6E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S3 avg	1.6E-07	5 6E-12	1.4E-11	8.5E-12	1 2E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S3 avg	4.3E-07	1.5E-11	3.7E-11	2.3E-11	3 3E-11	1.2E-10	4.4E-10	2 6E-10	1 2E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S3 avg	3.3E-07	1.2E-11	2.9E-11	1.7E-11	2 6E-11	9.0E-11	3.4E-10	2 0E-10	9 0E-11
Benzotrichloride	NA	NA	NA	3.2E-05	S3 avg	9.3E-07	3.3E-11	8.1E-11	4.9E-11	7.3E-11	2.5E-10	9.5E-10	5 7E-10	2 5E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1 2E-11	4.4E-11	1.6E-10	9.9E-11	4 4E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4 4E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1 4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4 4E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S3 avg	1.9E-07	6.8E-12	1 7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5 3E-11
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	S3 avg	3.9E-07	1 4E-11	3 4E-11	2.0E-11	3.0E-11	1.1E-10	3 9E-10	2 4E-10	1 1E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5 3E-11
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	S3 avg	1.1E-06	3 8E-11	9.5E-11	5.7E-11	8 4E-11	3 0E-10	1.1E-09	6 7E-10	3.0E-10
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	S3 avg	3.0E-06	1.1E-10	2.6E-10	1.6E-10	2.3E-10	8.2E-10	3 1E-09	1 8E-09	8 2E-10
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Bromomethane	NA	0.00125	3 6E-04	4.9E-04	S3 avg	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1.5E-08	8 8E-09	3 9E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5 3E-11
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	S3 avg	1.5E-06	5.3E-11	1.3E-10	7.9E-11	1.2E-10	4.1E-10	1.5E-09	9 2E-10	4.1E-10
Butylbenzylphthalate	NA	0.175	5.0E-02	5 5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	S3 avg	2.6E-06	9.1E-11	2.3E-10	1.4E-10	2.0E-10	7.1E-10	2.6E-09	1.6E-09	7.1E-10
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S3 avg	4.6E-06	1.6E-10	4.0E-10	2.4E-10	3.6E-10	1.3E-09	4.7E-09	2.8E-09	1.3E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S3 avg	1.6E-08	5.6E-13	1.4E-12	8.5E-13	1.2E-12	4.4E-12	1.6E-11	9.9E-12	4.4E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1 2E-10	5.3E-11
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1 0E-03	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1 2E-10	5.3E-11
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Chlorobenzilate	2.7E-01	0.0175	5 0E-03	3.7E-05	S3 avg	1.1E-06	3.8E-11	9.4E-11	5.7E-11	8.4E-11	2.9E-10	1.1E-09	6 6E-10	2.9E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S3 avg	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1.5E-08	8 8E-09	3.9E-09
Chloroform	8.1E-02	0.00875	2 5E-03	2.7E-04	S3 avg	7.7E-06	2.7E-10	6.8E-10	4.1E-10	6.0E-10	2.1E-09	7.9E-09	4 8E-09	2.1E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	S3 avg	7.1E-06	2.5E-10	6.2E-10	3.8E-10	5.6E-10	1.9E-09	7.3E-09	4.4E-09	1.9E-09
Chloronaphthalene, beta	NA	0.07	2 0E-02	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1 2E-10	5.3E-11
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S3 avg	1 6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2 0E-10	1 2E-10	5 3E-11
Chrysene	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	S3 avg	1 6E-07	5.6E-12	1.4E-11	8 5E-12	1.2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S3 avg	1 6E-07	5.6E-12	1.4E-11	8 5E-12	1.2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8 5E-12	1.2E-11	4.4E-11	1 6E-10	9 9E-11	4 4E-11
Crotonaldehyde	NA	NA	NA	1.4E-04	S3 avg	4.0E-06	1.4E-10	3 5E-10	2 1E-10	3.2E-10	1.1E-09	4 1E-09	2 5E-09	1 1E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	S3 avg	1 6E-07	5 6E-12	1 4E-11	8 5E-12	1.2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
DDE, 4,4'-	NA	NA	NA	5.5E-07	S3 avg	1.6E-08	5 6E-13	1 4E-12	8 5E-13	1 2E-12	4 4E-12	1 6E-11	9 9E-12	4.4E-12
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	S3 avg	1 6E-07	5 6E-12	1 4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Dibromochloromethane	NA	0.0175	5 0E-03	2 6E-05	S3 avg	7.6E-07	2 7E-11	6 7E-11	4 0E-11	6 0E-11	2 1E-10	7 8E-10	4 7E-10	2 1E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S3 avg	1.6E-07	5.6E-12	1 4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	S3 avg	1.6E-07	5 6E-12	1.4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5 5E-06	S3 avg	1.6E-07	5 6E-12	1 4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	S3 avg	9.7E-07	3 4E-11	8 5E-11	5 1E-11	7 6E-11	2 6E-10	9 9E-10	6 0E-10	2 6E-10
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S3 avg	1 4E-09	4.8E-14	1 2E-13	7.2E-14	1 1E-13	3 7E-13	1 4E-12	8 4E-13	3 7E-13

External Review Draft, Do Not Cite or Quote

TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6 7E-06	S3 avg	NT	NT	NT	NT	3.5E-09	1.3E-08	8.0E-09	3.5E-09
Acenaphthylene	NF	NF	NF	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S3 avg	2.4E-12	5.9E-12	3 6E-12	5.3E-12	3 7E-06	1.4E-05	8.4E-06	3.7E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	S3 avg	NT	NT	NT	NT	9 2E-07	3.4E-06	2.1E-06	9 2E-07
Acetophenone	NA	0.0875	2 5E-02	2 9E-04	S3 avg	NT	NT	NT	NT	9 3E-08	3.5E-07	2.1E-07	9 3E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2 0E-04	S3 avg	4.9E-11	1.2E-10	7.4E-11	1.1E-10	1.1E-05	4.2E-05	2.5E-05	1 1E-05
Anthracene	NA	0.2625	7.5E-02	5 5E-06	S3 avg	NT	NT	NT	NT	5.8E-10	2.2E-09	1.3E-09	5 8E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S3 avg	4.4E-13	1.1E-12	6.6E-13	9.7E-13	2.7E-07	1.0E-06	6.2E-07	2.7E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S3 avg	NT	NT	NT	NT	9.0E-11	3.4E-10	2.0E-10	9.0E-11
Benzotrichloride	NA	NA	NA	3.2E-05	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5 5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	S3 avg	1.5E-11	3.7E-11	2.2E-11	3.3E-11	NT	NT	NT	NT
Bis(2 chloroisopropyl)ether	NA	0 035	1.0E-02	6.7E-06	S3 avg	NT	NT	NT	NT	5 3E-09	2.0E-08	1.2E-08	5.3E-09
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	S3 avg	NT	NT	NT	NT	5.9E-08	2.2E-07	1.3E-07	5.9E-08
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	S3 avg	NT	NT	NT	NT	1.6E-07	6.1E-07	3.7E-07	1.6E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	S3 avg	2.2E-14	5.4E-14	3.3E-14	4.8E-14	8.7E-09	3.3E-08	2.0E-08	8.7E-09
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S3 avg	NT	NT	NT	NT	1.1E-05	4.1E-05	2.5E-05	1.1E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	S3 avg	NT	NT	NT	NT	5.7E-09	2.1E-08	1.3E-08	5.7E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S3 avg	NT	NT	NT	NT	8.7E-10	3.3E-09	2.0E-09	8 7E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S3 avg	NT	NT	NT	NT	9.9E-07	3.7E-06	2.2E-06	9.9E-07
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S3 avg	8.5E-12	2.1E-11	1.3E-11	1.9E-11	8.8E-06	3.3E-05	2.0E-05	8 8E-06
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S3 avg	7.3E-13	1.8E-12	1.1E-12	1.6E-12	2.9E-07	1.1E-06	6.6E-07	2.9E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S3 avg	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	S3 avg	NT	NT	NT	NT	3.1E-08	1.1E-07	6.9E-08	3 1E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S3 avg	1.0E-11	2.6E-11	1.5E-11	2.3E-11	5.8E-08	2.2E-07	1.3E-07	5 8E-08
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S3 avg	NT	NT	NT	NT	5 4E-09	2.0E-08	1.2E-08	5 4E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S3 avg	2.2E-11	5.4E-11	3.3E-11	4.9E-11	8 5E-07	3.2E-06	1.9E-06	8.5E-07
Chloromethane	6.3E-03	NA	NA	2.5E-04	S3 avg	1.6E-12	3.9E-12	2.4E-12	3.5E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S3 avg	NT	NT	NT	NT	2 7E-09	9.9E-09	6.0E-09	2 7E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S3 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	7.9E-08	3.5E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	S3 avg	NT	NT	NT	NT	3 5E-09	1.3E-08	7.9E-09	3 5E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S3 avg	NT	NT	NT	NT	3.5E-09	1.3E-08	7.9E-09	3 5E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S3 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	7 9E-08	3.5E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	S3 avg	NT	NT	NT	NT	6 8E-08	2 5E-07	1.5E-07	6 8E-08
DDE, 4,4'-	NA	NA	NA	5.5E-07	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	S3 avg	NT	NT	NT	NT	4 2E-08	1 6E-07	9.4E-08	4.2E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	S3 avg	NT	NT	NT	NT	7 6E-10	2 9E-09	1 7E-09	7.6E-10
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	S3 avg	NT	NT	NT	NT	3 1E-09	1 1E-08	6 9E-09	3.1E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S3 avg	7.1E-06	2.5E-10	6.2E-10	3.8E-10	5 6E-10	1.9E-09	7.3E-09	4 4E-09	1 9E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S3 avg	3.6E-07	1.3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9.9E-11
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S3 avg	3.6E-07	1.3E-11	3 2E-11	1 9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S3 avg	3 6E-07	1.3E-11	3 2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S3 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9 9E-11	3 7E-10	2.2E-10	9.9E-11
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1 6E-10	9 9E-11	4 4E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S3 avg	3.6E-07	1.3E-11	3 2E-11	1.9E-11	2.8E-11	9.9E-11	3 7E-10	2 2E-10	9 9E-11
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3 7E-10	2.2E-10	9.9E-11
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2 2E-10	9.9E-11
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S3 avg	4.9E-07	1.7E-11	4.3E-11	2 6E-11	3.8E-11	1.3E-10	5.0E-10	3 0E-10	1.3E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S3 avg	3.3E-06	1.2E-10	2.9E-10	1 8E-10	2.6E-10	9.1E-10	3.4E-09	2.1E-09	9.1E-10
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S3 avg	1.6E-07	5 6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1 6E-10	9 9E-11	4.4E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	S3 avg	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.6E-10	2 8E-10	1 2E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4 4E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S3 avg	1.6E-07	5 6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Dinitrotoluene, 2,4-	NA	0 00175	5.0E-04	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4 4E-11	1.6E-10	9 9E-11	4 4E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S3 avg	1.4E-05	5.0E-10	1.3E-09	7 6E-10	1.1E-09	3.9E-09	1 5E-08	8.9E-09	3 9E-09
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	S3 avg	1.1E-06	4.0E-11	9.9E-11	6 0E-11	8.8E-11	3.1E-10	1 2E-09	7 0E-10	3 1E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S3 avg	7.1E-06	2.5E-10	6.2E-10	3.8E-10	5.6E-10	1.9E-09	7.3E-09	4 4E-09	1 9E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S3 avg	1.4E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	8 9E-09	4 0E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S3 avg	3.3E-06	1.2E-10	2.9E-10	1.8E-10	2.6E-10	9.1E-10	3.4E-09	2 1E-09	9 1E-10
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S3 avg	8.8E-07	3.1E-11	7.8E-11	4.7E-11	6.9E-11	2.4E-10	9.1E-10	5 5E-10	2.4E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S3 avg	4.2E-12	1.5E-16	3.7E-16	2.2E-16	3 3E-16	1.2E-15	4.3E-15	2 6E-15	1.2E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Fluorene	NA	0.035	1.0E-02	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1 2E-10	5.3E-11
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	S3 avg	1.8E-05	6.2E-10	1.5E-09	9.3E-10	1.4E-09	4.8E-09	1.8E-08	1 1E-08	4.8E-09
Furfural	NA	0.0125	3.6E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S3 avg	1 6E-08	5.6E-13	1.4E-12	8.5E-13	1.2E-12	4.4E-12	1.6E-11	9 9E-12	4.4E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	4.1E-10	1.4E-14	3.6E-14	2.2E-14	3.2E-14	1.1E-13	4 2E-13	2 5E-13	1.1E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4.4E-11
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	4.1E-10	1.4E-14	3.6E-14	2.2E-14	3.2E-14	1.1E-13	4 2E-13	2 5E-13	1.1E-13
Hexachlorobutadiene	7 8E-02	0.000175	5.0E-05	1.0E-04	S3 avg	2.9E-06	1.0E-10	2.6E-10	1.6E-10	2.3E-10	8.0E-10	3 0E-09	1 8E-09	8 0E-10
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S3 avg	1.6E-06	5.6E-11	1.4E-10	8.4E-11	1 2E-10	4.4E-10	1 6E-09	9 8E-10	4 4E-10
Hexachlorocyclopentadiene	NA	0 000018	5.0E-06	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1 2E-11	4.4E-11	1 6E-10	9 9E-11	4.4E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S3 avg	9.3E-07	3.3E-11	8.1E-11	4.9E-11	7.3E-11	2 5E-10	9 5E-10	5 7E-10	2.5E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	S3 avg	1.9E-06	6 6E-11	1.6E-10	9.9E-11	1.5E-10	5 1E-10	1 9E-09	1 2E-09	5.1E-10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Isophorone	NA	0.175	5 0E-02	6.7E-06	S3 avg	1.9E-07	6.8E-12	1 7E-11	1 0E-11	1 5E-11	5.3E-11	2 0E-10	1 2E-10	5 3E-11
Maleic hydrazide	NA	0.4375	1.3E-01	1 2E-04	S3 avg	3.3E-06	1.2E-10	2 9E-10	1 8E-10	2 6E-10	9.1E-10	3 4E-09	2 1E-09	9 1E-10
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S3 avg	1 6E-08	5 6E-13	1 4E-12	8 5E-13	1 2E-12	4 4E-12	1 6E-11	9 9E-12	4 4E-12
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	S3 avg	3 6E-07	1 3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	S3 avg	3 6E-07	1 3E-11	3 2E-11	1 9E-11	2 8E-11	9 9E-11	3 7E-10	2 2E-10	9 9E-11
Methylene chloride	1 6E-03	0.75	2.1E-01	4.0E-04	S3 avg	1.1E-05	4.0E-10	1 0E-09	6 1E-10	9 0E-10	3 1E-09	1 2E-08	7 1E-09	3 1E-09
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	S3 avg	1 2E-06	4 3E-11	1 1E-10	6 4E-11	9 5E-11	3 3E-10	1 2E-09	7 5E-10	3 3E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S3 avg	4 8E-10	1.7E-14	4 2E-14	2 6E-14	3 8E-14	1 3E-13	4 9E-13	3 0E-13	1 3E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	S3 avg	1 6E-07	5 6E-12	1 4E-11	8 5E-12	1 2E-11	4 4E-11	1 6E-10	9 9E-11	4 4E-11
Nitroaniline, 2-	NA	0 00005	1.4E-05	6 7E-06	S3 avg	1 9E-07	6 8E-12	1 7E-11	1 0E-11	1 5E-11	5 3E-11	2 0E-10	1 2E-10	5 3E-11
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S3 avg	1 9E-07	6.8E-12	1 7E-11	1 0E-11	1 5E-11	5 3E-11	2 0E-10	1 2E-10	5 3E-11

External Review Draft, Do Not Cite or Quote

TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	S3 avg	NT	NT	NT	NT	1.4E-07	5.1E-07	3.1E-07	1.4E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S3 avg	NT	NT	NT	NT	2.8E-09	1.0E-08	6.3E-09	2.8E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S3 avg	1.2E-12	2 9E-12	1.7E-12	2 6E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S3 avg	1.5E-11	3.8E-11	2.3E-11	3.4E-11	4.4E-08	1.6E-07	1.0E-07	4 4E-08
Dichloroethene (trans), 1,2-	NA	0.0175	5 0E-03	1 3E-05	S3 avg	NT	NT	NT	NT	2.0E-08	7.4E-08	4.5E-08	2.0E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S3 avg	NT	NT	NT	NT	5.8E-08	2.2E-07	1.3E-07	5.8E-08
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S3 avg	NT	NT	NT	NT	3.5E-07	1.3E-06	7.8E-07	3 5E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 avg	1.7E-12	4.1E-12	2.5E-12	3.7E-12	6.9E-08	2.6E-07	1.6E-07	6.9E-08
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 avg	1.7E-12	4.1E-12	2.5E-12	3.7E-12	6.9E-08	2.6E-07	1.6E-07	6 9E-08
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S3 avg	NT	NT	NT	NT	6.7E-10	2.5E-09	1.5E-09	6 7E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S3 avg	NT	NT	NT	NT	8.7E-09	3.3E-08	2.0E-08	8.7E-09
Dimethylphthalate	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	S3 avg	NT	NT	NT	NT	5.0E-09	1.9E-08	1.1E-08	5 0E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S3 avg	NT	NT	NT	NT	1.7E-07	6.5E-07	3.9E-07	1.7E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5 5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	S3 avg	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S3 avg	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	S3 avg	NT	NT	NT	NT	8.7E-09	3.3E-08	2.0E-08	8.7E-09
D, 2,4-	NA	0.00875	2 5E-03	3.9E-05	S3 avg	NT	NT	NT	NT	1.2E-07	4.6E-07	2.8E-07	1 2E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S3 avg	NT	NT	NT	NT	8.6E-08	3.2E-07	2.0E-07	8 6E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S3 avg	NT	NT	NT	NT	5.5E-08	2.1E-07	1.3E-07	5 5E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S3 avg	8.9E-11	2.2E-10	1.3E-10	2 0E-10	6.4E-05	2.4E-04	1.4E-04	6.4E-05
Ethylene oxide	3.5E-01	NA	NA	3 1E-05	S3 avg	1.1E-11	2.7E-11	1.6E-11	2.4E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S3 avg	NT	NT	NT	NT	5.8E-11	2.2E-10	1.3E-10	5 8E-11
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S3 avg	NT	NT	NT	NT	4.4E-09	1.6E-08	9.9E-09	4.4E-09
Fluorene	NA	0.035	1.0E-02	6.7E-06	S3 avg	NT	NT	NT	NT	5.3E-09	2.0E-08	1.2E-08	5.3E-09
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S3 avg	2.6E-11	6.9E-11	4.2E-11	6.2E-11	9.6E-08	3.6E-07	2.2E-07	9.6E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	S3 avg	NT	NT	NT	NT	1.2E-08	4.6E-08	2.8E-08	1 2E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S3 avg	2.5E-12	6.3E-12	3.8E-12	5.6E-12	3.5E-08	1.3E-07	7.9E-08	3.5E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S3 avg	9.0E-12	2.3E-11	1.4E-11	2.0E-11	2.2E-07	8.2E-07	4.9E-07	2.2E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	S3 avg	8.0E-12	2.0E-11	1.2E-11	1.8E-11	1 6E-05	6.0E-05	3.6E-05	1 6E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S3 avg	NT	NT	NT	NT	5.8E-06	2.2E-05	1.3E-05	5.8E-06
Hexachlorocyclopentadiene	NA	0 000018	5.0E-06	5.5E-06	S3 avg	NT	NT	NT	NT	8 7E-06	3.3E-05	2.0E-05	8.7E-06
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	S3 avg	7.9E-14	2.0E-13	1.2E-13	1.7E-13	1 7E-07	6 5E-07	3.9E-07	1.7E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S3 avg	NT	NT	NT	NT	3 4E-06	1.3E-05	7.7E-06	3.4E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	S3 avg	NT	NT	NT	NT	1.1E-09	4 0E-09	2 4E-09	1.1E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S3 avg	NT	NT	NT	NT	7 3E-09	2 7E-08	1 6E-08	7 3E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S3 avg	NT	NT	NT	NT	3 5E-09	1.3E-08	7 9E-09	3 5E-09
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	S3 avg	NT	NT	NT	NT	4 6E-10	1 7E-09	1 0E-09	4 6E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1 3E-05	S3 avg	NT	NT	NT	NT	1 7E-08	6 5E-08	3 9E-08	1 7E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S3 avg	6.7E-13	1 7E-12	1.0E-12	1 5E-12	1 5E-08	5 5E-08	3 3E-08	1 5E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1 7E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5 5E-06	S3 avg	NT	NT	NT	NT	4 4E-09	1 6E-08	9 9E-09	4 4E-09
Nitroaniline, 2-	NA	0 00005	1.4E-05	6 7E-06	S3 avg	NT	NT	NT	NT	3 7E-06	1 4E-05	8.4E-06	3 7E-06
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5.3E-11
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5.3E-11
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S3 avg	3.5E-06	1.2E-10	3.1E-10	1.9E-10	2.7E-10	9.6E-10	3.6E-09	2.2E-09	9.6E-10
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5.3E-11
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5.3E-11
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	4.1E-10	1.4E-14	3.6E-14	2.2E-14	3.2E-14	1.1E-13	4.2E-13	2.5E-13	1.1E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	4.1E-10	1.4E-14	3.6E-14	2.2E-14	3.2E-14	1.1E-13	4.2E-13	2.5E-13	1.1E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	S3 avg	1.4E-06	4.9E-11	1.2E-10	7.3E-11	1.1E-10	3.8E-10	1.4E-09	8.5E-10	3.8E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	4.1E-10	1.4E-14	3.6E-14	2.2E-14	3.2E-14	1.1E-13	4.2E-13	2.5E-13	1.1E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S3 avg	9.8E-07	3.4E-11	8.6E-11	5.2E-11	7.6E-11	2.7E-10	1.0E-09	6.0E-10	2.7E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Phenanthrene	NA	NA	NA	6.7E-06	S3 avg	1.9E-07	6.8E-12	1.7E-11	1.0E-11	1.5E-11	5.3E-11	2.0E-10	1.2E-10	5.3E-11
Phenol	NA	0.525	1.5E-01	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S3 avg	3.3E-06	1.2E-10	2.9E-10	1.8E-10	2.6E-10	9.1E-10	3.4E-09	2.1E-09	9.1E-10
Styrene	NA	0.25	7.1E-02	2.3E-05	S3 avg	6.5E-07	2.3E-11	5.7E-11	3.5E-11	5.1E-11	1.8E-10	6.7E-10	4.0E-10	1.8E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	4.1E-10	1.4E-14	3.6E-14	2.2E-14	3.2E-14	1.1E-13	4.2E-13	2.5E-13	1.1E-13
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	S3 avg	1.5E-06	5.2E-11	1.3E-10	7.9E-11	1.2E-10	4.1E-10	1.5E-09	9.2E-10	4.1E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S3 avg	2.0E-07	6.9E-12	1.7E-11	1.0E-11	1.5E-11	5.4E-11	2.0E-10	1.2E-10	5.4E-11
Toluene	NA	0.1	2.9E-02	6.1E-04	S3 avg	1.8E-05	6.3E-10	1.6E-09	9.4E-10	1.4E-09	4.9E-09	1.8E-08	1.1E-08	4.9E-09
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S3 avg	9.6E-06	3.4E-10	8.4E-10	5.1E-10	7.5E-10	2.6E-09	9.6E-09	5.9E-09	2.6E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S3 avg	8.6E-10	3.1E-14	7.7E-14	4.6E-14	6.9E-14	2.4E-13	9.0E-13	5.4E-13	2.4E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S3 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S3 avg	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S3 avg	5.4E-07	1.9E-11	4.7E-11	2.9E-11	4.2E-11	1.5E-10	5.5E-10	3.3E-10	1.5E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	S3 avg	7.1E-06	2.5E-10	6.2E-10	3.8E-10	5.6E-10	1.9E-09	7.3E-09	4.4E-09	1.9E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S3 avg	1.9E-06	6.6E-11	1.6E-10	9.9E-11	1.5E-10	5.1E-10	1.9E-09	1.2E-09	5.1E-10
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S3 avg	7.1E-06	2.5E-10	6.2E-10	3.8E-10	5.6E-10	1.9E-09	7.3E-09	4.4E-09	1.9E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S3 avg	1.1E-05	3.9E-10	9.7E-10	5.8E-10	8.6E-10	3.0E-09	1.1E-08	6.8E-09	3.0E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S3 avg	1.6E-07	5.6E-12	1.4E-11	8.5E-12	1.2E-11	4.4E-11	1.6E-10	9.9E-11	4.4E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S3 avg	3.1E-13	1.1E-17	2.7E-17	1.7E-17	2.5E-17	8.6E-17	3.2E-16	1.9E-16	8.6E-17
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S3 avg	2.0E-12	6.9E-17	1.7E-16	1.0E-16	1.5E-16	5.4E-16	2.0E-15	1.2E-15	5.4E-16
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S3 avg	2.6E-12	9.1E-17	2.3E-16	1.4E-16	2.0E-16	7.1E-16	2.7E-15	1.6E-15	7.1E-16
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S3 avg	4.8E-12	1.7E-16	4.2E-16	2.5E-16	3.8E-16	1.3E-15	4.9E-15	3.0E-15	1.3E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S3 avg	3.2E-12	1.1E-16	2.8E-16	1.7E-16	2.5E-16	8.6E-16	3.2E-15	2.0E-15	8.6E-16
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	S3 avg	3.6E-11	1.3E-15	3.2E-15	1.9E-15	2.8E-15	9.9E-15	3.7E-14	2.2E-14	9.9E-15
OCDD	1.5E+02	NA	NA	6.15E-09	S3 avg	1.8E-10	6.3E-15	1.6E-14	9.4E-15	1.4E-14	4.9E-14	1.8E-13	1.1E-13	4.9E-14
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	S3 avg	2.5E-12	9.0E-17	2.2E-16	1.3E-16	2.0E-16	7.0E-16	2.6E-15	1.6E-15	7.0E-16
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S3 avg	1.0E-11	3.5E-16	8.8E-16	5.3E-16	7.8E-16	2.7E-15	1.0E-14	6.2E-15	2.7E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S3 avg	1.4E-11	4.8E-16	1.2E-15	7.2E-16	1.1E-15	3.7E-15	1.4E-14	8.4E-15	3.7E-15
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	S3 avg	4.1E-11	1.5E-15	3.6E-15	2.2E-15	3.2E-15	1.1E-14	4.2E-14	2.6E-14	1.1E-14
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	S3 avg	3.9E-11	1.4E-15	3.4E-15	2.1E-15	3.0E-15	1.1E-14	4.0E-14	2.4E-14	1.1E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S3 avg	4.4E-11	1.5E-15	3.8E-15	2.3E-15	3.4E-15	1.2E-14	4.5E-14	2.7E-14	1.2E-14

External Review Draft, Do Not Cite or Quote

TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0 0005	1 4E-04	5.5E-06	S3 avg	NT	NT	NT	NT	3.1E-07	1.1E-06	6.9E-07	3 1E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S3 avg	6.7E-10	1.7E-09	1.0E-09	1.5E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S3 avg	NT	NT	NT	NT	3.6E-07	1.3E-06	8.1E-07	3.6E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S3 avg	NT	NT	NT	NT	5.8E-09	2.2E-08	1.3E-08	5.8E-09
Phenanthrene	NA	NA	NA	6.7E-06	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	S3 avg	NT	NT	NT	NT	2.9E-10	1.1E-09	6.6E-10	2.9E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S3 avg	NT	NT	NT	NT	5.8E-09	2.2E-08	1.3E-08	5.8E-09
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	S3 avg	NT	NT	NT	NT	2.5E-09	9.3E-09	5.6E-09	2.5E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	S3 avg	1.5E-13	3.6E-13	2.2E-13	3.2E-13	5.8E-09	2.2E-08	1.3E-08	5.8E-09
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	S3 avg	1.1E-12	2 8E-12	1.7E-12	2.5E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	S3 avg	1.1E-13	2.6E-13	1.6E-13	2.4E-13	1.6E-07	6.1E-07	3.7E-07	1.6E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S3 avg	NT	NT	NT	NT	7.2E-09	2 7E-08	1.6E-08	7.2E-09
Toluene	NA	0.1	2.9E-02	6.1E-04	S3 avg	NT	NT	NT	NT	1.7E-07	6.4E-07	3.8E-07	1.7E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S3 avg	NT	NT	NT	NT	1.2E-09	4.6E-09	2.8E-09	1.2E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S3 avg	NT	NT	NT	NT	3.1E-09	1.1E-08	6.9E-09	3.1E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S3 avg	NT	NT	NT	NT	1.4E-09	5.2E-09	3.1E-09	1.4E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S3 avg	7.3E-13	1.8E-12	1.1E-12	1.6E-12	9.9E-08	3.7E-07	2.2E-07	9.9E-08
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S3 avg	1.1E-13	2.8E-13	1.7E-13	2.5E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	S3 avg	NT	NT	NT	NT	3.9E-08	1.5E-07	8.6E-08	3.9E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S3 avg	NT	NT	NT	NT	1.7E-09	6.5E-09	3.9E-09	1 7E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S3 avg	5.6E-14	1.4E-13	8.5E-14	1.2E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S3 avg	NT	NT	NT	NT	3 6E-08	1.3E-07	8.1E-08	3.6E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S3 avg	7.5E-11	1.9E-10	1.1E-10	1.7E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S3 avg	NT	NT	NT	NT	6 0E-09	2.3E-08	1.4E-08	6 0E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S3 avg	NT	NT	NT	NT	8.7E-11	3.3E-10	2.0E-10	8.7E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S3 avg	1.7E-12	4.1E-12	2.5E-12	3.7E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S3 avg	5.2E-12	1 3E-11	7.8E-12	1.2E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S3 avg	1.4E-12	3.4E-12	2.1E-12	3 0E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	S3 avg	2.5E-12	6 3E-12	3.8E-12	5.6E-12	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S3 avg	1.7E-12	4.2E-12	2.5E-12	3 7E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	S3 avg	1.9E-12	4.7E-12	2 9E-12	4 2E-12	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6.15E-09	S3 avg	9.4E-13	2 3E-12	1 4E-12	2 1E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	S3 avg	1 3E-12	3 3E-12	2 0E-12	3 0E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S3 avg	2 6E-12	6 6E-12	4.0E-12	5 9E-12	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S3 avg	3 6E-11	8 9E-11	5 4E-11	7 9E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	S3 avg	2 2E-11	5.4E-11	3 3E-11	4 9E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	S3 avg	2 0E-11	5 1E-11	3 1E-11	4 5E-11	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S3 avg	2 3E-11	5 7E-11	3 5E-11	5.1E-11	NT	NT	NT	NT

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TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S3 avg	8 5E-12	3.0E-16	7.5E-16	4.5E-16	6.6E-16	2.3E-15	8.7E-15	5.3E-15	2.3E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S3 avg	2.7E-10	9.5E-15	2 4E-14	1.4E-14	2.1E-14	7.4E-14	2.8E-13	1.7E-13	7.4E-14
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S3 avg	3.5E-11	1.2E-15	3.1E-15	1 9E-15	2.8E-15	9.7E-15	3 6E-14	2.2E-14	9.7E-15
OCDF	1.5E+02	NA	NA	1.89E-08	S3 avg	5 5E-10	1.9E-14	4.8E-14	2 9E-14	4.3E-14	1.5E-13	5.6E-13	3.4E-13	1.5E-13
Dioxin TEQ				4.28E-08		1.2E-09	4.4E-14	1.1E-13	6.6E-14	9.7E-14	3.4E-13	1.3E-12	7.7E-13	3.4E-13
Aluminum	NA	NA	NA	2.4E-04	S3 avg	7.0E-06	2.5E-10	6.1E-10	3 7E-10	5.4E-10	1.9E-09	7.1E-09	4.3E-09	1 9E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	S3 avg	1.2E-07	4.3E-12	1.1E-11	6.5E-12	9.5E-12	3.3E-11	1 2E-10	7.5E-11	3.3E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	S3 avg	1.1E-06	3.8E-11	9.4E-11	5.7E-11	8.4E-11	2.9E-10	1.1E-09	6 6E-10	2.9E-10
Barium	NA	0.000125	3.6E-05	1.5E-04	S3 avg	4.4E-06	1.5E-10	3.8E-10	2.3E-10	3.4E-10	1.2E-09	4.5E-09	2.7E-09	1 2E-09
Beryllium	8.4	0.004375	1 3E-03	3.3E-08	S3 avg	9.6E-10	3.4E-14	8.4E-14	5.1E-14	7.5E-14	2.6E-13	9.8E-13	5 9E-13	2 6E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	S3 avg	4.6E-07	1.6E-11	4.1E-11	2.5E-11	3.6E-11	1.3E-10	4.7E-10	2.9E-10	1.3E-10
Chromium (hexavalent)	41	0.004375	1 3E-03	7.1E-07	S3 avg	2.1E-08	7.2E-13	1.8E-12	1.1E-12	1.6E-12	5.6E-12	2.1E-11	1 3E-11	5 6E-12
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S3 avg	2.1E-08	7.2E-13	1.8E-12	1.1E-12	1.6E-12	5 6E-12	2.1E-11	1.3E-11	5 6E-12
Copper	NA	NA	NA	9.4E-05	S3 avg	2.7E-06	9.6E-11	2.4E-10	1.4E-10	2.1E-10	7.5E-10	2.8E-09	1.7E-09	7.5E-10
Lead	NA	NA	NA	4.3E-05	S3 avg	1.2E-06	4.4E-11	1.1E-10	6.6E-11	9.8E-11	3.4E-10	1.3E-09	7 7E-10	3 4E-10
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	S3 avg	4.1E-05	1.4E-09	3.6E-09	2.2E-09	3.2E-09	1.1E-08	4.2E-08	2 5E-08	1.1E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S3 avg	1.5E-07	5.1E-12	1.3E-11	7.7E-12	1.1E-11	4 0E-11	1.5E-10	9 0E-11	4 0E-11
Selenium	NA	0.004375	1.3E-03	4.7E-04	S3 avg	1.4E-05	4.8E-10	1.2E-09	7.2E-10	1.1E-09	3.7E-09	1 4E-08	8 4E-09	3.7E-09
Silver	NA	0.004375	1.3E-03	1.5E-05	S3 avg	4.4E-07	1.5E-11	3.8E-11	2.3E-11	3.4E-11	1.2E-10	4.5E-10	2.7E-10	1.2E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	S3 avg	9.9E-07	3.5E-11	8.6E-11	5.2E-11	7.7E-11	2.7E-10	1.0E-09	6 1E-10	2.7E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	S3 avg	3.5E-06	1.2E-10	3.1E-10	1.8E-10	2.7E-10	9.5E-10	3.6E-09	2.2E-09	9.5E-10
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S3 avg	9.3E-04	3.3E-08	8.1E-08	4.9E-08	7.3E-08	2.5E-07	9.5E-07	5.7E-07	2.5E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S3 avg	7.0E-02	2.5E-06	6.2E-06	3.7E-06	5.5E-06	1.9E-05	7.2E-05	4.3E-05	1.9E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S3 avg	2.6E-03	9.3E-08	2.3E-07	1.4E-07	2.1E-07	7.2E-07	2.7E-06	1.6E-06	7.2E-07
Particulate matter	NA	NA	NA	7.2E-02	S3 avg	2.1E-03	7.4E-08	1.8E-07	1.1E-07	1.6E-07	5.7E-07	2.1E-06	1.3E-06	5.7E-07
Respirable particulates	NF	NF	NF	7.2E-02	S3 avg	2.1E-03	7.4E-08	1.8E-07	1.1E-07	1.6E-07	5.7E-07	2.1E-06	1.3E-06	5.7E-07

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 9 Average Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S3 avg	4.5E-12	1.1E-11	6 8E-12	1 0E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	S3 avg	1 4E-11	3.5E-11	2 1E-11	3 2E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S3 avg	1.9E-12	4.7E-12	2.8E-12	4.2E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	S3 avg	2.9E-12	7.2E-12	4.4E-12	6.4E-12		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		1.4E-10	3.6E-10	2.2E-10	3.2E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	S3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	S3 avg	NT	NT	NT	NT		3.3E-07	1.2E-06	7.5E-07	3.3E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	S3 avg	1.9E-09	4.7E-09	2.8E-09	4.2E-09		3 9E-06	1.5E-05	8.8E-06	3.9E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	S3 avg	NT	NT	NT	NT		3.3E-05	1.2E-04	7.5E-05	3 3E-05
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	S3 avg	2.8E-13	7.1E-13	4.3E-13	6.3E-13		2.1E-10	7.8E-10	4.7E-10	2.1E-10
Cadmium	6.1	0.000438	1 3E-04	1.6E-05	S3 avg	1.0E-10	2.5E-10	1.5E-10	2.2E-10		1.0E-06	3.8E-06	2.3E-06	1 0E-06
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	S3 avg	3.0E-11	7.4E-11	4.5E-11	6.6E-11		4.5E-09	1.7E-08	1.0E-08	4.5E-09
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S3 avg	NT	NT	NT	NT		2.3E-11	8.4E-11	5.1E-11	2.3E-11
Copper	NA	NA	NA	9.4E-05	S3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	S3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	S3 avg	NT	NT	NT	NT		5.2E-04	1.9E-03	1.2E-03	5.2E-04
Nickel	0.84	0.0175	5 0E-03	5.0E-06	S3 avg	4.3E-12	1.1E-11	6.5E-12	9.5E-12		7.9E-09	3.0E-08	1.8E-08	7.9E-09
Selenium	NA	0.004375	1.3E-03	4.7E-04	S3 avg	NT	NT	NT	NT		3.0E-06	1.1E-05	6.7E-06	3 0E-06
Silver	NA	0.004375	1.3E-03	1.5E-05	S3 avg	NT	NT	NT	NT		9.5E-08	3.6E-07	2.2E-07	9 5E-08
Thallium	NA	0.000061	1 8E-05	3.4E-05	S3 avg	NT	NT	NT	NT		1.5E-05	5.8E-05	3.5E-05	1 5E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	S3 avg	NT	NT	NT	NT		1.3E-08	4.7E-08	2.9E-08	1.3E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S3 avg	NT	NT	NT	NT		5.1E-04	1.9E-03	1.1E-03	5.1E-04
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	S3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	S3 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	3.2E-09	7.9E-09	4.6E-09	7.1E-09	Total HI	1.2E-03	4.6E-03	2.6E-03	1.2E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7 1E-11	1 0E-10	3 7E-10	1 4E-09	8 3E-10	3.7E-10
Acenaphthylene	NF	NF	NF	6.7E-06	W1 avg	1.3E-06	4.7E-11	1 2E-10	7 1E-11	1.0E-10	3 7E-10	1 4E-09	8 3E-10	3 7E-10
Acetaldehyde	7 7E-03	0.00225	6 4E-04	3.0E-04	W1 avg	6.0E-05	2.1E-09	5.3E-09	3 2E-09	4 7E-09	1 6E-08	6.2E-08	3.7E-08	1 6E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	W1 avg	5.8E-04	2.0E-08	5.1E-08	3.1E-08	4.5E-08	1 6E-07	5 9E-07	3 6E-07	1 6E-07
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	W1 avg	5.9E-05	2.1E-09	5.1E-09	3.1E-09	4.6E-09	1 6E-08	6.0E-08	3 6E-08	1 6E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W1 avg	4.0E-05	1.4E-09	3.5E-09	2.1E-09	3 2E-09	1.1E-08	4.1E-08	2.5E-08	1 1E-08
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W1 avg	2.9E-06	1.0E-10	2.6E-10	1 6E-10	2.3E-10	8.1E-10	3.0E-09	1 8E-09	8 1E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W1 avg	2.3E-06	8.0E-11	2.0E-10	1.2E-10	1 8E-10	6 2E-10	2.3E-09	1.4E-09	6.2E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W1 avg	6.4E-06	2.3E-10	5 6E-10	3.4E-10	5 0E-10	1 8E-09	6 5E-09	4 0E-09	1.8E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6.8E-10	3 0E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3 9E-11	9 6E-11	5.8E-11	8.6E-11	3 0E-10	1.1E-09	6 8E-10	3 0E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6.8E-10	3 0E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8 6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3.7E-10	1.4E-09	8 3E-10	3.7E-10
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	W1 avg	2 7E-06	9.4E-11	2.3E-10	1.4E-10	2.1E-10	7.3E-10	2.7E-09	1 6E-09	7.3E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	W1 avg	1.3E-06	4.7E-11	1 2E-10	7.1E-11	1.0E-10	3.7E-10	1.4E-09	8 3E-10	3.7E-10
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	W1 avg	7.4E-06	2.6E-10	6.5E-10	3.9E-10	5.8E-10	2.0E-09	7.6E-09	4 6E-09	2.0E-09
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	W1 avg	2.1E-05	7.3E-10	1.8E-09	1.1E-09	1.6E-09	5.6E-09	2.1E-08	1 3E-08	5 6E-09
Bromoform	3 9E-03	0.0175	5 0E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6.8E-10	3.0E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W1 avg	9.8E-05	3.5E-09	8.6E-09	5.2E-09	7.7E-09	2.7E-08	1.0E-07	6 1E-08	2.7E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3 7E-10	1.4E-09	8 3E-10	3 7E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5 1E-05	W1 avg	1.0E-05	3.6E-10	9.0E-10	5.5E-10	8.0E-10	2.8E-09	1.1E-08	6 4E-09	2.8E-09
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Carbon disulfide	NA	0 0025	7.1E-04	8 9E-05	W1 avg	1.8E-05	6.3E-10	1.6E-09	9.5E-10	1.4E-09	4.9E-09	1.8E-08	1.1E-08	4.9E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W1 avg	3.2E-05	1.1E-09	2.8E-09	1.7E-09	2.5E-09	8.7E-09	3.2E-08	2 0E-08	8.7E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W1 avg	1.1E-07	3.9E-12	9.6E-12	5.8E-12	8.6E-12	3.0E-11	1.1E-10	6 8E-11	3.0E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3.7E-10	1.4E-09	8 3E-10	3.7E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3.7E-10	1.4E-09	8 3E-10	3 7E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5 8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W1 avg	7.4E-06	2.6E-10	6.5E-10	3.9E-10	5.8E-10	2.0E-09	7.5E-09	4 6E-09	2.0E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W1 avg	9.8E-05	3.5E-09	8.6E-09	5 2E-09	7.7E-09	2.7E-08	1.0E-07	6 1E-08	2.7E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W1 avg	5 3E-05	1.9E-09	4.7E-09	2 8E-09	4.2E-09	1.5E-08	5.4E-08	3 3E-08	1.5E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	W1 avg	4.9E-05	1.7E-09	4.3E-09	2 6E-09	3.8E-09	1.3E-08	5 0E-08	3.0E-08	1.3E-08
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7 1E-11	1 0E-10	3.7E-10	1.4E-09	8 3E-10	3 7E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3 7E-10	1 4E-09	8 3E-10	3 7E-10
Chrysene	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9 6E-11	5 8E-11	8.6E-11	3 0E-10	1 1E-09	8 8E-10	3 0E-10
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3 0E-10	1.1E-09	6 8E-10	3.0E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3.0E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W1 avg	1.1E-06	3 9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	W1 avg	2 8E-05	9.8E-10	2 4E-09	1.5E-09	2 2E-09	7.8E-09	2 8E-08	1 7E-08	7 6E-09
Cumene	NA	0.00225	6 4E-04	5 5E-06	W1 avg	1.1E-06	3.9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	W1 avg	1.1E-07	3 9E-12	9.6E-12	5 8E-12	8 6E-12	3 0E-11	1 1E-10	6 8E-11	3 0E-11
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	W1 avg	1.1E-06	3 9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Dibromochloromethane	NA	0.0175	5 0E-03	2 6E-05	W1 avg	5 3E-06	1 9E-10	4 6E-10	2 8E-10	4 1E-10	1 4E-09	5 4E-09	3 3E-09	1 4E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	W1 avg	1 1E-06	3 9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W1 avg	1 1E-06	3 9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3.0E-10
Dichlorobenzene, 1,2-	NA	0 05	1.4E-02	5 5E-06	W1 avg	1 1E-06	3 9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	W1 avg	6.7E-06	2 3E-10	5 8E-10	3 5E-10	5 2E-10	1 8E-09	6 6E-09	4 1E-09	1 6E-09
Dichlorobiphenyl	NA	NA	NA	4 7E-08	W1 avg	9 4E-09	3 3E-13	8 2E-13	5 0E-13	7 3E-13	2 6E-12	9 6E-12	5 8E-12	2 6E-12

External Review Draft Do Not Cite or Quote

TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W1 avg	NT	NT	NT	NT	2.4E-08	9.1E-08	5.5E-08	2.4E-08
Acenaphthylene	NF	NF	NF	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	W1 avg	1 6E-11	4.1E-11	2.5E-11	3.6E-11	2 6E-05	9 6E-05	5.8E-05	2.6E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	W1 avg	NT	NT	NT	NT	6 4E-06	2 4E-05	1.4E-05	6.4E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	W1 avg	NT	NT	NT	NT	6.4E-07	2.4E-06	1.4E-06	6.4E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W1 avg	3.4E-10	8.4E-10	5.1E-10	7.5E-10	7.7E-05	2.9E-04	1.7E-04	7.7E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W1 avg	NT	NT	NT	NT	4.0E-09	1.5E-08	9.1E-09	4 0E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W1 avg	3.0E-12	7.5E-12	4.5E-12	6 7E-12	1 9E-06	7.0E-06	4.2E-06	1.9E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W1 avg	NT	NT	NT	NT	6.2E-10	2.3E-09	1.4E-09	6.2E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W1 avg	1.0E-10	2.6E-10	1.6E-10	2.3E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	W1 avg	NT	NT	NT	NT	3.7E-08	1.4E-07	8.3E-08	3.7E-08
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	W1 avg	NT	NT	NT	NT	4.1E-07	1.5E-06	9.2E-07	4.1E-07
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	W1 avg	NT	NT	NT	NT	1.1E-06	4.2E-06	2.6E-06	1.1E-06
Bromoform	3 9E-03	0.0175	5 0E-03	5.5E-06	W1 avg	1.5E-13	3.7E-13	2.2E-13	3.3E-13	6 0E-08	2.3E-07	1.4E-07	6 0E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W1 avg	NT	NT	NT	NT	7.5E-05	2.8E-04	1.7E-04	7.5E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W1 avg	NT	NT	NT	NT	3.9E-08	1.5E-07	8.9E-08	3 9E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W1 avg	NT	NT	NT	NT	6.0E-09	2.3E-08	1.4E-08	6.0E-09
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	W1 avg	NT	NT	NT	NT	6 8E-06	2.6E-05	1.5E-05	6.8E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W1 avg	5.9E-11	1.5E-10	8.8E-11	1.3E-10	6.1E-05	2.3E-04	1.4E-04	6 1E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W1 avg	5.0E-12	1.2E-11	7.6E-12	1.1E-11	2.0E-06	7.5E-06	4.5E-06	2.0E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W1 avg	NT	NT	NT	NT	3.7E-07	1.4E-06	8 3E-07	3.7E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W1 avg	NT	NT	NT	NT	2.1E-07	7.9E-07	4.8E-07	2.1E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W1 avg	7.1E-11	1.8E-10	1.1E-10	1.6E-10	4.0E-07	1.5E-06	9 1E-07	4 0E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W1 avg	NT	NT	NT	NT	3 6E-08	1.4E-07	8.5E-08	3.6E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W1 avg	1.5E-10	3.8E-10	2.3E-10	3.4E-10	5.8E-06	2.2E-05	1.3E-05	5.8E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	W1 avg	1.1E-11	2.7E-11	1.6E-11	2.4E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W1 avg	NT	NT	NT	NT	1.8E-08	6.8E-08	4.1E-08	1.8E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W1 avg	NT	NT	NT	NT	2.4E-07	9.0E-07	5.4E-07	2.4E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W1 avg	NT	NT	NT	NT	2 4E-06	9.0E-06	5 4E-06	2.4E-06
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W1 avg	NT	NT	NT	NT	2 4E-06	9.0E-06	5.4E-06	2 4E-06
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W1 avg	NT	NT	NT	NT	2 4E-07	9.0E-07	5.4E-07	2.4E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	W1 avg	NT	NT	NT	NT	4 7E-07	1 8E-06	1 1E-06	4.7E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	W1 avg	NT	NT	NT	NT	2.9E-07	1 1E-06	6 5E-07	2 9E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	W1 avg	NT	NT	NT	NT	5 3E-09	2 0E-08	1 2E-08	5 3E-09
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	W1 avg	NT	NT	NT	NT	2 1E-08	7 9E-08	4 8E-08	2.1E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	W1 avg	4 9E-05	1.7E-09	4 3E-09	2.6E-09	3 8E-09	1 3E-08	5 0E-08	3 0E-08	1 3E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W1 avg	2.5E-06	8.8E-11	2.2E-10	1.3E-10	2.0E-10	6.8E-10	2 6E-09	1 5E-09	6 8E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W1 avg	2.5E-06	8 8E-11	2 2E-10	1 3E-10	2.0E-10	6.8E-10	2.6E-09	1 5E-09	6 8E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W1 avg	2.5E-06	8.8E-11	2 2E-10	1.3E-10	2 0E-10	6.8E-10	2.6E-09	1 5E-09	6 8E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W1 avg	2.5E-06	8.8E-11	2 2E-10	1.3E-10	2 0E-10	6.8E-10	2 6E-09	1 5E-09	6 8E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3 0E-10	1.1E-09	6 8E-10	3 0E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W1 avg	2.5E-06	8.8E-11	2.2E-10	1.3E-10	2 0E-10	6 8E-10	2.6E-09	1 5E-09	6 8E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W1 avg	2.5E-06	8.8E-11	2.2E-10	1.3E-10	2.0E-10	6.8E-10	2.6E-09	1.5E-09	6 8E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W1 avg	2.5E-06	8.8E-11	2 2E-10	1.3E-10	2.0E-10	6.8E-10	2.6E-09	1 5E-09	6 8E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W1 avg	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.6E-10	9 2E-10	3.5E-09	2 1E-09	9.2E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W1 avg	2.3E-05	8.1E-10	2.0E-09	1.2E-09	1.8E-09	6.3E-09	2.4E-08	1 4E-08	6 3E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	W1 avg	3.1E-06	1.1E-10	2.7E-10	1.7E-10	2.5E-10	8.6E-10	3.2E-09	1 9E-09	8.6E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8 6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W1 avg	9.9E-05	3.5E-09	8.7E-09	5.2E-09	7 7E-09	2.7E-08	1.0E-07	6 1E-08	2.7E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W1 avg	7.8E-06	2.7E-10	6.8E-10	4.1E-10	6.1E-10	2.1E-09	7.9E-09	4 8E-09	2.1E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W1 avg	4.9E-05	1.7E-09	4 3E-09	2.6E-09	3.8E-09	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W1 avg	1.0E-04	3.5E-09	8.7E-09	5.3E-09	7.8E-09	2.7E-08	1.0E-07	6 2E-08	2.7E-08
Ethylene dibromide	7.6E-01	0.00005	1 4E-05	1.2E-04	W1 avg	2.3E-05	8.1E-10	2.0E-09	1.2E-09	1.8E-09	6.3E-09	2.4E-08	1 4E-08	6.3E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W1 avg	6.1E-06	2.1E-10	5.4E-10	3.2E-10	4.8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W1 avg	2.9E-11	1.0E-15	2.6E-15	1.5E-15	2.3E-15	8.0E-15	3.0E-14	1 8E-14	8 0E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3.7E-10	1.4E-09	8 3E-10	3.7E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W1 avg	1.2E-04	4.3E-09	1.1E-08	6.4E-09	9.5E-09	3.3E-08	1.2E-07	7 5E-08	3 3E-08
Furfural	NA	0.0125	3.8E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W1 avg	1.1E-07	3.9E-12	9.6E-12	5.8E-12	8.6E-12	3.0E-11	1.1E-10	6 8E-11	3 0E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	2.8E-09	9.9E-14	2.5E-13	1.5E-13	2 2E-13	7.7E-13	2.9E-12	1.7E-12	7.7E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	2.8E-09	9.9E-14	2.5E-13	1.5E-13	2.2E-13	7.7E-13	2.9E-12	1 7E-12	7.7E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	W1 avg	2.0E-05	7.1E-10	1.8E-09	1.1E-09	1.6E-09	5.5E-09	2.1E-08	1 2E-08	5.5E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W1 avg	1.1E-05	3.9E-10	9.6E-10	5.8E-10	8.6E-10	3.0E-09	1.1E-08	6 8E-09	3.0E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	W1 avg	1.1E-06	3.9E-11	9 6E-11	5 8E-11	8.6E-11	3 0E-10	1.1E-09	6 8E-10	3.0E-10
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1 1E-09	6 8E-10	3 0E-10
Hexachlorophene	NA	0.000263	7.5E-05	3 2E-05	W1 avg	6.4E-06	2.3E-10	5.6E-10	3.4E-10	5.0E-10	1 8E-09	6 5E-09	4 0E-09	1 8E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	W1 avg	1.3E-05	4 5E-10	1 1E-09	6 8E-10	1 0E-09	3.5E-09	1 3E-08	8 0E-09	3.5E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Isophorone	NA	0.175	5 0E-02	6.7E-06	W1 avg	1.3E-06	4.7E-11	1 2E-10	7.1E-11	1.0E-10	3 7E-10	1 4E-09	8 3E-10	3 7E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	W1 avg	2.3E-05	8 1E-10	2 0E-09	1 2E-09	1 8E-09	6.3E-09	2 4E-08	1 4E-08	6.3E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W1 avg	1.1E-07	3 9E-12	9.6E-12	5 8E-12	8 6E-12	3 0E-11	1 1E-10	6 8E-11	3 0E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	W1 avg	2 5E-06	8 8E-11	2 2E-10	1 3E-10	2 0E-10	6 8E-10	2 6E-09	1 5E-09	6 8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	W1 avg	2 5E-06	8.8E-11	2 2E-10	1 3E-10	2 0E-10	6 8E-10	2 6E-09	1 5E-09	6 8E-10
Methylene chloride	1.6E-03	0.75	2 1E-01	4.0E-04	W1 avg	7 9E-05	2 8E-09	6 9E-09	4 2E-09	6 2E-09	2 2E-08	8 1E-08	4 9E-08	2 2E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	W1 avg	8.4E-06	2 9E-10	7 3E-10	4 4E-10	6 5E-10	2 3E-09	8 6E-09	5 2E-09	2 3E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W1 avg	3 3E-09	1 2E-13	2 9E-13	1.8E-13	2 6E-13	9 1E-13	3 4E-12	2 1E-12	9 1E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	W1 avg	1.1E-06	3.9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	W1 avg	1 3E-06	4 7E-11	1 2E-10	7 1E-11	1 0E-10	3 7E-10	1 4E-09	8 3E-10	3 7E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W1 avg	1.3E-06	4.7E-11	1 2E-10	7 1E-11	1 0E-10	3 7E-10	1 4E-09	8 3E-10	3 7E-10

External Review Draft, Do Not Cite or Quote

TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncaricer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W1 avg	NT	NT	NT	NT	9 4E-07	3.5E-06	2.1E-06	9.4E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W1 avg	NT	NT	NT	NT	1.9E-08	7.2E-08	4.3E-08	1.9E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W1 avg	8.0E-12	2.0E-11	1 2E-11	1.8E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W1 avg	1.1E-10	2.6E-10	1.6E-10	2.3E-10	3.0E-07	1.1E-06	6.9E-07	3 0E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W1 avg	NT	NT	NT	NT	1 4E-07	5.1E-07	3.1E-07	1.4E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W1 avg	NT	NT	NT	NT	4.0E-07	1.5E-06	9.1E-07	4.0E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W1 avg	NT	NT	NT	NT	2.4E-06	9.0E-06	5.4E-06	2.4E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1 4E-03	1.3E-05	W1 avg	1.1E-11	2.8E-11	1 7E-11	2.5E-11	4.8E-07	1.8E-06	1.1E-06	4 8E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W1 avg	1.1E-11	2.8E-11	1 7E-11	2.5E-11	4.8E-07	1.8E-06	1.1E-06	4 8E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W1 avg	NT	NT	NT	NT	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W1 avg	NT	NT	NT	NT	6.0E-08	2.3E-07	1.4E-07	6.0E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W1 avg	NT	NT	NT	NT	3.4E-08	1.3E-07	7.7E-08	3.4E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W1 avg	NT	NT	NT	NT	1.2E-06	4.5E-06	2.7E-06	1.2E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	W1 avg	NT	NT	NT	NT	6.0E-07	2.3E-06	1.4E-06	6.0E-07
Dinitrotoluene, 2,4-	NA	0.00175	5 0E-04	5.5E-06	W1 avg	NT	NT	NT	NT	6.0E-07	2.3E-06	1.4E-06	6.0E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W1 avg	NT	NT	NT	NT	6 0E-08	2.3E-07	1.4E-07	6.0E-08
D, 2,4-	NA	0 00875	2 5E-03	3.9E-05	W1 avg	NT	NT	NT	NT	8.5E-07	3.2E-06	1.9E-06	8 5E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W1 avg	NT	NT	NT	NT	6.0E-07	2.2E-06	1.3E-06	6.0E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W1 avg	NT	NT	NT	NT	3.6E-07	1.4E-06	8.6E-07	3.6E-07
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1.2E-04	W1 avg	6.2E-10	1.5E-09	9.3E-10	1.4E-09	4.4E-04	1.6E-03	1.0E-03	4.4E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W1 avg	7.5E-11	1.9E-10	1 1E-10	1.7E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W1 avg	NT	NT	NT	NT	4.0E-10	1.5E-09	9.0E-10	4 0E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W1 avg	NT	NT	NT	NT	3.0E-08	1.1E-07	6.8E-08	3.0E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	W1 avg	NT	NT	NT	NT	3.7E-08	1.4E-07	8.3E-08	3 7E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W1 avg	1.9E-10	4.8E-10	2.9E-10	4.3E-10	6.6E-07	2.5E-06	1.5E-06	6.6E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	W1 avg	NT	NT	NT	NT	8.4E-08	3.2E-07	1.9E-07	8.4E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W1 avg	1.7E-11	4.3E-11	2.6E-11	3.9E-11	2.4E-07	9.0E-07	5.4E-07	2.4E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W1 avg	6.2E-11	1.6E-10	9.4E-11	1.4E-10	1.5E-06	5.6E-06	3.4E-06	1.5E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	W1 avg	5.5E-11	1.4E-10	8.4E-11	1.2E-10	1.1E-04	4.1E-04	2.5E-04	1.1E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W1 avg	NT	NT	NT	NT	4.0E-05	1.5E-04	9.0E-05	4.0E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	W1 avg	NT	NT	NT	NT	6.0E-05	2.3E-04	1.4E-04	6.0E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W1 avg	5.4E-13	1.4E-12	8.2E-13	1.2E-12	1.2E-06	4.5E-06	2 7E-06	1 2E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W1 avg	NT	NT	NT	NT	2.3E-05	8.7E-05	5.3E-05	2.3E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	W1 avg	NT	NT	NT	NT	7.3E-09	2.7E-08	1.7E-08	7.3E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	W1 avg	NT	NT	NT	NT	5 0E-08	1 9E-07	1.1E-07	5 0E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W1 avg	NT	NT	NT	NT	2 4E-08	9 0E-08	5 4E-08	2 4E-08
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	W1 avg	NT	NT	NT	NT	3 2E-09	1 2E-08	7 2E-09	3 2E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	W1 avg	NT	NT	NT	NT	1 2E-07	4 5E-07	2 7E-07	1 2E-07
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	W1 avg	4.6E-12	1.1E-11	6 9E-12	1 0E-11	1 0E-07	3 8E-07	2.3E-07	1 0E-07
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	W1 avg	NT	NT	NT	NT	3 0E-08	1 1E-07	6 8E-08	3 0E-08
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	W1 avg	NT	NT	NT	NT	2 6E-05	9 6E-05	5 8E-05	2.6E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W1 avg	1.3E-06	4.7E-11	1 2E-10	7.1E-11	1 0E-10	3 7E-10	1.4E-09	8 3E-10	3 7E-10
Nitrobenzene	NA	0.0005	1.4E-04	5 5E-06	W1 avg	1.1E-06	3 9E-11	9 6E-11	5 8E-11	8 6E-11	3 0E-10	1.1E-09	6 8E-10	3 0E-10
Nitrophenol, 2-	NF	NF	NF	6 7E-06	W1 avg	1.3E-06	4.7E-11	1 2E-10	7.1E-11	1 0E-10	3 7E-10	1.4E-09	8 3E-10	3 7E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W1 avg	1.1E-06	3.9E-11	9 6E-11	5.8E-11	8.6E-11	3 0E-10	1.1E-09	6 8E-10	3.0E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W1 avg	2.4E-05	8.5E-10	2.1E-09	1.3E-09	1.9E-09	6 6E-09	2.5E-08	1 5E-08	6 6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3 7E-10	1.4E-09	8 3E-10	3.7E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3.7E-10	1.4E-09	8.3E-10	3.7E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	2 8E-09	9.9E-14	2.5E-13	1.5E-13	2.2E-13	7.7E-13	2.9E-12	1.7E-12	7.7E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	2.8E-09	9.9E-14	2.5E-13	1.5E-13	2.2E-13	7.7E-13	2.9E-12	1.7E-12	7.7E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	W1 avg	9.5E-06	3.4E-10	8.4E-10	5.0E-10	7.4E-10	2.6E-09	9.7E-09	5.9E-09	2 6E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	2.8E-09	9.9E-14	2.5E-13	1.5E-13	2.2E-13	7.7E-13	2.9E-12	1.7E-12	7.7E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W1 avg	6.7E-06	2.4E-10	5.9E-10	3.6E-10	5.3E-10	1.8E-09	6.9E-09	4 2E-09	1.8E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6.8E-10	3.0E-10
Phenanthrene	NA	NA	NA	6.7E-06	W1 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.0E-10	3.7E-10	1.4E-09	8.3E-10	3 7E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6.8E-10	3 0E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6.8E-10	3 0E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W1 avg	2.3E-05	8.1E-10	2.0E-09	1.2E-09	1.8E-09	6.3E-09	2.4E-08	1.4E-08	6 3E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	W1 avg	4.5E-06	1.6E-10	3.9E-10	2.4E-10	3.5E-10	1.2E-09	4.6E-09	2 8E-09	1.2E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	2.8E-09	9.9E-14	2.5E-13	1.5E-13	2.2E-13	7.7E-13	2.9E-12	1 7E-12	7.7E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6.8E-10	3 0E-10
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	W1 avg	1.0E-05	3.6E-10	9.0E-10	5.4E-10	8.0E-10	2.8E-09	1.0E-08	6.3E-09	2 8E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W1 avg	1.4E-06	4.8E-11	1.2E-10	7.2E-11	1.1E-10	3.7E-10	1.4E-09	8 4E-10	3 7E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	W1 avg	1.2E-04	4.3E-09	1.1E-08	6.5E-09	9.6E-09	3.4E-08	1.3E-07	7 6E-08	3.4E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W1 avg	6.6E-05	2.3E-09	5.8E-09	3.5E-09	5.2E-09	1.8E-08	6.8E-08	4.1E-08	1.8E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8 6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W1 avg	6.0E-09	2 1E-13	5.3E-13	3.2E-13	4.7E-13	1.7E-12	6.2E-12	3.7E-12	1.7E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W1 avg	2.5E-06	8 8E-11	2.2E-10	1.3E-10	2.0E-10	6.8E-10	2.6E-09	1 5E-09	6.8E-10
Trichloroethane, 1,1,2-	5 7E-02	0.0035	1.0E-03	1.3E-05	W1 avg	2.5E-06	8.8E-11	2.2E-10	1.3E-10	2.0E-10	6.8E-10	2.6E-09	1.5E-09	6.8E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W1 avg	3.7E-06	1.3E-10	3.3E-10	2.0E-10	2.9E-10	1.0E-09	3.8E-09	2.3E-09	1.0E-09
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W1 avg	4.9E-05	1.7E-09	4.3E-09	2 6E-09	3.8E-09	1.3E-08	5.0E-08	3 0E-08	1.3E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W1 avg	1.1E-06	3 9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3 0E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W1 avg	1.3E-05	4 5E-10	1.1E-09	6.8E-10	1.0E-09	3 5E-09	1.3E-08	8 0E-09	3.5E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W1 avg	4.9E-05	1.7E-09	4.3E-09	2.6E-09	3.8E-09	1.3E-08	5.0E-08	3 0E-08	1.3E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W1 avg	7.6E-05	2.7E-09	6.7E-09	4.0E-09	6.0E-09	2 1E-08	7 6E-08	4 7E-08	2.1E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W1 avg	1.1E-06	3.9E-11	9.6E-11	5.8E-11	8.6E-11	3.0E-10	1.1E-09	6 8E-10	3.0E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W1 avg	2 2E-12	7 6E-17	1.9E-16	1 1E-16	1 7E-16	5.9E-16	2 2E-15	1 3E-15	5.9E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W1 avg	1 4E-11	4 8E-16	1 2E-15	7 2E-16	1.1E-15	3 7E-15	1 4E-14	8 4E-15	3 7E-15
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	8 95E-11	W1 avg	1 8E-11	6.3E-16	1.6E-15	9.5E-16	1 4E-15	4 9E-15	1 8E-14	1 1E-14	4 9E-15
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	W1 avg	3.3E-11	1.2E-15	2 9E-15	1.8E-15	2 6E-15	9.1E-15	3 4E-14	2 0E-14	9 1E-15
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	W1 avg	2 2E-11	7.7E-16	1 9E-15	1 2E-15	1 7E-15	6 0E-15	2.2E-14	1 3E-14	6 0E-15
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	W1 avg	2 5E-10	8 7E-15	2 2E-14	1 3E-14	1 9E-14	6 8E-14	2 5E-13	1 5E-13	6 8E-14
OCDD	1 5E+02	NA	NA	6.15E-09	W1 avg	1 2E-09	4 3E-14	1 1E-13	6 5E-14	9 6E-14	3 4E-13	1 3E-12	7 6E-13	3 4E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	W1 avg	1 8E-11	6 2E-16	1 5E-15	9 3E-16	1 4E-15	4 8E-15	1 8E-14	1 1E-14	4 8E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3 45E-10	W1 avg	6 9E-11	2 4E-15	6 0E-15	3 7E-15	5 4E-15	1 9E-14	7 1E-14	4 3E-14	1 9E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W1 avg	9 3E-11	3 3E-15	8 2E-15	4 9E-15	7 3E-15	2 6E-14	9 8E-14	5 8E-14	2 6E-14
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	W1 avg	2 9E-10	1 0E-14	2 5E-14	1.5E-14	2 2E-14	7 8E-14	2 9E-13	1 8E-13	7 8E-14
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	W1 avg	2 7E-10	9 4E-15	2 3E-14	1 4E-14	2 1E-14	7 3E-14	2 7E-13	1 7E-13	7 3E-14
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	W1 avg	3.0E-10	1 1E-14	2 6E-14	1 6E-14	2 4E-14	8 2E-14	3 1E-13	1 9E-13	8 2E-14

External Review Draft, Do Not Cite or Quote

TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W1 avg	NT	NT	NT	NT	2.1E-06	7.9E-06	4.8E-06	2.1E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W1 avg	4.6E-09	1.1E-08	6.9E-09	1.0E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W1 avg	NT	NT	NT	NT	2.5E-06	9.2E-06	5.6E-06	2.5E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W1 avg	NT	NT	NT	NT	4.0E-08	1.5E-07	9.1E-08	4.0E-08
Phenanthrene	NA	NA	NA	6.7E-06	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	W1 avg	NT	NT	NT	NT	2.0E-09	7.5E-09	4.5E-09	2 0E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W1 avg	NT	NT	NT	NT	4.0E-08	1.5E-07	9.1E-08	4.0E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	W1 avg	NT	NT	NT	NT	1.7E-08	6.4E-08	3.9E-08	1.7E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	W1 avg	1.0E-12	2.5E-12	1.5E-12	2.2E-12	4.0E-08	1.5E-07	9.1E-08	4.0E-08
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	W1 avg	7.9E-12	2.0E-11	1.2E-11	1.7E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	W1 avg	7.3E-13	1.8E-12	1.1E-12	1.6E-12	1 1E-06	4.2E-06	2.5E-06	1.1E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7 5E-03	6.8E-06	W1 avg	NT	NT	NT	NT	5.0E-08	1.9E-07	1.1E-07	5 0E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	W1 avg	NT	NT	NT	NT	1.2E-06	4.4E-06	2.7E-06	1.2E-06
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W1 avg	NT	NT	NT	NT	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W1 avg	NT	NT	NT	NT	2.1E-08	7.9E-08	4.8E-08	2.1E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W1 avg	NT	NT	NT	NT	9.6E-09	3.6E-08	2.2E-08	9.6E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W1 avg	5.0E-12	1.2E-11	7.6E-12	1.1E-11	6.6E-07	2.6E-06	1.5E-06	6.6E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W1 avg	7.8E-13	1.9E-12	1.2E-12	1.7E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W1 avg	NT	NT	NT	NT	2.7E-07	1.0E-06	6.1E-07	2.7E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W1 avg	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W1 avg	3.9E-13	9.6E-13	5.8E-13	8.6E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W1 avg	NT	NT	NT	NT	2.5E-07	9.2E-07	5.6E-07	2.5E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W1 avg	5.2E-10	1.3E-09	7.8E-10	1.2E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W1 avg	NT	NT	NT	NT	4 2E-08	1 6E-07	9.4E-08	4.2E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W1 avg	NT	NT	NT	NT	6.0E-10	2.3E-09	1.4E-09	6.0E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W1 avg	1.1E-11	2.8E-11	1.7E-11	2.5E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W1 avg	3.6E-11	8.9E-11	5.4E-11	8.0E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W1 avg	9.5E-12	2 4E-11	1.4E-11	2.1E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W1 avg	1.7E-11	4.4E-11	2.6E-11	3 9E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W1 avg	1.2E-11	2.9E-11	1 7E-11	2.6E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	W1 avg	1.3E-11	3.3E-11	2 0E-11	2 9E-11	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6.15E-09	W1 avg	6.5E-12	1.6E-11	9 8E-12	1.4E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	W1 avg	9.3E-12	2.3E-11	1 4E-11	2 1E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	W1 avg	1.8E-11	4 5E-11	2 7E-11	4 0E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W1 avg	2.5E-10	6 1E-10	3 7E-10	5.5E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	W1 avg	1.5E-10	3 8E-10	2 3E-10	3 3E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	W1 avg	1.4E-10	3 5E-10	2 1E-10	3 1E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	W1 avg	1 6E-10	4.0E-10	2.4E-10	3 5E-10	NT	NT	NT	NT

TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W1 avg	5 9E-11	2.1E-15	5.1E-15	3.1E-15	4 6E-15	1 6E-14	6 0E-14	3 6E-14	1 6E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W1 avg	1 9E-09	6.6E-14	1.6E-13	9.9E-14	1.5E-13	5.1E-13	1 9E-12	1 2E-12	5.1E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W1 avg	2 4E-10	8.6E-15	2 1E-14	1.3E-14	1 9E-14	6.7E-14	2.5E-13	1 5E-13	6.7E-14
OCDF	1.5E+02	NA	NA	1.89E-08	W1 avg	3.8E-09	1.3E-13	3.3E-13	2.0E-13	3.0E-13	1.0E-12	3 9E-12	2 3E-12	1.0E-12
Dioxin TEQ				4.28E-08		8.6E-09	3.0E-13	7.5E-13	4.5E-13	6.7E-13	2.3E-12	8.8E-12	5 3E-12	2.3E-12
Aluminum	NA	NA	NA	2.4E-04	W1 avg	4.8E-05	1.7E-09	4.2E-09	2.5E-09	3 8E-09	1.3E-08	4.9E-08	3 0E-08	1.3E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	W1 avg	8.4E-07	3.0E-11	7.4E-11	4.5E-11	6.6E-11	2 3E-10	8.6E-10	5 2E-10	2.3E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	W1 avg	7.4E-06	2.6E-10	6.5E-10	3 9E-10	5.8E-10	2.0E-09	7.6E-09	4 6E-09	2 0E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	W1 avg	3.0E-05	1.1E-09	2.6E-09	1.6E-09	2.3E-09	8.2E-09	3.1E-08	1.9E-08	8 2E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	W1 avg	6.6E-09	2.3E-13	5.8E-13	3.5E-13	5.2E-13	1.8E-12	6.8E-12	4.1E-12	1 8E-12
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	W1 avg	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.8E-10	3.3E-09	2.0E-09	8 8E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	W1 avg	1.4E-07	5.0E-12	1.2E-11	7.5E-12	1.1E-11	3.9E-11	1.5E-10	8 8E-11	3.9E-11
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	W1 avg	1.4E-07	5.0E-12	1.2E-11	7.5E-12	1.1E-11	3.9E-11	1.5E-10	8 8E-11	3.9E-11
Copper	NA	NA	NA	9.4E-05	W1 avg	1.9E-05	6.6E-10	1.6E-09	1.0E-09	1.5E-09	5.1E-09	1.9E-08	1.2E-08	5.1E-09
Lead	NA	NA	NA	4.3E-05	W1 avg	8.6E-06	3.0E-10	7.5E-10	4.6E-10	6.7E-10	2.4E-09	8.8E-09	5.3E-09	2.4E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	W1 avg	2.8E-04	9.9E-09	2.5E-08	1.5E-08	2 2E-08	7.7E-08	2.9E-07	1 7E-07	7.7E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	W1 avg	1.0E-06	3.5E-11	8.8E-11	5.3E-11	7.8E-11	2.7E-10	1.0E-09	6 2E-10	2 7E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	W1 avg	9.4E-05	3.3E-09	8.2E-09	5.0E-09	7.4E-09	2.6E-08	9.6E-08	5 8E-08	2.6E-08
Silver	NA	0.004375	1.3E-03	1.5E-05	W1 avg	3.0E-06	1.1E-10	2.6E-10	1.6E-10	2.3E-10	8.2E-10	3.1E-09	1.9E-09	8.2E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	W1 avg	6.8E-06	2.4E-10	6.0E-10	3.6E-10	5.3E-10	1.9E-09	7.0E-09	4 2E-09	1.9E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	W1 avg	2.4E-05	8.5E-10	2.1E-09	1.3E-09	1.9E-09	6.6E-09	2.5E-08	1.5E-08	6.6E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W1 avg	6.4E-03	2.3E-07	5.6E-07	3 4E-07	5.0E-07	1.8E-06	6.5E-06	4 0E-06	1.8E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W1 avg	4.8E-01	1.7E-05	4.2E-05	2.6E-05	3.8E-05	1.3E-04	5.0E-04	3.0E-04	1.3E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W1 avg	1.8E-02	6.4E-07	1.6E-06	9.6E-07	1.4E-06	5.0E-06	1.9E-05	1.1E-05	5.0E-06
Particulate matter	NA	NA	NA	7.2E-02	W1 avg	1.4E-02	5.1E-07	1.3E-06	7.6E-07	1.1E-06	3.9E-06	1.5E-05	8.9E-06	3.9E-06
Respirable particulates	NF	NF	NF	7.2E-02	W1 avg	1.4E-02	5.1E-07	1.3E-06	7.6E-07	1.1E-06	3.9E-06	1.5E-05	8.9E-06	3.9E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 10 Average Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W1 avg	3 1E-11	7.7E-11	4.7E-11	6.9E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W1 avg	9 8E-11	2 4E-10	1.5E-10	2.2E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W1 avg	1.3E-11	3 2E-11	1.9E-11	2.9E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	W1 avg	2.0E-11	5 0E-11	3.0E-11	4.4E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		9.9E-10	2.5E-09	1.5E-09	2.2E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	W1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	W1 avg	NT	NT	NT	NT		2.3E-06	8.6E-06	5.2E-06	2.3E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	W1 avg	1.3E-08	3.2E-08	2.0E-08	2.9E-08		2.7E-05	1.0E-04	6.1E-05	2.7E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	W1 avg	NT	NT	NT	NT		2.3E-04	8.6E-04	5.2E-04	2.3E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	W1 avg	2.0E-12	4.9E-12	2.9E-12	4.3E-12		1.4E-09	5.4E-09	3.3E-09	1.4E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	W1 avg	6.9E-10	1.7E-09	1.0E-09	1 5E-09		7.0E-06	2.6E-05	1.6E-05	7.0E-06
Chromium (hexavalent)	41	0 004375	1 3E-03	7.1E-07	W1 avg	2.0E-10	5.1E-10	3.1E-10	4.6E-10		3 1E-08	1.2E-07	7.0E-08	3.1E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	W1 avg	NT	NT	NT	NT		1.6E-10	5.8E-10	3.5E-10	1.6E-10
Copper	NA	NA	NA	9.4E-05	W1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	W1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	W1 avg	NT	NT	NT	NT		3.6E-03	1.3E-02	8.1E-03	3.6E-03
Nickel	0.84	0.0175	5 0E-03	5.0E-06	W1 avg	3.0E-11	7.4E-11	4.5E-11	6.6E-11		5.5E-08	2.0E-07	1.2E-07	5.5E-08
Selenium	NA	0 004375	1 3E-03	4.7E-04	W1 avg	NT	NT	NT	NT		2.1E-05	7.7E-05	4.7E-05	2.1E-05
Silver	NA	0 004375	1.3E-03	1.5E-05	W1 avg	NT	NT	NT	NT		6.6E-07	2.5E-06	1.5E-06	6.6E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	W1 avg	NT	NT	NT	NT		1.1E-04	4.0E-04	2.4E-04	1.1E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	W1 avg	NT	NT	NT	NT		8.8E-08	3.3E-07	2.0E-07	8.8E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W1 avg	NT	NT	NT	NT		3.5E-03	1.3E-02	7.9E-03	3.5E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	W1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	W1 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	2.2E-08	5.5E-08	3.3E-08	4.9E-08					
										Total HI	8.5E-03	3.2E-02	1.9E-02	8.5E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W2 avg	6 4E-07	2 3E-11	5.6E-11	3 4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
Acenaphthylene	NF	NF	NF	6.7E-06	W2 avg	6.4E-07	2 3E-11	5.6E-11	3 4E-11	5 0E-11	1 8E-10	6.6E-10	4 0E-10	1 8E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	W2 avg	2.9E-05	1 0E-09	2.5E-09	1.5E-09	2 3E-09	7.9E-09	3.0E-08	1 8E-08	7 9E-09
Acetone	NA	0.0875	2.5E-02	2.9E-03	W2 avg	2.8E-04	9.8E-09	2 4E-08	1.5E-08	2 2E-08	7.6E-08	2.8E-07	1 7E-07	7.6E-08
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	W2 avg	2.8E-05	9.9E-10	2.5E-09	1 5E-09	2.2E-09	7.7E-09	2.9E-08	1.7E-08	7.7E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2 0E-04	W2 avg	1.9E-05	6.8E-10	1.7E-09	1 0E-09	1.5E-09	5.3E-09	2.0E-08	1.2E-08	5.3E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W2 avg	1.4E-06	5.0E-11	1.2E-10	7.5E-11	1.1E-10	3.9E-10	1.4E-09	8 7E-10	3 9E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W2 avg	1.1E-06	3.8E-11	9.5E-11	5.8E-11	8 5E-11	3.0E-10	1.1E-09	6 7E-10	3.0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W2 avg	3.1E-06	1.1E-10	2.7E-10	1.6E-10	2.4E-10	8.4E-10	3.1E-09	1 9E-09	8 4E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W2 avg	5 3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1.4E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1.4E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W2 avg	1.3E-06	4.5E-11	1.1E-10	6.8E-11	1.0E-10	3.5E-10	1.3E-09	7.9E-10	3 5E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1 8E-10
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	W2 avg	3.6E-06	1.3E-10	3.1E-10	1.9E-10	2.8E-10	9.8E-10	3.7E-09	2 2E-09	9.8E-10
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	W2 avg	9.9E-06	3.5E-10	8.7E-10	5 2E-10	7 7E-10	2.7E-09	1.0E-08	6 1E-09	2.7E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4 1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Bromomethane	NA	0 00125	3.6E-04	4.9E-04	W2 avg	4.7E-05	1.7E-09	4.1E-09	2.5E-09	3.7E-09	1.3E-08	4.8E-08	2.9E-08	1 3E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	W2 avg	4.9E-06	1.7E-10	4.3E-10	2.6E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	W2 avg	8.6E-06	3.0E-10	7.5E-10	4 5E-10	6.7E-10	2.3E-09	8.8E-09	5 3E-09	2.3E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W2 avg	1.5E-05	5.4E-10	1.3E-09	8.1E-10	1.2E-09	4.2E-09	1.6E-08	9 4E-09	4.2E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W2 avg	5.3E-08	1.9E-12	4.6E-12	2.8E-12	4.1E-12	1 4E-11	5.4E-11	3 3E-11	1.4E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W2 avg	3.5E-06	1.2E-10	3.1E-10	1.9E-10	2.8E-10	9.7E-10	3.6E-09	2 2E-09	9 7E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W2 avg	4 7E-05	1.7E-09	4.1E-09	2.5E-09	3.7E-09	1.3E-08	4.8E-08	2 9E-08	1.3E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W2 avg	2.6E-05	9.0E-10	2.2E-09	1.4E-09	2.0E-09	7.0E-09	2.6E-08	1 6E-08	7.0E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	W2 avg	2.4E-05	8.3E-10	2.1E-09	1.2E-09	1.8E-09	6.4E-09	2 4E-08	1 5E-08	6.4E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W2 avg	6.4E-07	2 3E-11	5.6E-11	3 4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
Chlorophenol, 2-	NA	0.004375	1 3E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5 4E-10	3 3E-10	1 4E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1 8E-10	6.6E-10	4 0E-10	1 8E-10
Chrysene	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4 1E-11	1 4E-10	5.4E-10	3 3E-10	1.4E-10
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W2 avg	5.3E-07	1.9E-11	4 6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1 4E-10	5.4E-10	3 3E-10	1 4E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	W2 avg	1 3E-05	4 7E-10	1 2E-09	7 1E-10	1.0E-09	3 7E-09	1 4E-08	8 3E-09	3 7E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	W2 avg	5.3E-07	1 9E-11	4 6E-11	2.8E-11	4 1E-11	1 4E-10	5 4E-10	3 3E-10	1 4E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	W2 avg	5 3E-08	1.9E-12	4 6E-12	2 8E-12	4 1E-12	1 4E-11	5 4E-11	3 3E-11	1 4E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W2 avg	5 3E-07	1 9E-11	4 6E-11	2 8E-11	4 1E-11	1 4E-10	5 4E-10	3 3E-10	1 4E-10
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	W2 avg	2 5E-06	8 9E-11	2 2E-10	1 3E-10	2 0E-10	6 9E-10	2 6E-09	1 6E-09	6 9E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1 9E-11	4 6E-11	2 8E-11	4 1E-11	1 4E-10	5 4E-10	3 3E-10	1 4E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	W2 avg	5 3E-07	1 9E-11	4 6E-11	2 8E-11	4 1E-11	1 4E-10	5 4E-10	3 3E-10	1 4E-10
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	W2 avg	5 3E-07	1 9E-11	4.6E-11	2 8E-11	4 1E-11	1 4E-10	5 4E-10	3 3E-10	1 4E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	W2 avg	3 2E-06	1 1E-10	2 8E-10	1 7E-10	2 5E-10	8 8E-10	3 3E-09	2 0E-09	8 8E-10
Dichlorobiphenyl	NA	NA	NA	4 7E-08	W2 avg	4 5E-09	1 6E-13	3 9E-13	2 4E-13	3 5E-13	1 2E-12	4 6E-12	2 8E-12	1 2E-12

External Review Draft, Do Not Cite or Quote

TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W2 avg	NT	NT	NT	NT	1.2E-08	4.4E-08	2.6E-08	1.2E-08
Acenaphthylene	NF	NF	NF	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	W2 avg	7.8E-12	2.0E-11	1.2E-11	1.7E-11	1.2E-05	4.6E-05	2.8E-05	1.2E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	W2 avg	NT	NT	NT	NT	3.0E-06	1.1E-05	6.9E-06	3.0E-06
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	W2 avg	NT	NT	NT	NT	3.1E-07	1.2E-06	7.0E-07	3.1E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W2 avg	1.6E-10	4.0E-10	2.4E-10	3.6E-10	3.7E-05	1.4E-04	8.4E-05	3.7E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W2 avg	NT	NT	NT	NT	1.9E-09	7.2E-09	4.4E-09	1.9E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W2 avg	1.4E-12	3.6E-12	2.2E-12	3.2E-12	9 0E-07	3.4E-06	2.0E-06	9.0E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W2 avg	NT	NT	NT	NT	3.0E-10	1.1E-09	6.7E-10	3.0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W2 avg	4.9E-11	1.2E-10	7.4E-11	1.1E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	W2 avg	NT	NT	NT	NT	1 6E-06	6.6E-06	4.0E-06	1.6E-06
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	W2 avg	NT	NT	NT	NT	2 0E-07	7.3E-07	4.4E-07	2.0E-07
Bromodichloromethane	NA	0.0175	5 0E-03	1 0E-04	W2 avg	NT	NT	NT	NT	5.4E-07	2.0E-06	1.2E-06	5.4E-07
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	W2 avg	7.2E-14	1.8E-13	1.1E-13	1.6E-13	2.9E-08	1.1E-07	6.5E-08	2.9E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W2 avg	NT	NT	NT	NT	3.6E-05	1.3E-04	8.1E-05	3.6E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W2 avg	NT	NT	NT	NT	1.9E-08	7.1E-08	4.3E-08	1.9E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W2 avg	NT	NT	NT	NT	2.9E-09	1.1E-08	6.5E-09	2.9E-09
Carbon disulfide	NA	0 0025	7.1E-04	8 9E-05	W2 avg	NT	NT	NT	NT	3.3E-06	1.2E-05	7.4E-06	3.3E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W2 avg	2.8E-11	7.0E-11	4.2E-11	6.2E-11	2.9E-05	1.1E-04	6.6E-05	2 9E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W2 avg	2.4E-12	6.0E-12	3.6E-12	5.4E-12	9.6E-07	3.6E-06	2.2E-06	9.6E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W2 avg	NT	NT	NT	NT	1.8E-07	6.6E-07	4.0E-07	1.8E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W2 avg	NT	NT	NT	NT	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W2 avg	3.4E-11	8.5E-11	5.1E-11	7.5E-11	1.9E-07	7.2E-07	4.4E-07	1.9E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W2 avg	NT	NT	NT	NT	1.8E-08	6.7E-08	4.1E-08	1.8E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W2 avg	7.2E-11	1 8E-10	1.1E-10	1.6E-10	2.8E-06	1.0E-05	6.3E-06	2.8E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	W2 avg	5.2E-12	1.3E-11	7.9E-12	1.2E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W2 avg	NT	NT	NT	NT	8.8E-09	3.3E-08	2.0E-08	8.8E-09
Chlorophenol, 2-	NA	0 004375	1.3E-03	5.5E-06	W2 avg	NT	NT	NT	NT	1.2E-07	4.3E-07	2.6E-07	1.2E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	W2 avg	NT	NT	NT	NT	1.2E-08	4.3E-08	2 6E-08	1.2E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W2 avg	NT	NT	NT	NT	1.2E-08	4.3E-08	2.6E-08	1.2E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W2 avg	NT	NT	NT	NT	1 2E-07	4.3E-07	2.6E-07	1 2E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	W2 avg	NT	NT	NT	NT	2 2E-07	8.4E-07	5.1E-07	2.2E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0 0175	5.0E-03	2.6E-05	W2 avg	NT	NT	NT	NT	1 4E-07	5 2E-07	3.1E-07	1 4E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W2 avg	NT	NT	NT	NT	2 5E-09	9 5E-09	5.7E-09	2 5E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	W2 avg	NT	NT	NT	NT	1 0E-08	3 8E-08	2 3E-08	1.0E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W2 avg	2.4E-05	8.3E-10	2.1E-09	1.2E-09	1.8E-09	6 4E-09	2.4E-08	1.5E-08	6 4E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6 4E-11	9 4E-11	3 3E-10	1.2E-09	7 4E-10	3 3E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6 4E-11	9 4E-11	3 3E-10	1.2E-09	7.4E-10	3 3E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6 4E-11	9.4E-11	3 3E-10	1.2E-09	7.4E-10	3.3E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6 4E-11	9 4E-11	3 3E-10	1.2E-09	7 4E-10	3.3E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6.4E-11	9 4E-11	3 3E-10	1.2E-09	7 4E-10	3.3E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1 4E-03	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6.4E-11	9 4E-11	3.3E-10	1.2E-09	7.4E-10	3.3E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6.4E-11	9.4E-11	3.3E-10	1.2E-09	7.4E-10	3 3E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W2 avg	1.6E-06	5.7E-11	1.4E-10	8.6E-11	1.3E-10	4.4E-10	1.7E-09	1.0E-09	4 4E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W2 avg	1.1E-05	3.9E-10	9.7E-10	5.9E-10	8.6E-10	3.0E-09	1.1E-08	6.8E-09	3 0E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1 4E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1 4E-10
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	W2 avg	1.5E-06	5.3E-11	1.3E-10	8.0E-11	1.2E-10	4.1E-10	1.5E-09	9.3E-10	4.1E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1.4E-10
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1.4E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W2 avg	4.7E-05	1.7E-09	4.2E-09	2.5E-09	3.7E-09	1.3E-08	4.9E-08	2 9E-08	1 3E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W2 avg	3.7E-06	1.3E-10	3.3E-10	2.0E-10	2.9E-10	1.0E-09	3.8E-09	2 3E-09	1.0E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W2 avg	2.4E-05	8.3E-10	2.1E-09	1.2E-09	1.8E-09	6.4E-09	2.4E-08	1 5E-08	6.4E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W2 avg	4.8E-05	1.7E-09	4.2E-09	2.5E-09	3.7E-09	1.3E-08	4.9E-08	3 0E-08	1 3E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W2 avg	1.1E-05	3.9E-10	9.7E-10	5.9E-10	8.6E-10	3.0E-09	1 1E-08	6 8E-09	3 0E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W2 avg	2.9E-06	1.0E-10	2.6E-10	1.6E-10	2.3E-10	8.0E-10	3.0E-09	1.8E-09	8.0E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W2 avg	1.4E-11	4.9E-16	1.2E-15	7.4E-16	1.1E-15	3.8E-15	1.4E-14	8 7E-15	3.8E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1 8E-10	6.6E-10	4 0E-10	1.8E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W2 avg	5.8E-05	2.1E-09	5.1E-09	3.1E-09	4.6E-09	1.6E-08	6.0E-08	3 6E-08	1.6E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W2 avg	5.3E-08	1.9E-12	4.6E-12	2.8E-12	4.1E-12	1.4E-11	5.4E-11	3.3E-11	1.4E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	1.3E-09	4.7E-14	1.2E-13	7.1E-14	1.1E-13	3.7E-13	1.4E-12	8.3E-13	3.7E-13
Hexachlorobenzene	1.6E+00	0 0007	2.0E-04	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1.4E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	1.3E-09	4.7E-14	1.2E-13	7.1E-14	1.1E-13	3.7E-13	1.4E-12	8 3E-13	3.7E-13
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	W2 avg	9.7E-06	3.4E-10	8.5E-10	5.1E-10	7.6E-10	2.7E-09	9.9E-09	6 0E-09	2.7E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W2 avg	5.3E-06	1.9E-10	4.6E-10	2.8E-10	4.1E-10	1.4E-09	5.4E-09	3.3E-09	1.4E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	W2 avg	5.3E-07	1.9E-11	4 6E-11	2 8E-11	4.1E-11	1.4E-10	5 4E-10	3 3E-10	1.4E-10
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4 1E-11	1 4E-10	5 4E-10	3 3E-10	1 4E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W2 avg	3.1E-06	1.1E-10	2.7E-10	1.6E-10	2.4E-10	8 4E-10	3 1E-09	1 9E-09	8 4E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	W2 avg	6.2E-06	2.2E-10	5.4E-10	3.3E-10	4 8E-10	1.7E-09	6 3E-09	3 8E-09	1.7E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4 6E-11	2.8E-11	4.1E-11	1 4E-10	5 4E-10	3 3E-10	1.4E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6 6E-10	4 0E-10	1.8E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	W2 avg	1.1E-05	3.9E-10	9 7E-10	5 9E-10	8 6E-10	3.0E-09	1 1E-08	6 8E-09	3 0E-09
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	W2 avg	5.3E-08	1.9E-12	4 6E-12	2 8E-12	4 1E-12	1 4E-11	5 4E-11	3 3E-11	1 4E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	W2 avg	1.2E-06	4.2E-11	1 1E-10	6 4E-11	9 4E-11	3 3E-10	1 2E-09	7 4E-10	3 3E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	W2 avg	1.2E-06	4 2E-11	1 1E-10	6 4E-11	9 4E-11	3 3E-10	1 2E-09	7 4E-10	3 3E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	W2 avg	3 8E-05	1.3E-09	3 3E-09	2 0E-09	3 0E-09	1 0E-08	3 9E-08	2 4E-08	1 0E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	W2 avg	4 0E-06	1 4E-10	3 5E-10	2 1E-10	3 1E-10	1 1E-09	4 1E-09	2 5E-09	1 1E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W2 avg	1 6E-09	5 6E-14	1.4E-13	8.5E-14	1 3E-13	4 4E-13	1 6E-12	9 9E-13	4 4E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	W2 avg	5 3E-07	1 9E-11	4 6E-11	2 8E-11	4 1E-11	1 4E-10	5 4E-10	3 3E-10	1 4E-10
Nitroaniline, 2-	NA	0 00005	1.4E-05	6.7E-06	W2 avg	6 4E-07	2.3E-11	5 6E-11	3 4E-11	5 0E-11	1 8E-10	6 6E-10	4 0E-10	1 8E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W2 avg	6 4E-07	2.3E-11	5 6E-11	3 4E-11	5 0E-11	1 8E-10	6 6E-10	4 0E-10	1.8E-10

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TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W2 avg	NT	NT	NT	NT	4 5E-07	1.7E-06	1.0E-06	4.5E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1 3E-05	W2 avg	NT	NT	NT	NT	9.2E-09	3.4E-08	2.1E-08	9.2E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W2 avg	3.8E-12	9.6E-12	5.8E-12	8.5E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W2 avg	5.1E-11	1.3E-10	7 6E-11	1.1E-10	1.5E-07	5.5E-07	3.3E-07	1.5E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W2 avg	NT	NT	NT	NT	6.6E-08	2.5E-07	1.5E-07	6.6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W2 avg	NT	NT	NT	NT	1.9E-07	7.2E-07	4 4E-07	1.9E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W2 avg	NT	NT	NT	NT	1.2E-06	4.3E-06	2.6E-06	1.2E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W2 avg	5.5E-12	1.4E-11	8.2E-12	1 2E-11	2.3E-07	8.6E-07	5.2E-07	2 3E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W2 avg	5.5E-12	1.4E-11	8.2E-12	1.2E-11	2 3E-07	8.6E-07	5.2E-07	2.3E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W2 avg	NT	NT	NT	NT	2.2E-09	8.3E-09	5.0E-09	2.2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W2 avg	NT	NT	NT	NT	2.9E-08	1.1E-07	6.5E-08	2.9E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W2 avg	NT	NT	NT	NT	1.6E-08	6.2E-08	3.7E-08	1.6E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W2 avg	NT	NT	NT	NT	5.8E-07	2.2E-06	1.3E-06	5.8E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W2 avg	NT	NT	NT	NT	2.9E-07	1.1E-06	6.5E-07	2.9E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W2 avg	NT	NT	NT	NT	2.9E-07	1.1E-06	6.5E-07	2.9E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W2 avg	NT	NT	NT	NT	2.9E-08	1.1E-07	6.5E-08	2.9E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W2 avg	NT	NT	NT	NT	4.1E-07	1.5E-06	9.2E-07	4.1E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W2 avg	NT	NT	NT	NT	2.9E-07	1.1E-06	6.5E-07	2 9E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W2 avg	NT	NT	NT	NT	1.8E-07	6.9E-07	4.1E-07	1.8E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W2 avg	3.0E-10	7.4E-10	4.4E-10	6.6E-10	2.1E-04	7.9E-04	4.8E-04	2.1E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W2 avg	3.6E-11	9.0E-11	5.4E-11	8.0E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W2 avg	NT	NT	NT	NT	1.9E-10	7.2E-10	4.3E-10	1.9E-10
Fluoranthene	NA	0.035	1 0E-02	5.5E-06	W2 avg	NT	NT	NT	NT	1.4E-08	5.4E-08	3.3E-08	1.4E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	W2 avg	NT	NT	NT	NT	1.8E-08	6.6E-08	4.0E-08	1.8E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W2 avg	9.2E-11	2.3E-10	1.4E-10	2.1E-10	3.2E-07	1.2E-06	7.2E-07	3 2E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	W2 avg	NT	NT	NT	NT	4 0E-08	1.5E-07	9.1E-08	4.0E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W2 avg	8.4E-12	2.1E-11	1.3E-11	1.9E-11	1.2E-07	4.3E-07	2.6E-07	1.2E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W2 avg	3.0E-11	7.5E-11	4.5E-11	6.7E-11	7.2E-07	2.7E-06	1.6E-06	7.2E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	W2 avg	2.7E-11	6.6E-11	4.0E-11	5.9E-11	5 3E-05	2.0E-04	1.2E-04	5.3E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W2 avg	NT	NT	NT	NT	1.9E-05	7.2E-05	4.3E-05	1.9E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	W2 avg	NT	NT	NT	NT	2.9E-05	1.1E-04	6 5E-05	2 9E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W2 avg	2.6E-13	6.5E-13	3.9E-13	5.8E-13	5.8E-07	2.2E-06	1.3E-06	5.8E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W2 avg	NT	NT	NT	NT	1.1E-05	4 2E-05	2.5E-05	1.1E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	W2 avg	NT	NT	NT	NT	3 5E-09	1 3E-08	7 9E-09	3.5E-09
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	W2 avg	NT	NT	NT	NT	2 4E-08	9.0E-08	5 5E-08	2.4E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W2 avg	NT	NT	NT	NT	1 2E-08	4 3E-08	2 6E-08	1 2E-08
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	W2 avg	NT	NT	NT	NT	1 5E-09	5 7E-09	3 5E-09	1 5E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	W2 avg	NT	NT	NT	NT	5 8E-08	2 1E-07	1.3E-07	5 8E-08
Methylene chloride	1 6E-03	0.75	2.1E-01	4.0E-04	W2 avg	2.2E-12	5 5E-12	3 3E-12	4 9E-12	4 9E-08	1 8E-07	1.1E-07	4.9E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5 5E-06	W2 avg	NT	NT	NT	NT	1 4E-08	5 4E-08	3 3E-08	1.4E-08
Nitroaniline, 2-	NA	0.00005	1 4E-05	6.7E-06	W2 avg	NT	NT	NT	NT	1 2E-05	4 6E-05	2 8E-05	1.2E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W2 avg	6.4E-07	2.3E-11	5 6E-11	3 4E-11	5 0E-11	1 8E-10	6.6E-10	4 0E-10	1 8E-10
Nitrobenzene	NA	0.0005	1 4E-04	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1 4E-10	5.4E-10	3 3E-10	1.4E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3 4E-11	5.0E-11	1 8E-10	6.6E-10	4 0E-10	1.8E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4 1E-11	1.4E-10	5 4E-10	3 3E-10	1.4E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W2 avg	1.2E-05	4.1E-10	1.0E-09	6.2E-10	9.1E-10	3 2E-09	1.2E-08	7 2E-09	3 2E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W2 avg	6 4E-07	2.3E-11	5.6E-11	3.4E-11	5 0E-11	1.8E-10	6 6E-10	4 0E-10	1.8E-10
Nonachlorobiphenyl	NA	NA	NA	1.3E-09	W2 avg	1.3E-09	4.7E-14	1.2E-13	7.1E-14	1.1E-13	3.7E-13	1.4E-12	8 3E-13	3.7E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	1.3E-09	4.7E-14	1.2E-13	7.1E-14	1 1E-13	3.7E-13	1 4E-12	8 3E-13	3.7E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	W2 avg	4.6E-06	1.6E-10	4.0E-10	2 4E-10	3 6E-10	1.3E-09	4.7E-09	2.8E-09	1.3E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	1.3E-09	4.7E-14	1.2E-13	7 1E-14	1.1E-13	3.7E-13	1.4E-12	8.3E-13	3 7E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W2 avg	3 2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3 3E-09	2 0E-09	8 9E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W2 avg	5.3E-07	1 9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1.4E-10
Phenanthrene	NA	NA	NA	6.7E-06	W2 avg	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4 0E-10	1.8E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3.3E-10	1 4E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W2 avg	1.1E-05	3.9E-10	9.7E-10	5.9E-10	8.6E-10	3.0E-09	1.1E-08	6.8E-09	3 0E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	W2 avg	2.2E-06	7.6E-11	1.9E-10	1.1E-10	1.7E-10	5.9E-10	2.2E-09	1 3E-09	5 9E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	1.3E-09	4.7E-14	1.2E-13	7.1E-14	1.1E-13	3.7E-13	1.4E-12	8 3E-13	3 7E-13
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7 5E-03	5.5E-06	W2 avg	5.3E-07	1 9E-11	4 6E-11	2 8E-11	4 1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	W2 avg	5 3E-07	1.9E-11	4.6E-11	2.8E-11	4 1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Tetrachloroethene	2.0E-03	0 00875	2 5E-03	5.1E-05	W2 avg	4 9E-06	1.7E-10	4.3E-10	2.6E-10	3.9E-10	1.3E-09	5.0E-09	3 0E-09	1 3E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7 5E-03	6.8E-06	W2 avg	6 5E-07	2.3E-11	5.7E-11	3.5E-11	5.1E-11	1 8E-10	6.7E-10	4 0E-10	1 8E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	W2 avg	5 9E-05	2.1E-09	5 2E-09	3.1E-09	4.6E-09	1.6E-08	6.0E-08	3 6E-08	1 6E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2 1E+00	3.3E-04	W2 avg	3.2E-05	1.1E-09	2 8E-09	1.7E-09	2.5E-09	8.7E-09	3.2E-08	2 0E-08	8 7E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1 4E-02	5 5E-06	W2 avg	5 3E-07	1.9E-11	4.6E-11	2.8E-11	4 1E-11	1.4E-10	5.4E-10	3 3E-10	1 4E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W2 avg	2.9E-09	1.0E-13	2.5E-13	1.5E-13	2.3E-13	7.9E-13	3.0E-12	1.8E-12	7.9E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6 4E-11	9.4E-11	3 3E-10	1.2E-09	7 4E-10	3 3E-10
Trichloroethane, 1,1,2-	5 7E-02	0.0035	1.0E-03	1.3E-05	W2 avg	1.2E-06	4.2E-11	1.1E-10	6.4E-11	9.4E-11	3.3E-10	1.2E-09	7.4E-10	3.3E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W2 avg	1.8E-06	6.3E-11	1.6E-10	9.5E-11	1.4E-10	4.9E-10	1.8E-09	1 1E-09	4 9E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W2 avg	2.4E-05	8.3E-10	2.1E-09	1.2E-09	1.8E-09	6.4E-09	2.4E-08	1 5E-08	6.4E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5 4E-10	3 3E-10	1 4E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W2 avg	6.2E-06	2.2E-10	5.4E-10	3.3E-10	4 8E-10	1.7E-09	6 3E-09	3.8E-09	1 7E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W2 avg	2.4E-05	8.3E-10	2.1E-09	1.2E-09	1.8E-09	6.4E-09	2 4E-08	1 5E-08	6.4E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W2 avg	3 7E-05	1.3E-09	3.2E-09	1.9E-09	2.9E-09	1 0E-08	3.7E-08	2 3E-08	1.0E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5 0E-01	5.5E-06	W2 avg	5.3E-07	1.9E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 3E-10	1.4E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W2 avg	1 0E-12	3.7E-17	9.1E-17	5 5E-17	8 1E-17	2 8E-16	1 1E-15	6 4E-16	2 8E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W2 avg	6 5E-12	2.3E-16	5 7E-16	3.4E-16	5 1E-16	1.8E-15	6 7E-15	4 0E-15	1 8E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W2 avg	8.6E-12	3.0E-16	7.5E-16	4.6E-16	6.7E-16	2 4E-15	8 8E-15	5 3E-15	2 4E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W2 avg	1 6E-11	5.6E-16	1 4E-15	8 4E-16	1 2E-15	4.4E-15	1 6E-14	9 8E-15	4 4E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W2 avg	1 0E-11	3 7E-16	9 2E-16	5 5E-16	8 2E-16	2 9E-15	1.1E-14	6 5E-15	2 9E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	W2 avg	1.2E-10	4.2E-15	1 0E-14	6 3E-15	9 3E-15	3 3E-14	1 2E-13	7 4E-14	3 3E-14
OCDD	1.5E+02	NA	NA	6.15E-09	W2 avg	5 9E-10	2 1E-14	5 2E-14	3 1E-14	4 6E-14	1 6E-13	6 0E-13	3 6E-13	1 6E-13
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	W2 avg	8 4E-12	3 0E-16	7 4E-16	4 5E-16	6 6E-16	2 3E-15	8 6E-15	5 2E-15	2 3E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	W2 avg	3 3E-11	1 2E-15	2 9E-15	1 8E-15	2 6E-15	9 1E-15	3 4E-14	2 0E-14	9 1E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W2 avg	4 5E-11	1 6E-15	3 9E-15	2 4E-15	3 5E-15	1 2E-14	4 6E-14	2 8E-14	1 2E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1 43E-09	W2 avg	1 4E-10	4 8E-15	1 2E-14	7 3E-15	1 1E-14	3 7E-14	1 4E-13	8 5E-14	3 7E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	W2 avg	1.3E-10	4 5E-15	1 1E-14	6 8E-15	1 0E-14	3 5E-14	1 3E-13	7 9E-14	3 5E-14
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	W2 avg	1.4E-10	5.1E-15	1 3E-14	7 7E-15	1 1E-14	4 0E-14	1.5E-13	8 9E-14	4 0E-14

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TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W2 avg	NT	NT	NT	NT	1.0E-06	3.8E-06	2.3E-06	1.0E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W2 avg	2.2E-09	5.5E-09	3.3E-09	4.9E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W2 avg	NT	NT	NT	NT	1 2E-06	4.4E-06	2.7E-06	1.2E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W2 avg	NT	NT	NT	NT	1.9E-08	7.2E-08	4.4E-08	1.9E-08
Phenanthrene	NA	NA	NA	6.7E-06	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	W2 avg	NT	NT	NT	NT	9.6E-10	3.6E-09	2.2E-09	9.6E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W2 avg	NT	NT	NT	NT	1.9E-08	7.2E-08	4.4E-08	1.9E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7 1E-02	2.3E-05	W2 avg	NT	NT	NT	NT	8.3E-09	3.1E-08	1.9E-08	8.3E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	W2 avg	4 8E-13	1.2E-12	7.2E-13	1 1E-12	1.9E-08	7.2E-08	4.4E-08	1.9E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	W2 avg	3 8E-12	9.4E-12	5.7E-12	8.4E-12	NT	NT	NT	NT
Tetrachloroethene	2 0E-03	0.00875	2.5E-03	5.1E-05	W2 avg	3.5E-13	8.8E-13	5.3E-13	7.8E-13	5 4E-07	2.0E-06	1.2E-06	5 4E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W2 avg	NT	NT	NT	NT	2.4E-08	8.9E-08	5.4E-08	2 4E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	W2 avg	NT	NT	NT	NT	5.6E-07	2.1E-06	1.3E-06	5.6E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W2 avg	NT	NT	NT	NT	4.0E-09	1.5E-08	9.1E-09	4.0E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W2 avg	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W2 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W2 avg	NT	NT	NT	NT	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Trichloroethane, 1,1,2-	5 7E-02	0.0035	1.0E-03	1.3E-05	W2 avg	2.4E-12	6.0E-12	3.6E-12	5.4E-12	3.3E-07	1.2E-06	7.4E-07	3.3E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W2 avg	3.7E-13	9.3E-13	5.6E-13	8.3E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W2 avg	NT	NT	NT	NT	1.3E-07	4.8E-07	2.9E-07	1.3E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W2 avg	NT	NT	NT	NT	5.6E-09	2.2E-08	1.3E-08	5.6E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W2 avg	1.9E-13	4.6E-13	2.8E-13	4.1E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W2 avg	NT	NT	NT	NT	1.2E-07	4.4E-07	2.7E-07	1.2E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W2 avg	2.5E-10	6.2E-10	3.7E-10	5.5E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W2 avg	NT	NT	NT	NT	2.0E-08	7.5E-08	4 5E-08	2.0E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W2 avg	NT	NT	NT	NT	2.9E-10	1.1E-09	6.5E-10	2.9E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W2 avg	5.5E-12	1.4E-11	8 2E-12	1.2E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W2 avg	1.7E-11	4.3E-11	2.6E-11	3.8E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W2 avg	4.5E-12	1.1E-11	6.8E-12	1.0E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W2 avg	8.4E-12	2.1E-11	1.3E-11	1.9E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	W2 avg	5.5E-12	1.4E-11	8.3E-12	1 2E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	W2 avg	6.3E-12	1 6E-11	9.5E-12	1.4E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	W2 avg	3.1E-12	7.8E-12	4 7E-12	6 9E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	W2 avg	4.4E-12	1.1E-11	6.7E-12	9 9E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	W2 avg	8.7E-12	2 2E-11	1 3E-11	1 9E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W2 avg	1.2E-10	2 9E-10	1 8E-10	2 6E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	W2 avg	7.2E-11	1.8E-10	1 1E-10	1 6E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	W2 avg	6 8E-11	1 7E-10	1 0E-10	1 5E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	W2 avg	7 6E-11	1.9E-10	1 1E-10	1 7E-10	NT	NT	NT	NT

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TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W2 avg	2.8E-11	9 9E-16	2.5E-15	1.5E-15	2 2E-15	7.7E-15	2 9E-14	1 7E-14	7.7E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W2 avg	8.9E-10	3 1E-14	7.8E-14	4.7E-14	7 0E-14	2.4E-13	9.1E-13	5 5E-13	2.4E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W2 avg	1.2E-10	4.1E-15	1.0E-14	6.2E-15	9.2E-15	3 2E-14	1.2E-13	7 2E-14	3 2E-14
OCDF	1.5E+02	NA	NA	1.89E-08	W2 avg	1.8E-09	6.4E-14	1.6E-13	9.6E-14	1.4E-13	5.0E-13	1 9E-12	1 1E-12	5 0E-13
Dioxin TEQ				4.28E-08		4.1E-09	1.4E-13	3.6E-13	2.2E-13	3.2E-13	1.1E-12	4.2E-12	2.5E-12	1.1E-12
Aluminum	NA	NA	NA	2.4E-04	W2 avg	2.3E-05	8 1E-10	2.0E-09	1.2E-09	1.8E-09	6.3E-09	2.4E-08	1.4E-08	6.3E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	W2 avg	4.0E-07	1.4E-11	3.5E-11	2 1E-11	3.2E-11	1.1E-10	4.1E-10	2 5E-10	1 1E-10
Arsenic	50	0 000263	7.5E-05	3.7E-05	W2 avg	3.6E-06	1.3E-10	3.1E-10	1.9E-10	2.8E-10	9.7E-10	3 6E-09	2 2E-09	9 7E-10
Barium	NA	0 000125	3.6E-05	1.5E-04	W2 avg	1.4E-05	5.1E-10	1.3E-09	7.8E-10	1.1E-09	3.9E-09	1.5E-08	8 9E-09	3.9E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	W2 avg	3.2E-09	1.1E-13	2.8E-13	1.7E-13	2.5E-13	8.7E-13	3.2E-12	2 0E-12	8 7E-13
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	W2 avg	1.5E-06	5.4E-11	1.3E-10	8.1E-11	1.2E-10	4.2E-10	1.6E-09	9.5E-10	4 2E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	W2 avg	6.8E-08	2.4E-12	6.0E-12	3.6E-12	5.3E-12	1.9E-11	7.0E-11	4.2E-11	1 9E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	W2 avg	6.8E-08	2.4E-12	6.0E-12	3.6E-12	5.3E-12	1.9E-11	7.0E-11	4.2E-11	1.9E-11
Copper	NA	NA	NA	9.4E-05	W2 avg	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.1E-10	2.5E-09	9.2E-09	5.6E-09	2.5E-09
Lead	NA	NA	NA	4.3E-05	W2 avg	4 1E-06	1.5E-10	3.6E-10	2.2E-10	3.2E-10	1.1E-09	4 2E-09	2.6E-09	1.1E-09
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	W2 avg	1.3E-04	4.7E-09	1.2E-08	7.1E-09	1.1E-08	3.7E-08	1.4E-07	8 3E-08	3.7E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	W2 avg	4.8E-07	1.7E-11	4.2E-11	2.5E-11	3.8E-11	1.3E-10	4.9E-10	3.0E-10	1.3E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	W2 avg	4.5E-05	1.6E-09	4.0E-09	2.4E-09	3.5E-09	1.2E-08	4 6E-08	2.6E-08	1.2E-08
Silver	NA	0.004375	1.3E-03	1.5E-05	W2 avg	1 4E-06	5.1E-11	1.3E-10	7.6E-11	1.1E-10	3.9E-10	1.5E-09	8 9E-10	3 9E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	W2 avg	3.3E-06	1.1E-10	2.9E-10	1.7E-10	2.6E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	W2 avg	1.2E-05	4.1E-10	1.0E-09	6.1E-10	9.0E-10	3.2E-09	1.2E-08	7.1E-09	3.2E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W2 avg	3.1E-03	1.1E-07	2.7E-07	1.6E-07	2.4E-07	8.4E-07	3.1E-06	1.9E-06	8 4E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W2 avg	2.3E-01	8.2E-06	2.0E-05	1 2E-05	1.8E-05	6.4E-05	2 4E-04	1 4E-04	6 4E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W2 avg	8.7E-03	3.1E-07	7.7E-07	4.6E-07	6.8E-07	2.4E-06	8.9E-06	5 4E-06	2.4E-06
Particulate matter	NA	NA	NA	7.2E-02	W2 avg	6.9E-03	2.4E-07	6.1E-07	3.7E-07	5.4E-07	1.9E-06	7.1E-06	4.3E-06	1.9E-06
Respirable particulates	NF	NF	NF	7.2E-02	W2 avg	6.9E-03	2.4E-07	6.1E-07	3.7E-07	5.4E-07	1.9E-06	7.1E-06	4 3E-06	1.9E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 11 Average Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	2.93E-10	W2 avg	1.5E-11	3.7E-11	2.2E-11	3.3E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W2 avg	4.7E-11	1.2E-10	7.1E-11	1.0E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W2 avg	6.2E-12	1 5E-11	9 3E-12	1.4E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	W2 avg	9 6E-12	2.4E-11	1.4E-11	2.1E-11		NT	NT	NT	NT
Dioxin TEQ				4.26E-08		4.8E-10	1.2E-09	7.2E-10	1.1E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	W2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	W2 avg	NT	NT	NT	NT		1.1E-06	4.1E-06	2.5E-06	1.1E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	W2 avg	6.3E-09	1.6E-08	9.4E-09	1.4E-08		1.3E-05	4.8E-05	2.9E-05	1.3E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	W2 avg	NT	NT	NT	NT		1.1E-04	4.1E-04	2.5E-04	1.1E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	W2 avg	9.4E-13	2.3E-12	1.4E-12	2.1E-12		6.9E-10	2.6E-09	1.6E-09	6.9E-10
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	W2 avg	3.3E-10	8.2E-10	5.0E-10	7.3E-10		3.4E-06	1.3E-05	7.6E-06	3.4E-06
Chromium (hexavalent)	41	0 004375	1 3E-03	7.1E-07	W2 avg	9.8E-11	2.5E-10	1.5E-10	2.2E-10		1.5E-08	5.6E-08	3.4E-08	1.5E-08
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	W2 avg	NT	NT	NT	NT		7.5E-11	2.8E-10	1.7E-10	7.5E-11
Copper	NA	NA	NA	9.4E-05	W2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	W2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	W2 avg	NT	NT	NT	NT		1.7E-03	6.4E-03	3.9E-03	1.7E-03
Nickel	0.84	0.0175	5 0E-03	5.0E-06	W2 avg	1.4E-11	3.5E-11	2.1E-11	3.2E-11		2.6E-08	9.8E-08	5.9E-08	2.6E-08
Selenium	NA	0.004375	1 3E-03	4.7E-04	W2 avg	NT	NT	NT	NT		9.9E-06	3.7E-05	2.2E-05	9.9E-06
Silver	NA	0 004375	1 3E-03	1.5E-05	W2 avg	NT	NT	NT	NT		3.2E-07	1.2E-06	7.1E-07	3.2E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	W2 avg	NT	NT	NT	NT		5.1E-05	1.9E-04	1.2E-04	5.1E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	W2 avg	NT	NT	NT	NT		4.2E-08	1.6E-07	9.5E-08	4.2E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W2 avg	NT	NT	NT	NT		1.7E-03	6.3E-03	3.8E-03	1.7E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	W2 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	W2 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.1E-06	2.6E-06	1.6E-06	2.3E-06	Total HI	4.1E-03	1.5E-02	9.2E-03	4.1E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W3 avg	2.9E-07	1 0E-11	2 6E-11	1 6E-11	2 3E-11	8 1E-11	3.0E-10	1 8E-10	8 1E-11
Acenaphthylene	NF	NF	NF	6.7E-06	W3 avg	2.9E-07	1 0E-11	2 6E-11	1 6E-11	2 3E-11	8 1E-11	3.0E-10	1 8E-10	8 1E-11
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	W3 avg	1.3E-05	4.7E-10	1.2E-09	7 0E-10	1 0E-09	3 6E-09	1.4E-08	8 2E-09	3 6E-09
Acetone	NA	0.0875	2.5E-02	2 9E-03	W3 avg	1.3E-04	4 5E-09	1.1E-08	6 8E-09	1 0E-08	3.5E-08	1 3E-07	7 9E-08	3 5E-08
Acetophenone	NA	0.0875	2.5E-02	2 9E-04	W3 avg	1 3E-05	4 5E-10	1.1E-09	6 8E-10	1.0E-09	3.5E-09	1.3E-08	8 0E-09	3 5E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W3 avg	8.9E-06	3 1E-10	7.8E-10	4.7E-10	7.0E-10	2.4E-09	9.1E-09	5 5E-09	2 4E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W3 avg	2.4E-07	8.5E-12	2 1E-11	1.3E-11	1 9E-11	6.6E-11	2 5E-10	1 5E-10	6 6E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W3 avg	6.5E-07	2.3E-11	5.7E-11	3.4E-11	5.1E-11	1.8E-10	6 6E-10	4 0E-10	1 8E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W3 avg	5.0E-07	1.8E-11	4.4E-11	2.6E-11	3.9E-11	1 4E-10	5.1E-10	3 1E-10	1 4E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W3 avg	1.4E-06	5.0E-11	1.2E-10	7.5E-11	1.1E-10	3.9E-10	1.4E-09	8 7E-10	3 9E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6 6E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6 6E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6 6E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1 9E-11	6.6E-11	2.5E-10	1 5E-10	6 6E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6 6E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1 8E-10	8 1E-11
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W3 avg	5.9E-07	2.1E-11	5.1E-11	3.1E-11	4.6E-11	1.6E-10	6.0E-10	3 6E-10	1 6E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	W3 avg	2 9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1 8E-10	8.1E-11
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	W3 avg	1.6E-06	5.8E-11	1.4E-10	8.7E-11	1.3E-10	4.5E-10	1.7E-09	1 0E-09	4 5E-10
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	W3 avg	4.5E-06	1.6E-10	4.0E-10	2.4E-10	3.6E-10	1.2E-09	4.6E-09	2 8E-09	1.2E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6.6E-11
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W3 avg	2.2E-05	7.6E-10	1.9E-09	1.1E-09	1.7E-09	5.9E-09	2.2E-08	1.3E-08	5 9E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W3 avg	2.9E-07	1 0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1 8E-10	8.1E-11
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W3 avg	2.3E-06	8.0E-11	2.0E-10	1.2E-10	1.8E-10	6.2E-10	2.3E-09	1.4E-09	6.2E-10
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	W3 avg	3.9E-06	1 4E-10	3.4E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W3 avg	7.0E-06	2.5E-10	6.1E-10	3.7E-10	5.4E-10	1.9E-09	7.1E-09	4.3E-09	1.9E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W3 avg	2.4E-08	8.5E-13	2.1E-12	1.3E-12	1.9E-12	6.6E-12	2.5E-11	1.5E-11	6.6E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1.8E-10	8.1E-11
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1 8E-10	8.1E-11
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W3 avg	1.6E-06	5.7E-11	1.4E-10	8.6E-11	1.3E-10	4.4E-10	1.7E-09	1 0E-09	4.4E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W3 avg	2.2E-05	7.6E-10	1.9E-09	1.1E-09	1.7E-09	5.9E-09	2.2E-08	1.3E-08	5.9E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W3 avg	1.2E-05	4.1E-10	1.0E-09	6.2E-10	9.2E-10	3.2E-09	1.2E-08	7 2E-09	3.2E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	W3 avg	1.1E-05	3.8E-10	9.5E-10	5.7E-10	8.4E-10	3.0E-09	1 1E-08	6 7E-09	3.0E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1 6E-11	2 3E-11	8 1E-11	3 0E-10	1 8E-10	8.1E-11
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1 9E-11	6.6E-11	2 5E-10	1 5E-10	6.6E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W3 avg	2.9E-07	1 0E-11	2.6E-11	1.6E-11	2 3E-11	8 1E-11	3 0E-10	1 8E-10	8 1E-11
Chrysene	NA	NA	NA	5.5E-06	W3 avg	2 4E-07	8 5E-12	2.1E-11	1 3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6 6E-11
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1 9E-11	6.6E-11	2 5E-10	1 5E-10	6 6E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1 3E-11	1 9E-11	6.6E-11	2 5E-10	1 5E-10	6 6E-11
Crotonaldehyde	NA	NA	NA	1.4E-04	W3 avg	6 1E-06	2 2E-10	5 4E-10	3.2E-10	4 8E-10	1.7E-09	6 3E-09	3 8E-09	1 7E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	W3 avg	2 4E-07	8 5E-12	2.1E-11	1 3E-11	1 9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
DDE, 4,4'-	NA	NA	NA	5.5E-07	W3 avg	2.4E-08	8.5E-13	2 1E-12	1 3E-12	1 9E-12	6 6E-12	2 5E-11	1 5E-11	6 6E-12
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8 5E-12	2 1E-11	1 3E-11	1 9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
Dibromochloromethane	NA	0 0175	5.0E-03	2 6E-05	W3 avg	1.2E-06	4 1E-11	1 0E-10	6 1E-11	9 1E-11	3 2E-10	1 2E-09	7 2E-10	3 2E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W3 avg	2 4E-07	8 5E-12	2 1E-11	1 3E-11	1 9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W3 avg	2.4E-07	8 5E-12	2 1E-11	1 3E-11	1 9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	W3 avg	2 4E-07	8 5E-12	2 1E-11	1 3E-11	1 9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	W3 avg	1 5E-06	5 2E-11	1 3E-10	7 8E-11	1 1E-10	4 0E-10	1 5E-09	9 1E-10	4 0E-10
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W3 avg	2.1E-09	7.3E-14	1 8E-13	1.1E-13	1 6E-13	5 6E-13	2 1E-12	1 3E-12	5 6E-13

External Review Draft, Do Not Cite or Quote

TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0 0525	1.5E-02	6.7E-06	W3 avg	NT	NT	NT	NT	5.4E-09	2.0E-08	1.2E-08	5.4E-09
Acenaphthylene	NF	NF	NF	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	W3 avg	3.6E-12	8.9E-12	5 4E-12	8 0E-12	5.6E-06	2.1E-05	1.3E-05	5.6E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	W3 avg	NT	NT	NT	NT	1.4E-06	5.2E-06	3.2E-06	1.4E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	W3 avg	NT	NT	NT	NT	1 4E-07	5.3E-07	3.2E-07	1 4E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W3 avg	7.4E-11	1.9E-10	1.1E-10	1.7E-10	1 7E-05	6.4E-05	3.8E-05	1.7E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W3 avg	NT	NT	NT	NT	8 8E-10	3.3E-09	2.0E-09	8.8E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W3 avg	6.6E-13	1.6E-12	1.0E-12	1.5E-12	4.1E-07	1.5E-06	9.3E-07	4.1E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W3 avg	NT	NT	NT	NT	1.4E-10	5.1E-10	3.1E-10	1.4E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W3 avg	2.3E-11	5.6E-11	3.4E-11	5.0E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	W3 avg	NT	NT	NT	NT	8.1E-09	3.0E-08	1.8E-08	8 1E-09
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	W3 avg	NT	NT	NT	NT	9.0E-08	3.3E-07	2.0E-07	9.0E-08
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	W3 avg	NT	NT	NT	NT	2 5E-07	9.3E-07	5.6E-07	2.5E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	W3 avg	3.3E-14	8.2E-14	4.9E-14	7.3E-14	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W3 avg	NT	NT	NT	NT	1.7E-05	6.2E-05	3.7E-05	1.7E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W3 avg	NT	NT	NT	NT	8.7E-09	3.2E-08	2.0E-08	8.7E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W3 avg	NT	NT	NT	NT	1.3E-09	5.0E-09	3.0E-09	1.3E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	W3 avg	NT	NT	NT	NT	1.5E-08	5.6E-08	3.4E-08	1.5E-08
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W3 avg	1.3E-11	3.2E-11	1.9E-11	2 9E-11	1.3E-05	5.0E-05	3.0E-05	1.3E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W3 avg	1.1E-12	2.7E-12	1.7E-12	2.5E-12	4.4E-07	1.7E-06	1.0E-06	4.4E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W3 avg	NT	NT	NT	NT	8.1E-08	3.0E-07	1.8E-07	8.1E-08
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W3 avg	NT	NT	NT	NT	4.6E-08	1.7E-07	1.0E-07	4 6E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W3 avg	1.6E-11	3.9E-11	2.3E-11	3.5E-11	8.9E-08	3.3E-07	2 0E-07	8.9E-08
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W3 avg	NT	NT	NT	NT	8.3E-09	3.1E-08	1 9E-08	8.3E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W3 avg	3.3E-11	8.3E-11	5.0E-11	7.4E-11	1.3E-06	4.8E-06	2.9E-06	1.3E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	W3 avg	2.4E-12	6.0E-12	3.6E-12	5.3E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W3 avg	NT	NT	NT	NT	4.0E-09	1.5E-08	9.1E-09	4 0E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W3 avg	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W3 avg	NT	NT	NT	NT	5 3E-09	2.0E-08	1.2E-08	5.3E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W3 avg	NT	NT	NT	NT	5 3E-09	2.0E-08	1.2E-08	5.3E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W3 avg	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	W3 avg	NT	NT	NT	NT	1 0E-07	3 9E-07	2.3E-07	1 0E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	W3 avg	NT	NT	NT	NT	6 3E-08	2 4E-07	1.4E-07	6 3E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W3 avg	NT	NT	NT	NT	1 2E-09	4 3E-09	2.6E-09	1 2E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	W3 avg	NT	NT	NT	NT	4 6E-09	1 7E-08	1.0E-08	4.6E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W3 avg	1.1E-05	3 6E-10	9.5E-10	5 7E-10	8 4E-10	3 0E-09	1 1E-08	6.7E-09	3 0E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W3 avg	5.5E-07	1.9E-11	4 8E-11	2.9E-11	4 3E-11	1 5E-10	5 6E-10	3 4E-10	1.5E-10
Dichloroethane, 1,2-	9 1E-02	NA	NA	1.3E-05	W3 avg	5 5E-07	1.9E-11	4 8E-11	2.9E-11	4 3E-11	1.5E-10	5 6E-10	3 4E-10	1.5E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1 2E+00	0.007875	2.3E-03	1.3E-05	W3 avg	5.5E-07	1.9E-11	4 8E-11	2.9E-11	4 3E-11	1.5E-10	5 6E-10	3 4E-10	1.5E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W3 avg	5.5E-07	1.9E-11	4 8E-11	2.9E-11	4.3E-11	1.5E-10	5.6E-10	3 4E-10	1.5E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6 6E-11	2.5E-10	1 5E-10	6 6E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W3 avg	5.5E-07	1.9E-11	4.8E-11	2.9E-11	4 3E-11	1.5E-10	5.6E-10	3 4E-10	1.5E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 avg	5.5E-07	1.9E-11	4 8E-11	2.9E-11	4 3E-11	1.5E-10	5.6E-10	3 4E-10	1.5E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 avg	5.5E-07	1.9E-11	4.8E-11	2.9E-11	4.3E-11	1.5E-10	5 6E-10	3 4E-10	1 5E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W3 avg	7.4E-07	2.6E-11	6.5E-11	3.9E-11	5.8E-11	2 0E-10	7.6E-10	4 6E-10	2.0E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W3 avg	5.1E-06	1.8E-10	4.4E-10	2.7E-10	4.0E-10	1.4E-09	5.2E-09	3.1E-09	1 4E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6 6E-11	2.5E-10	1.5E-10	6 6E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6 6E-11
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W3 avg	6.9E-07	2.4E-11	6.0E-11	3.7E-11	5.4E-11	1.9E-10	7.0E-10	4 3E-10	1 9E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6.6E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6.6E-11
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	W3 avg	2.4E-07	8 5E-12	2.1E-11	1 3E-11	1.9E-11	6 6E-11	2.5E-10	1 5E-10	6.6E-11
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6.6E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W3 avg	2.2E-05	7.7E-10	1.9E-09	1.2E-09	1.7E-09	6 0E-09	2.2E-08	1.3E-08	6.0E-09
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W3 avg	2.4E-07	8 5E-12	2.1E-11	1.3E-11	1 9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W3 avg	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4 7E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W3 avg	1.1E-05	3.8E-10	9.5E-10	5.7E-10	8.4E-10	3 0E-09	1.1E-08	6.7E-09	3.0E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W3 avg	2.2E-05	7.7E-10	1.9E-09	1.2E-09	1.7E-09	6.0E-09	2.2E-08	1 4E-08	6.0E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W3 avg	5.1E-06	1.8E-10	4.4E-10	2.7E-10	4.0E-10	1.4E-09	5.2E-09	3.1E-09	1.4E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W3 avg	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.1E-10	3.7E-10	1.4E-09	8 3E-10	3 7E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W3 avg	6.4E-12	2.3E-16	5.6E-16	3.4E-16	5.0E-16	1.8E-15	6.6E-15	4 0E-15	1.8E-15
Fluoranthene	NA	0.035	1 0E-02	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1 3E-11	1 9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
Fluorene	NA	0.035	1.0E-02	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1 8E-10	8.1E-11
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W3 avg	2.7E-05	9.4E-10	2.3E-09	1.4E-09	2.1E-09	7.3E-09	2.7E-08	1 7E-08	7 3E-09
Furfural	NA	0.0125	3.6E-03	5.5E-06	W3 avg	2.4E-07	8 5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6.6E-11
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W3 avg	2.4E-08	8.5E-13	2.1E-12	1.3E-12	1.9E-12	6.6E-12	2.5E-11	1 5E-11	6.6E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	6.2E-10	2.2E-14	5.4E-14	3.3E-14	4.8E-14	1.7E-13	6.3E-13	3 8E-13	1.7E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6 6E-11	2 5E-10	1 5E-10	6.6E-11
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	6.2E-10	2.2E-14	5 4E-14	3.3E-14	4.8E-14	1.7E-13	6 3E-13	3.8E-13	1.7E-13
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	W3 avg	4.4E-06	1.6E-10	3.9E-10	2.4E-10	3.5E-10	1 2E-09	4 5E-09	2 7E-09	1.2E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W3 avg	2.4E-06	8.5E-11	2.1E-10	1 3E-10	1.9E-10	6 6E-10	2 5E-09	1 5E-09	6 6E-10
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1 3E-11	1.9E-11	6 6E-11	2.5E-10	1 5E-10	6.6E-11
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1 3E-11	1.9E-11	6 6E-11	2.5E-10	1 5E-10	6 6E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W3 avg	1.4E-06	5 0E-11	1.2E-10	7.5E-11	1 1E-10	3.9E-10	1 4E-09	8 7E-10	3.9E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	W3 avg	2.8E-06	1 0E-10	2.5E-10	1 5E-10	2.2E-10	7 7E-10	2 9E-09	1 7E-09	7.7E-10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1 3E-11	1.9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
Isophorone	NA	0.175	5 0E-02	6.7E-06	W3 avg	2 9E-07	1.0E-11	2 6E-11	1 6E-11	2 3E-11	8 1E-11	3 0E-10	1 8E-10	8.1E-11
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	W3 avg	5 1E-06	1 8E-10	4.4E-10	2 7E-10	4.0E-10	1.4E-09	5 2E-09	3 1E-09	1 4E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W3 avg	2 4E-08	8 5E-13	2 1E-12	1 3E-12	1 9E-12	6 6E-12	2 5E-11	1 5E-11	6 6E-12
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	W3 avg	5 5E-07	1.9E-11	4 8E-11	2 9E-11	4 3E-11	1 5E-10	5 6E-10	3 4E-10	1.5E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5 7E-03	1.3E-05	W3 avg	5 5E-07	1 9E-11	4 8E-11	2 9E-11	4 3E-11	1 5E-10	5 6E-10	3 4E-10	1 5E-10
Methylene chloride	1 6E-03	0.75	2.1E-01	4.0E-04	W3 avg	1 7E-05	6 1E-10	1 5E-09	9 2E-10	1 4E-09	4 8E-09	1 8E-08	1 1E-08	4 8E-09
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W3 avg	1.8E-06	6 5E-11	1 6E-10	9 7E-11	1 4E-10	5 0E-10	1 9E-09	1 1E-09	5 0E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W3 avg	7 3E-10	2 6E-14	6 4E-14	3 9E-14	5 7E-14	2 0E-13	7 5E-13	4 5E-13	2 0E-13
Naphthalene	NA	0.035	1 0E-02	5 5E-06	W3 avg	2 4E-07	8 5E-12	2 1E-11	1 3E-11	1 9E-11	6 6E-11	2 5E-10	1 5E-10	6 6E-11
Nitroaniline, 2-	NA	0 00005	1.4E-05	6 7E-06	W3 avg	2 9E-07	1 0E-11	2 6E-11	1 6E-11	2 3E-11	8 1E-11	3 0E-10	1 8E-10	8 1E-11
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W3 avg	2 9E-07	1 0E-11	2 6E-11	1 6E-11	2 3E-11	8 1E-11	3 0E-10	1 8E-10	8 1E-11

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TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W3 avg	NT	NT	NT	NT	2 1E-07	7.7E-07	4 7E-07	2.1E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W3 avg	NT	NT	NT	NT	4.2E-09	1.6E-08	9.5E-09	4.2E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W3 avg	1 8E-12	4.4E-12	2 7E-12	3.9E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2 3E-03	1.3E-05	W3 avg	2.3E-11	5.8E-11	3.5E-11	5.2E-11	6 7E-08	2.5E-07	1.5E-07	6.7E-08
Dichloroethene (trans), 1,2-	NA	0.0175	5 0E-03	1.3E-05	W3 avg	NT	NT	NT	NT	3 0E-08	1.1E-07	6.8E-08	3.0E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W3 avg	NT	NT	NT	NT	8.8E-08	3.3E-07	2.0E-07	8.8E-08
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W3 avg	NT	NT	NT	NT	5.3E-07	2.0E-06	1.2E-06	5.3E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 avg	2.5E-12	6.2E-12	3.8E-12	5.6E-12	1.1E-07	3.9E-07	2.4E-07	1.1E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 avg	2.5E-12	6.2E-12	3.8E-12	5.6E-12	1.1E-07	3.9E-07	2.4E-07	1.1E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W3 avg	NT	NT	NT	NT	1.0E-09	3.6E-09	2.3E-09	1.0E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5 5E-06	W3 avg	NT	NT	NT	NT	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W3 avg	NT	NT	NT	NT	7.5E-09	2.8E-08	1.7E-08	7.5E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W3 avg	NT	NT	NT	NT	2.7E-07	9.9E-07	6.0E-07	2.7E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W3 avg	NT	NT	NT	NT	1.3E-07	5.0E-07	3.0E-07	1.3E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W3 avg	NT	NT	NT	NT	1.3E-07	5.0E-07	3.0E-07	1.3E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W3 avg	NT	NT	NT	NT	1 3E-08	5.0E-08	3.0E-08	1.3E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W3 avg	NT	NT	NT	NT	1.9E-07	7.0E-07	4.2E-07	1.9E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W3 avg	NT	NT	NT	NT	1.3E-07	4.9E-07	3.0E-07	1.3E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W3 avg	NT	NT	NT	NT	8.4E-08	3.1E-07	1.9E-07	8.4E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W3 avg	1.4E-10	3.4E-10	2.0E-10	3.0E-10	9.7E-05	3.6E-04	2.2E-04	9.7E-05
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W3 avg	1.7E-11	4.1E-11	2.5E-11	3.7E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W3 avg	NT	NT	NT	NT	8.8E-11	3.3E-10	2.0E-10	8.8E-11
Fluoranthene	NA	0 035	1.0E-02	5.5E-06	W3 avg	NT	NT	NT	NT	6.6E-09	2.5E-08	1.5E-08	6.6E-09
Fluorene	NA	0.035	1.0E-02	6.7E-06	W3 avg	NT	NT	NT	NT	8.1E-09	3.0E-08	1.8E-08	8.1E-09
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W3 avg	4.2E-11	1.1E-10	6.4E-11	9.4E-11	1.5E-07	5.5E-07	3.3E-07	1.5E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	W3 avg	NT	NT	NT	NT	1.9E-08	6.9E-08	4.2E-08	1 9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W3 avg	3.8E-12	9.6E-12	5.8E-12	8.5E-12	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W3 avg	1.4E-11	3.4E-11	2.1E-11	3.0E-11	3.3E-07	1.2E-06	7.5E-07	3.3E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	W3 avg	1.2E-11	3.0E-11	1.8E-11	2.7E-11	2 4E-05	9.1E-05	5.5E-05	2.4E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W3 avg	NT	NT	NT	NT	8.8E-08	3.3E-05	2.0E-05	8.8E-08
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	W3 avg	NT	NT	NT	NT	1 3E-05	5.0E-05	3.0E-05	1.3E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5 5E-06	W3 avg	1.2E-13	3.0E-13	1.8E-13	2.7E-13	2.7E-07	9.9E-07	6 0E-07	2.7E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W3 avg	NT	NT	NT	NT	5.1E-06	1.9E-05	1.2E-05	5.1E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	W3 avg	NT	NT	NT	NT	1 6E-09	6 0E-09	3 6E-09	1.6E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	W3 avg	NT	NT	NT	NT	1 1E-08	4.1E-08	2.5E-08	1 1E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W3 avg	NT	NT	NT	NT	5 3E-09	2 0E-08	1 2E-08	5 3E-09
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	W3 avg	NT	NT	NT	NT	7 0E-10	2 6E-09	1 6E-09	7 0E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1.3E-05	W3 avg	NT	NT	NT	NT	2 6E-08	9 8E-08	6 0E-08	2 6E-08
Methylene chloride	1.6E-03	0.75	2 1E-01	4.0E-04	W3 avg	1.0E-12	2 5E-12	1 5E-12	2 2E-12	2 2E-08	8 3E-08	5.0E-08	2 2E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	W3 avg	NT	NT	NT	NT	6 6E-09	2 5E-08	1 5E-08	6.6E-09
Nitroaniline, 2-	NA	0 00005	1.4E-05	6.7E-06	W3 avg	NT	NT	NT	NT	5 6E-06	2 1E-05	1.3E-05	5 6E-06
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT

External Review Draft Not Cite or Quote

TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8 1E-11	3 0E-10	1 8E-10	8.1E-11
Nitrobenzene	NA	0 0005	1.4E-04	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6 6E-11	2.5E-10	1 5E-10	6 6E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8 1E-11	3.0E-10	1.8E-10	8.1E-11
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6 6E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W3 avg	5.3E-06	1.9E-10	4.7E-10	2.8E-10	4 2E-10	1.5E-09	5.4E-09	3 3E-09	1.5E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1.8E-10	8.1E-11
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2 3E-11	8.1E-11	3.0E-10	1 8E-10	8.1E-11
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	6.2E-10	2.2E-14	5.4E-14	3.3E-14	4.8E-14	1.7E-13	6.3E-13	3 8E-13	1.7E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	6.2E-10	2.2E-14	5.4E-14	3.3E-14	4.8E-14	1.7E-13	6.3E-13	3 8E-13	1.7E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	W3 avg	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	6.2E-10	2.2E-14	5.4E-14	3.3E-14	4.8E-14	1.7E-13	6.3E-13	3 8E-13	1.7E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W3 avg	1.5E-06	5.2E-11	1.3E-10	7.9E-11	1.2E-10	4 1E-10	1.5E-09	9.2E-10	4.1E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6 6E-11	2.5E-10	1.5E-10	6.6E-11
Phenanthrene	NA	NA	NA	6.7E-06	W3 avg	2.9E-07	1.0E-11	2.6E-11	1.6E-11	2.3E-11	8.1E-11	3.0E-10	1.8E-10	8.1E-11
Phenol	NA	0.525	1 5E-01	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6.6E-11
Pyrene	NA	0 02625	7.5E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2 1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W3 avg	5.1E-06	1.8E-10	4.4E-10	2.7E-10	4 0E-10	1.4E-09	5.2E-09	3.1E-09	1.4E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	W3 avg	9.9E-07	3.5E-11	8.7E-11	5.2E-11	7.7E-11	2.7E-10	1.0E-09	6 1E-10	2.7E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	6.2E-10	2.2E-14	5.4E-14	3.3E-14	4 8E-14	1.7E-13	6.3E-13	3 8E-13	1 7E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6 6E-11
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	W3 avg	2 3E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6.2E-10	2.3E-09	1 4E-09	6 2E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W3 avg	3.0E-07	1.1E-11	2.6E-11	1.6E-11	2.3E-11	8.2E-11	3.1E-10	1.9E-10	8.2E-11
Toluene	NA	0.1	2.9E-02	6.1E-04	W3 avg	2.7E-05	9.5E-10	2.4E-09	1.4E-09	2.1E-09	7.4E-09	2.8E-08	1.7E-08	7.4E-09
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W3 avg	1.5E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	9.0E-09	4.0E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W3 avg	1.3E-09	4.7E-14	1.2E-13	7.0E-14	1.0E-13	3.6E-13	1.4E-12	8 2E-13	3 6E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W3 avg	5.5E-07	1.9E-11	4.8E-11	2.9E-11	4.3E-11	1.5E-10	5.6E-10	3 4E-10	1 5E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W3 avg	5.5E-07	1.9E-11	4.8E-11	2.9E-11	4.3E-11	1.5E-10	5.6E-10	3 4E-10	1.5E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W3 avg	8.2E-07	2.9E-11	7.2E-11	4.3E-11	6.4E-11	2.2E-10	8.4E-10	5 1E-10	2.2E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W3 avg	1.1E-05	3.8E-10	9.5E-10	5.7E-10	8 4E-10	3.0E-09	1.1E-08	6 7E-09	3.0E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1 5E-10	6.6E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1.9E-11	6.6E-11	2.5E-10	1.5E-10	6.6E-11
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W3 avg	2.8E-06	1.0E-10	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W3 avg	1.1E-05	3.8E-10	9.5E-10	5.7E-10	8.4E-10	3.0E-09	1.1E-08	6.7E-09	3.0E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W3 avg	1.7E-05	5.9E-10	1.5E-09	8 9E-10	1 3E-09	4 6E-09	1 7E-08	1 0E-08	4.6E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W3 avg	2.4E-07	8.5E-12	2.1E-11	1.3E-11	1 9E-11	6.6E-11	2.5E-10	1.5E-10	6 6E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W3 avg	4.8E-13	1.7E-17	4.2E-17	2.5E-17	3.7E-17	1.3E-16	4 9E-16	2 9E-16	1 3E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6 78E-11	W3 avg	3 0E-12	1.1E-16	2.6E-16	1 6E-16	2.3E-16	8 2E-16	3.1E-15	1 8E-15	8 2E-16
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8 95E-11	W3 avg	3.9E-12	1.4E-16	3 5E-16	2.1E-16	3 1E-16	1 1E-15	4 0E-15	2 4E-15	1 1E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W3 avg	7.3E-12	2.6E-16	6.4E-16	3 9E-16	5 7E-16	2.0E-15	7 5E-15	4 5E-15	2 0E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W3 avg	4 8E-12	1.7E-16	4 2E-16	2 5E-16	3 7E-16	1 3E-15	4 9E-15	3 0E-15	1 3E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1 24E-09	W3 avg	5 5E-11	1 9E-15	4 8E-15	2 9E-15	4.3E-15	1 5E-14	5 6E-14	3 4E-14	1 5E-14
OCDD	1.5E+02	NA	NA	6.15E-09	W3 avg	2.7E-10	9.5E-15	2 4E-14	1 4E-14	2 1E-14	7 4E-14	2 8E-13	1 7E-13	7 4E-14
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	W3 avg	3 9E-12	1 4E-16	3 4E-16	2 0E-16	3 0E-16	1 1E-15	3 9E-15	2 4E-15	1.1E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3 45E-10	W3 avg	1 5E-11	5 3E-16	1 3E-15	8 0E-16	1 2E-15	4 2E-15	1 6E-14	9 4E-15	4 2E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W3 avg	2 1E-11	7 2E-16	1 8E-15	1.1E-15	1 6E-15	5 6E-15	2 1E-14	1 3E-14	5 6E-15
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	W3 avg	6.3E-11	2 2E-15	5 5E-15	3 3E-15	4 9E-15	1 7E-14	6 4E-14	3 9E-14	1 7E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	W3 avg	5 9E-11	2.1E-15	5 2E-15	3 1E-15	4 6E-15	1 6E-14	6 0E-14	3 6E-14	1 6E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	W3 avg	6 6E-11	2.3E-15	5 8E-15	3.5E-15	5 2E-15	1 8E-14	6 8E-14	4 1E-14	1 8E-14

TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W3 avg	NT	NT	NT	NT	4.6E-07	1.7E-06	1.0E-06	4.6E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W3 avg	1.0E-09	2.5E-09	1.5E-09	2.2E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W3 avg	NT	NT	NT	NT	5.4E-07	2.0E-06	1.2E-06	5.4E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W3 avg	NT	NT	NT	NT	8.8E-09	3.3E-08	2.0E-08	8.8E-09
Phenanthrene	NA	NA	NA	6.7E-06	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	W3 avg	NT	NT	NT	NT	4.4E-10	1.7E-09	1.0E-09	4.4E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W3 avg	NT	NT	NT	NT	8.8E-09	3.3E-08	2.0E-08	8.8E-09
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	W3 avg	NT	NT	NT	NT	3.8E-09	1.4E-08	8.6E-09	3.8E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	W3 avg	2.2E-13	5.5E-13	3.3E-13	4.9E-13	8.8E-09	3.3E-08	2.0E-08	8.8E-09
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	W3 avg	1 7E-12	4.3E-12	2.6E-12	3.8E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2 5E-03	5.1E-05	W3 avg	1.6E-13	4.0E-13	2.4E-13	3.6E-13	2.5E-07	9.2E-07	5.6E-07	2.5E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7 5E-03	6.8E-06	W3 avg	NT	NT	NT	NT	1.1E-08	4.1E-08	2.5E-08	1.1E-08
Toluene	NA	0 1	2 9E-02	6.1E-04	W3 avg	NT	NT	NT	NT	2.6E-07	9.7E-07	5.8E-07	2.6E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2 1E+00	3.3E-04	W3 avg	NT	NT	NT	NT	1 9E-09	6.9E-09	4.2E-09	1.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W3 avg	NT	NT	NT	NT	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W3 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W3 avg	NT	NT	NT	NT	2.1E-09	7.9E-09	4.8E-09	2.1E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W3 avg	1.1E-12	2.7E-12	1.7E-12	2.5E-12	1.5E-07	5.6E-07	3.4E-07	1.5E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W3 avg	1.7E-13	4.3E-13	2.6E-13	3.8E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W3 avg	NT	NT	NT	NT	5.9E-08	2.2E-07	1.3E-07	5.9E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W3 avg	NT	NT	NT	NT	2.7E-09	9.9E-09	6.0E-09	2.7E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W3 avg	8.5E-14	2.1E-13	1.3E-13	1.9E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W3 avg	NT	NT	NT	NT	5.4E-08	2.0E-07	1.2E-07	5.4E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W3 avg	1.1E-10	2.8E-10	1.7E-10	2.5E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W3 avg	NT	NT	NT	NT	9 2E-09	3.4E-08	2.1E-08	9 2E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W3 avg	NT	NT	NT	NT	1 3E-10	5.0E-10	3.0E-10	1.3E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W3 avg	2.5E-12	6.3E-12	3.8E-12	5 6E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W3 avg	7.9E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W3 avg	2.1E-12	5.2E-12	3 1E-12	4.6E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W3 avg	3.8E-12	9.6E-12	5.8E-12	8 6E-12	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W3 avg	2.5E-12	6.3E-12	3.8E-12	5.6E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	W3 avg	2.9E-12	7 2E-12	4 3E-12	6 4E-12	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	W3 avg	1.4E-12	3 6E-12	2.2E-12	3 2E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	W3 avg	2.0E-12	5.1E-12	3 1E-12	4 5E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	W3 avg	4.0E-12	1.0E-11	6 0E-12	8 9E-12	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W3 avg	5.4E-11	1.4E-10	8 2E-11	1 2E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	W3 avg	3.3E-11	8 3E-11	5 0E-11	7 4E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	W3 avg	3 1E-11	7 7E-11	4 7E-11	6 9E-11	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	W3 avg	3.5E-11	8 7E-11	5 3E-11	7 8E-11	NT	NT	NT	NT

TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W3 avg	1.3E-11	4.5E-16	1.1E-15	6 8E-16	1.0E-15	3 5E-15	1.3E-14	8 0E-15	3.5E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W3 avg	4.1E-10	1.4E-14	3.6E-14	2 2E-14	3.2E-14	1 1E-13	4 2E-13	2 5E-13	1 1E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W3 avg	5 4E-11	1.9E-15	4.7E-15	2.8E-15	4 2E-15	1 5E-14	5 5E-14	3 3E-14	1 5E-14
OCDF	1.5E+02	NA	NA	1.89E-08	W3 avg	8.3E-10	2.9E-14	7.3E-14	4.4E-14	6.5E-14	2 3E-13	8 5E-13	5 2E-13	2 3E-13
Dioxin TEQ				4.28E-08		1.9E-09	6.6E-14	1.7E-13	1.0E-13	1.5E-13	5 2E-13	1 9E-12	1.2E-12	5.2E-13
Aluminum	NA	NA	NA	2.4E-04	W3 avg	1.1E-05	3.7E-10	9.3E-10	5.6E-10	8.3E-10	2.9E-09	1.1E-08	6 5E-09	2 9E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	W3 avg	1.8E-07	6.5E-12	1.6E-11	9.8E-12	1.4E-11	5 1E-11	1.9E-10	1 1E-10	5 1E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	W3 avg	1.6E-06	5.7E-11	1.4E-10	8.6E-11	1.3E-10	4 5E-10	1.7E-09	1 0E-09	4 5E-10
Barium	NA	0.000125	3.6E-05	1.5E-04	W3 avg	6.6E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1.8E-09	6.8E-09	4.1E-09	1 8E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	W3 avg	1.5E-09	5.1E-14	1.3E-13	7.7E-14	1.1E-13	4 0E-13	1.5E-12	9 0E-13	4 0E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	W3 avg	7.0E-07	2.5E-11	6.2E-11	3.7E-11	5.5E-11	1.9E-10	7.2E-10	4 4E-10	1 9E-10
Chromium (hexavalent)	41	0.004375	1 3E-03	7.1E-07	W3 avg	3.1E-08	1 1E-12	2.7E-12	1.7E-12	2.4E-12	8 6E-12	3.2E-11	1 9E-11	8 6E-12
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	W3 avg	3.1E-08	1.1E-12	2.7E-12	1.7E-12	2.4E-12	8.6E-12	3.2E-11	1 9E-11	8.6E-12
Copper	NA	NA	NA	9.4E-05	W3 avg	4.1E-06	1.5E-10	3.6E-10	2.2E-10	3 2E-10	1.1E-09	4.2E-09	2 6E-09	1.1E-09
Lead	NA	NA	NA	4.3E-05	W3 avg	1.9E-06	6.7E-11	1.7E-10	1.0E-10	1.5E-10	5.2E-10	1.9E-09	1 2E-09	5.2E-10
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	W3 avg	6.2E-05	2.2E-09	5.4E-09	3.3E-09	4.8E-09	1.7E-08	6.3E-08	3 8E-08	1 7E-08
Nickel	0.84	0.0175	5 0E-03	5.0E-06	W3 avg	2.2E-07	7.7E-12	1.9E-11	1.2E-11	1.7E-11	6.0E-11	2.3E-10	1 4E-10	6.0E-11
Selenium	NA	0.004375	1.3E-03	4.7E-04	W3 avg	2.1E-05	7.3E-10	1.8E-09	1.1E-09	1.6E-09	5.7E-09	2.1E-08	1 3E-08	5 7E-09
Silver	NA	0 004375	1.3E-03	1.5E-05	W3 avg	6.6E-07	2.3E-11	5.8E-11	3.5E-11	5.2E-11	1.8E-10	6.8E-10	4 1E-10	1 8E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	W3 avg	1.5E-06	5.3E-11	1 3E-10	7.9E-11	1.2E-10	4.1E-10	1.5E-09	9 3E-10	4 1E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	W3 avg	5.3E-06	1.9E-10	4.6E-10	2.8E-10	4.1E-10	1.4E-09	5.4E-09	3.3E-09	1 4E-09
Hydrogen chloride	NA	0.00175	5 0E-04	3.2E-02	W3 avg	1.4E-03	5.0E-08	1.2E-07	7.5E-08	1.1E-07	3.9E-07	1.4E-06	8 7E-07	3 9E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W3 avg	1.1E-01	3.7E-06	9.3E-06	5.6E-06	8.3E-06	2.9E-05	1.1E-04	6 6E-05	2.9E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W3 avg	4.0E-03	1.4E-07	3.5E-07	2.1E-07	3.1E-07	1.1E-06	4.1E-06	2 5E-06	1.1E-06
Particulate matter	NA	NA	NA	7.2E-02	W3 avg	3.2E-03	1.1E-07	2.8E-07	1.7E-07	2.5E-07	8.7E-07	3.2E-06	2.0E-06	8.7E-07
Respirable particulates	NF	NF	NF	7.2E-02	W3 avg	3.2E-03	1.1E-07	2.8E-07	1.7E-07	2.5E-07	8.7E-07	3.2E-06	2.0E-06	8.7E-07

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 12 Average Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W3 avg	6 8E-12	1.7E-11	1.0E-11	1 5E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W3 avg	2 2E-11	5.4E-11	3.3E-11	4 8E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W3 avg	2.8E-12	7.1E-12	4.3E-12	6 3E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1 89E-08	W3 avg	4.4E-12	1.1E-11	6 6E-12	9.8E-12		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		2.2E-10	5.4E-10	3.3E-10	4.8E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	W3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	W3 avg	NT	NT	NT	NT		5.1E-07	1.9E-06	1.1E-06	5.1E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	W3 avg	2.9E-09	7.1E-09	4.3E-09	6.4E-09		5.9E-06	2.2E-05	1.3E-05	5 9E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	W3 avg	NT	NT	NT	NT		5 1E-05	1.9E-04	1 1E-04	5.1E-05
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	W3 avg	4.3E-13	1.1E-12	6.5E-13	9.5E-13		3 2E-10	1.2E-09	7.2E-10	3 2E-10
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	W3 avg	1 5E-10	3.8E-10	2.3E-10	3.4E-10		1 5E-06	5.8E-06	3.5E-06	1.5E-06
Chromium (hexavalent)	41	0.004375	1 3E-03	7.1E-07	W3 avg	4.5E-11	1.1E-10	6.8E-11	1.0E-10		6 8E-09	2.6E-08	1.5E-08	6 8E-09
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	W3 avg	NT	NT	NT	NT		3.4E-11	1.3E-10	7.7E-11	3.4E-11
Copper	NA	NA	NA	9.4E-05	W3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	W3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	W3 avg	NT	NT	NT	NT		7.9E-04	2.9E-03	1.8E-03	7.9E-04
Nickel	0.84	0.0175	5 0E-03	5.0E-06	W3 avg	6 5E-12	1.6E-11	9.8E-12	1.4E-11		1.2E-08	4.5E-08	2.7E-08	1.2E-08
Selenium	NA	0 004375	1 3E-03	4.7E-04	W3 avg	NT	NT	NT	NT		4.5E-06	1.7E-05	1.0E-05	4.5E-06
Silver	NA	0.004375	1 3E-03	1.5E-05	W3 avg	NT	NT	NT	NT		1.4E-07	5.4E-07	3.3E-07	1.4E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	W3 avg	NT	NT	NT	NT		2 3E-05	8.7E-05	5.3E-05	2.3E-05
Zinc	NA	0.2625	7 5E-02	1.2E-04	W3 avg	NT	NT	NT	NT		1.9E-08	7.2E-08	4.4E-08	1.9E-08
Hydrogen chloride	NA	0.00175	5 0E-04	3.2E-02	W3 avg	NT	NT	NT	NT		7.7E-04	2.9E-03	1.7E-03	7.7E-04
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	W3 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	W3 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	4.8E-09	1.2E-08	7.3E-09	1.1E-08	Total HI	1.9E-03	7.0E-03	4.2E-03	1.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E1 max	6 1E-06	2.1E-10	5 3E-10	3 2E-10	4.8E-10	1.7E-09	6 2E-09	3 8E-09	1 7E-09
Acenaphthylene	NF	NF	NF	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4 8E-10	1.7E-09	6 2E-09	3 8E-09	1 7E-09
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	E1 max	2 7E-04	9.6E-09	2.4E-08	1.5E-08	2 1E-08	7.5E-08	2.8E-07	1 7E-07	7 5E-08
Acetone	NA	0 0875	2.5E-02	2.9E-03	E1 max	2 6E-03	9 3E-08	2.3E-07	1.4E-07	2 1E-07	7 2E-07	2.7E-06	1 6E-06	7.2E-07
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E1 max	2.7E-04	9.4E-09	2.3E-08	1 4E-08	2.1E-08	7.3E-08	2.7E-07	1 6E-07	7.3E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E1 max	1 8E-04	6.5E-09	1 6E-08	9 7E-09	1.4E-08	5 0E-08	1.9E-07	1 1E-07	5.0E-08
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E1 max	5 0E-06	1.8E-10	4 4E-10	2 7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E1 max	1 3E-05	4.7E-10	1 2E-09	7.1E-10	1.0E-09	3.7E-09	1.4E-08	8 3E-09	3.7E-09
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E1 max	1 0E-05	3.6E-10	9.0E-10	5.5E-10	8.0E-10	2.8E-09	1.1E-08	6 4E-09	2 8E-09
Benzotrichloride	NA	NA	NA	3.2E-05	E1 max	2.9E-05	1.0E-09	2.6E-09	1.5E-09	2.3E-09	8.0E-09	3.0E-08	1 8E-08	8 0E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5 1E-09	3 1E-09	1.4E-09
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4 4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1 4E-09
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3 9E-10	1.4E-09	5.1E-09	3 1E-09	1 4E-09
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4.8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	E1 max	1.2E-05	4 3E-10	1.1E-09	6.4E-10	9.5E-10	3.3E-09	1.2E-08	7 5E-09	3 3E-09
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E1 max	6.1E-06	2 1E-10	5 3E-10	3.2E-10	4 8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	E1 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.6E-09	9.3E-09	3.5E-08	2 1E-08	9 3E-09
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	E1 max	9 4E-05	3.3E-09	8 2E-09	5.0E-09	7.3E-09	2.6E-08	9.6E-08	5 8E-08	2.6E-08
Bromoform	3 9E-03	0.0175	5 0E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3 9E-10	1 4E-09	5.1E-09	3 1E-09	1.4E-09
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E1 max	4.5E-04	1.6E-08	3.9E-08	2.4E-08	3.5E-08	1.2E-07	4.6E-07	2 8E-07	1 2E-07
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E1 max	6 1E-06	2.1E-10	5.3E-10	3 2E-10	4.8E-10	1.7E-09	6 2E-09	3 8E-09	1 7E-09
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E1 max	4 7E-05	1.6E-09	4.1E-09	2.5E-09	3.7E-09	1.3E-08	4.8E-08	2 9E-08	1.3E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1 4E-09
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	E1 max	8 1E-05	2.9E-09	7.1E-09	4 3E-09	6.3E-09	2.2E-08	8.3E-08	5 0E-08	2 2E-08
Carbon tetrachloride	5 3E-02	0.0005	1.4E-04	1.6E-04	E1 max	1.4E-04	5.1E-09	1.3E-08	7.6E-09	1.1E-08	3 9E-08	1.5E-07	8 9E-08	3.9E-08
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E1 max	5.0E-07	1.8E-11	4.4E-11	2.7E-11	3.9E-11	1.4E-10	5.1E-10	3 1E-10	1.4E-10
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4 8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4.8E-10	1.7E-09	6.2E-09	3.8E-09	1.7E-09
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E1 max	3.3E-05	1.2E-09	2.9E-09	1 8E-09	2.6E-09	9.2E-09	3.4E-08	2.1E-08	9 2E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E1 max	4.5E-04	1.6E-08	3.9E-08	2.4E-08	3.5E-08	1 2E-07	4 6E-07	2 8E-07	1.2E-07
Chloroform	8 1E-02	0.00875	2.5E-03	2.7E-04	E1 max	2.4E-04	8.5E-09	2.1E-08	1.3E-08	1.9E-08	6 6E-08	2.5E-07	1.5E-07	6.6E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	E1 max	2.2E-04	7.9E-09	2.0E-08	1.2E-08	1.7E-08	6.1E-08	2.3E-07	1 4E-07	6.1E-08
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4.8E-10	1.7E-09	6.2E-09	3 8E-09	1 7E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4 4E-10	2.7E-10	3 9E-10	1 4E-09	5.1E-09	3 1E-09	1 4E-09
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E1 max	6 1E-06	2 1E-10	5 3E-10	3.2E-10	4.8E-10	1.7E-09	6 2E-09	3 8E-09	1.7E-09
Chrysene	NA	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1.4E-09
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2 7E-10	3 9E-10	1.4E-09	5 1E-09	3 1E-09	1.4E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	E1 max	5 0E-06	1.8E-10	4 4E-10	2.7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1.4E-09
Cresol, p-	NA	0.004375	1.3E-03	5 5E-06	E1 max	5.0E-06	1 8E-10	4 4E-10	2.7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1.4E-09
Crotonaldehyde	NA	NA	NA	1 4E-04	E1 max	1 3E-04	4.5E-09	1.1E-08	6 7E-09	9 9E-09	3.5E-08	1 3E-07	7 8E-08	3.5E-08
Cumene	NA	0.00225	6.4E-04	5.5E-06	E1 max	5 0E-06	1 8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1 4E-09
DDE, 4,4'-	NA	NA	NA	5.5E-07	E1 max	5 0E-07	1 8E-11	4 4E-11	2 7E-11	3 9E-11	1 4E-10	5 1E-10	3 1E-10	1 4E-10
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	E1 max	5 0E-06	1 8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1 4E-09
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	E1 max	2.4E-05	8 4E-10	2 1E-09	1 3E-09	1 9E-09	6 6E-09	2 4E-08	1 5E-08	6 6E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	E1 max	5 0E-06	1 8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1 4E-09
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	E1 max	5 0E-06	1 8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1 4E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	E1 max	5.0E-06	1 8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1 4E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	E1 max	3 0E-05	1 1E-09	2 7E-09	1 6E-09	2 4E-09	8 3E-09	3 1E-08	1 9E-08	8 3E-09
Dichlorobiphenyl	NA	NA	NA	4 7E-08	E1 max	4 3E-08	1 5E-12	3 7E-12	2 3E-12	3 3E-12	1 2E-11	4 4E-11	2 6E-11	1 2E-11

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TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1 5E-02	6.7E-06	E1 max	NT	NT	NT	NT	1.1E-07	4.2E-07	2.5E-07	1.1E-07
Acenaphthylene	NF	NF	NF	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	E1 max	7.4E-11	1.9E-10	1.1E-10	1.7E-10	1.2E-04	4.4E-04	2.6E-04	1.2E-04
Acetone	NA	0.0875	2 5E-02	2.9E-03	E1 max	NT	NT	NT	NT	2 9E-05	1.1E-04	6.5E-05	2.9E-05
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E1 max	NT	NT	NT	NT	2 9E-06	1 1E-05	6.6E-06	2.9E-06
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E1 max	1.5E-09	3.8E-09	2.3E-09	3.4E-09	3.5E-04	1.3E-03	8.0E-04	3 5E-04
Anthracene	NA	0 2625	7.5E-02	5.5E-06	E1 max	NT	NT	NT	NT	1 8E-08	6.8E-08	4.1E-08	1.8E-08
Benzene	2.9E-02	0 0015	4.3E-04	1.5E-05	E1 max	1.4E-11	3.4E-11	2.1E-11	3.0E-11	8.6E-06	3.2E-05	1.9E-05	8.6E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E1 max	NT	NT	NT	NT	2.8E-09	1.1E-08	6.4E-09	2.8E-09
Benzotrichloride	NA	NA	NA	3.2E-05	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E1 max	4.7E-10	1.2E-09	7.1E-10	1.0E-09	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	E1 max	NT	NT	NT	NT	1.7E-07	6.2E-07	3.8E-07	1.7E-07
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	E1 max	NT	NT	NT	NT	1.9E-06	6.9E-06	4.2E-06	1.9E-06
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	E1 max	NT	NT	NT	NT	5.1E-06	1.9E-05	1.2E-05	5.1E-06
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	E1 max	6 8E-13	1.7E-12	1.0E-12	1.5E-12	2.7E-07	1.0E-06	6.2E-07	2.7E-07
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E1 max	NT	NT	NT	NT	3.4E-04	1.3E-03	7.7E-04	3.4E-04
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2-.(Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E1 max	NT	NT	NT	NT	1.8E-07	6.7E-07	4.1E-07	1.8E-07
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E1 max	NT	NT	NT	NT	2.7E-08	1.0E-07	6.2E-08	2.7E-08
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	E1 max	NT	NT	NT	NT	3.1E-05	1.2E-04	7.0E-05	3.1E-05
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E1 max	2.7E-10	6.6E-10	4.0E-10	5.9E-10	2.8E-04	1.0E-03	6.2E-04	2.8E-04
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E1 max	2.3E-11	5.7E-11	3.4E-11	5.1E-11	9.1E-06	3.4E-05	2.1E-05	9.1E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E1 max	NT	NT	NT	NT	1.7E-06	6.2E-06	3.8E-06	1.7E-06
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E1 max	NT	NT	NT	NT	9.6E-07	3.6E-06	2.2E-06	9.6E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E1 max	3.2E-10	8.0E-10	4.8E-10	7.2E-10	1.8E-06	6.9E-06	4.1E-06	1.8E-06
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E1 max	NT	NT	NT	NT	1.7E-07	6.4E-07	3.9E-07	1 7E-07
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E1 max	6.9E-10	1.7E-09	1.0E-09	1.5E-09	2.7E-05	9.9E-05	6.0E-05	2.7E-05
Chloromethane	6.3E-03	NA	NA	2.5E-04	E1 max	4.9E-11	1.2E-10	7.4E-11	1.1E-10	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E1 max	NT	NT	NT	NT	8.3E-08	3.1E-07	1.9E-07	8.3E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E1 max	NT	NT	NT	NT	1.1E-06	4.1E-06	2.5E-06	1.1E-06
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	E1 max	NT	NT	NT	NT	1.1E-07	4 1E-07	2 5E-07	1.1E-07
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	E1 max	NT	NT	NT	NT	1.1E-07	4.1E-07	2 5E-07	1.1E-07
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E1 max	NT	NT	NT	NT	1 1E-06	4.1E-06	2 5E-06	1.1E-06
Crotonaldehyde	NA	NA	NA	1.4E-04	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	E1 max	NT	NT	NT	NT	2 1E-06	8.0E-06	4.8E-06	2.1E-06
DDE, 4,4'-	NA	NA	NA	5.5E-07	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	E1 max	NT	NT	NT	NT	1 3E-06	4 9E-06	3 0E-06	1 3E-06
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	E1 max	NT	NT	NT	NT	2 4E-08	9 0E-08	5 4E-08	2 4E-08
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	E1 max	NT	NT	NT	NT	9 6E-08	3 6E-07	2 2E-07	9.6E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E1 max	2.2E-04	7.9E-09	2 0E-08	1.2E-08	1.7E-08	6 1E-08	2 3E-07	1 4E-07	6.1E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E1 max	1.1E-05	4 0E-10	1.0E-09	6.0E-10	8.9E-10	3 1E-09	1.2E-08	7 0E-09	3 1E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E1 max	1.1E-05	4.0E-10	1 0E-09	6.0E-10	8 9E-10	3.1E-09	1.2E-08	7 0E-09	3 1E-09
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E1 max	1.1E-05	4 0E-10	1.0E-09	6.0E-10	8 9E-10	3.1E-09	1.2E-08	7 0E-09	3 1E-09
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1 3E-05	E1 max	1.1E-05	4.0E-10	1.0E-09	6.0E-10	8.9E-10	3 1E-09	1.2E-08	7.0E-09	3 1E-09
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E1 max	5.0E-06	1 8E-10	4.4E-10	2 7E-10	3.9E-10	1 4E-09	5.1E-09	3.1E-09	1.4E-09
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E1 max	1.1E-05	4.0E-10	1.0E-09	6.0E-10	8.9E-10	3.1E-09	1.2E-08	7 0E-09	3 1E-09
Dichloropropene (cis), 1,3-	1.3E-01	0 005	1.4E-03	1.3E-05	E1 max	1.1E-05	4.0E-10	1.0E-09	6.0E-10	8.9E-10	3.1E-09	1 2E-08	7.0E-09	3 1E-09
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E1 max	1.1E-05	4.0E-10	1.0E-09	6 0E-10	8.9E-10	3.1E-09	1.2E-08	7 0E-09	3.1E-09
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E1 max	1.5E-05	5.4E-10	1.3E-09	8.1E-10	1.2E-09	4 2E-09	1.6E-08	9 5E-09	4.2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E1 max	1.0E-04	3.7E-09	9.2E-09	5.5E-09	8.2E-09	2 9E-08	1.1E-07	6.5E-08	2 9E-08
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E1 max	5.0E-06	1 8E-10	4.4E-10	2.7E-10	3 9E-10	1 4E-09	5.1E-09	3.1E-09	1 4E-09
Dimethylphthalate	NA	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3 9E-10	1.4E-09	5.1E-09	3 1E-09	1 4E-09
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E1 max	1.4E-05	5.0E-10	1.2E-09	7.6E-10	1.1E-09	3.9E-09	1.5E-08	8 8E-09	3.9E-09
Dinitrotoluene, 2,6-	NA	0 000875	2.5E-04	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E1 max	4.5E-04	1.6E-08	3.9E-08	2.4E-08	3.5E-08	1.2E-07	4.6E-07	2 8E-07	1 2E-07
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
D, 2,4-	NA	0 00875	2 5E-03	3.9E-05	E1 max	3.5E-05	1.2E-09	3.1E-09	1 9E-09	2.8E-09	9.7E-09	3.6E-08	2 2E-08	9.7E-09
Ethyl methacrylate	NA	0 07875	2.3E-02	2.5E-04	E1 max	2.2E-04	7.9E-09	2.0E-08	1.2E-08	1.7E-08	6.1E-08	2.3E-07	1 4E-07	6.1E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E1 max	4.5E-04	1.6E-08	4.0E-08	2.4E-08	3.5E-08	1.2E-07	4.6E-07	2 8E-07	1.2E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E1 max	1.0E-04	3.7E-09	9.2E-09	5.5E-09	8.2E-09	2.9E-08	1.1E-07	6 5E-08	2.9E-08
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E1 max	2.8E-05	9.8E-10	2.4E-09	1.5E-09	2.2E-09	7.6E-09	2.8E-08	1 7E-08	7 6E-09
Ethylene thiourea	NA	0.00007	2 0E-05	1.5E-10	E1 max	1.3E-10	4 7E-15	1 2E-14	7.0E-15	1.0E-14	3.6E-14	1.4E-13	8 2E-14	3.6E-14
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Fluorene	NA	0.035	1 0E-02	6.7E-06	E1 max	6.1E-06	2.1E-10	5 3E-10	3.2E-10	4.8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E1 max	5.5E-04	1.9E-08	4.8E-08	2.9E-08	4.3E-08	1.5E-07	5.7E-07	3.4E-07	1.5E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Heptachlor	4 5E+00	0.000438	1.3E-04	5.5E-07	E1 max	5.0E-07	1.8E-11	4.4E-11	2.7E-11	3.9E-11	1.4E-10	5.1E-10	3.1E-10	1.4E-10
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	1.3E-08	4 5E-13	1.1E-12	6.8E-13	1.0E-12	3.5E-12	1.3E-11	7 9E-12	3.5E-12
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3 9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	1.3E-08	4.5E-13	1.1E-12	6.8E-13	1.0E-12	3.5E-12	1.3E-11	7 9E-12	3.5E-12
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E1 max	9.2E-05	3.2E-09	8.1E-09	4.9E-09	7.2E-09	2.5E-08	9.4E-08	5 7E-08	2 5E-08
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5 5E-05	E1 max	5 0E-05	1.8E-09	4.4E-09	2 6E-09	3.9E-09	1 4E-08	5 1E-08	3 1E-08	1.4E-08
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	E1 max	5.0E-06	1.8E-10	4 4E-10	2 7E-10	3.9E-10	1 4E-09	5 1E-09	3 1E-09	1 4E-09
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E1 max	5.0E-06	1.8E-10	4 4E-10	2.7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1.4E-09
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E1 max	2.9E-05	1 0E-09	2 6E-09	1.5E-09	2 3E-09	8 0E-09	3 0E-08	1 8E-08	8 0E-09
Hexanone, 2-	NF	NF	NF	6 4E-05	E1 max	5.9E-05	2.1E-09	5 1E-09	3.1E-09	4.6E-09	1 6E-08	6 0E-08	3 6E-08	1 6E-08
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E1 max	5 0E-06	1.8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1.4E-09
Isophorone	NA	0.175	5 0E-02	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3 2E-10	4.8E-10	1 7E-09	6 2E-09	3 8E-09	1.7E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E1 max	1 0E-04	3 7E-09	9 2E-09	5.5E-09	8 2E-09	2.9E-08	1 1E-07	6 5E-08	2 9E-08
Methoxychlor	NA	0.004375	1 3E-03	5 5E-07	E1 max	5.0E-07	1 8E-11	4 4E-11	2 7E-11	3 9E-11	1 4E-10	5 1E-10	3 1E-10	1 4E-10
Methyl-t-butyl ether	NA	0.75	2 1E-01	1 3E-05	E1 max	1.1E-05	4 0E-10	1 0E-09	6 0E-10	8 9E-10	3 1E-09	1 2E-08	7 0E-09	3 1E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1 3E-05	E1 max	1 1E-05	4 0E-10	1 0E-09	6 0E-10	8 9E-10	3 1E-09	1 2E-08	7 0E-09	3 1E-09
Methylene chloride	1.6E-03	0.75	2.1E-01	4 0E-04	E1 max	3 6E-04	1 3E-08	3 2E-08	1 9E-08	2 8E-08	9 9E-08	3 7E-07	2 2E-07	9 9E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	E1 max	3 8E-05	1 3E-09	3 3E-09	2 0E-09	3 0E-09	1 0E-08	3 9E-08	2 4E-08	1 0E-08
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E1 max	1 5E-08	5.3E-13	1 3E-12	8 0E-13	1 2E-12	4 2E-12	1 6E-11	9 4E-12	4 2E-12
Naphthalene	NA	0.035	1 0E-02	5.5E-06	E1 max	5.0E-06	1 8E-10	4 4E-10	2 7E-10	3 9E-10	1 4E-09	5 1E-09	3 1E-09	1 4E-09
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	E1 max	6.1E-06	2 1E-10	5 3E-10	3 2E-10	4 8E-10	1 7E-09	6 2E-09	3 8E-09	1 7E-09
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E1 max	6 1E-06	2 1E-10	5 3E-10	3 2E-10	4 8E-10	1 7E-09	6 2E-09	3 8E-09	1.7E-09

TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E1 max	NT	NT	NT	NT	4.3E-06	1.6E-05	9.7E-06	4.3E-06
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E1 max	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E1 max	3.6E-11	9.1E-11	5.5E-11	8.1E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E1 max	4.8E-10	1.2E-09	7.2E-10	1.1E-09	1.4E-06	5.2E-06	3.1E-06	1.4E-06
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E1 max	NT	NT	NT	NT	6.2E-07	2.3E-06	1.4E-06	6.2E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E1 max	NT	NT	NT	NT	1.8E-06	6.8E-06	4.1E-06	1.8E-06
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E1 max	NT	NT	NT	NT	1.1E-05	4.1E-05	2.5E-05	1.1E-05
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E1 max	5.2E-11	1.3E-10	7.8E-11	1.2E-10	2.2E-06	8.1E-06	4.9E-06	2.2E-06
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E1 max	5.2E-11	1.3E-10	7.8E-11	1.2E-10	2.2E-06	8.1E-06	4.9E-06	2.2E-06
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E1 max	NT	NT	NT	NT	2.1E-08	7.8E-08	4.7E-08	2.1E-08
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E1 max	NT	NT	NT	NT	2.7E-07	1.0E-06	6.2E-07	2.7E-07
Dimethylphthalate	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E1 max	NT	NT	NT	NT	1.6E-07	5.8E-07	3.5E-07	1.6E-07
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E1 max	NT	NT	NT	NT	5.5E-06	2.0E-05	1.2E-05	5.5E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E1 max	NT	NT	NT	NT	2.7E-06	1.0E-05	6.2E-06	2.7E-06
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E1 max	NT	NT	NT	NT	2.7E-06	1.0E-05	6.2E-06	2.7E-06
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E1 max	NT	NT	NT	NT	2.7E-07	1.0E-06	6.2E-07	2.7E-07
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E1 max	NT	NT	NT	NT	3.9E-06	1.4E-05	8.7E-06	3.9E-06
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	E1 max	NT	NT	NT	NT	2.7E-06	1.0E-05	6.1E-06	2.7E-06
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E1 max	NT	NT	NT	NT	1.7E-06	6.5E-06	3.9E-06	1.7E-06
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E1 max	2.8E-09	7.0E-09	4.2E-09	6.2E-09	2.0E-03	7.5E-03	4.5E-03	2.0E-03
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E1 max	3.4E-10	8.5E-10	5.1E-10	7.6E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E1 max	NT	NT	NT	NT	1.8E-09	6.8E-09	4.1E-09	1.8E-09
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E1 max	NT	NT	NT	NT	1.4E-07	5.1E-07	3.1E-07	1.4E-07
Fluorene	NA	0.035	1.0E-02	6.7E-06	E1 max	NT	NT	NT	NT	1.7E-07	6.2E-07	3.8E-07	1.7E-07
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E1 max	6.8E-10	2.2E-09	1.3E-09	1.9E-09	3.0E-06	1.1E-05	6.8E-06	3.0E-06
Furfural	NA	0.0125	3.6E-03	5.5E-06	E1 max	NT	NT	NT	NT	3.8E-07	1.4E-06	8.7E-07	3.8E-07
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E1 max	7.9E-11	2.0E-10	1.2E-10	1.8E-10	1.1E-06	4.1E-06	2.5E-06	1.1E-06
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E1 max	2.8E-10	7.1E-10	4.3E-10	6.3E-10	6.9E-06	2.6E-05	1.5E-05	6.9E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E1 max	2.5E-10	6.3E-10	3.8E-10	5.6E-10	5.0E-04	1.9E-03	1.1E-03	5.0E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E1 max	NT	NT	NT	NT	1.8E-04	6.8E-04	4.1E-04	1.8E-04
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	E1 max	NT	NT	NT	NT	2.7E-04	1.0E-03	6.2E-04	2.7E-04
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E1 max	2.5E-12	6.1E-12	3.7E-12	5.5E-12	5.5E-06	2.0E-05	1.2E-05	5.5E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E1 max	NT	NT	NT	NT	1.1E-04	4.0E-04	2.4E-04	1.1E-04
Hexanone, 2-	NF	NF	NF	6.4E-05	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	E1 max	NT	NT	NT	NT	3.3E-08	1.2E-07	7.5E-08	3.3E-08
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E1 max	NT	NT	NT	NT	2.3E-07	8.6E-07	5.2E-07	2.3E-07
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	E1 max	NT	NT	NT	NT	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	E1 max	NT	NT	NT	NT	1.5E-08	5.4E-08	3.3E-08	1.5E-08
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	E1 max	NT	NT	NT	NT	5.5E-07	2.0E-06	1.2E-06	5.5E-07
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	E1 max	2.1E-11	5.2E-11	3.1E-11	4.6E-11	4.6E-07	1.7E-06	1.0E-06	4.6E-07
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5.5E-06	E1 max	NT	NT	NT	NT	1.4E-07	5.1E-07	3.1E-07	1.4E-07
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	E1 max	NT	NT	NT	NT	1.2E-04	4.4E-04	2.6E-04	1.2E-04
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E1 max	6.1E-06	2 1E-10	5 3E-10	3.2E-10	4 8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	E1 max	5.0E-06	1 8E-10	4 4E-10	2.7E-10	3.9E-10	1 4E-09	5.1E-09	3 1E-09	1 4E-09
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4 8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E1 max	5.0E-06	1.8E-10	4 4E-10	2.7E-10	3 9E-10	1.4E-09	5 1E-09	3 1E-09	1 4E-09
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E1 max	1.1E-04	3.9E-09	9.7E-09	5.8E-09	8.6E-09	3 0E-08	1.1E-07	6 8E-08	3.0E-08
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4 8E-10	1.7E-09	6.2E-09	3 8E-09	1.7E-09
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4.8E-10	1.7E-09	6 2E-09	3 8E-09	1.7E-09
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	1.3E-08	4.5E-13	1.1E-12	6 8E-13	1.0E-12	3.5E-12	1.3E-11	7 9E-12	3.5E-12
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	1.3E-08	4.5E-13	1.1E-12	6.8E-13	1.0E-12	3.5E-12	1.3E-11	7 9E-12	3.5E-12
Pentachlorobenzene	NA	NA	NA	4.8E-05	E1 max	4.3E-05	1.5E-09	3.8E-09	2.3E-09	3.4E-09	1 2E-08	4 4E-08	2 7E-08	1.2E-08
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	1.3E-08	4.5E-13	1.1E-12	6.8E-13	1.0E-12	3 5E-12	1.3E-11	7 9E-12	3.5E-12
Pentachloronitrobenzene	NA	0.002625	7 5E-04	3.4E-05	E1 max	3.1E-05	1.1E-09	2.7E-09	1.6E-09	2.4E-09	8.4E-09	3.1E-08	1.9E-08	8 4E-09
Pentachlorophenol	NA	0.02625	7 5E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Phenanthrene	NA	NA	NA	6.7E-06	E1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4.8E-10	1.7E-09	6.2E-09	3.8E-09	1.7E-09
Phenol	NA	0.525	1 5E-01	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1 4E-09
Pyrene	NA	0.02625	7 5E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E1 max	1.0E-04	3.7E-09	9 2E-09	5.5E-09	8.2E-09	2 9E-08	1.1E-07	6 5E-08	2 9E-08
Styrene	NA	0.25	7.1E-02	2.3E-05	E1 max	2.0E-05	7.2E-10	1.8E-09	1.1E-09	1.6E-09	5.6E-09	2.1E-08	1 3E-08	5.6E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	1.3E-08	4.5E-13	1.1E-12	6.8E-13	1.0E-12	3.5E-12	1.3E-11	7.9E-12	3 5E-12
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3 9E-10	1.4E-09	5.1E-09	3 1E-09	1 4E-09
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1 4E-09
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	E1 max	4.7E-05	1.6E-09	4.1E-09	2.5E-09	3.7E-09	1.3E-08	4.8E-08	2.9E-08	1.3E-08
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E1 max	6.2E-06	2.2E-10	5.4E-10	3.3E-10	4.8E-10	1.7E-09	6.3E-09	3 8E-09	1 7E-09
Toluene	NA	0.1	2.9E-02	6.1E-04	E1 max	5.6E-04	2.0E-08	4.9E-08	3.0E-08	4.4E-08	1.5E-07	5.7E-07	3 4E-07	1.5E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E1 max	3.0E-04	1.1E-08	2.6E-08	1.6E-08	2.3E-08	8.2E-08	3.1E-07	1 9E-07	8.2E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E1 max	2.7E-08	9.7E-13	2.4E-12	1.5E-12	2.2E-12	7.5E-12	2.8E-11	1.7E-11	7.5E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E1 max	1.1E-05	4.0E-10	1.0E-09	6.0E-10	8.9E-10	3.1E-09	1 2E-08	7.0E-09	3.1E-09
Trichloroethane, 1,1,2-	5.7E-02	0 0035	1.0E-03	1.3E-05	E1 max	1.1E-05	4.0E-10	1.0E-09	6.0E-10	8.9E-10	3.1E-09	1.2E-08	7.0E-09	3.1E-09
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E1 max	1.7E-05	6.0E-10	1.5E-09	9.0E-10	1.3E-09	4.6E-09	1 7E-08	1.0E-08	4.6E-09
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E1 max	2.2E-04	7.9E-09	2.0E-08	1.2E-08	1.7E-08	6.1E-08	2.3E-07	1 4E-07	6.1E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.1E-09	3 1E-09	1.4E-09
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E1 max	5.9E-05	2.1E-09	5.1E-09	3.1E-09	4.6E-09	1.6E-08	6 0E-08	3 6E-08	1.6E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E1 max	2.2E-04	7.9E-09	2 0E-08	1.2E-08	1.7E-08	6 1E-08	2.3E-07	1 4E-07	6.1E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E1 max	3.5E-04	1.2E-08	3.0E-08	1.8E-08	2.7E-08	9.5E-08	3.5E-07	2 1E-07	9.5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E1 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1 4E-09	5 1E-09	3 1E-09	1.4E-09
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E1 max	9.8E-12	3.5E-16	8.6E-16	5.2E-16	7 7E-16	2.7E-15	1 0E-14	6 1E-15	2 7E-15
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E1 max	6 2E-11	2.2E-15	5 4E-15	3.3E-15	4 8E-15	1 7E-14	6 3E-14	3 8E-14	1 7E-14
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E1 max	8.1E-11	2.9E-15	7.1E-15	4 3E-15	6 4E-15	2.2E-14	8 3E-14	5 0E-14	2 2E-14
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E1 max	1.5E-10	5.3E-15	1.3E-14	8 0E-15	1 2E-14	4.1E-14	1 5E-13	9 3E-14	4 1E-14
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	E1 max	9.9E-11	3.5E-15	8 7E-15	5 3E-15	7 8E-15	2 7E-14	1 0E-13	6 1E-14	2 7E-14
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	E1 max	1.1E-09	4 0E-14	9 9E-14	6 0E-14	8 6E-14	3 1E-13	1 2E-12	7 0E-13	3 1E-13
OCDD	1.5E+02	NA	NA	6.15E-09	E1 max	5 6E-09	2.0E-13	4 9E-13	3 0E-13	4 4E-13	1 5E-12	5 7E-12	3 5E-12	1 5E-12
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	E1 max	8 0E-11	2 8E-15	7 0E-15	4 2E-15	6 2E-15	2 2E-14	8 2E-14	4 9E-14	2 2E-14
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	E1 max	3.1E-10	1 1E-14	2 8E-14	1 7E-14	2 5E-14	8 6E-14	3 2E-13	1 9E-13	8 6E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4 67E-10	E1 max	4 2E-10	1 5E-14	3 7E-14	2 3E-14	3 3E-14	1 2E-13	4 3E-13	2 6E-13	1 2E-13
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	E1 max	1 3E-09	4 6E-14	1 1E-13	6 9E-14	1 0E-13	3 6E-13	1 3E-12	8.0E-13	3 6E-13
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1 33E-09	E1 max	1 2E-09	4 3E-14	1 1E-13	6.4E-14	9 5E-14	3 3E-13	1 2E-12	7 5E-13	3 3E-13
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	E1 max	1 4E-09	4 8E-14	1 2E-13	7 3E-14	1 1E-13	3 8E-13	1 4E-12	8 5E-13	3 8E-13

TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0 0005	1.4E-04	5.5E-06	E1 max	NT	NT	NT	NT	9.6E-06	3.6E-05	2.2E-05	9.6E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E1 max	2.1E-08	5.2E-08	3.2E-08	4.7E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E1 max	NT	NT	NT	NT	1.1E-05	4.2E-05	2.5E-05	1.1E-05
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E1 max	NT	NT	NT	NT	1.8E-07	6.8E-07	4.1E-07	1.8E-07
Phenanthrene	NA	NA	NA	6.7E-06	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	E1 max	NT	NT	NT	NT	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Pyrene	NA	0.02625	7 5E-03	5.5E-06	E1 max	NT	NT	NT	NT	1 8E-07	6.8E-07	4.1E-07	1.8E-07
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	E1 max	NT	NT	NT	NT	7.9E-08	2.9E-07	1.8E-07	7.9E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	E1 max	4 6E-12	1.1E-11	6.9E-12	1.0E-11	1.8E-07	6.8E-07	4.1E-07	1.8E-07
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	E1 max	3.6E-11	8.9E-11	5.4E-11	7.9E-11	NT	NT	NT	NT
Tetrachloroethene	2 0E-03	0 00875	2 5E-03	5.1E-05	E1 max	3.3E-12	8.3E-12	5.0E-12	7.4E-12	5.1E-06	1.9E-05	1.2E-05	5.1E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7 5E-03	6.8E-06	E1 max	NT	NT	NT	NT	2.3E-07	8.4E-07	5.1E-07	2.3E-07
Toluene	NA	0.1	2.9E-02	6.1E-04	E1 max	NT	NT	NT	NT	5.3E-08	2.0E-05	1.2E-05	5.3E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E1 max	NT	NT	NT	NT	3.8E-08	1.4E-07	8.7E-08	3.8E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E1 max	NT	NT	NT	NT	9.6E-08	3.6E-07	2.2E-07	9.6E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E1 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E1 max	NT	NT	NT	NT	4.4E-08	1.6E-07	9.8E-08	4.4E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E1 max	2.3E-11	5.7E-11	3.4E-11	5.1E-11	3.1E-06	1.2E-05	7.0E-06	3.1E-06
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E1 max	3.6E-12	8.9E-12	5.4E-12	7.9E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	E1 max	NT	NT	NT	NT	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E1 max	NT	NT	NT	NT	5.5E-08	2.0E-07	1.2E-07	5.5E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E1 max	1.8E-12	4.4E-12	2.7E-12	3.9E-12	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E1 max	NT	NT	NT	NT	1.1E-06	4.2E-06	2.5E-06	1.1E-06
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E1 max	2.4E-09	5.9E-09	3.5E-09	5.2E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E1 max	NT	NT	NT	NT	1.9E-07	7.1E-07	4.3E-07	1.9E-07
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E1 max	NT	NT	NT	NT	2.7E-09	1.0E-08	6.2E-09	2.7E-09
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E1 max	5.2E-11	1.3E-10	7.8E-11	1.2E-10	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E1 max	1.6E-10	4.1E-10	2.5E-10	3.6E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E1 max	4.3E-11	1.1E-10	6.5E-11	9 6E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E1 max	8.0E-11	2.0E-10	1.2E-10	1.8E-10	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	E1 max	5 2E-11	1 3E-10	7 9E-11	1 2E-10	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	E1 max	6.0E-11	1 5E-10	9 0E-11	1 3E-10	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	E1 max	3.0E-11	7.4E-11	4 4E-11	6 6E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	E1 max	4.2E-11	1 0E-10	6 3E-11	9 4E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	E1 max	8.3E-11	2 1E-10	1 2E-10	1 8E-10	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E1 max	1.1E-09	2 8E-09	1 7E-09	2 5E-09	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	E1 max	6.9E-10	1.7E-09	1 0E-09	1 5E-09	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	E1 max	6 4E-10	1 6E-09	9 7E-10	1 4E-09	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	E1 max	7 2E-10	1.8E-09	1 1E-09	1 6E-09	NT	NT	NT	NT

TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E1 max	2.7E-10	9.4E-15	2.3E-14	1.4E-14	2 1E-14	7.3E-14	2 7E-13	1 6E-13	7 3E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	E1 max	8.5E-09	3.0E-13	7.4E-13	4 5E-13	6.6E-13	2 3E-12	8.7E-12	5 2E-12	2.3E-12
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1.22E-09	E1 max	1.1E-09	3.9E-14	9 7E-14	5 9E-14	8.7E-14	3 0E-13	1 1E-12	6 9E-13	3.0E-13
OCDF	1.5E+02	NA	NA	1.89E-08	E1 max	1.7E-08	6.1E-13	1 5E-12	9.1E-13	1.3E-12	4 7E-12	1.8E-11	1 1E-11	4.7E-12
Dioxin TEQ				4.28E-08			1.4E-12	3.4E-12	2.1E-12	3.0E-12	1.1E-11	4.0E-11	2 4E-11	1.1E-11
Aluminum	NA	NA	NA	2.4E-04	E1 max	2.2E-04	7.7E-09	1.9E-08	1.2E-08	1.7E-08	6.0E-08	2.2E-07	1.4E-07	6.0E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	E1 max	3.8E-06	1.3E-10	3.4E-10	2.0E-10	3.0E-10	1 0E-09	3.9E-09	2.4E-09	1.0E-09
Arsenic	50	0.000263	7.5E-05	3.7E-05	E1 max	3.4E-05	1.2E-09	3 0E-09	1.8E-09	2.6E-09	9.2E-09	3.4E-08	2.1E-08	9 2E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	E1 max	1.4E-04	4.8E-09	1 2E-08	7.2E-09	1.1E-08	3.7E-08	1.4E-07	8.4E-08	3.7E-08
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E1 max	3.0E-08	1.1E-12	2.6E-12	1.6E-12	2.3E-12	8.2E-12	3.1E-11	1.9E-11	8 2E-12
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	E1 max	1.5E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	9.0E-09	4 0E-09
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	E1 max	6.5E-07	2.3E-11	5.7E-11	3.4E-11	5.1E-11	1.8E-10	6.6E-10	4.0E-10	1.8E-10
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E1 max	6.5E-07	2.3E-11	5.7E-11	3.4E-11	5.1E-11	1.8E-10	6.6E-10	4.0E-10	1.8E-10
Copper	NA	NA	NA	9.4E-05	E1 max	8.6E-05	3.0E-09	7.5E-09	4.5E-09	6.7E-09	2.3E-08	8.6E-08	5.3E-08	2.3E-08
Lead	NA	NA	NA	4.3E-05	E1 max	3.9E-05	1.4E-09	3.4E-09	2.1E-09	3.1E-09	1.1E-08	4.0E-08	2.4E-08	1.1E-08
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E1 max	1.3E-03	4.5E-08	1.1E-07	6.8E-08	1.0E-07	3.5E-07	1.3E-06	7.9E-07	3.5E-07
Nickel	0.84	0.0175	5.0E-03	5.0E-06	E1 max	4.6E-06	1.6E-10	4.0E-10	2.4E-10	3.6E-10	1.2E-09	4.7E-09	2 8E-09	1.2E-09
Selenium	NA	0.004375	1.3E-03	4.7E-04	E1 max	4.3E-04	1.5E-08	3.8E-08	2.3E-08	3.3E-08	1.2E-07	4.4E-07	2.6E-07	1.2E-07
Silver	NA	0 004375	1.3E-03	1.5E-05	E1 max	1.4E-05	4.8E-10	1.2E-09	7.2E-10	1.1E-09	3 7E-09	1.4E-08	8.4E-09	3.7E-09
Thallium	NA	0.000061	1.8E-05	3.4E-05	E1 max	3.1E-05	1.1E-09	2.7E-09	1.6E-09	2.4E-09	8 5E-09	3.2E-08	1 9E-08	8 5E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	E1 max	1.1E-04	3.8E-09	9.6E-09	5.8E-09	8.5E-09	3.0E-08	1.1E-07	6.8E-08	3.0E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E1 max	2.9E-02	1.0E-06	2.6E-06	1.5E-06	2.3E-06	8.0E-06	3.0E-05	1 8E-05	8 0E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E1 max	2.2E+00	7.8E-05	1.9E-04	1.2E-04	1.7E-04	6.0E-04	2.3E-03	1.4E-03	6 0E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E1 max	8.3E-02	2.9E-06	7.3E-06	4 4E-06	6.5E-06	2.3E-05	8.5E-05	5 1E-05	2.3E-05
Particulate matter	NA	NA	NA	7.2E-02	E1 max	6.6E-02	2.3E-06	5.7E-06	3.5E-06	5.1E-06	1.8E-05	6.7E-05	4 1E-05	1.8E-05
Respirable particulates	NF	NF	NF	7.2E-02	E1 max	6.6E-02	2.3E-06	5.7E-06	3.5E-06	5.1E-06	1.8E-05	6.7E-05	4.1E-05	1.8E-05

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 13 Maximum Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E1 max	1.4E-10	3 5E-10	2 1E-10	3 1E-10		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9 30E-09	E1 max	4 5E-10	1.1E-09	6.7E-10	9 9E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1 22E-09	E1 max	5.9E-11	1.5E-10	8 8E-11	1.3E-10		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	E1 max	9 1E-11	2.3E-10	1.4E-10	2 0E-10		NT	NT	NT	NT
Dioxin TEQ				4.26E-08		4.5E-09	1.1E-08	6.8E-09	1.0E-08		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	E1 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	E1 max	NT	NT	NT	NT		1.0E-05	3.9E-05	2.4E-05	1.0E-05
Arsenic	50	0.000263	7.5E-05	3.7E-05	E1 max	5.9E-08	1.5E-07	8.9E-08	1.3E-07		1.2E-04	4.6E-04	2.8E-04	1.2E-04
Barium	NA	0.000125	3.6E-05	1.5E-04	E1 max	NT	NT	NT	NT		1.0E-03	3.9E-03	2.4E-03	1.0E-03
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E1 max	8.9E-12	2.2E-11	1.3E-11	2.0E-11		6.6E-09	2.5E-08	1.5E-08	6.6E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E1 max	3.1E-09	7.8E-09	4.7E-09	6.9E-09		3.2E-05	1.2E-04	7.2E-05	3.2E-05
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	E1 max	9.3E-10	2.3E-09	1.4E-09	2.1E-09		1.4E-07	5.3E-07	3.2E-07	1.4E-07
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E1 max	NT	NT	NT	NT		7.1E-10	2.6E-09	1.6E-09	7.1E-10
Copper	NA	NA	NA	9.4E-05	E1 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4 3E-05	E1 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E1 max	NT	NT	NT	NT		1.6E-02	6.1E-02	3.7E-02	1.6E-02
Nickel	0.84	0.0175	5.0E-03	5.0E-06	E1 max	1.3E-10	3.4E-10	2.0E-10	3.0E-10		2.5E-07	9.3E-07	5.6E-07	2.5E-07
Selenium	NA	0.004375	1 3E-03	4.7E-04	E1 max	NT	NT	NT	NT		9.4E-05	3.5E-04	2.1E-04	9.4E-05
Silver	NA	0.004375	1.3E-03	1.5E-05	E1 max	NT	NT	NT	NT		3 0E-06	1.1E-05	6.8E-06	3.0E-06
Thallium	NA	0.000061	1.8E-05	3.4E-05	E1 max	NT	NT	NT	NT		4.8E-04	1.8E-03	1.1E-03	4.8E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	E1 max	NT	NT	NT	NT		4.0E-07	1.5E-06	9.0E-07	4.0E-07
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E1 max	NT	NT	NT	NT		1.6E-02	6.0E-02	3.6E-02	1.6E-02
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E1 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E1 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	E1 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	E1 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.0E-07	2.5E-07	1.5E-07	2.2E-07					
										Total HI	3.9E-02	1.4E-01	8.7E-02	3.9E-02

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0 0525	1.5E-02	6.7E-06	E2 max	2.1E-06	7 3E-11	1 8E-10	1 1E-10	1 6E-10	5.7E-10	2 1E-09	1 3E-09	5 7E-10
Acenaphthylene	NF	NF	NF	6.7E-06	E2 max	2 1E-06	7 3E-11	1 8E-10	1 1E-10	1 6E-10	5.7E-10	2 1E-09	1 3E-09	5 7E-10
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	E2 max	9.3E-05	3.3E-09	8 2E-09	4 9E-09	7.3E-09	2 6E-08	9.5E-08	5 8E-08	2 6E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	E2 max	9.0E-04	3.2E-08	7.9E-08	4 8E-08	7 0E-08	2.5E-07	9 2E-07	5 6E-07	2.5E-07
Acetophenone	NA	0.0875	2 5E-02	2 9E-04	E2 max	9.1E-05	3.2E-09	8 0E-09	4 8E-09	7.1E-09	2.5E-08	9.3E-08	5 6E-08	2.5E-08
Acrylonitrile	2.4E-01	0.0005	1 4E-04	2.0E-04	E2 max	6.3E-05	2.2E-09	5.5E-09	3.3E-09	4.9E-09	1.7E-08	6.4E-08	3 9E-08	1.7E-08
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E2 max	1.7E-06	6.0E-11	1 5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4 7E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E2 max	4.6E-06	1.6E-10	4.0E-10	2.4E-10	3.6E-10	1.2E-09	4.7E-09	2 8E-09	1.2E-09
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E2 max	3.5E-06	1.2E-10	3.1E-10	1.9E-10	2.7E-10	9.6E-10	3.6E-09	2 2E-09	9 6E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E2 max	9.9E-06	3.5E-10	8.7E-10	5.3E-10	7.6E-10	2.7E-09	1.0E-08	6.1E-09	2 7E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E2 max	4 1E-06	1.5E-10	3.6E-10	2.2E-10	3.2E-10	1.1E-09	4.2E-09	2 5E-09	1.1E-09
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	E2 max	1.2E-05	4.1E-10	1.0E-09	6.1E-10	9.0E-10	3.2E-09	1.2E-08	7.1E-09	3.2E-09
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	E2 max	3 2E-05	1.1E-09	2.8E-09	1.7E-09	2.5E-09	8.8E-09	3.3E-08	2 0E-08	8 8E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E2 max	1.5E-04	5.3E-09	1.3E-08	8.1E-09	1.2E-08	4 2E-08	1.6E-07	9 4E-08	4.2E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2 1E-09	1 3E-09	5 7E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E2 max	1.6E-05	5.6E-10	1.4E-09	8.5E-10	1.2E-09	4.4E-09	1.6E-08	9.9E-09	4.4E-09
Butylbenzylphthalate	NA	0.175	5 0E-02	5 5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4.7E-10	1 7E-09	1.1E-09	4.7E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E2 max	2.8E-05	9.7E-10	2.4E-09	1.5E-09	2.2E-09	7.6E-09	2.8E-08	1.7E-08	7.6E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E2 max	4.9E-05	1.7E-09	4.3E-09	2.6E-09	3.8E-09	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E2 max	1.7E-07	6.0E-12	1.5E-11	9.0E-12	1.3E-11	4.7E-11	1.7E-10	1.1E-10	4.7E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1 5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4 7E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E2 max	1.1E-05	4.0E-10	1.0E-09	6.0E-10	8.9E-10	3.1E-09	1.2E-08	7.1E-09	3.1E-09
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	E2 max	1.5E-04	5.3E-09	1.3E-08	8.1E-09	1.2E-08	4.2E-08	1.6E-07	9 4E-08	4 2E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E2 max	8.3E-05	2.9E-09	7.2E-09	4.4E-09	6 5E-09	2.3E-08	8.4E-08	5 1E-08	2.3E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	E2 max	7 6E-05	2.7E-09	6.7E-09	4.0E-09	5.9E-09	2 1E-08	7.8E-08	4 7E-08	2 1E-08
Chloronaphthalene, beta	NA	0.07	2 0E-02	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5 7E-10	2.1E-09	1 3E-09	5 7E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1 5E-10	9.0E-11	1 3E-10	4 7E-10	1 7E-09	1.1E-09	4.7E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E2 max	2.1E-06	7.3E-11	1 8E-10	1.1E-10	1.6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Chrysene	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4.7E-10	1 7E-09	1 1E-09	4 7E-10
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4 7E-10	1 7E-09	1 1E-09	4 7E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4 7E-10	1 7E-09	1 1E-09	4 7E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E2 max	1 7E-06	6.0E-11	1.5E-10	9.0E-11	1 3E-10	4.7E-10	1.7E-09	1.1E-09	4 7E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	E2 max	4.3E-05	1 5E-09	3 8E-09	2 3E-09	3 4E-09	1 2E-08	4 4E-08	2 7E-08	1 2E-08
Cumene	NA	0.00225	6.4E-04	5 5E-06	E2 max	1 7E-06	6 0E-11	1 5E-10	9 0E-11	1 3E-10	4 7E-10	1 7E-09	1 1E-09	4.7E-10
DDE, 4,4'-	NA	NA	NA	5 5E-07	E2 max	1 7E-07	6 0E-12	1 5E-11	9 0E-12	1 3E-11	4 7E-11	1 7E-10	1 1E-10	4 7E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E2 max	1 7E-06	6 0E-11	1 5E-10	9 0E-11	1 3E-10	4 7E-10	1 7E-09	1 1E-09	4 7E-10
Dibromochloromethane	NA	0 0175	5.0E-03	2.6E-05	E2 max	8 2E-06	2 9E-10	7 2E-10	4 3E-10	6 4E-10	2 2E-09	8 3E-09	5 0E-09	2 2E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	E2 max	1 7E-06	6 0E-11	1 5E-10	9 0E-11	1 3E-10	4 7E-10	1 7E-09	1 1E-09	4 7E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	E2 max	1 7E-06	6 0E-11	1 5E-10	9 0E-11	1 3E-10	4 7E-10	1 7E-09	1 1E-09	4 7E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	E2 max	1 7E-06	6 0E-11	1 5E-10	9 0E-11	1 3E-10	4 7E-10	1 7E-09	1.1E-09	4 7E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	E2 max	1 0E-05	3 6E-10	9 1E-10	5 5E-10	8 1E-10	2 8E-09	1 1E-08	6 4E-09	2 8E-09
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E2 max	1 5E-08	5 1E-13	1 3E-12	7 7E-13	1 1E-12	4 0E-12	1 5E-11	9 0E-12	4 0E-12

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TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E2 max	NT	NT	NT	NT	3.8E-08	1.4E-07	8.6E-08	3.8E-08
Acenaphthylene	NF	NF	NF	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	E2 max	2.5E-11	6.3E-11	3 8E-11	5.6E-11	4 0E-05	1.5E-04	9.0E-05	4.0E-05
Acetone	NA	0.0875	2 5E-02	2 9E-03	E2 max	NT	NT	NT	NT	9 8E-06	3.7E-05	2.2E-05	9.8E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E2 max	NT	NT	NT	NT	9.9E-07	3.7E-06	2.2E-06	9.9E-07
Acrylonitrile	2.4E-01	0.0005	1 4E-04	2.0E-04	E2 max	5.2E-10	1.3E-09	7.9E-10	1.2E-09	1.2E-04	4.5E-04	2.7E-04	1.2E-04
Anthracene	NA	0.2625	7 5E-02	5.5E-06	E2 max	NT	NT	NT	NT	6.2E-09	2.3E-08	1.4E-08	6.2E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E2 max	4.7E-12	1.2E-11	7.0E-12	1.0E-11	2 9E-06	1.1E-05	6.6E-06	2.9E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E2 max	NT	NT	NT	NT	9.6E-10	3.6E-09	2.2E-09	9.6E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E2 max	1.6E-10	4.0E-10	2.4E-10	3.5E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	E2 max	NT	NT	NT	NT	5.7E-08	2.1E-07	1.3E-07	5 7E-08
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	E2 max	NT	NT	NT	NT	6.3E-07	2.4E-06	1.4E-06	6.3E-07
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	E2 max	NT	NT	NT	NT	1.8E-06	6.5E-06	4.0E-06	1.8E-06
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	E2 max	2.3E-13	5.8E-13	3.5E-13	5 1E-13	9.3E-08	3.5E-07	2.1E-07	9.3E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E2 max	NT	NT	NT	NT	1.2E-04	4.4E-04	2.6E-04	1.2E-04
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E2 max	NT	NT	NT	NT	6.1E-08	2.3E-07	1.4E-07	6.1E-08
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	E2 max	NT	NT	NT	NT	9.3E-09	3.5E-08	2.1E-08	9.3E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E2 max	NT	NT	NT	NT	1.1E-05	4.0E-05	2.4E-05	1.1E-05
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	E2 max	9.1E-11	2.3E-10	1.4E-10	2.0E-10	9.4E-05	3.5E-04	2.1E-04	9.4E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E2 max	7.8E-12	1.9E-11	1.2E-11	1.7E-11	3.1E-06	1.2E-05	7.0E-06	3.1E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E2 max	NT	NT	NT	NT	5.7E-07	2.1E-06	1.3E-06	5.7E-07
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	E2 max	NT	NT	NT	NT	3.3E-07	1.2E-06	7.4E-07	3.3E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E2 max	1.1E-10	2.7E-10	1.7E-10	2.4E-10	6.2E-07	2.3E-06	1.4E-06	6.2E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E2 max	NT	NT	NT	NT	5 6E-08	2.2E-07	1.3E-07	5.6E-08
Chloroform	6.1E-02	0.00875	2.5E-03	2.7E-04	E2 max	2.3E-10	5.8E-10	3.5E-10	5.2E-10	9.0E-06	3.4E-05	2.0E-05	9.0E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	E2 max	1.7E-11	4.2E-11	2.5E-11	3.7E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E2 max	NT	NT	NT	NT	2 8E-08	1.1E-07	6 4E-08	2.8E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E2 max	NT	NT	NT	NT	3.7E-07	1.4E-06	8.4E-07	3.7E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1 3E-02	5.5E-06	E2 max	NT	NT	NT	NT	3.7E-08	1.4E-07	8 4E-08	3 7E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	E2 max	NT	NT	NT	NT	3.7E-08	1 4E-07	8.4E-08	3 7E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E2 max	NT	NT	NT	NT	3.7E-07	1.4E-06	8 4E-07	3.7E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	E2 max	NT	NT	NT	NT	7 3E-07	2 7E-06	1.6E-06	7 3E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	E2 max	NT	NT	NT	NT	4 5E-07	1 7E-06	1 0E-06	4 5E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	E2 max	NT	NT	NT	NT	8 2E-09	3 1E-08	1 8E-08	8 2E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	E2 max	NT	NT	NT	NT	3 3E-08	1 2E-07	7 4E-08	3.3E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E2 max	7.6E-05	2 7E-09	6 7E-09	4 0E-09	5.9E-09	2 1E-08	7.8E-08	4 7E-08	2 1E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E2 max	3.9E-06	1 4E-10	3.4E-10	2 1E-10	3.0E-10	1.1E-09	4.0E-09	2 4E-09	1 1E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E2 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.0E-10	1 1E-09	4.0E-09	2 4E-09	1 1E-09
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E2 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.0E-10	1 1E-09	4 0E-09	2 4E-09	1 1E-09
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E2 max	3 9E-06	1.4E-10	3.4E-10	2.1E-10	3.0E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4 7E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E2 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.0E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 max	3.9E-06	1.4E-10	3.4E-10	2 1E-10	3.0E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.0E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E2 max	5.2E-06	1.8E-10	4.6E-10	2.8E-10	4.1E-10	1.4E-09	5.3E-09	3.2E-09	1 4E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E2 max	3.6E-05	1.3E-09	3 1E-09	1.9E-09	2 8E-09	9 8E-09	3.6E-08	2 2E-08	9 8E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4 7E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E2 max	4.9E-06	1.7E-10	4.3E-10	2.6E-10	3 8E-10	1.3E-09	5.0E-09	3.0E-09	1.3E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4 7E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4 7E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E2 max	1.5E-04	5.4E-09	1.3E-08	8.1E-09	1.2E-08	4.2E-08	1.6E-07	9 5E-08	4.2E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E2 max	1.2E-05	4.2E-10	1.1E-09	6.4E-10	9.4E-10	3.3E-09	1.2E-08	7 4E-09	3.3E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	E2 max	7.6E-05	2.7E-09	6.7E-09	4.0E-09	5.9E-09	2.1E-08	7.8E-08	4.7E-08	2.1E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E2 max	1.5E-04	5.4E-09	1.4E-08	8.2E-09	1.2E-08	4.2E-08	1.6E-07	9 6E-08	4 2E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E2 max	3.6E-05	1.3E-09	3.1E-09	1.9E-09	2.8E-09	9.8E-09	3.6E-08	2 2E-08	9.8E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E2 max	9.5E-06	3.3E-10	8.3E-10	5.0E-10	7.4E-10	2.6E-09	9.7E-09	5 8E-09	2.6E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E2 max	4.5E-11	1.6E-15	4.0E-15	2.4E-15	3.5E-15	1.2E-14	4.6E-14	2 8E-14	1.2E-14
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	E2 max	1.9E-04	6.6E-09	1.7E-08	1.0E-08	1.5E-08	5 2E-08	1.9E-07	1.2E-07	5 2E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1 5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Heptachlor	4 5E+00	0.000438	1.3E-04	5 5E-07	E2 max	1.7E-07	6.0E-12	1.5E-11	9.0E-12	1.3E-11	4 7E-11	1.7E-10	1.1E-10	4.7E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	4.3E-09	1.5E-13	3.8E-13	2.3E-13	3 4E-13	1.2E-12	4.4E-12	2.7E-12	1.2E-12
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4 7E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	4.3E-09	1 5E-13	3.8E-13	2.3E-13	3.4E-13	1 2E-12	4.4E-12	2 7E-12	1.2E-12
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	E2 max	3.1E-05	1.1E-09	2.7E-09	1.7E-09	2.4E-09	8 6E-09	3.2E-08	1 9E-08	8.6E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E2 max	1.7E-05	6 0E-10	1.5E-09	9.0E-10	1.3E-09	4.7E-09	1.7E-08	1.1E-08	4 7E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1 3E-10	4.7E-10	1.7E-09	1 1E-09	4 7E-10
Hexachloroethane	1.4E-02	0.000875	2 5E-04	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E2 max	9.9E-06	3.5E-10	8.7E-10	5.3E-10	7.8E-10	2 7E-09	1 0E-08	6.1E-09	2.7E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	E2 max	2.0E-05	7.0E-10	1.7E-09	1.1E-09	1 6E-09	5 5E-09	2 0E-08	1 2E-08	5 5E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4 7E-10	1 7E-09	1 1E-09	4.7E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5.7E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E2 max	3.6E-05	1 3E-09	3 1E-09	1 9E-09	2 6E-09	9 6E-09	3 6E-08	2 2E-08	9 6E-09
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	E2 max	1.7E-07	6.0E-12	1 5E-11	9.0E-12	1 3E-11	4 7E-11	1 7E-10	1 1E-10	4.7E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	E2 max	3.9E-06	1 4E-10	3.4E-10	2.1E-10	3 0E-10	1 1E-09	4 0E-09	2 4E-09	1.1E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1.3E-05	E2 max	3 9E-06	1 4E-10	3 4E-10	2 1E-10	3 0E-10	1 1E-09	4 0E-09	2 4E-09	1 1E-09
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	E2 max	1 2E-04	4 3E-09	1 1E-08	6 5E-09	9 6E-09	3 4E-08	1 3E-07	7 6E-08	3 4E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E2 max	1.3E-05	4 6E-10	1 1E-09	6 9E-10	1 0E-09	3 5E-09	1 3E-08	8 0E-09	3 5E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E2 max	5.2E-09	1.8E-13	4 5E-13	2 7E-13	4 0E-13	1 4E-12	5 3E-12	3 2E-12	1 4E-12
Naphthalene	NA	0.035	1 0E-02	5 5E-06	E2 max	1.7E-06	6 0E-11	1 5E-10	9 0E-11	1 3E-10	4 7E-10	1 7E-09	1 1E-09	4 7E-10
Nitroaniline, 2-	NA	0 00005	1 4E-05	6 7E-06	E2 max	2 1E-06	7 3E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Nitroaniline, 3-	NF	NF	NF	6 7E-06	E2 max	2.1E-06	7 3E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2.1E-09	1 3E-09	5 7E-10

External Review Draft, Do Not Cite or Quote

TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E2 max	NT	NT	NT	NT	1.5E-06	5.4E-06	3.3E-06	1.5E-06
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E2 max	NT	NT	NT	NT	3.0E-08	1.1E-07	6.7E-08	3.0E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E2 max	1.2E-11	3 1E-11	1.9E-11	2.8E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E2 max	1.6E-10	4.1E-10	2.5E-10	3.6E-10	4.7E-07	1.8E-06	1.1E-06	4.7E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E2 max	NT	NT	NT	NT	2.1E-07	7.9E-07	4.8E-07	2.1E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E2 max	NT	NT	NT	NT	6 2E-07	2.3E-06	1.4E-06	6.2E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0 001	2.9E-04	1.3E-05	E2 max	NT	NT	NT	NT	3 7E-06	1.4E-05	8.4E-06	3.7E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 max	1.8E-11	4.4E-11	2.7E-11	3.9E-11	7.4E-07	2.8E-06	1.7E-06	7 4E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E2 max	1.8E-11	4.4E-11	2.7E-11	3.9E-11	7.4E-07	2.8E-06	1.7E-06	7.4E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E2 max	NT	NT	NT	NT	7.2E-09	2.7E-08	1.6E-08	7.2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E2 max	NT	NT	NT	NT	9.3E-08	3.5E-07	2.1E-07	9.3E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E2 max	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E2 max	NT	NT	NT	NT	1.9E-06	7.0E-06	4.2E-06	1.9E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	E2 max	NT	NT	NT	NT	9.3E-07	3.5E-06	2.1E-06	9 3E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E2 max	NT	NT	NT	NT	9.3E-07	3.5E-06	2.1E-06	9.3E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E2 max	NT	NT	NT	NT	9.3E-08	3.5E-07	2.1E-07	9.3E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E2 max	NT	NT	NT	NT	1.3E-06	4.9E-06	3.0E-06	1.3E-06
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	E2 max	NT	NT	NT	NT	9.2E-07	3.5E-06	2.1E-06	9 2E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E2 max	NT	NT	NT	NT	5.9E-07	2.2E-06	1.3E-06	5.9E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E2 max	9.5E-10	2.4E-09	1.4E-09	2.1E-09	6.8E-04	2.6E-03	1.5E-03	6.8E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E2 max	1.2E-10	2.9E-10	1.8E-10	2.6E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E2 max	NT	NT	NT	NT	6.2E-10	2.3E-09	1.4E-09	6.2E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E2 max	NT	NT	NT	NT	4.7E-08	1.7E-07	1.1E-07	4.7E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	E2 max	NT	NT	NT	NT	5.7E-08	2.1E-07	1.3E-07	5.7E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E2 max	3.0E-10	7.4E-10	4.5E-10	6.6E-10	1.0E-06	3.9E-06	2.3E-06	1.0E-06
Furfural	NA	0.0125	3.6E-03	5.5E-06	E2 max	NT	NT	NT	NT	1.3E-07	4.9E-07	3.0E-07	1.3E-07
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E2 max	2.7E-11	6.7E-11	4.1E-11	6.0E-11	3.7E-07	1.4E-06	8.4E-07	3.7E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E2 max	9.7E-11	2.4E-10	1.5E-10	2.1E-10	2.3E-06	8.7E-06	5.3E-06	2.3E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	E2 max	8.6E-11	2.1E-10	1.3E-10	1.9E-10	1.7E-04	6.4E-04	3 9E-04	1 7E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E2 max	NT	NT	NT	NT	6.2E-05	2.3E-04	1.4E-04	6 2E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	E2 max	NT	NT	NT	NT	9.3E-05	3.5E-04	2.1E-04	9.3E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E2 max	8.4E-13	2.1E-12	1.3E-12	1.9E-12	1 9E-06	7.0E-06	4.2E-06	1.9E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E2 max	NT	NT	NT	NT	3 6E-05	1.4E-04	8.2E-05	3.6E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	E2 max	NT	NT	NT	NT	1 1E-08	4 2E-08	2 6E-08	1.1E-08
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E2 max	NT	NT	NT	NT	7 8E-08	2.9E-07	1 8E-07	7.8E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	E2 max	NT	NT	NT	NT	3 7E-08	1.4E-07	8 4E-08	3.7E-08
Methyl-t-butyl ether	NA	0 75	2 1E-01	1.3E-05	E2 max	NT	NT	NT	NT	5 0E-09	1 9E-08	1.1E-08	5 0E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	E2 max	NT	NT	NT	NT	1 9E-07	6 9E-07	4 2E-07	1 9E-07
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	E2 max	7.1E-12	1.8E-11	1.1E-11	1 6E-11	1 6E-07	5 9E-07	3.5E-07	1 6E-07
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5 5E-06	E2 max	NT	NT	NT	NT	4 7E-08	1 7E-07	1 1E-07	4 7E-08
Nitroaniline, 2-	NA	0 00005	1 4E-05	6.7E-06	E2 max	NT	NT	NT	NT	4 0E-05	1 5E-04	9.0E-05	4 0E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5 7E-10	2.1E-09	1 3E-09	5.7E-10
Nitrobenzene	NA	0 0005	1.4E-04	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1 3E-10	4 7E-10	1.7E-09	1 1E-09	4 7E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E2 max	1 7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4 7E-10	1.7E-09	1.1E-09	4.7E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E2 max	3.8E-05	1.3E-09	3.3E-09	2.0E-09	2.9E-09	1.0E-08	3.6E-08	2 3E-08	1.0E-08
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E2 max	2.1E-06	7.3E-11	1 8E-10	1.1E-10	1.6E-10	5:7E-10	2.1E-09	1 3E-09	5.7E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	4.3E-09	1.5E-13	3.8E-13	2.3E-13	3.4E-13	1.2E-12	4.4E-12	2.7E-12	1 2E-12
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	4.3E-09	1.5E-13	3.8E-13	2.3E-13	3.4E-13	1 2E-12	4.4E-12	2 7E-12	1.2E-12
Pentachlorobenzene	NA	NA	NA	4.8E-05	E2 max	1.5E-05	5 2E-10	1.3E-09	7.8E-10	1 2E-09	4.0E-09	1.5E-08	9 1E-09	4.0E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	4.3E-09	1.5E-13	3.8E-13	2.3E-13	3.4E-13	1.2E-12	4.4E-12	2 7E-12	1.2E-12
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E2 max	1.0E-05	3 7E-10	9.2E-10	5.5E-10	8 2E-10	2.9E-09	1.1E-08	6.5E-09	2.9E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4 7E-10
Phenanthrene	NA	NA	NA	6.7E-06	E2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Phenol	NA	0.525	1 5E-01	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4 7E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E2 max	3.6E-05	1 3E-09	3.1E-09	1.9E-09	2.8E-09	9.8E-09	3.6E-08	2 2E-08	9 8E-09
Styrene	NA	0.25	7 1E-02	2.3E-05	E2 max	7.0E-06	2.5E-10	6.1E-10	3.7E-10	5.5E-10	1.9E-09	7.1E-09	4.3E-09	1 9E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	4.3E-09	1 5E-13	3.8E-13	2.3E-13	3 4E-13	1.2E-12	4.4E-12	2.7E-12	1.2E-12
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	E2 max	1 7E-06	6.0E-11	1 5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1 5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4 7E-10
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	E2 max	1.6E-05	5.6E-10	1 4E-09	8.4E-10	1.2E-09	4.4E-09	1.6E-08	9 8E-09	4.4E-09
Tetrachlorophenol, 2,3,4,6-	NA	0 02625	7.5E-03	6.8E-06	E2 max	2.1E-06	7.4E-11	1 8E-10	1.1E-10	1.6E-10	5.8E-10	2.2E-09	1 3E-09	5 8E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	E2 max	1.9E-04	6.7E-09	1.7E-08	1.0E-08	1.5E-08	5.2E-08	1.9E-07	1 2E-07	5.2E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E2 max	1.0E-04	3.6E-09	9.0E-09	5.4E-09	8.0E-09	2.8E-08	1.0E-07	6.3E-08	2 8E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E2 max	9.4E-09	3.3E-13	8.2E-13	5.0E-13	7.3E-13	2.6E-12	9.6E-12	5 6E-12	2.6E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E2 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.0E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1 3E-05	E2 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.0E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E2 max	5.8E-06	2.0E-10	5.1E-10	3.1E-10	4.5E-10	1.6E-09	5 9E-09	3 6E-09	1.6E-09
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E2 max	7.6E-05	2.7E-09	6.7E-09	4.0E-09	5.9E-09	2.1E-08	7.8E-08	4 7E-08	2.1E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4.7E-10	1.7E-09	1.1E-09	4.7E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9 0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E2 max	2.0E-05	7.0E-10	1.7E-09	1.1E-09	1.6E-09	5.5E-09	2 0E-08	1 2E-08	5.5E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E2 max	7.6E-05	2.7E-09	6.7E-09	4.0E-09	5.9E-09	2.1E-08	7 8E-08	4 7E-08	2.1E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E2 max	1.2E-04	4.2E-09	1.0E-08	6 2E-09	9.2E-09	3 2E-08	1.2E-07	7.3E-08	3.2E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E2 max	1.7E-06	6.0E-11	1.5E-10	9.0E-11	1.3E-10	4.7E-10	1.7E-09	1 1E-09	4.7E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E2 max	3.3E-12	1.2E-16	2 9E-16	1.8E-16	2 6E-16	9 2E-16	3 4E-15	2 1E-15	9 2E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E2 max	2.1E-11	7.4E-16	1.8E-15	1 1E-15	1.6E-15	5 8E-15	2 2E-14	1 3E-14	5.8E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E2 max	2 8E-11	9 8E-16	2 4E-15	1.5E-15	2 2E-15	7 6E-15	2 8E-14	1 7E-14	7 6E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E2 max	5.1E-11	1.8E-15	4 5E-15	2 7E-15	4 0E-15	1.4E-14	5 3E-14	3 2E-14	1 4E-14
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	E2 max	3.4E-11	1 2E-15	3 0E-15	1 8E-15	2 6E-15	9.2E-15	3 5E-14	2 1E-14	9 2E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	E2 max	3.8E-10	1 4E-14	3 4E-14	2 0E-14	3 0E-14	1 1E-13	3 9E-13	2 4E-13	1 1E-13
OCDD	1 5E+02	NA	NA	6.15E-09	E2 max	1 9E-09	6 7E-14	1 7E-13	1 0E-13	1 5E-13	5 2E-13	1 9E-12	1 2E-12	5 2E-13
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	E2 max	2 7E-11	9 6E-16	2 4E-15	1 4E-15	2 1E-15	7 4E-15	2 8E-14	1 7E-14	7 4E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	E2 max	1.1E-10	3 8E-15	9 4E-15	5.7E-15	8 4E-15	2 9E-14	1 1E-13	6 6E-14	2 9E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E2 max	1.4E-10	5 1E-15	1 3E-14	7 7E-15	1 1E-14	4 0E-14	1 5E-13	8 9E-14	4 0E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	E2 max	4 4E-10	1 6E-14	3 9E-14	2 3E-14	3 5E-14	1 2E-13	4 5E-13	2 7E-13	1 2E-13
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1 33E-09	E2 max	4 1E-10	1 5E-14	3 6E-14	2 2E-14	3 2E-14	1 1E-13	4 2E-13	2 6E-13	1 1E-13
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	E2 max	4 7E-10	1 6E-14	4 1E-14	2 5E-14	3 6E-14	1 3E-13	4 8E-13	2 9E-13	1 3E-13

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TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0 0005	1.4E-04	5.5E-06	E2 max	NT	NT	NT	NT	3 3E-06	1.2E-05	7.4E-06	3.3E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E2 max	7.1E-09	1.8E-08	1.1E-08	1.6E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E2 max	NT	NT	NT	NT	3.8E-06	1.4E-05	8.6E-06	3.8E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E2 max	NT	NT	NT	NT	6.2E-08	2.3E-07	1.4E-07	6.2E-08
Phenanthrene	NA	NA	NA	6.7E-06	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1 5E-01	5.5E-06	E2 max	NT	NT	NT	NT	3 1E-09	1.2E-08	7.0E-09	3.1E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E2 max	NT	NT	NT	NT	6.2E-08	2.3E-07	1.4E-07	6.2E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	E2 max	NT	NT	NT	NT	2.7E-08	1.0E-07	6.0E-08	2.7E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7 5E-03	5.5E-06	E2 max	1.6E-12	3.9E-12	2.3E-12	3.5E-12	6.2E-08	2.3E-07	1.4E-07	6.2E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	E2 max	1.2E-11	3.0E-11	1.8E-11	2.7E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	E2 max	1.1E-12	2.8E-12	1.7E-12	2.5E-12	1.7E-06	6.5E-06	3.9E-06	1 7E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7 5E-03	6.8E-06	E2 max	NT	NT	NT	NT	7.7E-08	2.9E-07	1.7E-07	7.7E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	E2 max	NT	NT	NT	NT	1.8E-06	6.8E-06	4.1E-06	1.8E-06
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E2 max	NT	NT	NT	NT	1.3E-08	4.9E-08	3.0E-08	1.3E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E2 max	NT	NT	NT	NT	3.3E-08	1.2E-07	7.4E-08	3.3E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E2 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E2 max	NT	NT	NT	NT	1.5E-08	5.6E-08	3.4E-08	1.5E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E2 max	7.8E-12	1.9E-11	1.2E-11	1.7E-11	1.1E-06	4.0E-06	2.4E-06	1.1E-06
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E2 max	1.2E-12	3.0E-12	1.8E-12	2.7E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	E2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.4E-07	4 2E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E2 max	NT	NT	NT	NT	1.9E-08	7.0E-08	4.2E-08	1.9E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E2 max	6.0E-13	1.5E-12	9.0E-13	1.3E-12	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E2 max	NT	NT	NT	NT	3.8E-07	1.4E-06	8.6E-07	3.8E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E2 max	8.0E-10	2.0E-09	1.2E-09	1.8E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E2 max	NT	NT	NT	NT	6.5E-08	2.4E-07	1.5E-07	6.5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5 0E-01	5.5E-06	E2 max	NT	NT	NT	NT	9.3E-10	3.5E-09	2.1E-09	9.3E-10
2,3,7,8-TCDD	1 5E+05	NA	NA	1.08E-11	E2 max	1.8E-11	4 4E-11	2.7E-11	3.9E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E2 max	5.5E-11	1.4E-10	8.4E-11	1 2E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	8.95E-11	E2 max	1.5E-11	3.7E-11	2 2E-11	3 3E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E2 max	2.7E-11	6.8E-11	4 1E-11	6 0E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	E2 max	1.8E-11	4.4E-11	2.7E-11	4 0E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	E2 max	2.0E-11	5.1E-11	3 1E-11	4 5E-11	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6 15E-09	E2 max	1.0E-11	2.5E-11	1.5E-11	2 2E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	E2 max	1.4E-11	3 6E-11	2.2E-11	3 2E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	E2 max	2.8E-11	7 0E-11	4 2E-11	6 3E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E2 max	3.8E-10	9.5E-10	5 8E-10	8 5E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	E2 max	2.3E-10	5 8E-10	3 5E-10	5 2E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	E2 max	2 2E-10	5 4E-10	3 3E-10	4 9E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E2 max	2.5E-10	6 1E-10	3 7E-10	5 5E-10	NT	NT	NT	NT

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TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E2 max	9 1E-11	3.2E-15	8 0E-15	4 8E-15	7.1E-15	2 5E-14	9.3E-14	5 6E-14	2 5E-14
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	E2 max	2.9E-09	1.0E-13	2.5E-13	1 5E-13	2 3E-13	7.9E-13	3 0E-12	1 8E-12	7 9E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E2 max	3.8E-10	1.3E-14	3 3E-14	2.0E-14	3 0E-14	1 0E-13	3.9E-13	2 3E-13	1 0E-13
OCDF	1.5E+02	NA	NA	1.89E-08	E2 max	5.9E-09	2.1E-13	5.2E-13	3.1E-13	4.6E-13	1.6E-12	6.0E-12	3 6E-12	1.6E-12
Dioxin TEQ				4.28E-08			4.7E-13	1.2E-12	7.0E-13	1.0E-12	3.6E-12	1.4E-11	8.2E-12	3.6E-12
Aluminum	NA	NA	NA	2 4E-04	E2 max	7.4E-05	2.6E-09	6.5E-09	3 9E-09	5.8E-09	2.0E-08	7.6E-08	4 6E-08	2 0E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	E2 max	1.3E-06	4.6E-11	1.1E-10	6.9E-11	1.0E-10	3.6E-10	1.3E-09	8.1E-10	3.6E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	E2 max	1.1E-05	4.0E-10	1.0E-09	6.1E-10	9.0E-10	3.1E-09	1.2E-08	7.1E-09	3.1E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	E2 max	4.7E-05	1.6E-09	4.1E-09	2.5E-09	3.6E-09	1.3E-08	4.8E-08	2.9E-08	1.3E-08
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E2 max	1.0E-08	3.6E-13	9.0E-13	5.4E-13	8.0E-13	2 8E-12	1.0E-11	6.3E-12	2.8E-12
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E2 max	5.0E-06	1.7E-10	4.4E-10	2.6E-10	3.9E-10	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Chromium (hexavalent)	41	0 004375	1 3E-03	7.1E-07	E2 max	2.2E-07	7.7E-12	1.9E-11	1.2E-11	1.7E-11	6 0E-11	2.3E-10	1.4E-10	6.0E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E2 max	2.2E-07	7.7E-12	1.9E-11	1.2E-11	1.7E-11	6.0E-11	2.3E-10	1.4E-10	6.0E-11
Copper	NA	NA	NA	9.4E-05	E2 max	2.9E-05	1.0E-09	2.6E-09	1.5E-09	2.3E-09	8.0E-09	3 0E-08	1 8E-08	8 0E-09
Lead	NA	NA	NA	4.3E-05	E2 max	1.3E-05	4.7E-10	1.2E-09	7.1E-10	1.0E-09	3.7E-09	1.4E-08	8 2E-09	3.7E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E2 max	4.3E-04	1.5E-08	3.8E-08	2 3E-08	3.4E-08	1.2E-07	4.4E-07	2 7E-07	1 2E-07
Nickel	0.84	0.0175	5 0E-03	5.0E-06	E2 max	1.6E-06	5.5E-11	1.4E-10	8 2E-11	1.2E-10	4.2E-10	1.6E-09	9 6E-10	4 2E-10
Selenium	NA	0 004375	1 3E-03	4.7E-04	E2 max	1.5E-04	5.1E-09	1.3E-08	7.7E-09	1.1E-08	4.0E-08	1.5E-07	9 0E-08	4 0E-08
Silver	NA	0.004375	1 3E-03	1.5E-05	E2 max	4.7E-06	1.6E-10	4.1E-10	2.5E-10	3.6E-10	1.3E-09	4.8E-09	2.9E-09	1 3E-09
Thallium	NA	0.000061	1.8E-05	3.4E-05	E2 max	1.1E-05	3.7E-10	9.2E-10	5.6E-10	8.2E-10	2.9E-09	1.1E-08	6.5E-09	2 9E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	E2 max	3.7E-05	1.3E-09	3.3E-09	2.0E-09	2.9E-09	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E2 max	9.9E-03	3.5E-07	8.7E-07	5.3E-07	7.8E-07	2.7E-06	1.0E-05	6.1E-06	2.7E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E2 max	7.5E-01	2.6E-05	6.6E-05	4.0E-05	5.9E-05	2.1E-04	7.7E-04	4 6E-04	2.1E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E2 max	2.8E-02	9.9E-07	2.5E-06	1.5E-06	2.2E-06	7.7E-06	2.9E-05	1.7E-05	7.7E-06
Particulate matter	NA	NA	NA	7.2E-02	E2 max	2.2E-02	7.9E-07	2.0E-06	1.2E-06	1.7E-06	6.1E-06	2.3E-05	1.4E-05	6.1E-06
Respirable particulates	NF	NF	NF	7.2E-02	E2 max	2.2E-02	7.9E-07	2.0E-06	1.2E-06	1.7E-06	6.1E-06	2.3E-05	1 4E-05	6.1E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 14 Maximum Inhalation Risks and Noncancer HQs in Subarea E2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	2.93E-10	E2 max	4.8E-11	1.2E-10	7 2E-11	1.1E-10		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	E2 max	1.5E-10	3.8E-10	2.3E-10	3.4E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1.22E-09	E2 max	2.0E-11	5.0E-11	3.0E-11	4.4E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	E2 max	3.1E-11	7.7E-11	4.7E-11	6.9E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		1.5E-09	3.8E-09	2.3E-09	3.4E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	E2 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	E2 max	NT	NT	NT	NT		3.6E-06	1 3E-05	8.1E-06	3.6E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	E2 max	2.0E-08	5.0E-08	3.0E-08	4.5E-08		4.2E-05	1.6E-04	9.5E-05	4.2E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	E2 max	NT	NT	NT	NT		3.6E-04	1.3E-03	8.1E-04	3.6E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E2 max	3.0E-12	7.5E-12	4 6E-12	6.7E-12		2.2E-09	8.4E-09	5.1E-09	2.2E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E2 max	1 1E-09	2.7E-09	1.6E-09	2.4E-09		1.1E-05	4.1E-05	2.5E-05	1.1E-05
Chromium (hexavalent)	41	0 004375	1 3E-03	7.1E-07	E2 max	3 2E-10	7.9E-10	4.8E-10	7.1E-10		4.8E-08	1.8E-07	1.1E-07	4 8E-08
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	E2 max	NT	NT	NT	NT		2.4E-10	9.0E-10	5.4E-10	2.4E-10
Copper	NA	NA	NA	9.4E-05	E2 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	E2 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E2 max	NT	NT	NT	NT		5.5E-03	2.1E-02	1.3E-02	5.5E-03
Nickel	0.84	0.0175	5 0E-03	5.0E-06	E2 max	4.6E-11	1.1E-10	6.9E-11	1.0E-10		8.5E-08	3.2E-07	1.9E-07	8.5E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	E2 max	NT	NT	NT	NT		3 2E-05	1.2E-04	7.2E-05	3.2E-05
Silver	NA	0 004375	1.3E-03	1.5E-05	E2 max	NT	NT	NT	NT		1.0E-06	3.8E-06	2.3E-06	1.0E-06
Thallium	NA	0.000061	1.8E-05	3.4E-05	E2 max	NT	NT	NT	NT		1.6E-04	6.2E-04	3.7E-04	1.6E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	E2 max	NT	NT	NT	NT		1.4E-07	5.1E-07	3.1E-07	1.4E-07
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E2 max	NT	NT	NT	NT		5.4E-03	2.0E-02	1.2E-02	5.4E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E2 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E2 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	E2 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	E2 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	3.4E-08	8.5E-08	5.1E-08	7.6E-08	Total HI	1.3E-02	4.9E-02	3.0E-02	1.3E-02

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E3 max	6.2E-07	2.2E-11	5 4E-11	3.3E-11	4 8E-11	1.7E-10	6 3E-10	3 6E-10	1 7E-10
Acenaphthylene	NF	NF	NF	6.7E-06	E3 max	6 2E-07	2.2E-11	5.4E-11	3 3E-11	4.8E-11	1 7E-10	6 3E-10	3 8E-10	1 7E-10
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	E3 max	2.8E-05	9 8E-10	2 4E-09	1.5E-09	2.2E-09	7 6E-09	2 8E-08	1.7E-08	7.6E-09
Acetone	NA	0.0875	2.5E-02	2.9E-03	E3 max	2.7E-04	9.4E-09	2 3E-08	1.4E-08	2 1E-08	7.3E-08	2 7E-07	1 6E-07	7.3E-08
Acetophenone	NA	0 0875	2.5E-02	2.9E-04	E3 max	2.7E-05	9.5E-10	2 4E-09	1.4E-09	2.1E-09	7 4E-09	2 8E-08	1 7E-08	7.4E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E3 max	1.9E-05	6 5E-10	1 6E-09	9.9E-10	1.5E-09	5.1E-09	1 9E-08	1 1E-08	5.1E-09
Anthracene	NA	0 2625	7.5E-02	5.5E-06	E3 max	5 1E-07	1.8E-11	4 4E-11	2.7E-11	4 0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	E3 max	1.4E-06	4.8E-11	1.2E-10	7 2E-11	1.1E-10	3.7E-10	1.4E-09	8 4E-10	3.7E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E3 max	1.0E-06	3.7E-11	9.1E-11	5.5E-11	8.1E-11	2.8E-10	1.1E-09	6 4E-10	2.8E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E3 max	2.9E-06	1.0E-10	2 6E-10	1.6E-10	2.3E-10	8 1E-10	3.0E-09	1 8E-09	8.1E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1 4E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4 4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1 4E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5 2E-10	3.1E-10	1.4E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	6.3E-10	3 8E-10	1 7E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E3 max	1.2E-06	4.3E-11	1.1E-10	6.5E-11	9.6E-11	3.4E-10	1.3E-09	7 6E-10	3.4E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	E3 max	6.2E-07	2 2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	6.3E-10	3 8E-10	1.7E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	E3 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.4E-10	3.5E-09	2.1E-09	9.4E-10
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	E3 max	9.5E-06	3.3E-10	8 3E-10	5.0E-10	7.4E-10	2.6E-09	9.7E-09	5 9E-09	2.6E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E3 max	4.5E-05	1.6E-09	4.0E-09	2.4E-09	3.5E-09	1.2E-08	4.6E-08	2.8E-08	1.2E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	6.3E-10	3 8E-10	1.7E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	E3 max	4.7E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2 9E-09	1.3E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E3 max	8.2E-06	2.9E-10	7.2E-10	4.3E-10	6.4E-10	2.2E-09	8.4E-09	5 1E-09	2.2E-09
Carbon tetrachloride	5 3E-02	0.0005	1.4E-04	1.6E-04	E3 max	1.5E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	9.0E-09	4 0E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E3 max	5.1E-08	1.8E-12	4.4E-12	2.7E-12	4.0E-12	1.4E-11	5.2E-11	3 1E-11	1.4E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	6.3E-10	3 8E-10	1.7E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	6.3E-10	3 8E-10	1.7E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4 0E-11	1.4E-10	5 2E-10	3 1E-10	1.4E-10
Chlorobenzilate	2.7E-01	0.0175	5 0E-03	3.7E-05	E3 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2 6E-10	9.3E-10	3.5E-09	2 1E-09	9.3E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E3 max	4.5E-05	1.6E-09	4.0E-09	2.4E-09	3.5E-09	1.2E-08	4 6E-08	2 8E-08	1 2E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E3 max	2.4E-05	8.6E-10	2.1E-09	1.3E-09	1.9E-09	6.7E-09	2.5E-08	1 5E-08	6.7E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	E3 max	2.3E-05	7.9E-10	2.0E-09	1.2E-09	1.8E-09	6.2E-09	2.3E-08	1 4E-08	6.2E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E3 max	6.2E-07	2.2E-11	5 4E-11	3 3E-11	4 8E-11	1.7E-10	6 3E-10	3 8E-10	1.7E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4 4E-11	2.7E-11	4.0E-11	1 4E-10	5 2E-10	3 1E-10	1.4E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E3 max	6.2E-07	2.2E-11	5 4E-11	3.3E-11	4.8E-11	1.7E-10	6 3E-10	3 8E-10	1.7E-10
Chrysene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1.4E-10
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2 7E-11	4 0E-11	1.4E-10	5 2E-10	3 1E-10	1.4E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1 4E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E3 max	5.1E-07	1 8E-11	4.4E-11	2.7E-11	4 0E-11	1.4E-10	5 2E-10	3 1E-10	1.4E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	E3 max	1.3E-05	4 5E-10	1 1E-09	6 8E-10	1 0E-09	3.5E-09	1 3E-08	7 9E-09	3 5E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	E3 max	5 1E-07	1 8E-11	4 4E-11	2 7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1.4E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	E3 max	5 1E-08	1 8E-12	4 4E-12	2.7E-12	4 0E-12	1 4E-11	5 2E-11	3 1E-11	1 4E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1 8E-11	4 4E-11	2 7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1 4E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	E3 max	2 4E-06	8 5E-11	2 1E-10	1 3E-10	1 9E-10	6 6E-10	2 5E-09	1 5E-09	6 6E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	E3 max	5 1E-07	1 8E-11	4 4E-11	2 7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1 4E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	E3 max	5 1E-07	1 8E-11	4 4E-11	2 7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1 4E-10
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	E3 max	5 1E-07	1 8E-11	4 4E-11	2 7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1 4E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	E3 max	3 1E-06	1 1E-10	2 7E-10	1 6E-10	2 4E-10	8 4E-10	3 1E-09	1 9E-09	8 4E-10
Dichlorobiphenyl	NA	NA	NA	4 7E-08	E3 max	4.3E-09	1 5E-13	3 8E-13	2 3E-13	3 4E-13	1 2E-12	4 4E-12	2 7E-12	1 2E-12

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TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0 0525	1 5E-02	6.7E-06	E3 max	NT	NT	NT	NT	1.1E-08	4.2E-08	2.5E-08	1.1E-08
Acenaphthylene	NF	NF	NF	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	E3 max	7.5E-12	1 9E-11	1.1E-11	1.7E-11	1.2E-05	4.4E-05	2.7E-05	1.2E-05
Acetone	NA	0 0875	2.5E-02	2.9E-03	E3 max	NT	NT	NT	NT	2.9E-06	1.1E-05	6.6E-06	2.9E-06
Acetophenone	NA	0.0875	2 5E-02	2 9E-04	E3 max	NT	NT	NT	NT	3.0E-07	1.1E-06	6 7E-07	3.0E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E3 max	1.6E-10	3.9E-10	2.3E-10	3.5E-10	3.6E-05	1.3E-04	8.0E-05	3 6E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	E3 max	NT	NT	NT	NT	1.8E-09	6.9E-09	4.2E-09	1.8E-09
Benzene	2.9E-02	0 0015	4.3E-04	1.5E-05	E3 max	1.4E-12	3 4E-12	2.1E-12	3 1E-12	8.7E-07	3.2E-06	2.0E-06	8.7E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E3 max	NT	NT	NT	NT	2.8E-10	1.1E-09	6.4E-10	2.8E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E3 max	4.7E-11	1.2E-10	7.1E-11	1.1E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E3 max	NT	NT	NT	NT	1.7E-08	6.3E-08	3.8E-08	1.7E-08
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	E3 max	NT	NT	NT	NT	1.9E-07	7.0E-07	4.2E-07	1.9E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	E3 max	NT	NT	NT	NT	5.2E-07	1.9E-06	1.2E-06	5.2E-07
Bromoform	3.9E-03	0.0175	5.0E-03.	5.5E-06	E3 max	6.9E-14	1.7E-13	1.0E-13	1.5E-13	2.8E-08	1.0E-07	6.3E-08	2.8E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	E3 max	NT	NT	NT	NT	3.5E-05	1.3E-04	7.8E-05	3.5E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	E3 max	NT	NT	NT	NT	1.8E-08	6.8E-08	4.1E-08	1.8E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	E3 max	NT	NT	NT	NT	2.8E-09	1.0E-08	6.3E-09	2 8E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	E3 max	NT	NT	NT	NT	3.1E-06	1.2E-05	7.1E-06	3.1E-06
Carbon tetrachloride	5.3E-02	0.0005	1 4E-04	1.6E-04	E3 max	2.7E-11	6.7E-11	4.1E-11	6.0E-11	2.8E-05	1.0E-04	6.3E-05	2.8E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	E3 max	2.3E-12	5.7E-12	3.5E-12	5.1E-12	9.2E-07	3.5E-06	2.1E-06	9.2E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E3 max	NT	NT	NT	NT	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	E3 max	NT	NT	NT	NT	9.7E-08	3.6E-07	2.2E-07	9.7E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E3 max	3.3E-11	8.1E-11	4.9E-11	7.2E-11	1.9E-07	6.9E-07	4.2E-07	1 9E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	E3 max	NT	NT	NT	NT	1.7E-06	6.5E-06	3 9E-06	1.7E-06
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	E3 max	6.9E-11	1.7E-10	1.0E-10	1.5E-10	2.7E-06	1.0E-05	6.1E-06	2.7E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	E3 max	5.0E-12	1.2E-11	7.5E-12	1.1E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2 0E-02	6.7E-06	E3 max	NT	NT	NT	NT	8.4E-09	3.1E-08	1.9E-08	8.4E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	E3 max	NT	NT	NT	NT	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	E3 max	NT	NT	NT	NT	1.1E-08	4.1E-08	2 5E-08	1.1E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	E3 max	NT	NT	NT	NT	1.1E-08	4.1E-08	2 5E-08	1.1E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	E3 max	NT	NT	NT	NT	1.1E-07	4 1E-07	2.5E-07	1.1E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	E3 max	NT	NT	NT	NT	2 2E-07	8 1E-07	4 9E-07	2.2E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	E3 max	NT	NT	NT	NT	1 3E-07	5 0E-07	3 0E-07	1 3E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	E3 max	NT	NT	NT	NT	2 4E-09	9 1E-09	5 5E-09	2.4E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	E3 max	NT	NT	NT	NT	9 7E-09	3 6E-08	2 2E-08	9 7E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4 7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	E3 max	2.3E-05	7.9E-10	2 0E-09	1.2E-09	1 8E-09	6 2E-09	2.3E-08	1.4E-08	6.2E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3 6E-02	1.3E-05	E3 max	1 2E-06	4.0E-11	1.0E-10	6.1E-11	9 0E-11	3 1E-10	1.2E-09	7 1E-10	3 1E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E3 max	1.2E-06	4.0E-11	1 0E-10	6 1E-11	9 0E-11	3.1E-10	1 2E-09	7.1E-10	3.1E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E3 max	1.2E-06	4 0E-11	1 0E-10	6.1E-11	9 0E-11	3.1E-10	1.2E-09	7.1E-10	3 1E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E3 max	1.2E-06	4 0E-11	1.0E-10	6.1E-11	9.0E-11	3.1E-10	1 2E-09	7.1E-10	3 1E-10
Dichlorophenol, 2,4-	NA	0.002625	7 5E-04	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E3 max	1.2E-06	4.0E-11	1.0E-10	6.1E-11	9.0E-11	3.1E-10	1 2E-09	7.1E-10	3.1E-10
Dichloropropene (cis), 1,3-	1.3E-01	0 005	1.4E-03	1.3E-05	E3 max	1.2E-06	4 0E-11	1.0E-10	6.1E-11	9.0E-11	3.1E-10	1.2E-09	7.1E-10	3 1E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E3 max	1 2E-06	4.0E-11	1.0E-10	6.1E-11	9 0E-11	3.1E-10	1.2E-09	7.1E-10	3 1E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E3 max	1.6B-06	5.5E-11	1.4E-10	8.2E-11	1.2E-10	4.2E-10	1.6E-09	9.6E-10	4.2E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E3 max	1.1E-05	3.7E-10	9.3E-10	5.6E-10	8.3E-10	2.9E-09	1.1E-08	6.5E-09	2 9E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1 4E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1 4E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E3 max	1.4E-06	5.1E-11	1.3E-10	7.6E-11	1.1E-10	3.9E-10	1.5E-09	8.9E-10	3 9E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1 4E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1 4E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E3 max	4.5E-05	1.6E-09	4.0E-09	2.4E-09	3.6E-09	1.2E-08	4.7E-08	2 8E-08	1.2E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E3 max	3.6E-06	1 3E-10	3.1E-10	1.9E-10	2.8E-10	9.8E-10	3.7E-09	2 2E-09	9 8E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	E3 max	2.3E-05	7.9E-10	2.0E-09	1.2E-09	1.8E-09	6.2E-09	2.3E-08	1 4E-08	6.2E-09
Ethylbenzene	NA	0.25	7 1E-02	5.0E-04	E3 max	4.6E-05	1.6E-09	4.0E-09	2.4E-09	3.6E-09	1.3E-08	4.7E-08	2 8E-08	1.3E-08
Ethylene dibromide	7.6E-01	0.00005	1 4E-05	1.2E-04	E3 max	1.1E-05	3.7E-10	9.3E-10	5.6E-10	8.3E-10	2.9E-09	1.1E-08	6 5E-09	2.9E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E3 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1.7E-09	7.7E-10
Ethylene thiourea	NA	0.00007	2 0E-05	1.5E-10	E3 max	1.3E-11	4.7E-16	1.2E-15	7.1E-16	1.1E-15	3.7E-15	1.4E-14	8 3E-15	3.7E-15
Fluoranthene	NA	0 035	1.0E-02	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Fluorene	NA	0.035	1.0E-02	8.7E-06	E3 max	8.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	8.3E-10	3 8E-10	1.7E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	8.1E-04	E3 max	5.6E-05	2.0E-09	4.9E-09	3.0E-09	4.4E-09	1.5E-08	5.7E-08	3.5E-08	1.5E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5 2E-10	3.1E-10	1.4E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E3 max	5.1E-08	1.8E-12	4.4E-12	2.7E-12	4.0E-12	1.4E-11	5.2E-11	3 1E-11	1.4E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	1.3E-09	4.5E-14	1.1E-13	6.8E-14	1.0E-13	3.5E-13	1.3E-12	8 0E-13	3.5E-13
Hexachlorobenzene	1.6E+00	0.0007	2 0E-04	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	1.3E-09	4.5E-14	1.1E-13	6 8E-14	1.0E-13	3.5E-13	1.3E-12	8 0E-13	3.5E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E3 max	9.3E-06	3.3E-10	8 2E-10	4.9E-10	7.3E-10	2.5E-09	9 5E-09	5 7E-09	2.5E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7 5E-05	5.5E-05	E3 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5 2E-09	3 1E-09	1.4E-09
Hexachlorocyclopentadiene	NA	0 000018	5 0E-06	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4 0E-11	1.4E-10	5.2E-10	3 1E-10	1 4E-10
Hexachloroethane	1.4E-02	0.000875	2 5E-04	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5 2E-10	3 1E-10	1.4E-10
Hexachlorophene	NA	0.000263	7.5E-05	3 2E-05	E3 max	2.9E-06	1.0E-10	2 6E-10	1.6E-10	2 3E-10	8.1E-10	3 0E-09	1 8E-09	8.1E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	E3 max	5.9E-06	2.1E-10	5 2E-10	3 1E-10	4 6E-10	1 6E-09	6 1E-09	3 7E-09	1 6E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4 4E-11	2.7E-11	4 0E-11	1.4E-10	5 2E-10	3 1E-10	1.4E-10
Isophorone	NA	0.175	5 0E-02	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3 3E-11	4 8E-11	1 7E-10	6 3E-10	3 8E-10	1 7E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	E3 max	1.1E-05	3 7E-10	9 3E-10	5.6E-10	8 3E-10	2.9E-09	1 1E-08	6 5E-09	2.9E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	E3 max	5.1E-08	1.8E-12	4 4E-12	2 7E-12	4 0E-12	1 4E-11	5 2E-11	3 1E-11	1 4E-11
Methyl-t-butyl ether	NA	0 75	2 1E-01	1.3E-05	E3 max	1 2E-06	4 0E-11	1 0E-10	6 1E-11	9 0E-11	3 1E-10	1 2E-09	7 1E-10	3 1E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5 7E-03	1 3E-05	E3 max	1.2E-06	4 0E-11	1 0E-10	6 1E-11	9 0E-11	3 1E-10	1 2E-09	7 1E-10	3 1E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4 0E-04	E3 max	3 6E-05	1 3E-09	3 2E-09	1 9E-09	2 9E-09	1 0E-08	3 7E-08	2 3E-08	1 0E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	E3 max	3 8E-06	1 4E-10	3 4E-10	2 0E-10	3 0E-10	1 1E-09	3 9E-09	2 4E-09	1 1E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E3 max	1 5E-09	5 4E-14	1 3E-13	8 1E-14	1 2E-13	4 2E-13	1 6E-12	9 5E-13	4 2E-13
Naphthalene	NA	0.035	1.0E-02	5 5E-06	E3 max	5 1E-07	1.8E-11	4 4E-11	2 7E-11	4 0E-11	1 4E-10	5 2E-10	3 1E-10	1 4E-10
Nitroaniline, 2-	NA	0 00005	1 4E-05	6 7E-06	E3 max	6 2E-07	2 2E-11	5 4E-11	3 3E-11	4 8E-11	1 7E-10	6 3E-10	3 8E-10	1 7E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E3 max	6 2E-07	2 2E-11	5 4E-11	3.3E-11	4 8E-11	1 7E-10	6 3E-10	3 8E-10	1 7E-10

External Review Draft, Do Not Cite or Quote

TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	E3 max	NT	NT	NT	NT	4.3E-07	1.6E-06	9.8E-07	4.3E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	E3 max	NT	NT	NT	NT	8 8E-09	3.3E-08	2.0E-08	8.8E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	E3 max	3.7E-12	9.2E-12	5 5E-12	8 2E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	E3 max	4.9E-11	1.2E-10	7.3E-11	1.1E-10	1 4E-07	5.2E-07	3.2E-07	1.4E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	E3 max	NT	NT	NT	NT	6.3E-08	2.4E-07	1.4E-07	6.3E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	E3 max	NT	NT	NT	NT	1.8E-07	6.9E-07	4.2E-07	1 8E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	E3 max	NT	NT	NT	NT	1.1E-06	4.1E-06	2.5E-06	1.1E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1 4E-03	1.3E-05	E3 max	5.2E-12	1.3E-11	7.9E-12	1.2E-11	2.2E-07	8.2E-07	5.0E-07	2.2E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	E3 max	5.2E-12	1.3E-11	7.9E-12	1 2E-11	2.2E-07	8.2E-07	5.0E-07	2.2E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	E3 max	NT	NT	NT	NT	2.1E-09	7.9E-09	4.8E-09	2.1E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	E3 max	NT	NT	NT	NT	2.8E-08	1.0E-07	6.3E-08	2.8E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	E3 max	NT	NT	NT	NT	1.6E-08	5.9E-08	3.6E-08	1.6E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	E3 max	NT	NT	NT	NT	5 5E-07	2.1E-06	1.3E-06	5.5E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	E3 max	NT	NT	NT	NT	2.8E-07	1.0E-06	6.3E-07	2 8E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	E3 max	NT	NT	NT	NT	2.8E-07	1.0E-06	6.3E-07	2.8E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	E3 max	NT	NT	NT	NT	2 8E-08	1.0E-07	6.3E-08	2.8E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E3 max	NT	NT	NT	NT	3.9E-07	1.5E-06	8.8E-07	3.9E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2 5E-04	E3 max	NT	NT	NT	NT	2.7E-07	1.0E-06	6.2E-07	2.7E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	E3 max	NT	NT	NT	NT	1.8E-07	6.6E-07	4.0E-07	1.8E-07
Ethylene dibromide	7.6E-01	0 00005	1.4E-05	1.2E-04	E3 max	2.8E-10	7 1E-10	4.3E-10	6.3E-10	2.0E-04	7.8E-04	4.8E-04	2.0E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E3 max	3.5E-11	8.6E-11	5.2E-11	7.7E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E3 max	NT	NT	NT	NT	1.8E-10	6.9E-10	4.2E-10	1.8E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	E3 max	NT	NT	NT	NT	1.4E-08	5.2E-08	3.1E-08	1.4E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	E3 max	NT	NT	NT	NT	1.7E-08	6.3E-08	3.8E-08	1.7E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E3 max	8.8E-11	2.2E-10	1.3E-10	2.0E-10	3.1E-07	1.1E-06	6.9E-07	3.1E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	E3 max	NT	NT	NT	NT	3.9E-08	1.4E-07	8.8E-08	3.9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	E3 max	8.0E-12	2.0E-11	1.2E-11	1.8E-11	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	E3 max	2.9E-11	7.1E-11	4.3E-11	6.4E-11	6.9E-07	2.6E-06	1.6E-06	6.9E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E3 max	2.6E-11	6.4E-11	3.8E-11	5.7E-11	5.1E-05	1.9E-04	1.1E-04	5.1E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E3 max	NT	NT	NT	NT	1.8E-05	6.9E-05	4.2E-05	1.8E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	E3 max	NT	NT	NT	NT	2 8E-05	1.0E-04	6.3E-05	2.8E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	E3 max	2.5E-13	6.2E-13	3.8E-13	5.5E-13	5.5E-07	2.1E-06	1.3E-06	5.5E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E3 max	NT	NT	NT	NT	1.1E-05	4.0E-05	2.4E-05	1.1E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	E3 max	NT	NT	NT	NT	3 4E-09	1.3E-08	7.6E-09	3 4E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E3 max	NT	NT	NT	NT	2 3E-08	8.7E-08	5 2E-08	2.3E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	E3 max	NT	NT	NT	NT	1 1E-08	4 1E-08	2 5E-08	1 1E-08
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	E3 max	NT	NT	NT	NT	1 5E-09	5 5E-09	3 3E-09	1 5E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5 7E-03	1.3E-05	E3 max	NT	NT	NT	NT	5 5E-08	2 1E-07	1.2E-07	5 5E-08
Methylene chloride	1 6E-03	0.75	2.1E-01	4.0E-04	E3 max	2.1E-12	5 3E-12	3 2E-12	4 7E-12	4 7E-08	1 7E-07	1.1E-07	4.7E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5 5E-06	E3 max	NT	NT	NT	NT	1 4E-08	5 2E-08	3 1E-08	1.4E-08
Nitroaniline, 2-	NA	0 00005	1 4E-05	6.7E-06	E3 max	NT	NT	NT	NT	1 2E-05	4 4E-05	2 7E-05	1.2E-05
Nitroaniline, 3-	NF	NF	NF	6 7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E3 max	6.2E-07	2 2E-11	5 4E-11	3.3E-11	4 8E-11	1.7E-10	6.3E-10	3 8E-10	1.7E-10
Nitrobenzene	NA	0.0005	1 4E-04	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4 0E-11	1.4E-10	5 2E-10	3 1E-10	1 4E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E3 max	6.2E-07	2.2E-11	5 4E-11	3.3E-11	4 8E-11	1 7E-10	6.3E-10	3 8E-10	1.7E-10
Nitrophenol, 4-	NF	NF	NF	5 5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4 0E-11	1 4E-10	5.2E-10	3 1E-10	1.4E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E3 max	1.1E-05	3.9E-10	9.8E-10	5.9E-10	8 7E-10	3 0E-09	1.1E-08	6 9E-09	3 0E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1 7E-10	6.3E-10	3 8E-10	1.7E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	6.3E-10	3 8E-10	1.7E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	1.3E-09	4.5E-14	1.1E-13	6.8E-14	1 0E-13	3 5E-13	1.3E-12	8 0E-13	3.5E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	1.3E-09	4.5E-14	1.1E-13	6.8E-14	1.0E-13	3 5E-13	1.3E-12	8 0E-13	3.5E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	E3 max	4.4E-06	1.5E-10	3.8E-10	2 3E-10	3.4E-10	1.2E-09	4.5E-09	2.7E-09	1 2E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	1.3E-09	4.5E-14	1.1E-13	6.8E-14	1.0E-13	3 5E-13	1.3E-12	8.0E-13	3.5E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E3 max	3.1E-06	1.1E-10	2.7E-10	1.6E-10	2.4E-10	8 5E-10	3.2E-09	1.9E-09	8.5E-10
Pentachlorophenol	NA	0 02625	7.5E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Phenanthrene	NA	NA	NA	6.7E-06	E3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4 8E-11	1.7E-10	6.3E-10	3.8E-10	1.7E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	E3 max	5.1E-07	1.8E-11	4 4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Pyrene	NA	0 02625	7.5E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E3 max	1 1E-05	3.7E-10	9.3E-10	5.6E-10	8.3E-10	2.9E-09	1.1E-08	6.5E-09	2 9E-09
Styrene	NA	0.25	7 1E-02	2.3E-05	E3 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	1.3E-09	4.5E-14	1.1E-13	6.8E-14	1.0E-13	3.5E-13	1.3E-12	8 0E-13	3.5E-13
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7 5E-03	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4 4E-11	2.7E-11	4.0E-11	1 4E-10	5.2E-10	3 1E-10	1.4E-10
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	E3 max	4.7E-06	1.7E-10	4.1E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2.9E-09	1.3E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E3 max	6.3E-07	2.2E-11	5.5E-11	3.3E-11	4.9E-11	1.7E-10	6.4E-10	3 9E-10	1.7E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	E3 max	5.6E-05	2.0E-09	4.9E-09	3.0E-09	4.4E-09	1.5E-08	5.8E-08	3 5E-08	1.5E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2 1E+00	3.3E-04	E3 max	3.0E-05	1.1E-09	2.7E-09	1.6E-09	2.4E-09	8.3E-09	3.1E-08	1.9E-08	8.3E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E3 max	2.8E-09	9.8E-14	2.4E-13	1.5E-13	2.2E-13	7.6E-13	2.8E-12	1 7E-12	7.6E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E3 max	1.2E-06	4.0E-11	1.0E-10	6.1E-11	9.0E-11	3.1E-10	1.2E-09	7 1E-10	3.1E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E3 max	1.2E-06	4.0E-11	1.0E-10	6.1E-11	9.0E-11	3.1E-10	1.2E-09	7.1E-10	3.1E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E3 max	1.7E-06	6.0E-11	1.5E-10	9.1E-11	1.3E-10	4 7E-10	1.8E-09	1 1E-09	4.7E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E3 max	2.3E-05	7.9E-10	2.0E-09	1.2E-09	1.8E-09	6.2E-09	2.3E-08	1 4E-08	6.2E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1.4E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E3 max	5.9E-06	2.1E-10	5.2E-10	3.1E-10	4.6E-10	1.6E-09	6.1E-09	3 7E-09	1.6E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E3 max	2.3E-05	7.9E-10	2.0E-09	1.2E-09	1.8E-09	6.2E-09	2.3E-08	1 4E-08	6.2E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E3 max	3 5E-05	1.2E-09	3 1E-09	1.9E-09	2 7E-09	9 6E-09	3.6E-08	2 2E-08	9.6E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3.1E-10	1.4E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E3 max	9 9E-13	3.5E-17	8.7E-17	5 3E-17	7 8E-17	2.7E-16	1 0E-15	6 1E-16	2.7E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E3 max	6.2E-12	2.2E-16	5 5E-16	3.3E-16	4.9E-16	1.7E-15	6 4E-15	3 9E-15	1 7E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E3 max	8.2E-12	2.9E-16	7.2E-16	4 4E-16	6 4E-16	2 3E-15	8 4E-15	5 1E-15	2 3E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	E3 max	1.5E-11	5.4E-16	1.3E-15	8 1E-16	1 2E-15	4 2E-15	1 6E-14	9 4E-15	4 2E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	E3 max	1.0E-11	3 5E-16	8 8E-16	5 3E-16	7 8E-16	2 7E-15	1 0E-14	6 2E-15	2 7E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	E3 max	1 1E-10	4 0E-15	1 0E-14	6 0E-15	8 9E-15	3 1E-14	1 2E-13	7 1E-14	3 1E-14
OCDD	1.5E+02	NA	NA	6.15E-09	E3 max	5 7E-10	2 0E-14	5 0E-14	3 0E-14	4 4E-14	1 5E-13	5 8E-13	3 5E-13	1 5E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	E3 max	8 1E-12	2 8E-16	7 1E-16	4 3E-16	6 3E-16	2 2E-15	8 3E-15	5 0E-15	2 2E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	E3 max	3 2E-11	1 1E-15	2 8E-15	1 7E-15	2 5E-15	8 7E-15	3 2E-14	2 0E-14	8 7E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E3 max	4.3E-11	1 5E-15	3 8E-15	2 3E-15	3 4E-15	1 2E-14	4 4E-14	2 7E-14	1 2E-14
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	E3 max	1.3E-10	4 6E-15	1 2E-14	7 0E-15	1 0E-14	3 6E-14	1 3E-13	8 1E-14	3 6E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	E3 max	1 2E-10	4 3E-15	1 1E-14	6 5E-15	9 6E-15	3 4E-14	1 3E-13	7 6E-14	3 4E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E3 max	1 4E-10	4 9E-15	1.2E-14	7 3E-15	1 1E-14	3 8E-14	1 4E-13	8 6E-14	3 8E-14

TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0 0005	1.4E-04	5.5E-06	E3 max	NT	NT	NT	NT	9 7E-07	3.6E-06	2.2E-06	9.7E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E3 max	2.1E-09	5.3E-09	3.2E-09	4.7E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E3 max	NT	NT	NT	NT	1 1E-06	4.2E-06	2.6E-06	1 1E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	E3 max	NT	NT	NT	NT	1.8E-08	6.9E-08	4.2E-08	1.8E-08
Phenanthrene	NA	NA	NA	6.7E-06	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	E3 max	NT	NT	NT	NT	9.2E-10	3.5E-09	2.1E-09	9.2E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	E3 max	NT	NT	NT	NT	1.8E-08	6.9E-08	4.2E-08	1.8E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1 2E-04	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	E3 max	NT	NT	NT	NT	7.9E-09	3.0E-08	1.8E-08	7.9E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	E3 max	4 6E-13	1.1E-12	6.9E-13	1.0E-12	1.8E-08	6.9E-08	4.2E-08	1.8E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	E3 max	3.6E-12	9.0E-12	5.4E-12	8.0E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	E3 max	3.4E-13	8.4E-13	5.1E-13	7.5E-13	5.2E-07	1.9E-06	1.2E-06	5.2E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E3 max	NT	NT	NT	NT	2.3E-08	8.5E-08	5.2E-08	2.3E-08
Toluene	NA	0 1	2.9E-02	6.1E-04	E3 max	NT	NT	NT	NT	5.4E-07	2.0E-06	1.2E-06	5.4E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E3 max	NT	NT	NT	NT	3.9E-09	1.4E-08	8.8E-09	3.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	E3 max	NT	NT	NT	NT	9.7E-09	3.6E-08	2.2E-08	9.7E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	E3 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	E3 max	NT	NT	NT	NT	4.4E-09	1.6E-08	1.0E-08	4.4E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	E3 max	2.3E-12	5.7E-12	3.5E-12	5.1E-12	3.1E-07	1.2E-06	7.1E-07	3.1E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	E3 max	3.6E-13	9.0E-13	5.4E-13	8.0E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	E3 max	NT	NT	NT	NT	1.2E-07	4.6E-07	2.8E-07	1.2E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	E3 max	NT	NT	NT	NT	5.5E-09	2.1E-08	1.3E-08	5.5E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	E3 max	1.8E-13	4.4E-13	2.7E-13	4.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E3 max	NT	NT	NT	NT	1.1E-07	4.2E-07	2.6E-07	1.1E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	E3 max	2.4E-10	5.9E-10	3.6E-10	5.3E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	E3 max	NT	NT	NT	NT	1.9E-08	7.2E-08	4.3E-08	1.9E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	E3 max	NT	NT	NT	NT	2.8E-10	1.0E-09	6.3E-10	2.8E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	E3 max	5.2E-12	1.3E-11	7.9E-12	1.2E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	E3 max	1.6E-11	4.1E-11	2.5E-11	3.7E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	E3 max	4 3E-12	1.1E-11	6.5E-12	9 7E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	E3 max	8.0E-12	2.0E-11	1 2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	E3 max	5.3E-12	1.3E-11	8.0E-12	1 2E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	E3 max	6 0E-12	1.5E-11	9.1E-12	1 3E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	E3 max	3.0E-12	7.4E-12	4.5E-12	6 6E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	E3 max	4.3E-12	1.1E-11	6 4E-12	9 5E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	E3 max	8 4E-12	2.1E-11	1.3E-11	1 9E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	E3 max	1.1E-10	2.8E-10	1 7E-10	2 5E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	E3 max	6 9E-11	1 7E-10	1 0E-10	1 5E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	E3 max	6.5E-11	1 6E-10	9 8E-11	1 4E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	E3 max	7.3E-11	1.8E-10	1 1E-10	1 6E-10	NT	NT	NT	NT

TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E3 max	2.7E-11	9.5E-16	2.4E-15	1.4E-15	2 1E-15	7.4E-15	2.8E-14	1.7E-14	7.4E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9 30E-09	E3 max	8 6E-10	3.0E-14	7.5E-14	4 5E-14	6 7E-14	2 3E-13	8.8E-13	5 3E-13	2 3E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E3 max	1.1E-10	4.0E-15	9 9E-15	6 0E-15	8 8E-15	3 1E-14	1.1E-13	6 9E-14	3 1E-14
OCDF	1.5E+02	NA	NA	1.89E-08	E3 max	1.7E-09	6.1E-14	1 5E-13	9 2E-14	1.4E-13	4.8E-13	1.8E-12	1.1E-12	4.8E-13
Dioxin TEQ				4.28E-08			1.4E-13	3 5E-13	2.1E-13	3.1E-13	1.1E-12	4 0E-12	2.4E-12	1.1E-12
Aluminum	NA	NA	NA	2.4E-04	E3 max	2.2E-05	7.8E-10	1.9E-09	1.2E-09	1.7E-09	6.0E-09	2.3E-08	1 4E-08	6 0E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	E3 max	3.9E-07	1.4E-11	3.4E-11	2.0E-11	3.0E-11	1.1E-10	4.0E-10	2.4E-10	1.1E-10
Arsenic	50	0 000263	7.5E-05	3.7E-05	E3 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.3E-10	3.5E-09	2.1E-09	9 3E-10
Barium	NA	0.000125	3.6E-05	1.5E-04	E3 max	1.4E-05	4.9E-10	1.2E-09	7.3E-10	1.1E-09	3.8E-09	1.4E-08	8 5E-09	3.8E-09
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	E3 max	3.0E-09	1.1E-13	2.7E-13	1.6E-13	2.4E-13	8.3E-13	3 1E-12	1.9E-12	8 3E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	E3 max	1.5E-06	5.2E-11	1.3E-10	7.8E-11	1.2E-10	4 0E-10	1 5E-09	9.1E-10	4.0E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	E3 max	6.5E-08	2.3E-12	5.7E-12	3.5E-12	5.1E-12	1.8E-11	6.7E-11	4 0E-11	1 8E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E3 max	6.5E-08	2.3E-12	5.7E-12	3.5E-12	5.1E-12	1.8E-11	6 7E-11	4 0E-11	1 8E-11
Copper	NA	NA	NA	9.4E-05	E3 max	8.6E-06	3.0E-10	7.6E-10	4.6E-10	6.8E-10	2.4E-09	8.8E-09	5 3E-09	2 4E-09
Lead	NA	NA	NA	4.3E-05	E3 max	4.0E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2 4E-09	1 1E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E3 max	1.3E-04	4.5E-09	1.1E-08	6 8E-09	1.0E-08	3 5E-08	1 3E-07	8 0E-08	3 5E-08
Nickel	0.84	0.0175	5 0E-03	5.0E-06	E3 max	4.6E-07	1.6E-11	4.0E-11	2 4E-11	3.6E-11	1 3E-10	4.7E-10	2 8E-10	1 3E-10
Selenium	NA	0 004375	1 3E-03	4.7E-04	E3 max	4.3E-05	1.5E-09	3.8E-09	2.3E-09	3.4E-09	1.2E-08	4.4E-08	2 7E-08	1.2E-08
Silver	NA	0 004375	1 3E-03	1.5E-05	E3 max	1.4E-06	4.9E-11	1.2E-10	7.3E-11	1.1E-10	3.8E-10	1.4E-09	8 5E-10	3 8E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	E3 max	3.1E-06	1.1E-10	2.7E-10	1.7E-10	2.4E-10	8.6E-10	3.2E-09	1 9E-09	8.6E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	E3 max	1.1E-05	3.9E-10	9.7E-10	5.9E-10	8.6E-10	3.0E-09	1.1E-08	6.8E-09	3 0E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E3 max	2.9E-03	1.0E-07	2.6E-07	1.6E-07	2.3E-07	8.1E-07	3.0E-06	1 8E-06	8 1E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E3 max	2.2E-01	7.8E-06	2.0E-05	1.2E-05	1.7E-05	6.1E-05	2.3E-04	1 4E-04	6.1E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E3 max	8.4E-03	2.9E-07	7.3E-07	4.4E-07	6.6E-07	2.3E-06	8.6E-06	5 2E-06	2.3E-06
Particulate matter	NA	NA	NA	7.2E-02	E3 max	6.6E-03	2.3E-07	5 8E-07	3.5E-07	5.2E-07	1.8E-06	6.8E-06	4 1E-06	1 8E-06
Respirable particulates	NF	NF	NF	7.2E-02	E3 max	6.6E-03	2.3E-07	5.8E-07	3.5E-07	5.2E-07	1.8E-06	6.8E-06	4.1E-06	1.8E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

External Review Draft, Do Not Cite or Quote

TABLE 15 Maximum Inhalation Risks and Noncancer HQs in Subarea E3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	E3 max	1.4E-11	3.5E-11	2 1E-11	3 2E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	E3 max	4.5E-11	1.1E-10	6.8E-11	1.0E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	E3 max	5.9E-12	1.5E-11	8.9E-12	1.3E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	E3 max	9.2E-12	2.3E-11	1 4E-11	2.0E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		4.6E-10	1.1E-09	6.9E-10	1.0E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	E3 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	E3 max	NT	NT	NT	NT		1.1E-06	4.0E-06	2.4E-06	1.1E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	E3 max	6.0E-09	1.5E-08	9 0E-09	1.3E-08		1.2E-05	4.6E-05	2.8E-05	1.2E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	E3 max	NT	NT	NT	NT		1.1E-04	4.0E-04	2.4E-04	1.1E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	E3 max	9.0E-13	2.2E-12	1 4E-12	2.0E-12		6.7E-10	2.5E-09	1.5E-09	6.7E-10
Cadmium	6.1	0.000438	1 3E-04	1.6E-05	E3 max	3.2E-10	7.9E-10	4.8E-10	7.0E-10		3.2E-06	1.2E-05	7.3E-06	3.2E-06
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	E3 max	9.4E-11	2.3E-10	1.4E-10	2.1E-10		1.4E-08	5.3E-08	3.2E-08	1.4E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E3 max	NT	NT	NT	NT		7.2E-11	2.7E-10	1.6E-10	7.2E-11
Copper	NA	NA	NA	9.4E-05	E3 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	E3 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E3 max	NT	NT	NT	NT		1.6E-03	6.2E-03	3.7E-03	1 6E-03
Nickel	0.84	0.0175	5 0E-03	5.0E-06	E3 max	1.4E-11	3.4E-11	2.0E-11	3.0E-11		2 5E-08	9.4E-08	5.7E-08	2.5E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	E3 max	NT	NT	NT	NT		9.5E-06	3.5E-05	2.1E-05	9 5E-06
Silver	NA	0.004375	1.3E-03	1.5E-05	E3 max	NT	NT	NT	NT		3.0E-07	1.1E-06	6.8E-07	3.0E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	E3 max	NT	NT	NT	NT		4.9E-05	1.8E-04	1.1E-04	4.9E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	E3 max	NT	NT	NT	NT		4.0E-08	1.5E-07	9.1E-08	4.0E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E3 max	NT	NT	NT	NT		1.6E-03	6.0E-03	3.8E-03	1.6E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E3 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E3 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	E3 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	E3 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.0E-08	2.5E-08	1.5E-08	2.2E-08					
										Total HI	3.9E-03	1.5E-02	8.8E-03	3.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7 0E-10	2 6E-09	1 6E-09	7 0E-10
Acenaphthylene	NF	NF	NF	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2 0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	N1 max	1 1E-04	4.0E-09	1.0E-08	6 1E-09	8.9E-09	3 1E-08	1.2E-07	7.1E-08	3.1E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	N1 max	1 1E-03	3.9E-08	9.7E-08	5 8E-08	8.6E-08	3 0E-07	1.1E-06	6 8E-07	3.0E-07
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	N1 max	1.1E-04	3 9E-09	9.8E-09	5 9E-09	8 7E-09	3.0E-08	1.1E-07	6 9E-08	3 0E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N1 max	7.7E-05	2.7E-09	6.7E-09	4.1E-09	6.0E-09	2.1E-08	7.9E-08	4 7E-08	2.1E-08
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5:7E-10	2.1E-09	1 3E-09	5 7E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N1 max	5.6E-06	2.0E-10	4.9E-10	3.0E-10	4.4E-10	1.5E-09	5.7E-09	3 5E-09	1.5E-09
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N1 max	4 3E-06	1.5E-10	3.8E-10	2.3E-10	3.4E-10	1.2E-09	4.4E-09	2 7E-09	1 2E-09
Benzotrichloride	NA	NA	NA	3.2E-05	N1 max	1.2E-05	4.3E-10	1.1E-09	6.4E-10	9.5E-10	3.3E-09	1.2E-08	7 5E-09	3.3E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5 7E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5 7E-10	2.1E-09	1 3E-09	5.7E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1 3E-09	5 7E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7 0E-10	2.6E-09	1 6E-09	7.0E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N1 max	5.1E-06	1.8E-10	4.4E-10	2.7E-10	4 0E-10	1.4E-09	5.2E-09	3 1E-09	1 4E-09
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7 0E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	N1 max	1 4E-05	5.0E-10	1.2E-09	7.5E-10	1 1E-09	3.9E-09	1.4E-08	8 7E-09	3 9E-09
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	N1 max	3 9E-05	1.4E-09	3.4E-09	2.1E-09	3.1E-09	1.1E-08	4.0E-08	2 4E-08	1.1E-08
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N1 max	1 9E-04	6.6E-09	1.6E-08	9.9E-09	1.5E-08	5.1E-08	1.9E-07	1 2E-07	5.1E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N1 max	2.0E-05	6.9E-10	1.7E-09	1.0E-09	1.5E-09	5.4E-09	2 0E-08	1 2E-08	5 4E-09
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N1 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.3E-09	3.5E-08	2 1E-08	9.3E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N1 max	6.0E-05	2.1E-09	5.3E-09	3.2E-09	4 7E-09	1.6E-08	6.2E-08	3.7E-08	1.6E-08
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N1 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2 1E-10	1 3E-10	5 7E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N1 max	1.4E-05	4.9E-10	1.2E-09	7.4E-10	1.1E-09	3.8E-09	1.4E-08	8 6E-09	3.8E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N1 max	1.9E-04	6.6E-09	1.6E-08	9.9E-09	1.5E-08	5.1E-08	1.9E-07	1 2E-07	5.1E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N1 max	1.0E-04	3.6E-09	8.9E-09	5.4E-09	7.9E-09	2 8E-08	1.0E-07	6 3E-08	2 8E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	N1 max	9.3E-05	3.3E-09	8.2E-09	4.9E-09	7.3E-09	2.5E-08	9 5E-08	5 6E-08	2.5E-08
Chloronaphthalene, beta	NA	0.07	2.0E-02	6 7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7 0E-10	2.6E-09	1 6E-09	7.0E-10
Chlorophenol, 2-	NA	0.004375	1 3E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1 1E-10	1.6E-10	5.7E-10	2 1E-09	1 3E-09	5.7E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1 3E-10	2.0E-10	7 0E-10	2 6E-09	1 6E-09	7.0E-10
Chrysene	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2 1E-09	1 3E-09	5.7E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1 1E-10	1.6E-10	5.7E-10	2 1E-09	1.3E-09	5 7E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	N1 max	5 3E-05	1.9E-09	4 6E-09	2 8E-09	4 1E-09	1.4E-08	5 4E-08	3 3E-08	1 4E-08
Cumene	NA	0.00225	6.4E-04	5.5E-06	N1 max	2.1E-06	7.4E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	N1 max	2.1E-07	7 4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2 1E-10	1 3E-10	5.7E-11
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	N1 max	2 1E-06	7 4E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	N1 max	1 0E-05	3 5E-10	8 8E-10	5 3E-10	7 8E-10	2 7E-09	1 0E-08	6 2E-09	2 7E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7 4E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	N1 max	2.1E-06	7.4E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	N1 max	2 1E-06	7 4E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N1 max	1 3E-05	4.5E-10	1 1E-09	6 7E-10	9 9E-10	3 5E-09	1 3E-08	7 8E-09	3 5E-09
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N1 max	1 8E-08	6 3E-13	1 6E-12	9 4E-13	1 4E-12	4 9E-12	1 8E-11	1 1E-11	4 9E-12

External Review Draft Do Not Cite or Quote

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N1 max	NT	NT	NT	NT	4 6E-08	1.7E-07	1.0E-07	4.6E-08
Acenaphthylene	NF	NF	NF	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	N1 max	3.1E-11	7.7E-11	4 7E-11	6.9E-11	4 9E-05	1.8E-04	1.1E-04	4 9E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	N1 max	NT	NT	NT	NT	1.2E-05	4.5E-05	2.7E-05	1.2E-05
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	N1 max	NT	NT	NT	NT	1.2E-06	4.6E-06	2.8E-06	1 2E-06
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N1 max	6.4E-10	1.6E-09	9.7E-10	1.4E-09	1.5E-04	5.5E-04	3.3E-04	1.5E-04
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N1 max	NT	NT	NT	NT	7 6E-09	2.9E-08	1.7E-08	7 6E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N1 max	5.7E-12	1.4E-11	8.6E-12	1.3E-11	3.6E-06	1.3E-05	8.1E-06	3 6E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N1 max	NT	NT	NT	NT	1.2E-09	4.4E-09	2.7E-09	1.2E-09
Benzotrichloride	NA	NA	NA	3.2E-05	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N1 max	2.0E-10	4.9E-10	2.9E-10	4.4E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N1 max	NT	NT	NT	NT	7.0E-08	2.6E-07	1.6E-07	7.0E-08
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	N1 max	NT	NT	NT	NT	7.7E-07	2.9E-06	1.7E-06	7.7E-07
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	N1 max	NT	NT	NT	NT	2.1E-06	8.0E-06	4.8E-06	2.1E-06
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	N1 max	2.8E-13	7.1E-13	4.3E-13	6.3E-13	1.1E-07	4.3E-07	2.6E-07	1.1E-07
Bromomethane	NA	0.00125	3 6E-04	4.9E-04	N1 max	NT	NT	NT	NT	1.4E-04	5.3E-04	3.2E-04	1.4E-04
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N1 max	NT	NT	NT	NT	7.5E-08	2.8E-07	1.7E-07	7.5E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N1 max	NT	NT	NT	NT	1.1E-08	4.3E-08	2.6E-08	1.1E-08
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N1 max	NT	NT	NT	NT	1.3E-05	4.9E-05	2.9E-05	1.3E-05
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N1 max	1.1E-10	2.8E-10	1.7E-10	2.5E-10	1.2E-04	4.3E-04	2.6E-04	1.2E-04
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N1 max	9.5E-12	2.4E-11	1.4E-11	2.1E-11	3.8E-06	1.4E-05	8.6E-06	3.8E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N1 max	NT	NT	NT	NT	7.0E-07	2.6E-06	1.6E-06	7.0E-07
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	N1 max	NT	NT	NT	NT	4.0E-07	1.5E-06	9.0E-07	4.0E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N1 max	1.3E-10	3.3E-10	2.0E-10	3.0E-10	7.7E-07	2.9E-06	1.7E-06	7.7E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N1 max	NT	NT	NT	NT	7.1E-08	2.7E-07	1.6E-07	7.1E-08
Chloroform	8 1E-02	0.00875	2.5E-03	2.7E-04	N1 max	2.9E-10	7.1E-10	4.3E-10	6.4E-10	1.1E-05	4.1E-05	2.5E-05	1.1E-05
Chloromethane	6.3E-03	NA	NA	2.5E-04	N1 max	2.1E-11	5.1E-11	3.1E-11	4.6E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N1 max	NT	NT	NT	NT	3.5E-08	1.3E-07	7.9E-08	3.5E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N1 max	NT	NT	NT	NT	4.6E-07	1.7E-06	1.0E-06	4.6E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	N1 max	NT	NT	NT	NT	4 6E-08	1.7E-07	1 0E-07	4.6E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N1 max	NT	NT	NT	NT	4 6E-08	1.7E-07	1.0E-07	4 6E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N1 max	NT	NT	NT	NT	4.6E-07	1.7E-06	1 0E-06	4.6E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	N1 max	NT	NT	NT	NT	8 9E-07	3 3E-06	2 0E-06	8.9E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	N1 max	NT	NT	NT	NT	5 5E-07	2 0E-06	1.2E-06	5.5E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	N1 max	NT	NT	NT	NT	1 0E-08	3 7E-08	2 3E-08	1 0E-08
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	N1 max	NT	NT	NT	NT	4 0E-08	1 5E-07	9.0E-08	4.0E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	N1 max	9 3E-05	3.3E-09	8.2E-09	4.9E-09	7 3E-09	2 5E-08	9.5E-08	5 8E-08	2.5E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N1 max	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1 3E-09	4.9E-09	2 9E-09	1.3E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N1 max	4.8E-06	1.7E-10	4.2E-10	2 5E-10	3.7E-10	1 3E-09	4.9E-09	2 9E-09	1 3E-09
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N1 max	4.8E-06	1.7E-10	4 2E-10	2 5E-10	3.7E-10	1.3E-09	4.9E-09	2 9E-09	1.3E-09
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N1 max	4.8E-06	1.7E-10	4 2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2 9E-09	1.3E-09
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N1 max	2.1E-06	7.4E-11	1 8E-10	1 1E-10	1.6E-10	5 7E-10	2.1E-09	1 3E-09	5.7E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N1 max	4 8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2 9E-09	1.3E-09
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 max	4.8E-06	1.7E-10	4.2E-10	2 5E-10	3.7E-10	1.3E-09	4 9E-09	2.9E-09	1.3E-09
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 max	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3 7E-10	1.3E-09	4.9E-09	2 9E-09	1.3E-09
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N1 max	6.4E-06	2.3E-10	5.6E-10	3.4E-10	5.0E-10	1.8E-09	6 6E-09	4 0E-09	1 8E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N1 max	4.4E-05	1.5E-09	3.8E-09	2 3E-09	3.4E-09	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N1 max	5.9E-06	2.1E-10	5.2E-10	3.2E-10	4 7E-10	1 6E-09	6.1E-09	3.7E-09	1.6E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1 6E-10	5 7E-10	2.1E-09	1.3E-09	5.7E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5 7E-10	2.1E-09	1 3E-09	5.7E-10
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5 7E-10	2.1E-09	1.3E-09	5.7E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N1 max	1.9E-04	6.6E-09	1.6E-08	1.0E-08	1.5E-08	5 1E-08	1.9E-07	1.2E-07	5.1E-08
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
D, 2,4-	NA	0.00875	2 5E-03	3.9E-05	N1 max	1.5E-05	5.2E-10	1.3E-09	7.8E-10	1.2E-09	4.0E-09	1.5E-08	9.1E-09	4.0E-09
Ethyl methacrylate	NA	0.07875	2 3E-02	2.5E-04	N1 max	9.3E-05	3.3E-09	8.2E-09	4.9E-09	7.3E-09	2.5E-08	9.5E-08	5.8E-08	2.5E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N1 max	1.9E-04	6.7E-09	1.7E-08	1.0E-08	1.5E-08	5.2E-08	1.9E-07	1.2E-07	5.2E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N1 max	4.4E-05	1.5E-09	3.8E-09	2.3E-09	3.4E-09	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N1 max	1.2E-05	4.1E-10	1.0E-09	6.1E-10	9.1E-10	3.2E-09	1.2E-08	7 2E-09	3.2E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N1 max	5.5E-11	2.0E-15	4.9E-15	2.9E-15	4.3E-15	1.5E-14	5.7E-14	3.4E-14	1.5E-14
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5 7E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1.6E-09	7.0E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N1 max	2.3E-04	8.1E-09	2.0E-08	1.2E-08	1.8E-08	6.3E-08	2.4E-07	1.4E-07	6.3E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N1 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	5.3E-09	1.9E-13	4.7E-13	2.8E-13	4.2E-13	1.5E-12	5.4E-12	3 3E-12	1.5E-12
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	5.3E-09	1.9E-13	4.7E-13	2.8E-13	4.2E-13	1.5E-12	5 4E-12	3 3E-12	1.5E-12
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N1 max	3.8E-05	1.4E-09	3.4E-09	2.0E-09	3.0E-09	1.1E-08	3.9E-08	2 4E-08	1.1E-08
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N1 max	2.1E-05	7.3E-10	1.8E-09	1.1E-09	1 6E-09	5.7E-09	2.1E-08	1.3E-08	5.7E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5.7E-10
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5 5E-06	N1 max	2.1E-06	7.4E-11	1 8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N1 max	1.2E-05	4.3E-10	1.1E-09	6.4E-10	9 5E-10	3 3E-09	1 2E-08	7 5E-09	3 3E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	N1 max	2.4E-05	8.6E-10	2 1E-09	1 3E-09	1 9E-09	6 7E-09	2 5E-08	1.5E-08	6.7E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N1 max	2.1E-06	7 4E-11	1 8E-10	1.1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Isophorone	NA	0.175	5 0E-02	6.7E-06	N1 max	2 5E-06	9 0E-11	2 2E-10	1 3E-10	2 0E-10	7 0E-10	2 6E-09	1 6E-09	7 0E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	N1 max	4.4E-05	1.5E-09	3 8E-09	2 3E-09	3 4E-09	1 2E-08	4 5E-08	2 7E-08	1 2E-08
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	N1 max	2.1E-07	7.4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2 1E-10	1 3E-10	5.7E-11
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	N1 max	4 8E-06	1.7E-10	4 2E-10	2 5E-10	3 7E-10	1 3E-09	4 9E-09	2 9E-09	1 3E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5 7E-03	1.3E-05	N1 max	4 8E-06	1.7E-10	4 2E-10	2 5E-10	3 7E-10	1 3E-09	4 9E-09	2 9E-09	1 3E-09
Methylene chloride	1 6E-03	0.75	2.1E-01	4 0E-04	N1 max	1.5E-04	5 3E-09	1 3E-08	8 0E-09	1 2E-08	4 1E-08	1 5E-07	9 3E-08	4 1E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	N1 max	1.6E-05	5 6E-10	1 4E-09	8 4E-10	1 2E-09	4 4E-09	1 6E-08	9 8E-09	4 4E-09
Monochlorobiphenyl	NA	NA	NA	1 7E-08	N1 max	6 3E-09	2 2E-13	5 6E-13	3 4E-13	5 0E-13	1 7E-12	6 5E-12	3 9E-12	1 7E-12
Naphthalene	NA	0.035	1 0E-02	5.5E-06	N1 max	2 1E-06	7 4E-11	1 8E-10	1 1E-10	1 6E-10	5 7E-10	2 1E-09	1 3E-09	5 7E-10
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	N1 max	2 5E-06	9 0E-11	2 2E-10	1 3E-10	2 0E-10	7 0E-10	2 6E-09	1 6E-09	7 0E-10
Nitroaniline, 3-	NF	NF	NF	6 7E-06	N1 max	2 5E-06	9 0E-11	2 2E-10	1 3E-10	2 0E-10	7 0E-10	2 6E-09	1 6E-09	7 0E-10

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N1 max	NT	NT	NT	NT	1.8E-06	6.7E-06	4.0E-06	1 8E-06
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N1 max	NT	NT	NT	NT	3 6E-08	1.4E-07	8.2E-08	3 6E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N1 max	1.5E-11	3.8E-11	2 3E-11	3 4E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2 3E-03	1.3E-05	N1 max	2.0E-10	5.0E-10	3.0E-10	4.5E-10	5 8E-07	2 2E-06	1.3E-06	5.8E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N1 max	NT	NT	NT	NT	2.6E-07	9.7E-07	5.9E-07	2 6E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N1 max	NT	NT	NT	NT	7.6E-07	2.9E-06	1.7E-06	7.6E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N1 max	NT	NT	NT	NT	4 6E-06	1.7E-05	1.0E-05	4.6E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 max	2.2E-11	5.4E-11	3.3E-11	4 8E-11	9.1E-07	3.4E-06	2.1E-06	9.1E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N1 max	2.2E-11	5.4E-11	3.3E-11	4.8E-11	9 1E-07	3.4E-06	2.1E-06	9.1E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N1 max	NT	NT	NT	NT	8.8E-09	3.3E-08	2.0E-08	8.8E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N1 max	NT	NT	NT	NT	1.1E-07	4.3E-07	2.6E-07	1.1E-07
Dimethylphthalate	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N1 max	NT	NT	NT	NT	6 5E-08	2.4E-07	1.5E-07	6.5E-08
Dinitrotoluene, 2,6-	NA	0 000875	2.5E-04	5.5E-06	N1 max	NT	NT	NT	NT	2.3E-06	8.6E-06	5.2E-06	2.3E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	N1 max	NT	NT	NT	NT	1.1E-06	4.3E-06	2.6E-06	1.1E-06
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N1 max	NT	NT	NT	NT	1.1E-06	4.3E-06	2.6E-06	1.1E-06
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	N1 max	NT	NT	NT	NT	1.1E-07	4.3E-07	2.6E-07	1.1E-07
D, 2,4-	NA	0 00875	2.5E-03	3.9E-05	N1 max	NT	NT	NT	NT	1.6E-06	6.0E-06	3.6E-06	1.6E-06
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N1 max	NT	NT	NT	NT	1.1E-06	4.2E-06	2.6E-06	1.1E-06
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N1 max	NT	NT	NT	NT	7.3E-07	2.7E-06	1.6E-06	7.3E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N1 max	1.2E-09	2 9E-09	1.8E-09	2.6E-09	8.4E-04	3.1E-03	1.9E-03	8.4E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N1 max	1.4E-10	3.6E-10	2.2E-10	3.2E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N1 max	NT	NT	NT	NT	7.6E-10	2.8E-09	1.7E-09	7.6E-10
Fluoranthene	NA	0 035	1.0E-02	5.5E-06	N1 max	NT	NT	NT	NT	5.7E-08	2.1E-07	1.3E-07	5.7E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	N1 max	NT	NT	NT	NT	7.0E-08	2.6E-07	1.6E-07	7.0E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N1 max	3.7E-10	9.1E-10	5.5E-10	8.1E-10	1.3E-06	4.7E-06	2.9E-06	1.3E-06
Furfural	NA	0.0125	3.6E-03	5.5E-06	N1 max	NT	NT	NT	NT	1.6E-07	6.0E-07	3.6E-07	1.6E-07
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N1 max	3.3E-11	8.2E-11	5.0E-11	7.4E-11	4.6E-07	1.7E-06	1.0E-06	4.6E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N1 max	1.2E-10	3.0E-10	1.8E-10	2.6E-10	2.9E-06	1.1E-05	6.5E-06	2.9E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	N1 max	1.1E-10	2.6E-10	1.6E-10	2.3E-10	2.1E-04	7.9E-04	4.7E-04	2.1E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N1 max	NT	NT	NT	NT	7.6E-05	2.8E-04	1.7E-04	7.6E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N1 max	NT	NT	NT	NT	1 1E-04	4 3E-04	2.6E-04	1.1E-04
Hexachloroethane	1:4E-02	0.000875	2.5E-04	5.5E-06	N1 max	1.0E-12	2.6E-12	1.6E-12	2.3E-12	2.3E-06	8.6E-06	5 2E-06	2.3E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N1 max	NT	NT	NT	NT	4.4E-05	1.7E-04	1.0E-04	4.4E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	N1 max	NT	NT	NT	NT	1.4E-08	5 2E-08	3 1E-08	1.4E-08
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	N1 max	NT	NT	NT	NT	9 6E-08	3.6E-07	2 2E-07	9 6E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	N1 max	NT	NT	NT	NT	4 6E-08	1 7E-07	1 0E-07	4 6E-08
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	N1 max	NT	NT	NT	NT	6 1E-09	2 3E-08	1.4E-08	6 1E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	N1 max	NT	NT	NT	NT	2 3E-07	8 5E-07	5 1E-07	2 3E-07
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	N1 max	8.7E-12	2.2E-11	1 3E-11	1.9E-11	1 9E-07	7 2E-07	4 3E-07	1 9E-07
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5 5E-06	N1 max	NT	NT	NT	NT	5 7E-08	2 1E-07	1 3E-07	5 7E-08
Nitroaniline, 2-	NA	0 00005	1.4E-05	6.7E-06	N1 max	NT	NT	NT	NT	4 9E-05	1 8E-04	1.1E-04	4.9E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6 7E-06	N1 max	2.5E-06	9 0E-11	2 2E-10	1.3E-10	2.0E-10	7 0E-10	2.6E-09	1 6E-09	7.0E-10
Nitrobenzene	NA	0.0005	1.4E-04	5 5E-06	N1 max	2.1E-06	7 4E-11	1.8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1 3E-09	5 7E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N1 max	2.5E-06	9 0E-11	2.2E-10	1.3E-10	2 0E-10	7.0E-10	2.6E-09	1 6E-09	7 0E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N1 max	2.1E-06	7.4E-11	1 8E-10	1.1E-10	1 6E-10	5 7E-10	2.1E-09	1 3E-09	5.7E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N1 max	4.6E-05	1.6E-09	4.0E-09	2 4E-09	3.6E-09	1.3E-08	4 7E-08	2 8E-08	1.3E-08
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	5.3E-09	1.9E-13	4.7E-13	2.8E-13	4.2E-13	1.5E-12	5.4E-12	3.3E-12	1.5E-12
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	5.3E-09	1.9E-13	4.7E-13	2.8E-13	4.2E-13	1.5E-12	5 4E-12	3.3E-12	1.5E-12
Pentachlorobenzene	NA	NA	NA	4.8E-05	N1 max	1.8E-05	6.4E-10	1.6E-09	9.6E-10	1.4E-09	5.0E-09	1.9E-08	1.1E-08	5.0E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	5.3E-09	1.9E-13	4.7E-13	2.8E-13	4 2E-13	1.5E-12	5.4E-12	3.3E-12	1 5E-12
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N1 max	1.3E-05	4.5E-10	1.1E-09	6 8E-10	1.0E-09	3.5E-09	1.3E-08	7.9E-09	3 5E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
Phenanthrene	NA	NA	NA	6.7E-06	N1 max	2.5E-06	9.0E-11	2.2E-10	1.3E-10	2.0E-10	7.0E-10	2.6E-09	1 6E-09	7.0E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1 6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N1 max	4.4E-05	1.5E-09	3.8E-09	2.3E-09	3.4E-09	1.2E-08	4.5E-08	2 7E-08	1 2E-08
Styrene	NA	0.25	7.1E-02	2.3E-05	N1 max	8.6E-06	3.0E-10	7.5E-10	4.5E-10	6.7E-10	2.3E-09	8.7E-09	5 3E-09	2.3E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	5.3E-09	1.9E-13	4 7E-13	2 8E-13	4 2E-13	1 5E-12	5.4E-12	3 3E-12	1 5E-12
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5 7E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Tetrachloroethene	2 0E-03	0.00875	2.5E-03	5.1E-05	N1 max	1.9E-05	6.9E-10	1.7E-09	1.0E-09	1.5E-09	5.3E-09	2.0E-08	1 2E-08	5.3E-09
Tetrachlorophenol, 2,3,4,6-	NA	0 02625	7.5E-03	6.8E-06	N1 max	2.6E-06	9.1E-11	2.3E-10	1.4E-10	2.0E-10	7.1E-10	2.6E-09	1 6E-09	7.1E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	N1 max	2.3E-04	8.2E-09	2.0E-08	1.2E-08	1.8E-08	6.4E-08	2.4E-07	1 4E-07	6.4E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N1 max	1.3E-04	4.4E-09	1.1E-08	6.6E-09	9.8E-09	3.4E-08	1.3E-07	7 8E-08	3 4E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5.7E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N1 max	1.1E-08	4.0E-13	1.0E-12	6.1E-13	9.0E-13	3.1E-12	1.2E-11	7 1E-12	3.1E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N1 max	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2.9E-09	1.3E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N1 max	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2 9E-09	1 3E-09
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N1 max	7.1E-06	2.5E-10	6.2E-10	3.8E-10	5.5E-10	1.9E-09	7.2E-09	4.4E-09	1 9E-09
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N1 max	9.3E-05	3.3E-09	8.2E-09	4.9E-09	7.3E-09	2.5E-08	9.5E-08	5 8E-08	2.5E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2 1E-09	1 3E-09	5.7E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5 7E-10	2 1E-09	1.3E-09	5.7E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N1 max	2.4E-05	8.6E-10	2.1E-09	1.3E-09	1.9E-09	6.7E-09	2.5E-08	1.5E-08	6.7E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N1 max	9.3E-05	3.3E-09	8.2E-09	4.9E-09	7.3E-09	2 5E-08	9.5E-08	5 8E-08	2 5E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N1 max	1.4E-04	5.1E-09	1.3E-08	7 7E-09	1.1E-08	4 0E-08	1.5E-07	8 9E-08	4 0E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N1 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1.3E-09	5.7E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N1 max	4 1E-12	1.4E-16	3.6E-16	2.2E-16	3 2E-16	1.1E-15	4 2E-15	2 5E-15	1 1E-15
1,2,3,7,8-PCDD	7 5E+04	NA	NA	6.78E-11	N1 max	2.6E-11	9 1E-16	2 3E-15	1.4E-15	2.0E-15	7 1E-15	2 6E-14	1 6E-14	7 1E-15
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	8.95E-11	N1 max	3 4E-11	1 2E-15	3.0E-15	1 8E-15	2 7E-15	9.3E-15	3 5E-14	2.1E-14	9 3E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N1 max	6.3E-11	2 2E-15	5.5E-15	3 3E-15	4 9E-15	1.7E-14	6.4E-14	3 9E-14	1 7E-14
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	N1 max	4.1E-11	1 5E-15	3 6E-15	2 2E-15	3 2E-15	1 1E-14	4 2E-14	2 6E-14	1 1E-14
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	N1 max	4 7E-10	1 7E-14	4 1E-14	2 5E-14	3 7E-14	1 3E-13	4 8E-13	2 9E-13	1 3E-13
OCDD	1 5E+02	NA	NA	6.15E-09	N1 max	2.3E-09	8 2E-14	2 0E-13	1 2E-13	1 8E-13	6 4E-13	2 4E-12	1 4E-12	6 4E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	N1 max	3 3E-11	1 2E-15	2 9E-15	1 8E-15	2 6E-15	9 1E-15	3 4E-14	2 1E-14	9 1E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	N1 max	1 3E-10	4 6E-15	1 1E-14	6 9E-15	1 0E-14	3 6E-14	1 3E-13	8 1E-14	3 6E-14
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	N1 max	1 8E-10	6 2E-15	1 6E-14	9 4E-15	1 4E-14	4 9E-14	1 8E-13	1 1E-13	4 9E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	N1 max	5 4E-10	1 9E-14	4 8E-14	2 9E-14	4 2E-14	1 5E-13	5 5E-13	3 4E-13	1 5E-13
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	N1 max	5.1E-10	1 8E-14	4 4E-14	2 7E-14	4 0E-14	1 4E-13	5 2E-13	3 1E-13	1 4E-13
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1 50E-09	N1 max	5 7E-10	2 0E-14	5.0E-14	3 0E-14	4 5E-14	1 6E-13	5 9E-13	3 5E-13	1 6E-13

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1 4E-04	5.5E-06	N1 max	NT	NT	NT	NT	4.0E-06	1.5E-05	9.0E-06	4.0E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N1 max	8.7E-09	2.2E-08	1.3E-08	1.9E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA.	1.4E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N1 max	NT	NT	NT	NT	4.7E-06	1.7E-05	1.1E-05	4.7E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N1 max	NT	NT	NT	NT	7.6E-08	2.9E-07	1.7E-07	7.6E-08
Phenanthrene	NA	NA	NA	6.7E-06	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1 5E-01	5.5E-06	N1 max	NT	NT	NT	NT	3.6E-09	1.4E-08	8.6E-09	3 8E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N1 max	NT	NT	NT	NT	7.6E-08	2.9E-07	1.7E-07	7.6E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	N1 max	NT	NT	NT	NT	3.3E-08	1.2E-07	7.4E-08	3.3E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	N1 max	1.9E-12	4.7E-12	2.9E-12	4.2E-12	7.6E-08	2.9E-07	1.7E-07	7.6E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	N1 max	1.5E-11	3.7E-11	2.2E-11	3.3E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	N1 max	1.4E-12	3.5E-12	2.1E-12	3.1E-12	2.1E-06	8.0E-06	4.8E-06	2.1E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	N1 max	NT	NT	NT	NT	9.4E-08	3.5E-07	2.1E-07	9.4E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	N1 max	NT	NT	NT	NT	2.2E-06	8.3E-06	5.0E-06	2.2E-06
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2 1E+00	3.3E-04	N1 max	NT	NT	NT	NT	1.6E-06	6.0E-06	3.6E-06	1.6E-06
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N1 max	NT	NT	NT	NT	4.0E-08	1.5E-07	9.0E-08	4.0E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N1 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N1 max	NT	NT	NT	NT	1.8E-08	6.8E-08	4.1E-08	1.8E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1 3E-05	N1 max	9.5E-12	2.4E-11	1.4E-11	2.1E-11	1.3E-06	4.9E-06	2.9E-06	1.3E-06
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N1 max	1.5E-12	3.7E-12	2.2E-12	3.3E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N1 max	NT	NT	NT	NT	5.1E-07	1.9E-06	1.2E-06	5.1E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N1 max	NT	NT	NT	NT	2.3E-08	8.6E-08	5.2E-08	2.3E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N1 max	7.4E-13	1.8E-12	1.1E-12	1.6E-12	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N1 max	NT	NT	NT	NT	4.7E-07	1.8E-06	1.1E-06	4.7E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N1 max	9.8E-10	2.4E-09	1.5E-09	2.2E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N1 max	NT	NT	NT	NT	7 9E-08	3.0E-07	1.8E-07	7.9E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N1 max	NT	NT	NT	NT	1.1E-09	4.3E-09	2 6E-09	1.1E-09
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N1 max	2.2E-11	5.4E-11	3.3E-11	4.8E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N1 max	6.8E-11	1.7E-10	1.0E-10	1.5E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N1 max	1.8E-11	4.5E-11	2.7E-11	4.0E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N1 max	3 3E-11	8.3E-11	5.0E-11	7 4E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N1 max	2.2E-11	5.4E-11	3 3E-11	4 9E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	N1 max	2.5E-11	6 2E-11	3 7E-11	5 5E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	N1 max	1 2E-11	3.1E-11	1 9E-11	2.7E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	N1 max	1 8E-11	4.4E-11	2 6E-11	3 9E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	N1 max	3 5E-11	8 6E-11	5.2E-11	7.7E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N1 max	4.7E-10	1 2E-09	7 0E-10	1 0E-09	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	N1 max	2 9E-10	7.1E-10	4 3E-10	6 4E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	N1 max	2 7E-10	6 7E-10	4 0E-10	6 0E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N1 max	3.0E-10	7.5E-10	4 5E-10	6.7E-10	NT	NT	NT	NT

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N1 max	1 1E-10	3.9E-15	9.8E-15	5.9E-15	8.7E-15	3 0E-14	1.1E-13	6.9E-14	3.0E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N1 max	3 5E-09	1 2E-13	3.1E-13	1.9E-13	2.8E-13	9.7E-13	3.6E-12	2.2E-12	9.7E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N1 max	4.6E-10	1.6E-14	4.1E-14	2 5E-14	3.6E-14	1 3E-13	4.7E-13	2.9E-13	1 3E-13
OCDF	1.5E+02	NA	NA	1.89E-08	N1 max	7.2E-09	2.5E-13	6.3E-13	3.8E-13	5.6E-13	2 0E-12	7.4E-12	4 5E-12	2 0E-12
Dioxin TEQ				4.28E-08			5.7E-13	1.4E-12	8.6E-13	1.3E-12	4.4E-12	1.7E-11	1.0E-11	4.4E-12
Aluminum	NA	NA	NA	2.4E-04	N1 max	9.1E-05	3.2E-09	8.0E-09	4.8E-09	7.1E-09	2.5E-08	9.3E-08	5.6E-08	2.5E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	N1 max	1 6E-06	5.6E-11	1.4E-10	8.5E-11	1.2E-10	4.4E-10	1.6E-09	9 9E-10	4.4E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	N1 max	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1.4E-08	8 7E-09	3 9E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	N1 max	5.7E-05	2.0E-09	5.0E-09	3 0E-09	4.5E-09	1.6E-08	5.8E-08	3 5E-08	1.6E-08
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	N1 max	1.3E-08	4.4E-13	1.1E-12	6.6E-13	9.8E-13	3.4E-12	1.3E-11	7.8E-12	3.4E-12
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	N1 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4.8E-10	1.7E-09	6.2E-09	3.8E-09	1.7E-09
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	N1 max	2.7E-07	9.5E-12	2.4E-11	1.4E-11	2.1E-11	7.4E-11	2.8E-10	1.7E-10	7.4E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N1 max	2.7E-07	9.5E-12	2.4E-11	1.4E-11	2.1E-11	7.4E-11	2.8E-10	1.7E-10	7.4E-11
Copper	NA	NA	NA	9.4E-05	N1 max	3.6E-05	1.3E-09	3.1E-09	1.9E-09	2.8E-09	9.8E-09	3.7E-08	2 2E-08	9.8E-09
Lead	NA	NA	NA	4.3E-05	N1 max	1.6E-05	5.8E-10	1.4E-09	8.7E-10	1.3E-09	4.5E-09	1.7E-08	1.0E-08	4.5E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N1 max	5.3E-04	1.9E-08	4.7E-08	2.8E-08	4.2E-08	1.5E-07	5.4E-07	3.3E-07	1.5E-07
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N1 max	1.9E-06	6.7E-11	1.7E-10	1.0E-10	1.5E-10	5.2E-10	1.9E-09	1 2E-09	5.2E-10
Selenium	NA	0 004375	1.3E-03	4.7E-04	N1 max	1.8E-04	6.3E-09	1 6E-08	9.5E-09	1.4E-08	4.9E-08	1.8E-07	1.1E-07	4.9E-08
Silver	NA	0 004375	1 3E-03	1.5E-05	N1 max	5.7E-06	2.0E-10	5.0E-10	3.0E-10	4.5E-10	1.6E-09	5.8E-09	3 5E-09	1 6E-09
Thallium	NA	0.000061	1.8E-05	3.4E-05	N1 max	1.3E-05	4.5E-10	1.1E-09	6.8E-10	1.0E-09	3.5E-09	1.3E-08	8.0E-09	3.5E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	N1 max	4.6E-05	1.6E-09	4.0E-09	2.4E-09	3.6E-09	1.2E-08	4.7E-08	2.8E-08	1.2E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N1 max	1.2E-02	4.3E-07	1.1E-06	6.4E-07	9.5E-07	3.3E-06	1.2E-05	7.5E-06	3.3E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N1 max	9.2E-01	3.2E-05	8.1E-05	4.9E-05	7.2E-05	2.5E-04	9.4E-04	5.7E-04	2.5E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N1 max	3.5E-02	1.2E-06	3.0E-06	1.8E-06	2.7E-06	9.5E-06	3.5E-05	2.1E-05	9.5E-06
Particulate matter	NA	NA	NA	7.2E-02	N1 max	2.7E-02	9.6E-07	2.4E-06	1.5E-06	2.1E-06	7.5E-06	2.8E-05	1.7E-05	7 5E-06
Respirable particulates	NF	NF	NF	7.2E-02	N1 max	2.7E-02	9.6E-07	2.4E-06	1.5E-06	2.1E-06	7.5E-06	2.8E-05	1.7E-05	7.5E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

External Review Draft, Do Not Cite or Quote

TABLE 16 Maximum Inhalation Risks and Noncancer HQs in Subarea N1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	2.93E-10	N1 max	5 9E-11	1 5E-10	8 9E-11	1 3E-10		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	N1 max	1 9E-10	4.7E-10	2.8E-10	4 1E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N1 max	2.5E-11	6 1E-11	3.7E-11	5 4E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	N1 max	3.8E-11	9.5E-11	5.7E-11	8 5E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		1.9E-09	4.7E-09	2.8E-09	4.2E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	N1 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1 0E-04	4.2E-06	N1 max	NT	NT	NT	NT		4.4E-06	1.6E-05	9.9E-06	4.4E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	N1 max	2.5E-08	6.2E-08	3.7E-08	5.5E-08		5.1E-05	1.9E-04	1.2E-04	5 1E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	N1 max	NT	NT	NT	NT		4 4E-04	1.6E-03	9.9E-04	4.4E-04
Beryllium	8.4	0.004375	1 3E-03	3.3E-08	N1 max	3.7E-12	9.2E-12	5.6E-12	8.2E-12		2.7E-09	1.0E-08	6.2E-09	2.7E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N1 max	1.3E-09	3.3E-09	2.0E-09	2.9E-09		1 3E-05	5.0E-05	3.0E-05	1 3E-05
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N1 max	3.9E-10	9.7E-10	5.9E-10	8.7E-10		5 9E-08	2.2E-07	1.3E-07	5 9E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N1 max	NT	NT	NT	NT		3.0E-10	1.1E-09	6.7E-10	3.0E-10
Copper	NA	NA	NA	9.4E-05	N1 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	N1 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N1 max	NT	NT	NT	NT		6.8E-03	2.5E-02	1.5E-02	6.8E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N1 max	5.6E-11	1.4E-10	8.5E-11	1.2E-10		1.0E-07	3.9E-07	2.3E-07	1.0E-07
Selenium	NA	0.004375	1 3E-03	4.7E-04	N1 max	NT	NT	NT	NT		3.9E-05	1.5E-04	8.8E-05	3.9E-05
Silver	NA	0.004375	1 3E-03	1.5E-05	N1 max	NT	NT	NT	NT		1.2E-06	4.7E-06	2.8E-06	1.2E-06
Thallium	NA	0.000061	1.8E-05	3.4E-05	N1 max	NT	NT	NT	NT		2.0E-04	7.6E-04	4.6E-04	2 0E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	N1 max	NT	NT	NT	NT		1.7E-07	6.2E-07	3.8E-07	1.7E-07
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N1 max	NT	NT	NT	NT		6.7E-03	2.5E-02	1.5E-02	6.7E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N1 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N1 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	N1 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	N1 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	4.2E-08	1.0E-07	6.3E-08	9.3E-08	Total HI	1.6E-02	6.0E-02	3.6E-02	1.6E-02

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N2 max	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2 6E-10	9.6E-10	5 8E-10	2 6E-10
Acenaphthylene	NF	NF	NF	6.7E-06	N2 max	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2 6E-10	9.6E-10	5 8E-10	2.6E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	N2 max	4.2E-05	1.5E-09	3 7E-09	2.2E-09	3 3E-09	1.2E-08	4.3E-08	2 6E-08	1.2E-08
Acetone	NA	0.0875	2 5E-02	2.9E-03	N2 max	4.1E-04	1.4E-08	3 6E-08	2.2E-08	3 2E-08	1.1E-07	4.2E-07	2 5E-07	1 1E-07
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	N2 max	4.1E-05	1.4E-09	3.6E-09	2.2E-09	3.2E-09	1.1E-08	4.2E-08	2 5E-08	1.1E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N2 max	2.8E-05	1.0E-09	2.5E-09	1.5E-09	2.2E-09	7.7E-09	2.9E-08	1 7E-08	7 7E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzene	2.9E-02	0 0015	4.3E-04	1.5E-05	N2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.6E-10	2.1E-09	1 3E-09	5 6E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N2 max	1.6E-06	5.6E-11	1.4E-10	8.4E-11	1.2E-10	4.3E-10	1.6E-09	9 8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N2 max	4.5E-06	1.6E-10	3.9E-10	2.4E-10	3.5E-10	1.2E-09	4.6E-09	2 8E-09	1.2E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7 3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N2 max	1.9E-06	6 6E-11	1.6E-10	9.9E-11	1 5E-10	5.1E-10	1.9E-09	1 2E-09	5.1E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	N2 max	5.2E-06	1.8E-10	4.6E-10	2.8E-10	4 1E-10	1.4E-09	5.3E-09	3 2E-09	1.4E-09
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	N2 max	1.4E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	8 9E-09	4.0E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N2 max	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5 4E-09	1.9E-08	7.0E-08	4 2E-08	1 9E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2 6E-10	9.6E-10	5 8E-10	2.6E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N2 max	7.2E-06	2.5E-10	6 3E-10	3.8E-10	5.6E-10	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N2 max	1.2E-05	4.4E-10	1.1E-09	6.6E-10	9.8E-10	3.4E-09	1.3E-08	7.7E-09	3 4E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N2 max	2.2E-05	7.8E-10	1.9E-09	1.2E-09	1.7E-09	6.1E-09	2.3E-08	1 4E-08	6.1E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N2 max	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7.9E-11	4 8E-11	2 1E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N2 max	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.0E-10	1.4E-09	5.3E-09	3 2E-09	1.4E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N2 max	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4 2E-08	1.9E-08
Chloroform	8 1E-02	0.00875	2.5E-03	2.7E-04	N2 max	3.7E-05	1.3E-09	3.3E-09	2.0E-09	2.9E-09	1.0E-08	3 8E-08	2 3E-08	1.0E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	N2 max	3.4E-05	1 2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2 1E-08	9.4E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7 3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7 9E-10	4 8E-10	2.1E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Chrysene	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Cresol, m-	NA	0 04375	1 3E-02	5.5E-06	N2 max	7.7E-07	2 7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N2 max	7.7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	N2 max	1 9E-05	6.9E-10	1 7E-09	1 0E-09	1.5E-09	5.3E-09	2 0E-08	1 2E-08	5 3E-09
Cumene	NA	0.00225	6.4E-04	5 5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	N2 max	7 7E-08	2 7E-12	6 8E-12	4 1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	N2 max	7.7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dibromochloromethane	NA	0 0175	5.0E-03	2.6E-05	N2 max	3 7E-06	1 3E-10	3 2E-10	2 0E-10	2 9E-10	1 0E-09	3 8E-09	2 3E-09	1 0E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N2 max	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	N2 max	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	N2 max	7.7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	N2 max	4 7E-06	1 6E-10	4 1E-10	2 5E-10	3 6E-10	1 3E-09	4 8E-09	2 9E-09	1 3E-09
Dichlorobiphenyl	NA	NA	NA	4 7E-08	N2 max	6 6E-09	2 3E-13	5 8E-13	3 5E-13	5 1E-13	1 8E-12	6.7E-12	4 1E-12	1 8E-12

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TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1 5E-02	6.7E-06	N2 max	NT	NT	NT	NT	1.7E-08	6.4E-08	3.9E-08	1.7E-08
Acenaphthylene	NF	NF	NF	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	N2 max	1.1E-11	2 8E-11	1.7E-11	2.5E-11	1.8E-05	6.7E-05	4.1E-05	1 8E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	N2 max	NT	NT	NT	NT	4 4E-06	1.7E-05	1.0E-05	4 4E-06
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	N2 max	NT	NT	NT	NT	4 5E-07	1.7E-06	1.0E-06	4.5E-07
Acrylonitrile	2.4E-01	0 0005	1.4E-04	2.0E-04	N2 max	2.4E-10	5.9E-10	3.6E-10	5.3E-10	5 4E-05	2.0E-04	1.2E-04	5.4E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N2 max	NT	NT	NT	NT	2.8E-09	1.1E-08	6.3E-09	2.8E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N2 max	2.1E-12	5.2E-12	3 2E-12	4.7E-12	1.3E-06	4.9E-06	3.0E-06	1.3E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N2 max	NT	NT	NT	NT	4.3E-10	1.6E-09	9.8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N2 max	7.2E-11	1.8E-10	1.1E-10	1.6E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	N2 max	NT	NT	NT	NT	2.6E-08	9.6E-08	5.8E-08	2 6E-08
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	N2 max	NT	NT	NT	NT	2.9E-07	1.1E-06	6 4E-07	2.9E-07
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	N2 max	NT	NT	NT	NT	7.9E-07	3.0E-06	1.8E-06	7 9E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N2 max	1.0E-13	2.6E-13	1.6E-13	2.3E-13	4 2E-08	1.6E-07	9.5E-08	4 2E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N2 max	NT	NT	NT	NT	5.3E-05	2.0E-04	1.2E-04	5.3E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N2 max	NT	NT	NT	NT	2.8E-08	1.0E-07	6.2E-08	2 8E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N2 max	NT	NT	NT	NT	4 2E-09	1.6E-08	9.5E-09	4 2E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N2 max	NT	NT	NT	NT	4.8E-06	1.8E-05	1.1E-05	4 8E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N2 max	4.1E-11	1.0E-10	6.2E-11	9.1E-11	4.2E-05	1.6E-04	9.6E-05	4.2E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N2 max	3.5E-12	8.7E-12	5.3E-12	7.8E-12	1.4E-06	5.3E-06	3.2E-06	1.4E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N2 max	NT	NT	NT	NT	2 6E-07	9.6E-07	5.8E-07	2.6E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N2 max	NT	NT	NT	NT	1.5E-07	5.5E-07	3.3E-07	1.5E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N2 max	5.0E-11	1.2E-10	7.5E-11	1.1E-10	2.8E-07	1.1E-06	6.4E-07	2 8E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N2 max	NT	NT	NT	NT	2.6E-08	9.8E-08	5.9E-08	2.6E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N2 max	1.1E-10	2.6E-10	1.6E-10	2.3E-10	4.1E-06	1.5E-05	9.2E-06	4.1E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	N2 max	7.6E-12	1.9E-11	1.1E-11	1.7E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N2 max	NT	NT	NT	NT	1.3E-08	4.8E-08	2.9E-08	1.3E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N2 max	NT	NT	NT	NT	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	N2 max	NT	NT	NT	NT	1.7E-08	6.3E-08	3 8E-08	1 7E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N2 max	NT	NT	NT	NT	1.7E-08	6.3E-08	3 8E-08	1.7E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N2 max	NT	NT	NT	NT	1 7E-07	6.3E-07	3.8E-07	1.7E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	N2 max	NT	NT	NT	NT	3 3E-07	1.2E-06	7 4E-07	3 3E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0 0175	5.0E-03	2.6E-05	N2 max	NT	NT	NT	NT	2 0E-07	7 5E-07	4.6E-07	2.0E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	N2 max	NT	NT	NT	NT	3 7E-09	1 4E-08	8 3E-09	3.7E-09
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5 5E-06	N2 max	NT	NT	NT	NT	1 5E-08	5 5E-08	3.3E-08	1.5E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N2 max	3.4E-05	1.2E-09	3.0E-09	1 8E-09	2.7E-09	9 4E-09	3.5E-08	2 1E-08	9 4E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9 3E-11	1 4E-10	4.8E-10	1.8E-09	1 1E-09	4 8E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1 4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1 4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1 1E-09	4.8E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4 8E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N2 max	2.4E-06	8.3E-11	2.1E-10	1.3E-10	1.8E-10	6.5E-10	2.4E-09	1 5E-09	6.5E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N2 max	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1.0E-08	4.4E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N2 max	2.2E-06	7.7E-11	1.9E-10	1.2E-10	1.7E-10	6.0E-10	2.2E-09	1.4E-09	6 0E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N2 max	6.9E-05	2.4E-09	6.1E-09	3.7E-09	5.4E-09	1.9E-08	7.1E-08	4 3E-08	1.9E-08
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N2 max	5.4E-06	1.9E-10	4.8E-10	2.9E-10	4 3E-10	1 5E-09	5.6E-09	3 4E-09	1 5E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N2 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2 1E-08	9.4E-09
Ethylbenzene	NA	0.25	7 1E-02	5.0E-04	N2 max	7.0E-05	2.5E-09	6.1E-09	3.7E-09	5.5E-09	1.9E-08	7.1E-08	4 3E-08	1.9E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N2 max	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4 4E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N2 max	4.3E-06	1.5E-10	3.7E-10	2.3E-10	3.3E-10	1.2E-09	4.4E-09	2 6E-09	1.2E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N2 max	2.0E-11	7.2E-16	1.8E-15	1.1E-15	1.6E-15	5.6E-15	2.1E-14	1 3E-14	5.6E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Formaldehyde	4 5E-02	0.175	5.0E-02	6.1E-04	N2 max	8.5E-05	3.0E-09	7.5E-09	4.5E-09	6 6E-09	2.3E-08	8.7E-08	5 3E-08	2.3E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N2 max	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7.9E-11	4.8E-11	2.1E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2 0E-12	1 2E-12	5.4E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2 0E-12	1 2E-12	5.4E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N2 max	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1.4E-08	8 7E-09	3.9E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N2 max	7.7E-06	2.7E-10	6.7E-10	4.1E-10	6.0E-10	2.1E-09	7 9E-09	4 7E-09	2 1E-09
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N2 max	4.5E-06	1.6E-10	3.9E-10	2.4E-10	3 5E-10	1 2E-09	4 6E-09	2 8E-09	1 2E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	N2 max	9.0E-06	3.2E-10	7.9E-10	4 8E-10	7 0E-10	2 5E-09	9 2E-09	5 6E-09	2 5E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	N2 max	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7 3E-11	2.6E-10	9 6E-10	5 8E-10	2 6E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1 2E-04	N2 max	1 6E-05	5.7E-10	1 4E-09	8 5E-10	1 3E-09	4.4E-09	1 6E-08	1 0E-08	4 4E-09
Methoxychlor	NA	0 004375	1.3E-03	5.5E-07	N2 max	7.7E-08	2.7E-12	6 8E-12	4 1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Methyl-t-butyl ether	NA	0.75	2 1E-01	1 3E-05	N2 max	1 8E-06	6 2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	N2 max	1.8E-06	6.2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methylene chloride	1.6E-03	0.75	2 1E-01	4.0E-04	N2 max	5.5E-05	2.0E-09	4 9E-09	2 9E-09	4 3E-09	1 5E-08	5 7E-08	3 4E-08	1 5E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	N2 max	5 9E-06	2 1E-10	5 1E-10	3 1E-10	4 6E-10	1 6E-09	6 0E-09	3 6E-09	1 6E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N2 max	2 3E-09	8 2E-14	2 0E-13	1 2E-13	1 8E-13	6 4E-13	2 4E-12	1 4E-12	6 4E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	N2 max	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	N2 max	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	N2 max	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10

TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N2 max	NT	NT	NT	NT	6 6E-07	2.5E-06	1.5E-06	6.6E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N2 max	NT	NT	NT	NT	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N2 max	5.6E-12	1 4E-11	8.4E-12	1 2E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N2 max	7.4E-11	1.8E-10	1.1E-10	1.6E-10	2.1E-07	8.0E-07	4.8E-07	2 1E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N2 max	NT	NT	NT	NT	9.6E-08	3.6E-07	2.2E-07	9.6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N2 max	NT	NT	NT	NT	2.8E-07	1.1E-06	6 3E-07	2.8E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N2 max	NT	NT	NT	NT	1 7E-06	6.3E-06	3.8E-06	1.7E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 max	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3.4E-07	1.3E-06	7.6E-07	3.4E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N2 max	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3.4E-07	1.3E-06	7.6E-07	3.4E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N2 max	NT	NT	NT	NT	3.2E-09	1.2E-08	7.3E-09	3 2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N2 max	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N2 max	NT	NT	NT	NT	2.4E-08	9.0E-08	5.4E-08	2.4E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N2 max	NT	NT	NT	NT	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	N2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	N2 max	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4 2E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N2 max	NT	NT	NT	NT	6.0E-07	2.2E-06	1.3E-06	6 0E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.4E-07	4 2E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N2 max	NT	NT	NT	NT	2.7E-07	1.0E-06	6.0E-07	2.7E-07
Ethylene dibromide	7.6E-01	0.00005	1 4E-05	1.2E-04	N2 max	4.3E-10	1 1E-09	6.5E-10	9.8E-10	3 1E-04	1.2E-03	7.0E-04	3 1E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N2 max	5.3E-11	1.3E-10	7.9E-11	1.2E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N2 max	NT	NT	NT	NT	2.8E-10	1.0E-09	6.3E-10	2.8E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	N2 max	NT	NT	NT	NT	2.1E-08	7.9E-08	4.8E-08	2.1E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	N2 max	NT	NT	NT	NT	2.6E-08	9.6E-08	5.8E-08	2 6E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N2 max	1.3E-10	3.4E-10	2.0E-10	3.0E-10	4.7E-07	1.7E-06	1.1E-06	4.7E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	N2 max	NT	NT	NT	NT	5.9E-08	2.2E-07	1.3E-07	5.9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N2 max	1.2E-11	3.0E-11	1.8E-11	2.7E-11	1.7E-07	6.3E-07	3.8E-07	1 7E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N2 max	4.4E-11	1.1E-10	6.6E-11	9.7E-11	1.1E-06	3.9E-06	2.4E-06	1 1E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	N2 max	3.9E-11	9.7E-11	5.8E-11	8.6E-11	7.7E-05	2.9E-04	1.7E-04	7 7E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N2 max	NT	NT	NT	NT	2 8E-05	1.0E-04	6.3E-05	2 8E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N2 max	NT	NT	NT	NT	4 2E-05	1.6E-04	9.5E-05	4 2E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	N2 max	3.8E-13	9.5E-13	5.7E-13	8.4E-13	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N2 max	NT	NT	NT	NT	1.6E-05	6.1E-05	3.7E-05	1 6E-05
Hexanone, 2-	NF	NF	NF	8.4E-05	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	N2 max	NT	NT	NT	NT	5 1E-09	1 9E-08	1.2E-08	5 1E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	N2 max	NT	NT	NT	NT	3 5E-08	1.3E-07	8 0E-08	3 5E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	N2 max	NT	NT	NT	NT	1 7E-08	6 3E-08	3.8E-08	1.7E-08
Methyl-t-butyl ether	NA	0 75	2.1E-01	1.3E-05	N2 max	NT	NT	NT	NT	2 2E-09	8 4E-09	5 1E-09	2 2E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	N2 max	NT	NT	NT	NT	8 4E-08	3 1E-07	1.9E-07	8 4E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	N2 max	3.2E-12	8 0E-12	4 8E-12	7 1E-12	7 1E-08	2.6E-07	1.6E-07	7 1E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5.5E-06	N2 max	NT	NT	NT	NT	2 1E-08	7 9E-08	4 8E-08	2 1E-08
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	N2 max	NT	NT	NT	NT	1 8E-05	6 7E-05	4 1E-05	1 8E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N2 max	9.4E-07	3.3E-11	8 2E-11	5 0E-11	7.3E-11	2 6E-10	9.6E-10	5 8E-10	2 6E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7.9E-10	4 8E-10	2 1E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N2 max	1.7E-05	6.0E-10	1.5E-09	9 0E-10	1.3E-09	4.6E-09	1.7E-08	1 0E-08	4 6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5 4E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	N2 max	6.7E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1 8E-09	6.8E-09	4.1E-09	1 8E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5 4E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N2 max	4.7E-06	1.7E-10	4.1E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2 9E-09	1 3E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2 1E-10	7.9E-10	4.8E-10	2 1E-10
Phenanthrene	NA	NA	NA	6.7E-06	N2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2 6E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	N2 max	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N2 max	1.6E-05	5.7E-10	1 4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1.0E-08	4 4E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	N2 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.6E-10	3.2E-09	1.9E-09	8.6E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5 4E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7.9E-10	4 8E-10	2.1E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	N2 max	7.2E-06	2.5E-10	6 3E-10	3.8E-10	5.6E-10	2.0E-09	7.3E-09	4.4E-09	2 0E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7 5E-03	6.8E-06	N2 max	9.5E-07	3.4E-11	8.4E-11	5.0E-11	7.4E-11	2.6E-10	9.7E-10	5 9E-10	2 6E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	N2 max	8.6E-05	3.0E-09	7.5E-09	4.5E-09	6.7E-09	2.3E-08	8.6E-08	5 3E-08	2.3E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N2 max	4.6E-05	1.6E-09	4 1E-09	2.4E-09	3.6E-09	1.3E-08	4.7E-08	2 9E-08	1.3E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N2 max	4.2E-09	1.5E-13	3.7E-13	2.2E-13	3.3E-13	1.2E-12	4.3E-12	2 6E-12	1.2E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1.1E-09	4.8E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1.1E-09	4.8E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N2 max	2.6E-06	9.2E-11	2.3E-10	1 4E-10	2.0E-10	7.1E-10	2.7E-09	1.6E-09	7.1E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N2 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2.1E-08	9.4E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7 9E-10	4 8E-10	2.1E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N2 max	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.0E-10	2.5E-09	9.2E-09	5.6E-09	2.5E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N2 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3 5E-08	2 1E-08	9.4E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N2 max	5.3E-05	1.9E-09	4.7E-09	2 8E-09	4.2E-09	1.5E-08	5.4E-08	3 3E-08	1.5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N2 max	1.5E-12	5 3E-17	1 3E-16	8 0E-17	1 2E-16	4 1E-16	1 5E-15	9 4E-16	4 1E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N2 max	9.5E-12	3 3E-16	8.3E-16	5.0E-16	7.4E-16	2 6E-15	9 7E-15	5 9E-15	2 6E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N2 max	1.3E-11	4.4E-16	1 1E-15	6 6E-16	9.8E-16	3 4E-15	1 3E-14	7 7E-15	3 4E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N2 max	2.3E-11	8 2E-16	2 0E-15	1 2E-15	1 8E-15	6 3E-15	2 4E-14	1 4E-14	6 3E-15
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	N2 max	1 5E-11	5 4E-16	1 3E-15	8 1E-16	1 2E-15	4 2E-15	1 6E-14	9 4E-15	4 2E-15
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1 24E-09	N2 max	1.7E-10	6.1E-15	1 5E-14	9 2E-15	1 4E-14	4 8E-14	1 8E-13	1 1E-13	4 8E-14
OCDD	1 5E+02	NA	NA	6 15E-09	N2 max	8 6E-10	3 0E-14	7 5E-14	4 6E-14	6 7E-14	2 4E-13	8 8E-13	5 3E-13	2 4E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8 77E-11	N2 max	1 2E-11	4 3E-16	1 1E-15	6 5E-16	9 6E-16	3 4E-15	1 3E-14	7 6E-15	3 4E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3 45E-10	N2 max	4 8E-11	1 7E-15	4 2E-15	2 6E-15	3 8E-15	1 3E-14	4 9E-14	3 0E-14	1 3E-14
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	N2 max	6 5E-11	2.3E-15	5 7E-15	3 5E-15	5 1E-15	1 8E-14	6 7E-14	4 0E-14	1 8E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	N2 max	2 0E-10	7.0E-15	1 8E-14	1 1E-14	1 6E-14	5 5E-14	2.0E-13	1 2E-13	5 5E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	N2 max	1 9E-10	6 6E-15	1 6E-14	9 9E-15	1 5E-14	5 1E-14	1 9E-13	1 2E-13	5 1E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N2 max	2.1E-10	7.4E-15	1 8E-14	1 1E-14	1 6E-14	5 8E-14	2 2E-13	1 3E-13	5 8E-14

External Review Draft, Do Not Cite or Quote

TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N2 max	NT	NT	NT	NT	1 5E-06	5.5E-06	3.3E-06	1.5E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N2 max	3.2E-09	8.0E-09	4.8E-09	7.2E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N2 max	NT	NT	NT	NT	1.7E-06	6.4E-06	3.9E-06	1.7E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N2 max	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Phenanthrene	NA	NA	NA	6.7E-06	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1 5E-01	5.5E-06	N2 max	NT	NT	NT	NT	1.4E-09	5.3E-09	3.2E-09	1.4E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N2 max	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	N2 max	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7 5E-03	5.5E-06	N2 max	7.0E-13	1.7E-12	1 1E-12	1.6E-12	2 8E-08	1.1E-07	6.3E-08	2.8E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	N2 max	5.5E-12	1.4E-11	8.3E-12	1.2E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	N2 max	5.1E-13	1.3E-12	7 7E-13	1.1E-12	7.9E-07	2.9E-06	1.8E-06	7 9E-07
Tetrachlorophenol, 2,3,4,6-	NA	0 02625	7.5E-03	6.8E-06	N2 max	NT	NT	NT	NT	3.5E-08	1.3E-07	7.8E-08	3.5E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	N2 max	NT	NT	NT	NT	8.2E-07	3.1E-06	1.9E-06	8 2E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N2 max	NT	NT	NT	NT	5 9E-09	2.2E-08	1.3E-08	5.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N2 max	NT	NT	NT	NT	1.5E-08	5.5E-08	3.3E-08	1.5E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N2 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N2 max	NT	NT	NT	NT	6.7E-09	2.5E-08	1.5E-08	6.7E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N2 max	3.5E-12	8.7E-12	5.3E-12	7.8E-12	4.8E-07	1.8E-06	1.1E-06	4.8E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N2 max	5.5E-13	1.4E-12	8.2E-13	1.2E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N2 max	NT	NT	NT	NT	1.9E-07	7.0E-07	4.2E-07	1.9E-07
Trichlorophenol, 2,4,5-	NA	0 0875	2.5E-02	5.5E-06	N2 max	NT	NT	NT	NT	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N2 max	2.7E-13	6.8E-13	4.1E-13	6.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N2 max	NT	NT	NT	NT	1.7E-07	6.4E-07	3.9E-07	1.7E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N2 max	3.6E-10	9.0E-10	5.5E-10	8.1E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5 0E-01	3.8E-04	N2 max	NT	NT	NT	NT	2 9E-08	1.1E-07	6.6E-08	2 9E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N2 max	NT	NT	NT	NT	4.2E-10	1.6E-09	9.5E-10	4.2E-10
2,3,7,8-TCDD	1 5E+05	NA	NA	1.08E-11	N2 max	8.0E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N2 max	2.5E-11	6.2E-11	3.8E-11	5.6E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N2 max	6.6E-12	1.6E-11	1.0E-11	1.5E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N2 max	1.2E-11	3.1E-11	1.8E-11	2.7E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N2 max	8.1E-12	2.0E-11	1 2E-11	1 8E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	N2 max	9.2E-12	2.3E-11	1.4E-11	2 0E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	N2 max	4 5E-12	1 1E-11	6 8E-12	1.0E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	N2 max	6.5E-12	1.6E-11	9 8E-12	1 4E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	N2 max	1.3E-11	3.2E-11	1 9E-11	2 8E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	N2 max	1.7E-10	4 3E-10	2 6E-10	3 8E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	N2 max	1 1E-10	2 6E-10	1 6E-10	2 3E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	N2 max	9 9E-11	2 5E-10	1 5E-10	2 2E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	N2 max	1 1E-10	2.8E-10	1 7E-10	2 5E-10	NT	NT	NT	NT

TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N2 max	4.1E-11	1.4E-15	3.6E-15	2.2E-15	3.2E-15	1.1E-14	4.2E-14	2.5E-14	1.1E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N2 max	1.3E-09	4.6E-14	1.1E-13	6.9E-14	1.0E-13	3.6E-13	1.3E-12	8.1E-13	3.6E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N2 max	1.7E-10	6.0E-15	1.5E-14	9.1E-15	1.3E-14	4.7E-14	1.7E-13	1.1E-13	4.7E-14
OCDF	1.5E+02	NA	NA	1.89E-08	N2 max	2.7E-09	9.3E-14	2.3E-13	1.4E-13	2.1E-13	7.3E-13	2.7E-12	1.6E-12	7.3E-13
Dioxin TEQ				4.28E-08			2.1E-13	5.3E-13	3.2E-13	4.7E-13	1.6E-12	6.1E-12	3.7E-12	1.6E-12
Aluminum	NA	NA	NA	2.4E-04	N2 max	3.4E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.2E-09	3.4E-08	2.1E-08	9.2E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	N2 max	5.9E-07	2.1E-11	5.2E-11	3.1E-11	4.6E-11	1.6E-10	6.0E-10	3.6E-10	1.6E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	N2 max	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.1E-10	1.4E-09	5.3E-09	3.2E-09	1.4E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	N2 max	2.1E-05	7.4E-10	1.8E-09	1.1E-09	1.6E-09	5.8E-09	2.1E-08	1.3E-08	5.8E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	N2 max	4.6E-09	1.6E-13	4.1E-13	2.4E-13	3.6E-13	1.3E-12	4.7E-12	2.9E-12	1.3E-12
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N2 max	2.2E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6.1E-10	2.3E-09	1.4E-09	6.1E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N2 max	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6.1E-11	2.7E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N2 max	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6.1E-11	2.7E-11
Copper	NA	NA	NA	9.4E-05	N2 max	1.3E-05	4.6E-10	1.2E-09	7.0E-10	1.0E-09	3.6E-09	1.3E-08	8.1E-09	3.6E-09
Lead	NA	NA	NA	4.3E-05	N2 max	6.0E-06	2.1E-10	5.3E-10	3.2E-10	4.7E-10	1.6E-09	6.2E-09	3.7E-09	1.6E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N2 max	2.0E-04	6.9E-09	1.7E-08	1.0E-08	1.5E-08	5.4E-08	2.0E-07	1.2E-07	5.4E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N2 max	7.0E-07	2.5E-11	6.1E-11	3.7E-11	5.5E-11	1.9E-10	7.2E-10	4.3E-10	1.9E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	N2 max	6.6E-05	2.3E-09	5.8E-09	3.5E-09	5.1E-09	1.8E-08	6.7E-08	4.1E-08	1.8E-08
Silver	NA	0.004375	1.3E-03	1.5E-05	N2 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5.8E-10	2.1E-09	1.3E-09	5.8E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	N2 max	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2.9E-09	1.3E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	N2 max	1.7E-05	5.9E-10	1.5E-09	8.9E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N2 max	4.5E-03	1.6E-07	3.9E-07	2.4E-07	3.5E-07	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N2 max	3.4E-01	1.2E-05	3.0E-05	1.8E-05	2.7E-05	9.3E-05	3.5E-04	2.1E-04	9.3E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N2 max	1.3E-02	4.5E-07	1.1E-06	6.8E-07	1.0E-06	3.5E-06	1.3E-05	7.9E-06	3.5E-06
Particulate matter	NA	NA	NA	7.2E-02	N2 max	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6.2E-06	2.8E-06
Respirable particulates	NF	NF	NF	7.2E-02	N2 max	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6.2E-06	2.8E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 17 Maximum Inhalation Risks and Noncancer HQs in Subarea N2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N2 max	2 2E-11	5.4E-11	3 3E-11	4 8E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N2 max	6 9E-11	1.7E-10	1.0E-10	1 5E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N2 max	9 0E-12	2.2E-11	1.4E-11	2.0E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1 89E-08	N2 max	1.4E-11	3.5E-11	2 1E-11	3 1E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		6.9E-10	1.7E-09	1.0E-09	1.5E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	N2 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	N2 max	NT	NT	NT	NT		1.6E-06	6.0E-06	3.6E-06	1.6E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	N2 max	9.1E-09	2.3E-08	1.4E-08	2.0E-08		1.9E-05	7.1E-05	4.3E-05	1.9E-05
Barium	NA	0.000125	3 6E-05	1.5E-04	N2 max	NT	NT	NT	NT		1.6E-04	6.0E-04	3.6E-04	1.6E-04
Beryllium	8.4	0.004375	1 3E-03	3.3E-08	N2 max	1.4E-12	3.4E-12	2.1E-12	3.0E-12		1 0E-09	3.8E-09	2.3E-09	1.0E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N2 max	4.8E-10	1.2E-09	7.2E-10	1.1E-09		4.9E-06	1.8E-05	1.1E-05	4.9E-06
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	N2 max	1.4E-10	3.6E-10	2.2E-10	3.2E-10		2 2E-08	8.1E-08	4.9E-08	2 2E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	N2 max	NT	NT	NT	NT		1 1E-10	4.1E-10	2.5E-10	1.1E-10
Copper	NA	NA	NA	9.4E-05	N2 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	N2 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	N2 max	NT	NT	NT	NT		2.5E-03	9.4E-03	5.7E-03	2.5E-03
Nickel	0.84	0.0175	5 0E-03	5.0E-06	N2 max	2.1E-11	5.2E-11	3.1E-11	4.6E-11		3.6E-08	1.4E-07	8.7E-08	3.6E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	N2 max	NT	NT	NT	NT		1.4E-05	5.4E-05	3.3E-05	1.4E-05
Silver	NA	0 004375	1 3E-03	1.5E-05	N2 max	NT	NT	NT	NT		4.6E-07	1.7E-06	1.0E-06	4.6E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	N2 max	NT	NT	NT	NT		7.4E-05	2.8E-04	1.7E-04	7.4E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	N2 max	NT	NT	NT	NT		6.1E-08	2.3E-07	1.4E-07	6.1E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N2 max	NT	NT	NT	NT		2.5E-03	9.2E-03	5.5E-03	2.5E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N2 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N2 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	N2 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	N2 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.5E-08	3.8E-08	2.3E-08	3.4E-08					
										Total HI	5.9E-03	2.2E-02	1.3E-02	5.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 18 Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0 0525	1.5E-02	6.7E-06	N3 max	2.5E-07	9 0E-12	2 2E-11	1 3E-11	2 0E-11	7 0E-11	2.6E-10	1.6E-10	7 0E-11
Acenaphthylene	NF	NF	NF	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2 0E-11	7 0E-11	2.6E-10	1 6E-10	7 0E-11
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	N3 max	1.1E-05	4.0E-10	1.0E-09	6 1E-10	8 9E-10	3 1E-09	1.2E-08	7 1E-09	3 1E-09
Acetone	NA	0.0875	2.5E-02	2.9E-03	N3 max	1.1E-04	3.9E-09	9.7E-09	5 8E-09	8 6E-09	3.0E-08	1.1E-07	6 8E-08	3 0E-08
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	N3 max	1.1E-05	3.9E-10	9.8E-10	5.9E-10	8.7E-10	3.0E-09	1.1E-08	6 9E-09	3.0E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N3 max	7.7E-06	2.7E-10	6 7E-10	4.1E-10	6.0E-10	2.1E-09	7.9E-09	4 7E-09	2 1E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N3 max	5.6E-07	2.0E-11	4 9E-11	3.0E-11	4.4E-11	1.5E-10	5.7E-10	3 5E-10	1 5E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N3 max	4.3E-07	1.5E-11	3.8E-11	2 3E-11	3.4E-11	1.2E-10	4.4E-10	2.7E-10	1.2E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N3 max	1 2E-06	4.3E-11	1.1E-10	6.4E-11	9.5E-11	3.3E-10	1.2E-09	7.5E-10	3 3E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5.7E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1 6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2.6E-10	1.6E-10	7 0E-11
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N3 max	5.1E-07	1.8E-11	4.4E-11	2.7E-11	4.0E-11	1.4E-10	5.2E-10	3 1E-10	1 4E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2.6E-10	1 6E-10	7 0E-11
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	N3 max	1.4E-06	5.0E-11	1.2E-10	7.5E-11	1.1E-10	3.9E-10	1.4E-09	8 7E-10	3 9E-10
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	N3 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N3 max	1.9E-05	6.6E-10	1.6E-09	9.9E-10	1.5E-09	5.1E-09	1.9E-08	1 2E-08	5.1E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1 3E-11	2.0E-11	7.0E-11	2.6E-10	1 6E-10	7.0E-11
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N3 max	2.0E-06	6.9E-11	1.7E-10	1.0E-10	1.5E-10	5.4E-10	2.0E-09	1 2E-09	5.4E-10
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Carbon disulfide	NA	0.0025	7 1E-04	8.9E-05	N3 max	3.4E-06	1.2E-10	3.0E-10	1 8E-10	2.7E-10	9.3E-10	3.5E-09	2 1E-09	9.3E-10
Carbon tetrachloride	5.3E-02	0.0005	1 4E-04	1.6E-04	N3 max	6.0E-06	2.1E-10	5.3E-10	3.2E-10	4.7E-10	1.6E-09	6.2E-09	3 7E-09	1.6E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N3 max	2.1E-08	7.4E-13	1.8E-12	1.1E-12	1.6E-12	5.7E-12	2.1E-11	1 3E-11	5.7E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2 6E-10	1 6E-10	7.0E-11
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2.6E-10	1 6E-10	7.0E-11
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Chlorobenzilate	2.7E-01	0 0175	5.0E-03	3.7E-05	N3 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8.6E-10	3.8E-10
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	N3 max	1.9E-05	6.6E-10	1 6E-09	9.9E-10	1.5E-09	5.1E-09	1.9E-08	1 2E-08	5 1E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N3 max	1.0E-05	3.6E-10	8.9E-10	5.4E-10	7.9E-10	2.8E-09	1.0E-08	6 3E-09	2.8E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	N3 max	9.3E-06	3.3E-10	8.2E-10	4.9E-10	7.3E-10	2.5E-09	9.5E-09	5 8E-09	2 5E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2 6E-10	1 6E-10	7 0E-11
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2 1E-10	1 3E-10	5.7E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1 3E-11	2.0E-11	7 0E-11	2.6E-10	1 6E-10	7.0E-11
Chrysene	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1 8E-11	1.1E-11	1 6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N3 max	2.1E-07	7.4E-12	1 8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1 1E-11	1.6E-11	5.7E-11	2 1E-10	1 3E-10	5.7E-11
Crotonaldehyde	NA	NA	NA	1.4E-04	N3 max	5 3E-06	1 9E-10	4.6E-10	2 8E-10	4.1E-10	1.4E-09	5 4E-09	3 3E-09	1 4E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	N3 max	2 1E-07	7 4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2 1E-10	1 3E-10	5.7E-11
DDE, 4,4'-	NA	NA	NA	5.5E-07	N3 max	2 1E-08	7.4E-13	1 8E-12	1 1E-12	1 6E-12	5 7E-12	2 1E-11	1 3E-11	5 7E-12
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N3 max	2 1E-07	7 4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2 1E-10	1 3E-10	5 7E-11
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	N3 max	1 0E-06	3 5E-11	8 8E-11	5 3E-11	7 8E-11	2 7E-10	1 0E-09	6 2E-10	2 7E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N3 max	2 1E-07	7 4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2 1E-10	1 3E-10	5 7E-11
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	N3 max	2 1E-07	7 4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2 1E-10	1 3E-10	5 7E-11
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	N3 max	2 1E-07	7 4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2 1E-10	1 3E-10	5 7E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N3 max	1 3E-06	4 5E-11	1 1E-10	6 7E-11	9 9E-11	3 5E-10	1 3E-09	7 8E-10	3 5E-10
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N3 max	1 8E-09	6 3E-14	1 6E-13	9 4E-14	1 4E-13	4 9E-13	1 8E-12	1 1E-12	4 9E-13

External Review Draft, Do Not Cite or Quote

TABLE 18 Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	N3 max	NT	NT	NT	NT	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Acenaphthylene	NF	NF	NF	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	N3 max	3.1E-12	7.7E-12	4.7E-12	6.9E-12	4.9E-06	1.8E-05	1.1E-05	4.9E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	N3 max	NT	NT	NT	NT	1.2E-06	4.5E-06	2.7E-06	1.2E-06
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	N3 max	NT	NT	NT	NT	1.2E-07	4.6E-07	2.8E-07	1.2E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	N3 max	6.4E-11	1.6E-10	9.7E-11	1.4E-10	1.5E-05	5.5E-05	3.3E-05	1.5E-05
Anthracene	NA	0.2625	7 5E-02	5.5E-06	N3 max	NT	NT	NT	NT	7 6E-10	2.9E-09	1.7E-09	7 6E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	N3 max	5.7E-13	1.4E-12	8.6E-13	1.3E-12	3.6E-07	1.3E-06	8.1E-07	3.6E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	N3 max	NT	NT	NT	NT	1.2E-10	4.4E-10	2.7E-10	1.2E-10
Benzotrichloride	NA	NA	NA	3.2E-05	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	N3 max	2.0E-11	4.9E-11	2.9E-11	4.4E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	N3 max	NT	NT	NT	NT	7.0E-09	2.6E-08	1.6E-08	7.0E-09
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	N3 max	NT	NT	NT	NT	7.7E-08	2.9E-07	1.7E-07	7.7E-08
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	N3 max	NT	NT	NT	NT	2.1E-07	8.0E-07	4.8E-07	2.1E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	N3 max	2.6E-14	7.1E-14	4.3E-14	6.3E-14	1.1E-08	4.3E-08	2.6E-08	1.1E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	N3 max	NT	NT	NT	NT	1.4E-05	5.3E-05	3.2E-05	1.4E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	N3 max	NT	NT	NT	NT	7.5E-09	2.8E-08	1.7E-08	7.5E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	N3 max	NT	NT	NT	NT	1.1E-09	4.3E-09	2.6E-09	1.1E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	N3 max	NT	NT	NT	NT	1.3E-06	4.9E-06	2.9E-06	1.3E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	N3 max	1.1E-11	2.8E-11	1.7E-11	2.5E-11	1.2E-05	4.3E-05	2.6E-05	1.2E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	N3 max	9.5E-13	2.4E-12	1.4E-12	2.1E-12	3.8E-07	1.4E-06	8.6E-07	3.8E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	N3 max	NT	NT	NT	NT	7.0E-08	2.6E-07	1.6E-07	7.0E-08
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	N3 max	NT	NT	NT	NT	4.0E-08	1.5E-07	9.0E-08	4.0E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	N3 max	1.3E-11	3.3E-11	2.0E-11	3.0E-11	7.7E-08	2.9E-07	1.7E-07	7.7E-08
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	N3 max	NT	NT	NT	NT	7.1E-09	2.7E-08	1.6E-08	7.1E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	N3 max	2.9E-11	7.1E-11	4.3E-11	6.4E-11	1.1E-06	4.1E-06	2.5E-06	1.1E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	N3 max	2.1E-12	5.1E-12	3.1E-12	4.6E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	N3 max	NT	NT	NT	NT	3.5E-09	1.3E-08	7 9E-09	3 5E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	N3 max	NT	NT	NT	NT	4.6E-08	1.7E-07	1.0E-07	4.6E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	N3 max	NT	NT	NT	NT	4.6E-09	1.7E-08	1 0E-08	4.6E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	N3 max	NT	NT	NT	NT	4 6E-09	1.7E-08	1.0E-08	4 6E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	N3 max	NT	NT	NT	NT	4 6E-08	1.7E-07	1.0E-07	4.6E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	N3 max	NT	NT	NT	NT	8 9E-08	3 3E-07	2.0E-07	8 9E-08
DDE, 4,4'-	NA	NA	NA	5.5E-07	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	N3 max	NT	NT	NT	NT	5 5E-08	2 0E-07	1.2E-07	5 5E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	N3 max	NT	NT	NT	NT	1 0E-09	3 7E-09	2 3E-09	1 0E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	N3 max	NT	NT	NT	NT	4 0E-09	1 5E-08	9.0E-09	4 0E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 18 · Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N3 max	9.3E-06	3.3E-10	8.2E-10	4 9E-10	7.3E-10	2.5E-09	9.5E-09	5 8E-09	2 5E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	N3 max	4 8E-07	1.7E-11	4.2E-11	2.5E-11	3.7E-11	1.3E-10	4 9E-10	2 9E-10	1.3E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N3 max	4.8E-07	1.7E-11	4 2E-11	2.5E-11	3 7E-11	1 3E-10	4.9E-10	2.9E-10	1 3E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2 3E-03	1.3E-05	N3 max	4.8E-07	1.7E-11	4.2E-11	2 5E-11	3 7E-11	1 3E-10	4 9E-10	2 9E-10	1.3E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N3 max	4.8E-07	1.7E-11	4.2E-11	2.5E-11	3.7E-11	1 3E-10	4.9E-10	2 9E-10	1.3E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5 7E-11	2.1E-10	1 3E-10	5 7E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N3 max	4.8E-07	1.7E-11	4 2E-11	2.5E-11	3.7E-11	1.3E-10	4.9E-10	2 9E-10	1.3E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1 4E-03	1.3E-05	N3 max	4.8E-07	1.7E-11	4 2E-11	2.5E-11	3.7E-11	1.3E-10	4.9E-10	2 9E-10	1 3E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N3 max	4.8E-07	1.7E-11	4 2E-11	2 5E-11	3 7E-11	1 3E-10	4.9E-10	2 9E-10	1 3E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N3 max	6.4E-07	2.3E-11	5.6E-11	3.4E-11	5.0E-11	1.8E-10	6.6E-10	4.0E-10	1.8E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N3 max	4.4E-06	1.5E-10	3.8E-10	2.3E-10	3 4E-10	1.2E-09	4.5E-09	2 7E-09	1 2E-09
Dimethylphenol, 2,4-	NA	0 0175	5.0E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1 8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	N3 max	5.9E-07	2.1E-11	5.2E-11	3.2E-11	4.7E-11	1.6E-10	6.1E-10	3.7E-10	1.6E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5.7E-11
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N3 max	1.9E-05	6.6E-10	1.6E-09	1 0E-09	1.5E-09	5.1E-09	1.9E-08	1 2E-08	5 1E-09
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1 1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5.7E-11
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N3 max	1.5E-06	5.2E-11	1.3E-10	7 8E-11	1.2E-10	4 0E-10	1.5E-09	9.1E-10	4.0E-10
Ethyl methacrylate	NA	0.07875	2 3E-02	2.5E-04	N3 max	9.3E-06	3.3E-10	8.2E-10	4.9E-10	7.3E-10	2.5E-09	9.5E-09	5.8E-09	2 5E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N3 max	1.9E-05	6.7E-10	1.7E-09	1 0E-09	1.5E-09	5.2E-09	1.9E-08	1.2E-08	5.2E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N3 max	4.4E-06	1.5E-10	3.8E-10	2.3E-10	3.4E-10	1.2E-09	4.5E-09	2 7E-09	1.2E-09
Ethylene oxide	3 5E-01	NA	NA	3.1E-05	N3 max	1.2E-06	4.1E-11	1.0E-10	6 1E-11	9.1E-11	3.2E-10	1.2E-09	7.2E-10	3 2E-10
Ethylene thiourea	NA	0.00007	2 0E-05	1.5E-10	N3 max	5.5E-12	2.0E-16	4.9E-16	2.9E-16	4.3E-16	1.5E-15	5.7E-15	3.4E-15	1.5E-15
Fluoranthene	NA	0.035	1 0E-02	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Fluorene	NA	0.035	1 0E-02	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2.6E-10	1.6E-10	7.0E-11
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	N3 max	2.3E-05	8.1E-10	2.0E-09	1.2E-09	1.8E-09	6.3E-09	2.4E-08	1.4E-08	6.3E-09
Furfural	NA	0.0125	3.6E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Heptachlor	4.5E+00	0.000438	1 3E-04	5.5E-07	N3 max	2.1E-08	7.4E-13	1.8E-12	1.1E-12	1.6E-12	5.7E-12	2.1E-11	1 3E-11	5.7E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	5.3E-10	1.9E-14	4.7E-14	2.8E-14	4.2E-14	1.5E-13	5.4E-13	3 3E-13	1.5E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2 1E-10	1 3E-10	5.7E-11
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	5.3E-10	1.9E-14	4.7E-14	2.8E-14	4.2E-14	1.5E-13	5 4E-13	3 3E-13	1.5E-13
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	N3 max	3.6E-06	1.4E-10	3 4E-10	2.0E-10	3.0E-10	1.1E-09	3.9E-09	2 4E-09	1.1E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N3 max	2.1E-06	7.3E-11	1 8E-10	1.1E-10	1.6E-10	5 7E-10	2.1E-09	1 3E-09	5 7E-10
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1 1E-11	1 6E-11	5.7E-11	2.1E-10	1.3E-10	5 7E-11
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	N3 max	2.1E-07	7.4E-12	1 8E-11	1 1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N3 max	1.2E-06	4.3E-11	1.1E-10	6.4E-11	9.5E-11	3 3E-10	1 2E-09	7 5E-10	3 3E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	N3 max	2.4E-06	8.6E-11	2.1E-10	1 3E-10	1.9E-10	6.7E-10	2 5E-09	1 5E-09	6.7E-10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2 1E-10	1 3E-10	5 7E-11
Isophorone	NA	0.175	5 0E-02	6.7E-06	N3 max	2.5E-07	9.0E-12	2 2E-11	1 3E-11	2 0E-11	7 0E-11	2 6E-10	1 6E-10	7 0E-11
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	N3 max	4 4E-06	1.5E-10	3 8E-10	2 3E-10	3 4E-10	1.2E-09	4 5E-09	2 7E-09	1.2E-09
Methoxychlor	NA	0.004375	1 3E-03	5.5E-07	N3 max	2 1E-08	7 4E-13	1 8E-12	1 1E-12	1 6E-12	5 7E-12	2 1E-11	1 3E-11	5 7E-12
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	N3 max	4 8E-07	1 7E-11	4 2E-11	2 5E-11	3 7E-11	1 3E-10	4 9E-10	2 9E-10	1 3E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1 3E-05	N3 max	4 8E-07	1 7E-11	4 2E-11	2 5E-11	3 7E-11	1 3E-10	4 9E-10	2 9E-10	1.3E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4 0E-04	N3 max	1.5E-05	5 3E-10	1 3E-09	8 0E-10	1 2E-09	4 1E-09	1 5E-08	9 3E-09	4 1E-09
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	N3 max	1.6E-06	5 6E-11	1 4E-10	8 4E-11	1 2E-10	4 4E-10	1 6E-09	9 8E-10	4 4E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N3 max	6 3E-10	2 2E-14	5 6E-14	3 4E-14	5 0E-14	1 7E-13	6 5E-13	3 9E-13	1 7E-13
Naphthalene	NA	0.035	1 0E-02	5 5E-06	N3 max	2 1E-07	7 4E-12	1 8E-11	1 1E-11	1 6E-11	5 7E-11	2.1E-10	1.3E-10	5 7E-11
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	N3 max	2 5E-07	9 0E-12	2 2E-11	1 3E-11	2 0E-11	7 0E-11	2.6E-10	1 6E-10	7 0E-11
Nitroaniline, 3-	NF	NF	NF	6 7E-06	N3 max	2 5E-07	9 0E-12	2 2E-11	1 3E-11	2 0E-11	7 0E-11	2.6E-10	1 6E-10	7 0E-11

TABLE 18 Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	N3 max	NT	NT	NT	NT	1.8E-07	6.7E-07	4 0E-07	1 8E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3 6E-02	1.3E-05	N3 max	NT	NT	NT	NT	3 6E-09	1.4E-08	8.2E-09	3.6E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	N3 max	1.5E-12	3.8E-12	2 3E-12	3 4E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	N3 max	2.0E-11	5 0E-11	3 0E-11	4.5E-11	5 8E-08	2.2E-07	1.3E-07	5 8E-08
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	N3 max	NT	NT	NT	NT	2.6E-08	9.7E-08	5.9E-08	2.6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	N3 max	NT	NT	NT	NT	7.6E-08	2.9E-07	1.7E-07	7.6E-08
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	N3 max	NT	NT	NT	NT	4.6E-07	1.7E-06	1.0E-06	4.6E-07
Dichloropropene (cis), 1,3-	1.3E-01	0 005	1.4E-03	1.3E-05	N3 max	2.2E-12	5.4E-12	3 3E-12	4.8E-12	9.1E-08	3.4E-07	2.1E-07	9 1E-08
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	N3 max	2.2E-12	5.4E-12	3.3E-12	4.8E-12	9.1E-08	3.4E-07	2.1E-07	9.1E-08
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	N3 max	NT	NT	NT	NT	8.8E-10	3.3E-09	2.0E-09	8.8E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	N3 max	NT	NT	NT	NT	1.1E-08	4.3E-08	2.6E-08	1.1E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	N3 max	NT	NT	NT	NT	6.5E-09	2.4E-08	1.5E-08	6.5E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	N3 max	NT	NT	NT	NT	2.3E-07	8.6E-07	5.2E-07	2.3E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	N3 max	NT	NT	NT	NT	1.1E-07	4.3E-07	2.6E-07	1 1E-07
Dinitrotoluene, 2,4-	NA	0.00175	5 0E-04	5.5E-06	N3 max	NT	NT	NT	NT	1.1E-07	4.3E-07	2.6E-07	1.1E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	N3 max	NT	NT	NT	NT	1.1E-08	4.3E-08	2.6E-08	1.1E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	N3 max	NT	NT	NT	NT	1.6E-07	6.0E-07	3.6E-07	1.6E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	N3 max	NT	NT	NT	NT	1.1E-07	4.2E-07	2.6E-07	1.1E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	N3 max	NT	NT	NT	NT	7.3E-08	2.7E-07	1.6E-07	7.3E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	N3 max	1 2E-10	2.9E-10	1.8E-10	2.6E-10	8.4E-05	3.1E-04	1.9E-04	8.4E-05
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	N3 max	1.4E-11	3.6E-11	2.2E-11	3.2E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	N3 max	NT	NT	NT	NT	7.6E-11	2.8E-10	1.7E-10	7.6E-11
Fluoranthene	NA	0.035	1 0E-02	5.5E-06	N3 max	NT	NT	NT	NT	5.7E-09	2.1E-08	1.3E-08	5.7E-09
Fluorene	NA	0.035	1.0E-02	6.7E-06	N3 max	NT	NT	NT	NT	7.0E-09	2.6E-08	1.6E-08	7.0E-09
Formaldehyde	4 5E-02	0.175	5 0E-02	6.1E-04	N3 max	3.7E-11	9.1E-11	5.5E-11	8.1E-11	1.3E-07	4.7E-07	2.9E-07	1.3E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	N3 max	NT	NT	NT	NT	1.6E-08	6.0E-08	3.6E-08	1.6E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	N3 max	3.3E-12	8.2E-12	5.0E-12	7.4E-12	4.6E-08	1.7E-07	1.0E-07	4.6E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	N3 max	1.2E-11	3.0E-11	1.8E-11	2.6E-11	2.9E-07	1.1E-06	6.5E-07	2.9E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	N3 max	1.1E-11	2.6E-11	1.6E-11	2.3E-11	2.1E-05	7.9E-05	4.7E-05	2.1E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	N3 max	NT	NT	NT	NT	7.6E-06	2.8E-05	1.7E-05	7.6E-06
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	N3 max	NT	NT	NT	NT	1.1E-05	4.3E-05	2.6E-05	1.1E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	N3 max	1.0E-13	2.6E-13	1.6E-13	2.3E-13	2 3E-07	8.6E-07	5.2E-07	2.3E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	N3 max	NT	NT	NT	NT	4 4E-06	1.7E-05	1.0E-05	4 4E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	N3 max	NT	NT	NT	NT	1.4E-09	5 2E-09	3.1E-09	1 4E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1 2E-04	N3 max	NT	NT	NT	NT	9 6E-09	3.6E-08	2.2E-08	9 6E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	N3 max	NT	NT	NT	NT	4 6E-09	1.7E-08	1.0E-08	4 6E-09
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	N3 max	NT	NT	NT	NT	6 1E-10	2.3E-09	1.4E-09	6 1E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1.3E-05	N3 max	NT	NT	NT	NT	2 3E-08	8 5E-08	5.1E-08	2 3E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	N3 max	8.7E-13	2.2E-12	1 3E-12	1 9E-12	1 9E-08	7 2E-08	4.3E-08	1 9E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5 5E-06	N3 max	NT	NT	NT	NT	5 7E-09	2 1E-08	1.3E-08	5 7E-09
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	N3 max	NT	NT	NT	NT	4 9E-06	1 8E-05	1.1E-05	4 9E-06
Nitroaniline, 3-	NF	NF	NF	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT

Not Cite or Quote

TABLE 18 Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2.6E-10	1 6E-10	7 0E-11
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	N3 max	2 1E-07	7.4E-12	1 8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N3 max	2.5E-07	9.0E-12	2 2E-11	1.3E-11	2 0E-11	7.0E-11	2.6E-10	1 6E-10	7.0E-11
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N3 max	4.6E-06	1.6E-10	4.0E-10	2.4E-10	3 6E-10	1 3E-09	4.7E-09	2 8E-09	1.3E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2.6E-10	1 6E-10	7.0E-11
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2 0E-11	7.0E-11	2.6E-10	1.6E-10	7.0E-11
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	5.3E-10	1.9E-14	4.7E-14	2.8E-14	4.2E-14	1.5E-13	5.4E-13	3.3E-13	1.5E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	5.3E-10	1.9E-14	4.7E-14	2.8E-14	4.2E-14	1.5E-13	5.4E-13	3.3E-13	1.5E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	N3 max	1.8E-06	6.4E-11	1.6E-10	9.6E-11	1.4E-10	5 0E-10	1.9E-09	1.1E-09	5.0E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	5.3E-10	1.9E-14	4.7E-14	2.8E-14	4.2E-14	1 5E-13	5.4E-13	3.3E-13	1.5E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N3 max	1.3E-06	4.5E-11	1.1E-10	6.8E-11	1 0E-10	3 5E-10	1.3E-09	7.9E-10	3.5E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
Phenanthrene	NA	NA	NA	6.7E-06	N3 max	2.5E-07	9.0E-12	2.2E-11	1.3E-11	2.0E-11	7.0E-11	2.6E-10	1.6E-10	7.0E-11
Phenol	NA	0.525	1.5E-01	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5.7E-11
Pyrene	NA	0 02625	7.5E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N3 max	4.4E-06	1.5E-10	3.8E-10	2.3E-10	3.4E-10	1.2E-09	4.5E-09	2.7E-09	1.2E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	N3 max	8.6E-07	3.0E-11	7.5E-11	4.5E-11	6.7E-11	2.3E-10	8.7E-10	5 3E-10	2.3E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	5.3E-10	1.9E-14	4.7E-14	2.8E-14	4 2E-14	1.5E-13	5.4E-13	3 3E-13	1 5E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1 6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Tetrachloroethene	2 0E-03	0 00875	2.5E-03	5.1E-05	N3 max	1.9E-06	6.9E-11	1.7E-10	1.0E-10	1.5E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	N3 max	2.6E-07	9.1E-12	2.3E-11	1.4E-11	2.0E-11	7.1E-11	2.6E-10	1 6E-10	7.1E-11
Toluene	NA	0.1	2.9E-02	6.1E-04	N3 max	2.3E-05	8 2E-10	2.0E-09	1.2E-09	1.8E-09	6.4E-09	2.4E-08	1.4E-08	6.4E-09
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2 1E+00	3.3E-04	N3 max	1.3E-05	4.4E-10	1.1E-09	6.6E-10	9.8E-10	3.4E-09	1.3E-08	7 8E-09	3.4E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1 6E-11	5.7E-11	2.1E-10	1 3E-10	5 7E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N3 max	1.1E-09	4.0E-14	1.0E-13	6.1E-14	9.0E-14	3.1E-13	1.2E-12	7 1E-13	3.1E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N3 max	4.8E-07	1.7E-11	4.2E-11	2.5E-11	3.7E-11	1.3E-10	4.9E-10	2 9E-10	1.3E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	N3 max	4.8E-07	1.7E-11	4.2E-11	2.5E-11	3.7E-11	1.3E-10	4 9E-10	2 9E-10	1.3E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N3 max	7.1E-07	2.5E-11	6.2E-11	3.8E-11	5.5E-11	1.9E-10	7.2E-10	4 4E-10	1.9E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N3 max	9.3E-06	3.3E-10	8.2E-10	4.9E-10	7.3E-10	2.5E-09	9.5E-09	5 8E-09	2.5E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.7E-11	2.1E-10	1.3E-10	5.7E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1 6E-11	5 7E-11	2.1E-10	1 3E-10	5.7E-11
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N3 max	2.4E-06	8.6E-11	2 1E-10	1.3E-10	1.9E-10	6.7E-10	2.5E-09	1 5E-09	6 7E-10
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N3 max	9.3E-06	3.3E-10	8 2E-10	4.9E-10	7.3E-10	2.5E-09	9.5E-09	5 8E-09	2 5E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N3 max	1.4E-05	5.1E-10	1 3E-09	7.7E-10	1.1E-09	4 0E-09	1.5E-08	8 9E-09	4.0E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1 6E-11	5.7E-11	2.1E-10	1 3E-10	5.7E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N3 max	4.1E-13	1.4E-17	3.6E-17	2 2E-17	3 2E-17	1.1E-16	4 2E-16	2 5E-16	1.1E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N3 max	2.6E-12	9 1E-17	2.3E-16	1.4E-16	2 0E-16	7 1E-16	2 6E-15	1 6E-15	7.1E-16
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	N3 max	3.4E-12	1.2E-16	3 0E-16	1.8E-16	2.7E-16	9.3E-16	3.5E-15	2 1E-15	9.3E-16
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N3 max	6 3E-12	2.2E-16	5 5E-16	3 3E-16	4 9E-16	1 7E-15	6 4E-15	3 9E-15	1.7E-15
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	N3 max	4 1E-12	1.5E-16	3 6E-16	2 2E-16	3 2E-16	1 1E-15	4 2E-15	2 6E-15	1 1E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	N3 max	4.7E-11	1.7E-15	4 1E-15	2 5E-15	3 7E-15	1 3E-14	4 8E-14	2 9E-14	1 3E-14
OCDD	1.5E+02	NA	NA	6.15E-09	N3 max	2 3E-10	8 2E-15	2 0E-14	1 2E-14	1 8E-14	6 4E-14	2 4E-13	1 4E-13	6 4E-14
2,3,7,8-TCDF	1.5E+04	NA	NA	8 77E-11	N3 max	3 3E-12	1 2E-16	2 9E-16	1 8E-16	2 6E-16	9 1E-16	3 4E-15	2 1E-15	9 1E-16
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3 45E-10	N3 max	1.3E-11	4 6E-16	1 1E-15	6 9E-16	1 0E-15	3 6E-15	1.3E-14	8 1E-15	3 6E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4 67E-10	N3 max	1 8E-11	6 2E-16	1 6E-15	9 4E-16	1 4E-15	4 9E-15	1 8E-14	1 1E-14	4 9E-15
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1 43E-09	N3 max	5 4E-11	1 9E-15	4 8E-15	2 9E-15	4 2E-15	1 5E-14	5 5E-14	3 4E-14	1 5E-14
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1 33E-09	N3 max	5 1E-11	1 8E-15	4 4E-15	2 7E-15	4 0E-15	1 4E-14	5 2E-14	3 1E-14	1 4E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N3 max	5 7E-11	2 0E-15	5 0E-15	3 0E-15	4 5E-15	1 6E-14	5 9E-14	3 5E-14	1 6E-14

External Review Draft, Do Not Cite or Quote

TABLE 18 Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0 0005	1.4E-04	5.5E-06	N3 max	NT	NT	NT	NT	4.0E-07	1.5E-06	9.0E-07	4 0E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	N3 max	8.7E-10	2.2E-09	1.3E-09	1.9E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	N3 max	NT	NT	NT	NT	4.7E-07	1.7E-06	1.1E-06	4.7E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	N3 max	NT	NT	NT	NT	7.6E-09	2.9E-08	1.7E-08	7.6E-09
Phenanthrene	NA	NA	NA	6.7E-06	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	N3 max	NT	NT	NT	NT	3.6E-10	1.4E-09	8.6E-10	3.6E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	N3 max	NT	NT	NT	NT	7.6E-09	2.9E-08	1.7E-08	7.6E-09
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	N3 max	NT	NT	NT	NT	3.3E-09	1.2E-08	7.4E-09	3.3E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	N3 max	1.9E-13	4.7E-13	2.9E-13	4.2E-13	7.6E-09	2.9E-08	1.7E-08	7.6E-09
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	N3 max	1.5E-12	3.7E-12	2.2E-12	3.3E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	N3 max	1.4E-13	3.5E-13	2.1E-13	3.1E-13	2.1E-07	8.0E-07	4.8E-07	2.1E-07
Tetrachlorophenol, 2,3,4,6-	NA	0 02625	7.5E-03	6.8E-06	N3 max	NT	NT	NT	NT	9.4E-09	3.5E-08	2.1E-08	9.4E-09
Toluene	NA	0.1	2.9E-02	6.1E-04	N3 max	NT	NT	NT	NT	2.2E-07	8.3E-07	5.0E-07	2.2E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	N3 max	NT	NT	NT	NT	1.6E-09	6.0E-09	3.6E-09	1.6E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	N3 max	NT	NT	NT	NT	4.0E-09	1.5E-08	9.0E-09	4.0E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	N3 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	N3 max	NT	NT	NT	NT	1 8E-09	6.8E-09	4.1E-09	1.8E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1 0E-03	1.3E-05	N3 max	9.5E-13	2.4E-12	1.4E-12	2.1E-12	1.3E-07	4.9E-07	2.9E-07	1.3E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	N3 max	1.5E-13	3.7E-13	2.2E-13	3.3E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	N3 max	NT	NT	NT	NT	5.1E-08	1.9E-07	1.2E-07	5.1E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	N3 max	NT	NT	NT	NT	2.3E-09	8.6E-09	5.2E-09	2.3E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	N3 max	7.4E-14	1.8E-13	1.1E-13	1.6E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	N3 max	NT	NT	NT	NT	4.7E-08	1.8E-07	1.1E-07	4.7E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	N3 max	9.8E-11	2.4E-10	1.5E-10	2.2E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	N3 max	NT	NT	NT	NT	7.9E-09	3.0E-08	1.8E-08	7.9E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	N3 max	NT	NT	NT	NT	1.1E-10	4.3E-10	2.6E-10	1.1E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	N3 max	2.2E-12	5.4E-12	3.3E-12	4.8E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	N3 max	6.8E-12	1.7E-11	1.0E-11	1 5E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	8.95E-11	N3 max	1.8E-12	4.5E-12	2.7E-12	4.0E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	N3 max	3.3E-12	8 3E-12	5 0E-12	7.4E-12	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	N3 max	2.2E-12	5 4E-12	3 3E-12	4 9E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	N3 max	2.5E-12	6.2E-12	3 7E-12	5 5E-12	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6.15E-09	N3 max	1.2E-12	3.1E-12	1 9E-12	2.7E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	N3 max	1 8E-12	4.4E-12	2 6E-12	3 9E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	N3 max	3 5E-12	8 6E-12	5 2E-12	7.7E-12	NT	NT	NT	NT
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	N3 max	4.7E-11	1 2E-10	7 0E-11	1.0E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	N3 max	2.9E-11	7 1E-11	4 3E-11	6 4E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	N3 max	2 7E-11	6 7E-11	4 0E-11	6 0E-11	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	N3 max	3 0E-11	7.5E-11	4 5E-11	6 7E-11	NT	NT	NT	NT

TABLE 18 Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2 93E-10	N3 max	1.1E-11	3.9E-16	9 8E-16	5 9E-16	8 7E-16	3 0E-15	1 1E-14	6 9E-15	3 0E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9 30E-09	N3 max	3.5E-10	1.2E-14	3 1E-14	1 9E-14	2.8E-14	9.7E-14	3 6E-13	2 2E-13	9.7E-14
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1 22E-09	N3 max	4.6E-11	1.6E-15	4 1E-15	2.5E-15	3 6E-15	1 3E-14	4.7E-14	2 9E-14	1.3E-14
OCDF	1.5E+02	NA	NA	1 89E-08	N3 max	7.2E-10	2.5E-14	6.3E-14	3.8E-14	5.6E-14	2.0E-13	7.4E-13	4 5E-13	2.0E-13
Dioxin TEQ				4.28E-08			5.7E-14	1.4E-13	8.6E-14	1.3E-13	4.4E-13	1.7E-12	1 0E-12	4.4E-13
Aluminum	NA	NA	NA	2.4E-04	N3 max	9.1E-06	3.2E-10	8.0E-10	4.8E-10	7 1E-10	2.5E-09	9.3E-09	5 6E-09	2.5E-09
Antimony	NA	0.00035	1 0E-04	4 2E-06	N3 max	1.6E-07	5.6E-12	1.4E-11	8 5E-12	1.2E-11	4.4E-11	1.6E-10	9 9E-11	4 4E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	N3 max	1.4E-06	5.0E-11	1.2E-10	7.5E-11	1.1E-10	3.9E-10	1.4E-09	8.7E-10	3.9E-10
Barium	NA	0.000125	3 6E-05	1.5E-04	N3 max	5.7E-06	2.0E-10	5.0E-10	3.0E-10	4 5E-10	1.6E-09	5 8E-09	3 5E-09	1.6E-09
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	N3 max	1.3E-09	4.4E-14	1.1E-13	6.6E-14	9.8E-14	3.4E-13	1.3E-12	7 8E-13	3.4E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	N3 max	6.1E-07	2.1E-11	5.3E-11	3.2E-11	4.8E-11	1.7E-10	6.2E-10	3.8E-10	1.7E-10
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	N3 max	2.7E-08	9.5E-13	2 4E-12	1.4E-12	2.1E-12	7.4E-12	2.8E-11	1.7E-11	7.4E-12
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	N3 max	2.7E-08	9.5E-13	2.4E-12	1.4E-12	2.1E-12	7.4E-12	2.8E-11	1.7E-11	7.4E-12
Copper	NA	NA	NA	9.4E-05	N3 max	3.6E-06	1.3E-10	3.1E-10	1.9E-10	2.8E-10	9.8E-10	3.7E-09	2 2E-09	9 8E-10
Lead	NA	NA	NA	4.3E-05	N3 max	1.6E-06	5.8E-11	1.4E-10	8.7E-11	1.3E-10	4.5E-10	1.7E-09	1 0E-09	4.5E-10
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	N3 max	5.3E-05	1.9E-09	4.7E-09	2.8E-09	4 2E-09	1.5E-08	5.4E-08	3.3E-08	1 5E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N3 max	1.9E-07	6.7E-12	1.7E-11	1.0E-11	1.5E-11	5 2E-11	1.9E-10	1 2E-10	5 2E-11
Selenium	NA	0 004375	1 3E-03	4.7E-04	N3 max	1.8E-05	6.3E-10	1.6E-09	9.5E-10	1 4E-09	4.9E-09	1.8E-08	1.1E-08	4 9E-09
Silver	NA	0.004375	1 3E-03	1.5E-05	N3 max	5.7E-07	2.0E-11	5.0E-11	3.0E-11	4 5E-11	1.6E-10	5.8E-10	3 5E-10	1.6E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	N3 max	1.3E-06	4.5E-11	1.1E-10	6.8E-11	1.0E-10	3.5E-10	1.3E-09	8 0E-10	3 5E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	N3 max	4.6E-06	1.6E-10	4.0E-10	2.4E-10	3.6E-10	1.2E-09	4.7E-09	2.8E-09	1.2E-09
Hydrogen chloride	NA	0 00175	5.0E-04	3.2E-02	N3 max	1.2E-03	4.3E-08	1.1E-07	6.4E-08	9.5E-08	3.3E-07	1.2E-06	7.5E-07	3 3E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N3 max	9.2E-02	3.2E-06	8.1E-06	4.9E-06	7.2E-06	2.5E-05	9.4E-05	5.7E-05	2 5E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N3 max	3.5E-03	1.2E-07	3.0E-07	1.8E-07	2.7E-07	9.5E-07	3.5E-06	2.1E-06	9.5E-07
Particulate matter	NA	NA	NA	7.2E-02	N3 max	2.7E-03	9.6E-08	2.4E-07	1.5E-07	2.1E-07	7.5E-07	2.8E-06	1 7E-06	7 5E-07
Respirable particulates	NF	NF	NF	7.2E-02	N3 max	2.7E-03	9.6E-08	2.4E-07	1.5E-07	2.1E-07	7.5E-07	2.8E-06	1 7E-06	7.5E-07

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 18 Maximum Inhalation Risks and Noncancer HQs in Subarea N3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	N3 max	5.9E-12	1.5E-11	8 9E-12	1.3E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	N3 max	1.9E-11	4.7E-11	2 8E-11	4.1E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	N3 max	2.5E-12	6.1E-12	3.7E-12	5.4E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	N3 max	3.8E-12	9.5E-12	5 7E-12	8 5E-12		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		1.9E-10	4.7E-10	2.8E-10	4.2E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	N3 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	N3 max	NT	NT	NT	NT		4.4E-07	1 6E-06	9.9E-07	4.4E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	N3 max	2.5E-09	6.2E-09	3.7E-09	5.5E-09		5.1E-06	1.9E-05	1.2E-05	5 1E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	N3 max	NT	NT	NT	NT		4.4E-05	1.6E-04	9.9E-05	4 4E-05
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	N3 max	3.7E-13	9.2E-13	5 6E-13	8.2E-13		2.7E-10	1.0E-09	6.2E-10	2.7E-10
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	N3 max	1.3E-10	3.3E-10	2.0E-10	2 9E-10		1.3E-06	5.0E-06	3.0E-06	1.3E-06
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	N3 max	3.9E-11	9.7E-11	5.9E-11	8.7E-11		5.9E-09	2.2E-08	1.3E-08	5 9E-09
Chromium (trivalent)	NA	0.875	2 5E-01	7.1E-07	N3 max	NT	NT	NT	NT		3.0E-11	1.1E-10	6.7E-11	3.0E-11
Copper	NA	NA	NA	9.4E-05	N3 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	N3 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	N3 max	NT	NT	NT	NT		6.8E-04	2.5E-03	1.5E-03	6 8E-04
Nickel	0.84	0.0175	5.0E-03	5.0E-06	N3 max	5.6E-12	1.4E-11	8.5E-12	1.2E-11		1.0E-08	3.9E-08	2 3E-08	1.0E-08
Selenium	NA	0.004375	1.3E-03	4.7E-04	N3 max	NT	NT	NT	NT		3.9E-06	1.5E-05	8.8E-06	3.9E-06
Silver	NA	0.004375	1.3E-03	1.5E-05	N3 max	NT	NT	NT	NT		1.2E-07	4.7E-07	2.8E-07	1.2E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	N3 max	NT	NT	NT	NT		2.0E-05	7.6E-05	4.6E-05	2 0E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	N3 max	NT	NT	NT	NT		1.7E-08	6.2E-08	3.8E-08	1.7E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	N3 max	NT	NT	NT	NT		6.7E-04	2.5E-03	1.5E-03	6.7E-04
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	N3 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	N3 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	N3 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	N3 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	4.2E-09	1.0E-08	6.3E-09	9.3E-09	Total HI	1.6E-03	6.0E-03	3.6E-03	1.6E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2 7E-10	9.3E-10	3 5E-09	2 1E-09	9 3E-10
Acenaphthylene	NF	NF	NF	6.7E-06	S1 max	3 4E-06	1.2E-10	3.0E-10	1 8E-10	2.7E-10	9.3E-10	3.5E-09	2 1E-09	9 3E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S1 max	1.5E-04	5.4E-09	1 3E-08	8 1E-09	1.2E-08	4 2E-08	1.6E-07	9 5E-08	4 2E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	S1 max	1.5E-03	5 2E-08	1.3E-07	7.8E-08	1 2E-07	4 1E-07	1.5E-06	9 1E-07	4 1E-07
Acetophenone	NA	0 0875	2.5E-02	2.9E-04	S1 max	1.5E-04	5.3E-09	1 3E-08	7.9E-09	1.2E-08	4.1E-08	1.5E-07	9 2E-08	4 1E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S1 max	1.0E-04	3.6E-09	9.0E-09	5 5E-09	8.1E-09	2 8E-08	1.1E-07	6 4E-08	2.8E-08
Anthracene	NA	0 2625	7.5E-02	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7 7E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S1 max	7.5E-06	2.6E-10	6 6E-10	4.0E-10	5 9E-10	2.1E-09	7.7E-09	4 6E-09	2 1E-09
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S1 max	5.8E-06	2.0E-10	5.1E-10	3.1E-10	4 5E-10	1.6E-09	5.9E-09	3 6E-09	1 6E-09
Benzotrichloride	NA	NA	NA	3.2E-05	S1 max	1.6E-05	5.7E-10	1 4E-09	8 7E-10	1.3E-09	4.5E-09	1.7E-08	1.0E-08	4.5E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2 2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2 5E-10	1.5E-10	2 2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2 2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7 7E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9 3E-10	3.5E-09	2 1E-09	9 3E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S1 max	6 8E-06	2 4E-10	5 9E-10	3.6E-10	5.3E-10	1 9E-09	6.9E-09	4 2E-09	1 9E-09
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9 3E-10	3.5E-09	2 1E-09	9.3E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	S1 max	1.9E-05	6.7E-10	1.7E-09	1.0E-09	1.5E-09	5.2E-09	1.9E-08	1 2E-08	5 2E-09
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	S1 max	5.3E-05	1.9E-09	4.6E-09	2.8E-09	4.1E-09	1.4E-08	5.4E-08	3.3E-08	1 4E-08
Bromoform	3 9E-03	0.0175	5 0E-03	5.5E-06	S1 max	2 8E-06	9 9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7 7E-10
Bromomethane	NA	0.00125	3 6E-04	4.9E-04	S1 max	2.5E-04	8.8E-09	2.2E-08	1 3E-08	2.0E-08	6.8E-08	2.6E-07	1 5E-07	6 8E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S1 max	3.4E-06	1.2E-10	3 0E-10	1.8E-10	2.7E-10	9.3E-10	3.5E-09	2 1E-09	9 3E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	S1 max	2.6E-05	9.2E-10	2.3E-09	1 4E-09	2.1E-09	7.2E-09	2.7E-08	1 6E-08	7.2E-09
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7 7E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S1 max	4.5E-05	1.6E-09	4.0E-09	2.4E-09	3 6E-09	1.2E-08	4.7E-08	2 8E-08	1.2E-08
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S1 max	8.1E-05	2.8E-09	7.1E-09	4.3E-09	6.3E-09	2.2E-08	8.3E-08	5 0E-08	2.2E-08
Chlordane	1.3E+00	0.000053	1 5E-05	5.5E-07	S1 max	2.8E-07	9.9E-12	2.5E-11	1 5E-11	2.2E-11	7.7E-11	2.9E-10	1 7E-10	7.7E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.3E-10	3.5E-09	2 1E-09	9.3E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.3E-10	3.5E-09	2 1E-09	9.3E-10
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S1 max	1.9E-05	6.6E-10	1.6E-09	9.9E-10	1.5E-09	5.1E-09	1 9E-08	1 2E-08	5.1E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S1 max	2.5E-04	8.8E-09	2.2E-08	1.3E-08	2.0E-08	6 8E-08	2.6E-07	1 5E-07	6 8E-08
Chloroform	8.1E-02	0.00875	2 5E-03	2.7E-04	S1 max	1.4E-04	4.8E-09	1 2E-08	7 2E-09	1 1E-08	3.7E-08	1.4E-07	8 4E-08	3.7E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	S1 max	1.2E-04	4.4E-09	1.1E-08	6.6E-09	9.8E-09	3.4E-08	1.3E-07	7 7E-08	3 4E-08
Chloronaphthalene, beta	NA	0.07	2 0E-02	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9 3E-10	3.5E-09	2 1E-09	9.3E-10
Chlorophenol, 2-	NA	0.004375	1 3E-03	5.5E-06	S1 max	2.8E-06	9.9E-11	2 5E-10	1.5E-10	2 2E-10	7.7E-10	2 9E-09	1 7E-09	7.7E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.3E-10	3 5E-09	2 1E-09	9.3E-10
Chrysene	NA	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7 7E-10	2 9E-09	1 7E-09	7.7E-10
Cresol, m-	NA	0.04375	1 3E-02	5.5E-06	S1 max	2 8E-06	9.9E-11	2.5E-10	1 5E-10	2.2E-10	7 7E-10	2.9E-09	1 7E-09	7 7E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5 5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1 5E-10	2.2E-10	7.7E-10	2 9E-09	1 7E-09	7 7E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S1 max	2 8E-06	9 9E-11	2.5E-10	1 5E-10	2 2E-10	7.7E-10	2 9E-09	1 7E-09	7 7E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	S1 max	7 1E-05	2 5E-09	6.2E-09	3 8E-09	5.5E-09	1.9E-08	7.3E-08	4 4E-08	1 9E-08
Cumene	NA	0.00225	6 4E-04	5.5E-06	S1 max	2 8E-06	9 9E-11	2 5E-10	1 5E-10	2 2E-10	7 7E-10	2 9E-09	1 7E-09	7 7E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	S1 max	2 8E-07	9 9E-12	2 5E-11	1 5E-11	2 2E-11	7 7E-11	2 9E-10	1 7E-10	7 7E-11
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	S1 max	2 8E-06	9.9E-11	2 5E-10	1 5E-10	2 2E-10	7 7E-10	2 9E-09	1 7E-09	7 7E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	S1 max	1 3E-05	4 7E-10	1 2E-09	7 1E-10	1 0E-09	3 7E-09	1 4E-08	8 3E-09	3 7E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S1 max	2.8E-06	9 9E-11	2 5E-10	1 5E-10	2 2E-10	7 7E-10	2 9E-09	1 7E-09	7 7E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	S1 max	2 8E-06	9 9E-11	2 5E-10	1 5E-10	2 2E-10	7 7E-10	2 9E-09	1 7E-09	7 7E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5 5E-06	S1 max	2 8E-06	9 9E-11	2 5E-10	1 5E-10	2 2E-10	7 7E-10	2 9E-09	1 7E-09	7 7E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	S1 max	1 7E-05	6 0E-10	1 5E-09	9 0E-10	1 3E-09	4 7E-09	1 7E-08	1 1E-08	4 7E-09
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S1 max	2 4E-08	8.4E-13	2 1E-12	1 3E-12	1 9E-12	6 5E-12	2 4E-11	1 5E-11	6 5E-12

External Review Draft. Do Not Cite or Quote

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S1 max	NT	NT	NT	NT	6.2E-08	2.3E-07	1 4E-07	6.2E-08
Acenaphthylene	NF	NF	NF	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S1 max	4.2E-11	1.0E-10	6.3E-11	9.2E-11	6.5E-05	2.4E-04	1.5E-04	6.5E-05
Acetone	NA	0 0875	2.5E-02	2.9E-03	S1 max	NT	NT	NT	NT	1.6E-05	6.1E-05	3.7E-05	1.6E-05
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S1 max	NT	NT	NT	NT	1.6E-06	6.1E-06	3.7E-06	1.6E-06
Acrylonitrile	2.4E-01	0 0005	1.4E-04	2.0E-04	S1 max	6.6E-10	2.2E-09	1.3E-09	1.9E-09	2.0E-04	7.4E-04	4.5E-04	2.0E-04
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S1 max	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1 0E-08
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S1 max	7 7E-12	1.9E-11	1.2E-11	1.7E-11	4.8E-06	1.8E-05	1.1E-05	4.8E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S1 max	NT	NT	NT	NT	1.6E-09	5.9E-09	3.6E-09	1.6E-09
Benzotrichloride	NA	NA	NA	3.2E-05	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S1 max	2.6E-10	6.5E-10	4.0E-10	5.8E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	S1 max	NT	NT	NT	NT	9.3E-08	3.5E-07	2.1E-07	9 3E-08
Bis(2-ethylhexyl)phthalate	NA	0.0175	5 0E-03	3.7E-05	S1 max	NT	NT	NT	NT	1.0E-06	3.9E-06	2.3E-06	1.0E-06
Bromodichloromethane	NA	0 0175	5 0E-03	1.0E-04	S1 max	NT	NT	NT	NT	2.9E-06	1.1E-05	6.5E-06	2 9E-06
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	S1 max	3.8E-13	9.5E-13	5.7E-13	8.5E-13	1.5E-07	5.7E-07	3.5E-07	1 5E-07
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S1 max	NT	NT	NT	NT	1.9E-04	7.2E-04	4.3E-04	1.9E-04
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	S1 max	NT	NT	NT	NT	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S1 max	NT	NT	NT	NT	1.5E-08	5.7E-08	3.5E-08	1.5E-08
Carbon disulfide	NA	0.0625	7.1E-04	6.9E-05	S1 max	NT	NT	NT	NT	1.7E-05	6.5E-05	3.9E-05	1.7E-05
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S1 max	1.5E-10	3.7E-10	2.2E-10	3.3E-10	1.5E-04	5.8E-04	3.5E-04	1.5E-04
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S1 max	1.3E-11	3.2E-11	1.9E-11	2.8E-11	5.1E-06	1.9E-05	1.2E-05	5.1E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S1 max	NT	NT	NT	NT	9.3E-07	3.5E-06	2.1E-06	9.3E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	S1 max	NT	NT	NT	NT	5.4E-07	2.0E-06	1.2E-06	5.4E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S1 max	1.8E-10	4.5E-10	2.7E-10	4.0E-10	1.0E-06	3.8E-06	2.3E-06	1.0E-06
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S1 max	NT	NT	NT	NT	9 6E-08	3.6E-07	2.2E-07	9.6E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S1 max	3.8E-10	9.6E-10	5.8E-10	8.5E-10	1.5E-05	5.8E-05	3.4E-05	1.5E-05
Chloromethane	6.3E-03	NA	NA	2.5E-04	S1 max	2.8E-11	6.9E-11	4.2E-11	6.2E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S1 max	NT	NT	NT	NT	4.7E-08	1.7E-07	1.1E-07	4.7E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S1 max	NT	NT	NT	NT	6.1E-07	2.3E-06	1.4E-06	6.1E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	S1 max	NT	NT	NT	NT	6 1E-08	2.3E-07	1.4E-07	6.1E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S1 max	NT	NT	NT	NT	6.1E-08	2.3E-07	1 4E-07	6.1E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S1 max	NT	NT	NT	NT	6.1E-07	2.3E-06	1.4E-06	6.1E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	S1 max	NT	NT	NT	NT	1 2E-06	4 5E-06	2.7E-06	1.2E-06
DDE, 4,4'-	NA	NA	NA	5.5E-07	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	S1 max	NT	NT	NT	NT	7 3E-07	2 7E-06	1.7E-06	7.3E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5 5E-06	S1 max	NT	NT	NT	NT	1 3E-08	5 0E-08	3 0E-08	1.3E-08
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	S1 max	NT	NT	NT	NT	5 4E-08	2 0E-07	1 2E-07	5.4E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S1 max	1.2E-04	4.4E-09	1 1E-08	6 6E-09	9.8E-09	3 4E-08	1.3E-07	7 7E-08	3 4E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S1 max	6 4E-06	2 2E-10	5 6E-10	3 4E-10	5 0E-10	1.7E-09	6.5E-09	3 9E-09	1 7E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S1 max	6 4E-06	2.2E-10	5.6E-10	3 4E-10	5.0E-10	1.7E-09	6.5E-09	3 9E-09	1.7E-09
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S1 max	6.4E-06	2.2E-10	5 6E-10	3 4E-10	5 0E-10	1.7E-09	6 5E-09	3.9E-09	1 7E-09
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S1 max	6 4E-06	2.2E-10	5.6E-10	3 4E-10	5 0E-10	1 7E-09	6.5E-09	3.9E-09	1.7E-09
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1 5E-10	2 2E-10	7.7E-10	2.9E-09	1.7E-09	7.7E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S1 max	6.4E-06	2.2E-10	5 6E-10	3.4E-10	5 0E-10	1.7E-09	6.5E-09	3 9E-09	1 7E-09
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 max	6.4E-06	2.2E-10	5.6E-10	3 4E-10	5 0E-10	1.7E-09	6.5E-09	3 9E-09	1.7E-09
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 max	6.4E-06	2.2E-10	5 6E-10	3 4E-10	5 0E-10	1.7E-09	6.5E-09	3 9E-09	1.7E-09
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S1 max	8.6E-06	3.0E-10	7.5E-10	4.6E-10	6 7E-10	2.4E-09	8.8E-09	5.3E-09	2.4E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S1 max	5.9E-05	2.1E-09	5.1E-09	3.1E-09	4 6E-09	1.6E-08	6.0E-08	3 6E-08	1.6E-08
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2 2E-10	7.7E-10	2.9E-09	1.7E-09	7.7E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	S1 max	2 8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1.7E-09	7.7E-10
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	S1 max	8 0E-06	2.8E-10	7 0E-10	4.2E-10	6.2E-10	2.2E-09	8.2E-09	4.9E-09	2.2E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2 2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2 9E-09	1.7E-09	7.7E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2 2E-10	7.7E-10	2.9E-09	1.7E-09	7.7E-10
Dioxane, 1,4-	NA	NA	NA	4 9E-04	S1 max	2.5E-04	8.9E-09	2.2E-08	1 3E-08	2.0E-08	6.9E-08	2.6E-07	1.6E-07	6.9E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5 5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2 2E-10	7.7E-10	2 9E-09	1.7E-09	7 7E-10
D, 2,4-	NA	0.00875	2.5E-03	3 9E-05	S1 max	2.0E-05	7.0E-10	1.7E-09	1 0E-09	1.5E-09	5.4E-09	2.0E-08	1.2E-08	5.4E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S1 max	1.2E-04	4.4E-09	1.1E-08	6.6E-09	9 8E-09	3.4E-08	1.3E-07	7.7E-08	3.4E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S1 max	2.5E-04	8.9E-09	2.2E-08	1 3E-08	2.0E-08	7.0E-08	2.6E-07	1.6E-07	7.0E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S1 max	5.9E-05	2.1E-09	5.1E-09	3.1E-09	4.6E-09	1.6E-08	6.0E-08	3 6E-08	1.6E-08
Ethylene oxide	3.5E-01	NA	NA	3 1E-05	S1 max	1.6E-05	5.5E-10	1.4E-09	8.2E-10	1.2E-09	4.3E-09	1.6E-08	9 6E-09	4.3E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S1 max	7.4E-11	2.6E-15	6.5E-15	3.9E-15	5.8E-15	2.0E-14	7.6E-14	4.6E-14	2.0E-14
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S1 max	2 8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1 8E-10	2.7E-10	9.3E-10	3.5E-09	2 1E-09	9.3E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S1 max	3.1E-04	1.1E-08	2.7E-08	1.6E-08	2.4E-08	8.5E-08	3.2E-07	1 9E-07	8.5E-08
Furfural	NA	0.0125	3 6E-03	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1 5E-10	2.2E-10	7.7E-10	2.9E-09	1.7E-09	7.7E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S1 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2 2E-11	7.7E-11	2.9E-10	1 7E-10	7.7E-11
Heptachlorobiphenyl	NA	NA	NA	1 4E-08	S1 max	7.1E-09	2.5E-13	6.3E-13	3.8E-13	5.6E-13	2.0E-12	7.3E-12	4.4E-12	2.0E-12
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2 9E-09	1 7E-09	7.7E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	7.1E-09	2.5E-13	6.3E-13	3.8E-13	5.6E-13	2.0E-12	7.3E-12	4 4E-12	2.0E-12
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	S1 max	5.2E-05	1.8E-09	4.5E-09	2.7E-09	4.0E-09	1.4E-08	5.3E-08	3.2E-08	1.4E-08
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S1 max	2.8E-05	9.8E-10	2.5E-09	1.5E-09	2 2E-09	7.7E-09	2 9E-08	1.7E-08	7.7E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S1 max	2.8E-06	9.9E-11	2 5E-10	1 5E-10	2.2E-10	7.7E-10	2 9E-09	1 7E-09	7 7E-10
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2 2E-10	7.7E-10	2 9E-09	1 7E-09	7.7E-10
Hexachlorophene	NA	0.000263	7.5E-05	3 2E-05	S1 max	1.6E-05	5.7E-10	1 4E-09	8.7E-10	1 3E-09	4 5E-09	1 7E-08	1 0E-08	4.5E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	S1 max	3.3E-05	1.2E-09	2.9E-09	1.7E-09	2 6E-09	9.0E-09	3.4E-08	2 0E-08	9.0E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1 5E-10	2.2E-10	7.7E-10	2 9E-09	1.7E-09	7 7E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	S1 max	3.4E-06	1.2E-10	3 0E-10	1 8E-10	2.7E-10	9 3E-10	3 5E-09	2 1E-09	9 3E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S1 max	5.9E-05	2.1E-09	5 1E-09	3 1E-09	4.6E-09	1.6E-08	6 0E-08	3 6E-08	1 6E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S1 max	2 8E-07	9 9E-12	2 5E-11	1 5E-11	2 2E-11	7 7E-11	2 9E-10	1 7E-10	7 7E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1 3E-05	S1 max	6.4E-06	2 2E-10	5 6E-10	3 4E-10	5 0E-10	1 7E-09	6 5E-09	3 9E-09	1 7E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	S1 max	6.4E-06	2 2E-10	5 6E-10	3 4E-10	5 0E-10	1 7E-09	6 5E-09	3 9E-09	1 7E-09
Methylene chloride	1.6E-03	0.75	2.1E-01	4 0E-04	S1 max	2.0E-04	7.1E-09	1 8E-08	1 1E-08	1 6E-08	5 5E-08	2 1E-07	1 2E-07	5 5E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S1 max	2 1E-05	7 5E-10	1 9E-09	1.1E-09	1 7E-09	5 8E-09	2 2E-08	1 3E-08	5 8E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S1 max	8.5E-09	3 0E-13	7 5E-13	4 5E-13	6 6E-13	2 3E-12	8 7E-12	5 3E-12	2 3E-12
Naphthalene	NA	0.035	1 0E-02	5.5E-06	S1 max	2.8E-06	9 9E-11	2 5E-10	1 5E-10	2 2E-10	7 7E-10	2 9E-09	1 7E-09	7 7E-10
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	S1 max	3 4E-06	1 2E-10	3 0E-10	1 8E-10	2 7E-10	9 3E-10	3 5E-09	2 1E-09	9 3E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S1 max	3 4E-06	1 2E-10	3 0E-10	1 8E-10	2 7E-10	9 3E-10	3 5E-09	2 1E-09	9 3E-10

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S1 max	NT	NT	NT	NT	2.4E-06	9.0E-06	5.4E-06	2 4E-06
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S1 max	NT	NT	NT	NT	4.9E-08	1.8E-07	1.1E-07	4.9E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S1 max	2.0E-11	5.1E-11	3 1E-11	4 5E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2 3E-03	1.3E-05	S1 max	2.7E-10	6.7E-10	4 1E-10	6.0E-10	7 8E-07	2.9E-06	1.8E-06	7.8E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S1 max	NT	NT	NT	NT	3 5E-07	1.3E-06	7.9E-07	3.5E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S1 max	NT	NT	NT	NT	1.0E-06	3.8E-06	2.3E-06	1.0E-06
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S1 max	NT	NT	NT	NT	6.1E-06	2.3E-05	1.4E-05	6.1E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 max	2.9E-11	7.2E-11	4.4E-11	6.5E-11	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S1 max	2.9E-11	7.2E-11	4.4E-11	6.5E-11	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S1 max	NT	NT	NT	NT	1.2E-08	4.4E-08	2.7E-08	1.2E-08
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S1 max	NT	NT	NT	NT	1.5E-07	5.7E-07	3.5E-07	1.5E-07
Dimethylphthalate	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	S1 max	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Dinitrotoluene, 2,6-	NA	0.000875	2 5E-04	5.5E-06	S1 max	NT	NT	NT	NT	3.1E-06	1.1E-05	6.9E-06	3.1E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	S1 max	NT	NT	NT	NT	1.5E-06	5.7E-06	3.5E-06	1.5E-06
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S1 max	NT	NT	NT	NT	1.5E-06	5.7E-06	3.5E-06	1.5E-06
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	S1 max	NT	NT	NT	NT	1.5E-07	5.7E-07	3.5E-07	1.5E-07
D, 2,4-	NA	0.00875	2 5E-03	3.9E-05	S1 max	NT	NT	NT	NT	2.2E-06	8.1E-06	4.9E-06	2.2E-06
Ethyl methacrylate	NA	0.07875	2 3E-02	2.5E-04	S1 max	NT	NT	NT	NT	1.5E-06	5.7E-06	3.4E-06	1.5E-06
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S1 max	NT	NT	NT	NT	9.7E-07	3.6E-06	2.2E-06	9.7E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S1 max	1.6E-09	3.9E-09	2.4E-09	3.5E-09	1.1E-03	4.2E-03	2.5E-03	1.1E-03
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S1 max	1.9E-10	4.8E-10	2.9E-10	4.3E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S1 max	NT	NT	NT	NT	1.0E-09	3.8E-09	2.3E-09	1.0E-09
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S1 max	NT	NT	NT	NT	7.7E-08	2.9E-07	1.7E-07	7.7E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	S1 max	NT	NT	NT	NT	9.3E-08	3.5E-07	2.1E-07	9.3E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S1 max	4.9E-10	1.2E-09	7.4E-10	1.1E-09	1.7E-06	6.3E-06	3.8E-06	1.7E-06
Furfural	NA	0.0125	3.6E-03	5.5E-06	S1 max	NT	NT	NT	NT	2.2E-07	8.0E-07	4.9E-07	2.2E-07
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S1 max	4.4E-11	1.1E-10	6.7E-11	9.9E-11	6.1E-07	2.3E-06	1.4E-06	6.1E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S1 max	1.6E-10	4.0E-10	2.4E-10	3.5E-10	3.8E-06	1.4E-05	8.7E-06	3.8E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	S1 max	1.4E-10	3.5E-10	2.1E-10	3.1E-10	2 8E-04	1.1E-03	6.4E-04	2.8E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S1 max	NT	NT	NT	NT	1.0E-04	3.8E-04	2.3E-04	1.0E-04
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S1 max	NT	NT	NT	NT	1.5E-04	5.7E-04	3.5E-04	1.5E-04
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	S1 max	1.4E-12	3.4E-12	2 1E-12	3.1E-12	3 1E-06	1.1E-05	6 9E-06	3.1E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S1 max	NT	NT	NT	NT	6 0E-05	2.2E-04	1.3E-04	6.0E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	S1 max	NT	NT	NT	NT	1.9E-08	7.0E-08	4.2E-08	1.9E-08
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	S1 max	NT	NT	NT	NT	1 3E-07	4.8E-07	2 9E-07	1.3E-07
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S1 max	NT	NT	NT	NT	6 1E-08	2 3E-07	1.4E-07	6 1E-08
Methyl-t-butyl ether	NA	0 75	2.1E-01	1.3E-05	S1 max	NT	NT	NT	NT	8 1E-09	3 0E-08	1 8E-08	8 1E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	S1 max	NT	NT	NT	NT	3 1E-07	1 1E-06	6 9E-07	3 1E-07
Methylene chloride	1 6E-03	0.75	2.1E-01	4.0E-04	S1 max	1.2E-11	2 9E-11	1 8E-11	2 6E-11	2 6E-07	9 6E-07	5 8E-07	2 6E-07
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	S1 max	NT	NT	NT	NT	7 7E-08	2 9E-07	1 7E-07	7.7E-08
Nitroaniline, 2-	NA	0 00005	1 4E-05	6.7E-06	S1 max	NT	NT	NT	NT	6 5E-05	2 4E-04	1.5E-04	6.5E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2 7E-10	9.3E-10	3.5E-09	2 1E-09	9.3E-10
Nitrobenzene	NA	0.0005	1 4E-04	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1 8E-10	2.7E-10	9 3E-10	3.5E-09	2 1E-09	9 3E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2 9E-09	1 7E-09	7.7E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S1 max	6.2E-05	2 2E-09	5.4E-09	3.3E-09	4.8E-09	1 7E-08	6.3E-08	3 8E-08	1 7E-08
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1 8E-10	2.7E-10	9.3E-10	3 5E-09	2 1E-09	9 3E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2 7E-10	9.3E-10	3.5E-09	2 1E-09	9 3E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	7.1E-09	2.5E-13	6.3E-13	3.8E-13	5.6E-13	2.0E-12	7.3E-12	4.4E-12	2.0E-12
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	7.1E-09	2.5E-13	6.3E-13	3.8E-13	5.6E-13	2 0E-12	7.3E-12	4.4E-12	2 0E-12
Pentachlorobenzene	NA	NA	NA	4.8E-05	S1 max	2.4E-05	8 5E-10	2.1E-09	1.3E-09	1.9E-09	6.6E-09	2.5E-08	1.5E-08	6 6E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	7.1E-09	2.5E-13	6.3E-13	3.8E-13	5.6E-13	2.0E-12	7 3E-12	4 4E-12	2 0E-12
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S1 max	1.7E-05	6.1E-10	1.5E-09	9.1E-10	1.3E-09	4.7E-09	1.8E-08	1.1E-08	4 7E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Phenanthrene	NA	NA	NA	6.7E-06	S1 max	3.4E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.3E-10	3.5E-09	2.1E-09	9 3E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2 9E-09	1 7E-09	7 7E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S1 max	5.9E-05	2.1E-09	5.1E-09	3.1E-09	4.6E-09	1.6E-08	6.0E-08	3.6E-08	1.6E-08
Styrene	NA	0.25	7 1E-02	2.3E-05	S1 max	1.1E-05	4.0E-10	1.0E-09	6.1E-10	9.0E-10	3.1E-09	1.2E-08	7.1E-09	3.1E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	7.1E-09	2.5E-13	6.3E-13	3.8E-13	5.6E-13	2.0E-12	7.3E-12	4 4E-12	2 0E-12
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7 5E-03	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7 7E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1.7E-09	7 7E-10
Tetrachloroethene	2.0E-03	0 00875	2 5E-03	5.1E-05	S1 max	2.6E-05	9.2E-10	2.3E-09	1.4E-09	2.0E-09	7.2E-09	2.7E-08	1.6E-08	7 2E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S1 max	3.5E-06	1.2E-10	3.0E-10	1.8E-10	2.7E-10	9.5E-10	3.5E-09	2 1E-09	9 5E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	S1 max	3.1E-04	1.1E-08	2.7E-08	1.7E-08	2.4E-08	8.6E-08	3.2E-07	1.9E-07	8 6E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S1 max	1.7E-04	5.9E-09	1.5E-08	8.9E-09	1.3E-08	4.6E-08	1.7E-07	1.0E-07	4.6E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1 4E-02	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7 7E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S1 max	1.5E-08	5.4E-13	1.4E-12	8.2E-13	1.2E-12	4.2E-12	1.6E-11	9 5E-12	4 2E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S1 max	6.4E-06	2.2E-10	5.6E-10	3.4E-10	5.0E-10	1.7E-09	6.5E-09	3 9E-09	1.7E-09
Trichloroethane, 1,1,2-	5 7E-02	0.0035	1.0E-03	1.3E-05	S1 max	6.4E-06	2.2E-10	5.6E-10	3.4E-10	5.0E-10	1.7E-09	6.5E-09	3 9E-09	1.7E-09
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S1 max	9.5E-06	3.3E-10	8.3E-10	5.0E-10	7.4E-10	2.6E-09	9.7E-09	5 9E-09	2.6E-09
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	S1 max	1.2E-04	4.4E-09	1.1E-08	6.6E-09	9.6E-09	3.4E-08	1.3E-07	7 7E-08	3.4E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1 7E-09	7.7E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2 9E-09	1 7E-09	7.7E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S1 max	3.3E-05	1.2E-09	2.9E-09	1.7E-09	2 6E-09	9.0E-09	3.4E-08	2 0E-08	9.0E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S1 max	1.2E-04	4.4E-09	1.1E-08	6.6E-09	9.6E-09	3.4E-08	1 3E-07	7 7E-08	3.4E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S1 max	1.9E-04	6.8E-09	1.7E-08	1.0E-08	1.5E-08	5 3E-08	2 0E-07	1 2E-07	5 3E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S1 max	2.8E-06	9.9E-11	2.5E-10	1.5E-10	2.2E-10	7.7E-10	2.9E-09	1.7E-09	7.7E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S1 max	5.5E-12	1.9E-16	4.8E-16	2 9E-16	4 3E-16	1 5E-15	5 6E-15	3 4E-15	1 5E-15
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S1 max	3 5E-11	1.2E-15	3.0E-15	1 8E-15	2.7E-15	9 5E-15	3 5E-14	2 1E-14	9 5E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S1 max	4.6E-11	1.6E-15	4.0E-15	2 4E-15	3 6E-15	1 2E-14	4 7E-14	2 8E-14	1.2E-14
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S1 max	8.4E-11	3 0E-15	7.4E-15	4 5E-15	6 6E-15	2 3E-14	8 6E-14	5 2E-14	2 3E-14
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S1 max	5 6E-11	2 0E-15	4.9E-15	2 9E-15	4 3E-15	1 5E-14	5 7E-14	3 4E-14	1 5E-14
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	S1 max	6 3E-10	2.2E-14	5.5E-14	3 4E-14	4 9E-14	1 7E-13	6 5E-13	3 9E-13	1 7E-13
OCDD	1.5E+02	NA	NA	6.15E-09	S1 max	3 1E-09	1 1E-13	2.7E-13	1 7E-13	2 5E-13	8 6E-13	3 2E-12	1 9E-12	8 6E-13
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	S1 max	4 5E-11	1 6E-15	3 9E-15	2 4E-15	3 5E-15	1 2E-14	4 6E-14	2 8E-14	1 2E-14
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3 45E-10	S1 max	1 8E-10	6 2E-15	1 5E-14	9 3E-15	1 4E-14	4 8E-14	1 8E-13	1 1E-13	4 8E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S1 max	2 4E-10	8 4E-15	2 1E-14	1 3E-14	1 9E-14	6 5E-14	2 4E-13	1 5E-13	6 5E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1 43E-09	S1 max	7 3E-10	2.6E-14	6 4E-14	3 9E-14	5 7E-14	2 0E-13	7 4E-13	4 5E-13	2 0E-13
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	S1 max	6 8E-10	2 4E-14	6 0E-14	3 6E-14	5 3E-14	1 9E-13	7 0E-13	4 2E-13	1 9E-13
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S1 max	7 7E-10	2.7E-14	6 7E-14	4 1E-14	6 0E-14	2 1E-13	7 9E-13	4 7E-13	2 1E-13

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1 4E-04	5.5E-06	S1 max	NT	NT	NT	NT	5 4E-06	2.0E-05	1.2E-05	5.4E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S1 max	1.2E-08	2.9E-08	1.8E-08	2.6E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S1 max	NT	NT	NT	NT	6.3E-06	2.3E-05	1.4E-05	6.3E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S1 max	NT	NT	NT	NT	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Phenanthrene	NA	NA	NA	6.7E-06	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	S1 max	NT	NT	NT	NT	5 1E-09	1.9E-08	1.2E-08	5.1E-09
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S1 max	NT	NT	NT	NT	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	S1 max	NT	NT	NT	NT	4.4E-08	1.6E-07	9.9E-08	4 4E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7 5E-03	5.5E-06	S1 max	2.6E-12	6.4E-12	3.9E-12	5.7E-12	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	S1 max	2.0E-11	5.0E-11	3.0E-11	4.5E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	S1 max	1.9E-12	4.7E-12	2.8E-12	4.2E-12	2.9E-06	1.1E-05	6.5E-06	2.9E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S1 max	NT	NT	NT	NT	1.3E-07	4.7E-07	2.9E-07	1.3E-07
Toluene	NA	0.1	2.9E-02	6.1E-04	S1 max	NT	NT	NT	NT	3.0E-06	1.1E-05	6.8E-06	3.0E-06
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S1 max	NT	NT	NT	NT	2.2E-08	8.0E-08	4.9E-08	2 2E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S1 max	NT	NT	NT	NT	5.4E-08	2.0E-07	1.2E-07	5.4E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S1 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S1 max	NT	NT	NT	NT	2.4E-08	9.1E-08	5.5E-08	2.4E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S1 max	1.3E-11	3.2E-11	1.9E-11	2.8E-11	1.7E-06	6.5E-06	3.9E-06	1.7E-06
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S1 max	2.0E-12	5.0E-12	3.0E-12	4.4E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	S1 max	NT	NT	NT	NT	6.8E-07	2.6E-06	1.5E-06	6.8E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S1 max	NT	NT	NT	NT	3.1E-08	1.1E-07	6.9E-08	3.1E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S1 max	9.9E-13	2.5E-12	1.5E-12	2.2E-12	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S1 max	NT	NT	NT	NT	6.3E-07	2.3E-06	1.4E-06	6.3E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S1 max	1.3E-09	3.3E-09	2.0E-09	2.9E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S1 max	NT	NT	NT	NT	1.1E-07	4.0E-07	2.4E-07	1.1E-07
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S1 max	NT	NT	NT	NT	1.5E-09	5.7E-09	3.5E-09	1.5E-09
2,3,7,8-TCDD	1 5E+05	NA	NA	1.08E-11	S1 max	2.9E-11	7.2E-11	4.4E-11	6.5E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S1 max	9.1E-11	2.3E-10	1.4E-10	2.0E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S1 max	2.4E-11	6.0E-11	3 6E-11	5.4E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S1 max	4.5E-11	1.1E-10	6 7E-11	9 9E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S1 max	2.9E-11	7 3E-11	4 4E-11	6.5E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	S1 max	3.3E-11	8 3E-11	5 0E-11	7.4E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	S1 max	1.7E-11	4 1E-11	2 5E-11	3.7E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	S1 max	2.4E-11	5 9E-11	3 6E-11	5 2E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S1 max	4.6E-11	1 2E-10	7 0E-11	1 0E-10	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S1 max	6 3E-10	1 6E-09	9 5E-10	1 4E-09	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	S1 max	3.8E-10	9 6E-10	5 8E-10	8 5E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	S1 max	3 6E-10	9 0E-10	5 4E-10	8 0E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S1 max	4 1E-10	1.0E-09	6 1E-10	9 0E-10	NT	NT	NT	NT

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S1 max	1.5E-10	5.3E-15	1.3E-14	7.9E-15	1.2E-14	4.1E-14	1.5E-13	9.2E-14	4.1E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S1 max	4.7E-09	1.7E-13	4.2E-13	2.5E-13	3.7E-13	1.3E-12	4.9E-12	2.9E-12	1.3E-12
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S1 max	6.2E-10	2.2E-14	5.5E-14	3.3E-14	4.9E-14	1.7E-13	6.4E-13	3.9E-13	1.7E-13
OCDF	1.5E+02	NA	NA	1.89E-08	S1 max	9.7E-09	3.4E-13	8.5E-13	5.1E-13	7.6E-13	2.6E-12	9.9E-12	6.0E-12	2.6E-12
Dioxin TEQ				4.28E-08			7.7E-13	1.9E-12	1.2E-12	1.7E-12	6.0E-12	2.2E-11	1.3E-11	6.0E-12
Aluminum	NA	NA	NA	2.4E-04	S1 max	1.2E-04	4.3E-09	1.1E-08	6.5E-09	9.6E-09	3.4E-08	1.3E-07	7.6E-08	3.4E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	S1 max	2.1E-06	7.5E-11	1.9E-10	1.1E-10	1.7E-10	5.9E-10	2.2E-09	1.3E-09	5.9E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	S1 max	1.9E-05	6.6E-10	1.7E-09	1.0E-09	1.5E-09	5.2E-09	1.9E-08	1.2E-08	5.2E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	S1 max	7.7E-05	2.7E-09	6.7E-09	4.1E-09	6.0E-09	2.1E-08	7.8E-08	4.7E-08	2.1E-08
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S1 max	1.7E-08	5.9E-13	1.5E-12	8.9E-13	1.3E-12	4.6E-12	1.7E-11	1.0E-11	4.6E-12
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	S1 max	8.2E-06	2.9E-10	7.2E-10	4.3E-10	6.4E-10	2.2E-09	8.4E-09	5.0E-09	2.2E-09
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	S1 max	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S1 max	3.6E-07	1.3E-11	3.2E-11	1.9E-11	2.8E-11	9.9E-11	3.7E-10	2.2E-10	9.9E-11
Copper	NA	NA	NA	9.4E-05	S1 max	4.8E-05	1.7E-09	4.2E-09	2.5E-09	3.8E-09	1.3E-08	4.9E-08	3.0E-08	1.3E-08
Lead	NA	NA	NA	4.3E-05	S1 max	2.2E-05	7.7E-10	1.9E-09	1.2E-09	1.7E-09	6.0E-09	2.2E-08	1.4E-08	6.0E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	S1 max	7.1E-04	2.5E-08	6.3E-08	3.8E-08	5.6E-08	2.0E-07	7.3E-07	4.4E-07	2.0E-07
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S1 max	2.6E-06	9.0E-11	2.2E-10	1.4E-10	2.0E-10	7.0E-10	2.6E-09	1.6E-09	7.0E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	S1 max	2.4E-04	8.4E-09	2.1E-08	1.3E-08	1.9E-08	6.6E-08	2.5E-07	1.5E-07	6.6E-08
Silver	NA	0.004375	1.3E-03	1.5E-05	S1 max	7.7E-06	2.7E-10	6.7E-10	4.1E-10	6.0E-10	2.1E-09	7.8E-09	4.7E-09	2.1E-09
Thallium	NA	0.000061	1.8E-05	3.4E-05	S1 max	1.7E-05	6.1E-10	1.5E-09	9.2E-10	1.4E-09	4.7E-09	1.8E-08	1.1E-08	4.7E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	S1 max	6.1E-05	2.2E-09	5.4E-09	3.2E-09	4.8E-09	1.7E-08	6.3E-08	3.8E-08	1.7E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S1 max	1.6E-02	5.7E-07	1.4E-06	8.7E-07	1.3E-06	4.5E-06	1.7E-05	1.0E-05	4.5E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S1 max	1.2E+00	4.3E-05	1.1E-04	6.5E-05	9.7E-05	3.4E-04	1.3E-03	7.6E-04	3.4E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S1 max	4.6E-02	1.6E-06	4.1E-06	2.5E-06	3.6E-06	1.3E-05	4.7E-05	2.9E-05	1.3E-05
Particulate matter	NA	NA	NA	7.2E-02	S1 max	3.7E-02	1.3E-06	3.2E-06	1.9E-06	2.9E-06	1.0E-05	3.8E-05	2.3E-05	1.0E-05
Respirable particulates	NF	NF	NF	7.2E-02	S1 max	3.7E-02	1.3E-06	3.2E-06	1.9E-06	2.9E-06	1.0E-05	3.8E-05	2.3E-05	1.0E-05

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

External Review Draft, Do Not Cite or Quote

TABLE 19 Maximum Inhalation Risks and Noncancer HQs in Subarea S1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S1 max	7.9E-11	2.0E-10	1.2E-10	1.8E-10		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S1 max	2.5E-10	6.2E-10	3.8E-10	5.6E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S1 max	3.3E-11	8.2E-11	5.0E-11	7.3E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	S1 max	5.1E-11	1.3E-10	7.7E-11	1.1E-10		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		2.5E-09	6.3E-09	3.8E-09	5.6E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	S1 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	S1 max	NT	NT	NT	NT		5.9E-06	2.2E-05	1.3E-05	5.9E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	S1 max	3.3E-08	8.3E-08	5.0E-08	7.4E-08		6.9E-05	2.6E-04	1.6E-04	6.9E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	S1 max	NT	NT	NT	NT		5.9E-04	2.2E-03	1.3E-03	5.9E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S1 max	5.0E-12	1.2E-11	7.5E-12	1.1E-11		3.7E-09	1.4E-08	8.3E-09	3.7E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	S1 max	1.8E-09	4.4E-09	2.6E-09	3.9E-09		1.8E-05	6.7E-05	4.0E-05	1.8E-05
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	S1 max	5.2E-10	1.3E-09	7.9E-10	1.2E-09		7.9E-08	3.0E-07	1.8E-07	7.9E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S1 max	NT	NT	NT	NT		4.0E-10	1.5E-09	9.0E-10	4.0E-10
Copper	NA	NA	NA	9.4E-05	S1 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	S1 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	S1 max	NT	NT	NT	NT		9.1E-03	3.4E-02	2.1E-02	9.1E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S1 max	7.5E-11	1.9E-10	1.1E-10	1.7E-10		1.4E-07	5.2E-07	3.2E-07	1.4E-07
Selenium	NA	0.004375	1.3E-03	4.7E-04	S1 max	NT	NT	NT	NT		5.3E-05	2.0E-04	1.2E-04	5.3E-05
Silver	NA	0.004375	1.3E-03	1.5E-05	S1 max	NT	NT	NT	NT		1.7E-06	6.3E-06	3.8E-06	1.7E-06
Thallium	NA	0.000061	1.8E-05	3.4E-05	S1 max	NT	NT	NT	NT		2.7E-04	1.0E-03	6.1E-04	2.7E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	S1 max	NT	NT	NT	NT		2.2E-07	8.4E-07	5.0E-07	2.2E-07
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S1 max	NT	NT	NT	NT		8.9E-03	3.3E-02	2.0E-02	8.9E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S1 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S1 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	S1 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	S1 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	5.6E-08	1.4E-07	8.4E-08	1.2E-07					
										Total HI	2.2E-02	8.1E-02	4.9E-02	2.2E-02

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S2 max	9.4E-07	3 3E-11	8.2E-11	5 0E-11	7 3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Acenaphthylene	NF	NF	NF	6.7E-06	S2 max	9.4E-07	3.3E-11	8 2E-11	5.0E-11	7 3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S2 max	4.2E-05	1.5E-09	3.7E-09	2.2E-09	3.3E-09	1 2E-08	4 3E-08	2.6E-08	1.2E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	S2 max	4.1E-04	1.4E-08	3 6E-08	2.2E-08	3 2E-08	1.1E-07	4.2E-07	2 5E-07	1 1E-07
Acetophenone	NA	0 0875	2.5E-02	2.9E-04	S2 max	4.1E-05	1.4E-09	3 6E-09	2.2E-09	3 2E-09	1.1E-08	4 2E-08	2.5E-08	1.1E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S2 max	2.8E-05	1.0E-09	2 5E-09	1.5E-09	2.2E-09	7.7E-09	2.9E-08	1.7E-08	7.7E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S2 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1 6E-10	5.6E-10	2.1E-09	1 3E-09	5.6E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S2 max	1.6E-06	5.6E-11	1.4E-10	8.4E-11	1 2E-10	4.3E-10	1.6E-09	9.8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S2 max	4.5E-06	1.6E-10	3.9E-10	2.4E-10	3 5E-10	1 2E-09	4.6E-09	2.8E-09	1.2E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5.8E-10	2 6E-10
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S2 max	1.9E-06	6 6E-11	1.6E-10	9 9E-11	1.5E-10	5.1E-10	1.9E-09	1.2E-09	5.1E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5 0E-11	7.3E-11	2.6E-10	9.8E-10	5.8E-10	2.6E-10
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	S2 max	5 2E-06	1.8E-10	4.6E-10	2.8E-10	4.1E-10	1 4E-09	5.3E-09	3 2E-09	1 4E-09
Bromodichloromethane	NA	0.0175	5 0E-03	1.0E-04	S2 max	1.4E-05	5.1E-10	1.3E-09	7.7E-10	1.1E-09	4.0E-09	1.5E-08	8.9E-09	4 0E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S2 max	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4 2E-08	1.9E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2 6E-10	9.8E-10	5 8E-10	2.6E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	S2 max	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	S2 max	1 2E-05	4.4E-10	1.1E-09	6.6E-10	9.6E-10	3.4E-09	1.3E-08	7.7E-09	3 4E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S2 max	2.2E-05	7.8E-10	1.9E-09	1.2E-09	1.7E-09	6.1E-09	2.3E-08	1 4E-08	6 1E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S2 max	7.7E-08	2.7E-12	6.8E-12	4 1E-12	6.0E-12	2.1E-11	7.9E-11	4 8E-11	2.1E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.8E-10	5.8E-10	2.6E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S2 max	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.0E-10	1.4E-09	5.3E-09	3 2E-09	1.4E-09
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S2 max	6.9E-05	2.4E-09	6.0E-09	3.6E-09	5.4E-09	1.9E-08	7.0E-08	4 2E-08	1.9E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S2 max	3.7E-05	1.3E-09	3.3E-09	2.0E-09	2.9E-09	1.0E-08	3.8E-08	2 3E-08	1.0E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	S2 max	3 4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9 4E-09	3.5E-08	2 1E-08	9.4E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7 3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7.9E-10	4 8E-10	2 1E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S2 max	9.4E-07	3.3E-11	8 2E-11	5.0E-11	7 3E-11	2 6E-10	9.8E-10	5 8E-10	2 6E-10
Chrysene	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2 7E-11	6 8E-11	4.1E-11	6 0E-11	2.1E-10	7 9E-10	4 8E-10	2.1E-10
Cresol, m-	NA	0.04375	1 3E-02	5.5E-06	S2 max	7 7E-07	2.7E-11	6 8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6.0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6.0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	S2 max	1.9E-05	6.9E-10	1 7E-09	1 0E-09	1 5E-09	5.3E-09	2 0E-08	1 2E-08	5.3E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
DDE, 4,4'-	NA	NA	NA	5 5E-07	S2 max	7.7E-08	2 7E-12	6 8E-12	4 1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	S2 max	3 7E-06	1.3E-10	3 2E-10	2 0E-10	2 9E-10	1 0E-09	3 8E-09	2 3E-09	1 0E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S2 max	7.7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	S2 max	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5 5E-06	S2 max	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	S2 max	4 7E-06	1 6E-10	4 1E-10	2 5E-10	3 6E-10	1 3E-09	4 8E-09	2 9E-09	1 3E-09
Dichlorobiphenyl	NA	NA	NA	4 7E-08	S2 max	6 6E-09	2.3E-13	5 8E-13	3 5E-13	5 1E-13	1 8E-12	6 7E-12	4 1E-12	1 8E-12

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TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	S2 max	NT	NT	NT	NT	1.7E-08	6.4E-08	3.9E-08	1 7E-08
Acenaphthylene	NF	NF	NF	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	S2 max	1.1E-11	2.8E-11	1.7E-11	2 5E-11	1 8E-05	6.7E-05	4.1E-05	1.8E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	S2 max	NT	NT	NT	NT	4 4E-06	1.7E-05	1 0E-05	4 4E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S2 max	NT	NT	NT	NT	4.5E-07	1 7E-06	1.0E-06	4.5E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S2 max	2.4E-10	5.9E-10	3.6E-10	5.3E-10	5.4E-05	2.0E-04	1.2E-04	5.4E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S2 max	NT	NT	NT	NT	2.8E-09	1.1E-08	6.3E-09	2.8E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S2 max	2.1E-12	5.2E-12	3.2E-12	4.7E-12	1.3E-06	4.9E-06	3.0E-06	1 3E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S2 max	NT	NT	NT	NT	4.3E-10	1.6E-09	9.8E-10	4.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S2 max	7 2E-11	1.8E-10	1.1E-10	1.6E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	S2 max	NT	NT	NT	NT	2.6E-08	9.6E-08	5.8E-08	2 6E-08
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	S2 max	NT	NT	NT	NT	2.9E-07	1.1E-06	6.4E-07	2.9E-07
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	S2 max	NT	NT	NT	NT	7.9E-07	3.0E-06	1.8E-06	7.9E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	S2 max	1 0E-13	2.6E-13	1.6E-13	2.3E-13	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S2 max	NT	NT	NT	NT	5.3E-05	2.0E-04	1.2E-04	5.3E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	S2 max	NT	NT	NT	NT	2.6E-08	1.0E-07	6.2E-08	2.6E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S2 max	NT	NT	NT	NT	4.2E-09	1.6E-08	9.5E-09	4.2E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S2 max	NT	NT	NT	NT	4.8E-06	1.8E-05	1.1E-05	4.8E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S2 max	4 1E-11	1.0E-10	6.2E-11	9.1E-11	4.2E-05	1.6E-04	9.8E-05	4.2E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S2 max	3.5E-12	6.7E-12	5.3E-12	7.6E-12	1.4E-06	5.3E-06	3.2E-06	1.4E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S2 max	NT	NT	NT	NT	2.6E-07	9.6E-07	5.8E-07	2.6E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	S2 max	NT	NT	NT	NT	1.5E-07	5.5E-07	3.3E-07	1.5E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S2 max	5.0E-11	1.2E-10	7.5E-11	1.1E-10	2.8E-07	1.1E-06	6 4E-07	2 8E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S2 max	NT	NT	NT	NT	2.6E-08	9.8E-08	5.9E-08	2 6E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S2 max	1.1E-10	2.6E-10	1.6E-10	2.3E-10	4.1E-06	1.5E-05	9.2E-06	4.1E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	S2 max	7 6E-12	1.9E-11	1.1E-11	1.7E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S2 max	NT	NT	NT	NT	1.3E-08	4.8E-08	2 9E-08	1.3E-08
Chlorophenol, 2-	NA	0 004375	1.3E-03	5.5E-06	S2 max	NT	NT	NT	NT	1 7E-07	6.3E-07	3.8E-07	1.7E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	S2 max	NT	NT	NT	NT	1 7E-08	6 3E-08	3.8E-08	1.7E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S2 max	NT	NT	NT	NT	1.7E-08	6 3E-08	3 8E-08	1.7E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S2 max	NT	NT	NT	NT	1 7E-07	6.3E-07	3 8E-07	1.7E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0 00225	6.4E-04	5.5E-06	S2 max	NT	NT	NT	NT	3 3E-07	1 2E-06	7 4E-07	3.3E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0 0175	5.0E-03	2.6E-05	S2 max	NT	NT	NT	NT	2 0E-07	7 5E-07	4 6E-07	2.0E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5 5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	S2 max	NT	NT	NT	NT	3 7E-09	1 4E-08	8 3E-09	3.7E-09
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	S2 max	NT	NT	NT	NT	1 5E-08	5 5E-08	3 3E-08	1.5E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S2 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9 4E-09	3.5E-08	2 1E-08	9 4E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S2 max	1 8E-06	6 2E-11	1 5E-10	9 3E-11	1.4E-10	4 8E-10	1.8E-09	1.1E-09	4 8E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9 3E-11	1.4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1 8E-09	1 1E-09	4.8E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0 001	2.9E-04	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1 1E-09	4.8E-10
Dichloropropene (cis), 1,3-	1.3E-01	0 005	1.4E-03	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9 3E-11	1.4E-10	4.8E-10	1.8E-09	1 1E-09	4.8E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4 8E-10	1.8E-09	1 1E-09	4 8E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S2 max	2.4E-06	8.3E-11	2.1E-10	1 3E-10	1.8E-10	6.5E-10	2.4E-09	1 5E-09	6 5E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S2 max	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4 4E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	S2 max	2 2E-06	7.7E-11	1.9E-10	1.2E-10	1.7E-10	6.0E-10	2.2E-09	1 4E-09	6.0E-10
Dinitrotoluene, 2,6-	NA	0 000875	2.5E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7.9E-10	4 8E-10	2.1E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S2 max	6.9E-05	2.4E-09	6.1E-09	3.7E-09	5.4E-09	1.9E-08	7.1E-08	4 3E-08	1.9E-08
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2 1E-10	7.9E-10	4 8E-10	2.1E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	S2 max	5 4E-06	1.9E-10	4.8E-10	2.9E-10	4.3E-10	1 5E-09	5.6E-09	3 4E-09	1.5E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S2 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9 4E-09	3.5E-08	2 1E-08	9 4E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S2 max	7.0E-05	2.5E-09	6.1E-09	3.7E-09	5.5E-09	1.9E-08	7.1E-08	4 3E-08	1.9E-08
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1.2E-04	S2 max	1 6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4.4E-09
Ethylene oxide	3 5E-01	NA	NA	3.1E-05	S2 max	4.3E-06	1.5E-10	3.7E-10	2.3E-10	3.3E-10	1.2E-09	4.4E-09	2.6E-09	1 2E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S2 max	2.0E-11	7.2E-16	1.8E-15	1.1E-15	1.6E-15	5.6E-15	2.1E-14	1 3E-14	5 6E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4 1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S2 max	8.5E-05	3.0E-09	7.5E-09	4.5E-09	6.6E-09	2.3E-08	8.7E-08	5 3E-08	2 3E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S2 max	7.7E-08	2.7E-12	6.8E-12	4.1E-12	6.0E-12	2.1E-11	7.9E-11	4 8E-11	2.1E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6 6E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2 0E-12	1 2E-12	5.4E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	S2 max	1.4E-05	5.0E-10	1.2E-09	7.5E-10	1.1E-09	3.9E-09	1.4E-08	8 7E-09	3.9E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0 000263	7.5E-05	5.5E-05	S2 max	7.7E-08	2.7E-10	6.7E-10	4.1E-10	6 0E-10	2.1E-09	7 9E-09	4 7E-09	2.1E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S2 max	7.7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7.9E-10	4 8E-10	2.1E-10
Hexachloroethane	1.4E-02	0.000875	2 5E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2.1E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S2 max	4 5E-06	1.6E-10	3 9E-10	2.4E-10	3.5E-10	1 2E-09	4 6E-09	2 8E-09	1 2E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	S2 max	9.0E-06	3.2E-10	7 9E-10	4 8E-10	7 0E-10	2 5E-09	9 2E-09	5 6E-09	2.5E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S2 max	7 7E-07	2.7E-11	6 8E-11	4 1E-11	6 0E-11	2.1E-10	7 9E-10	4 8E-10	2 1E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	S2 max	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7.3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S2 max	1.6E-05	5.7E-10	1.4E-09	8 5E-10	1 3E-09	4.4E-09	1 6E-08	1 0E-08	4 4E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S2 max	7.7E-08	2 7E-12	6 8E-12	4.1E-12	6 0E-12	2 1E-11	7 9E-11	4 8E-11	2 1E-11
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	S2 max	1 8E-06	6.2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	S2 max	1 8E-06	6.2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S2 max	5 5E-05	2 0E-09	4 9E-09	2 9E-09	4 3E-09	1 5E-08	5 7E-08	3 4E-08	1 5E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S2 max	5 9E-06	2 1E-10	5 1E-10	3 1E-10	4 6E-10	1 6E-09	6 0E-09	3 6E-09	1 6E-09
Monochlorobiphenyl	NA	NA	NA	1 7E-08	S2 max	2 3E-09	8 2E-14	2 0E-13	1 2E-13	1 8E-13	6 4E-13	2.4E-12	1 4E-12	6 4E-13
Naphthalene	NA	0.035	1 0E-02	5.5E-06	S2 max	7 7E-07	2 7E-11	6 8E-11	4 1E-11	6 0E-11	2 1E-10	7 9E-10	4 8E-10	2 1E-10
Nitroaniline, 2-	NA	0.00005	1.4E-05	6 7E-06	S2 max	9 4E-07	3 3E-11	8 2E-11	5 0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2 6E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S2 max	9 4E-07	3 3E-11	8.2E-11	5 0E-11	7 3E-11	2 6E-10	9.6E-10	5 8E-10	2 6E-10

External Review Draft, Do Not Cite or Quote

TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	S2 max	NT	NT	NT	NT	6.6E-07	2.5E-06	1.5E-06	6.6E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S2 max	NT	NT	NT	NT	1 3E-08	5.0E-08	3.0E-08	1.3E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S2 max	5.6E-12	1 4E-11	8 4E-12	1 2E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S2 max	7.4E-11	1.8E-10	1.1E-10	1 6E-10	2 1E-07	8.0E-07	4.8E-07	2.1E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S2 max	NT	NT	NT	NT	9.6E-08	3.6E-07	2.2E-07	9.6E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S2 max	NT	NT	NT	NT	2 8E-07	1.1E-06	6.3E-07	2.8E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2 9E-04	1.3E-05	S2 max	NT	NT	NT	NT	1.7E-06	6.3E-06	3.8E-06	1 7E-06
Dichloropropene (cis), 1,3-	1.3E-01	0 005	1.4E-03	1.3E-05	S2 max	8.0E-12	2.0E-11	1 2E-11	1.8E-11	3 4E-07	1.3E-06	7.6E-07	3.4E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S2 max	8.0E-12	2.0E-11	1.2E-11	1.8E-11	3 4E-07	1.3E-06	7.6E-07	3.4E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S2 max	NT	NT	NT	NT	3.2E-09	1.2E-08	7.3E-09	3.2E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S2 max	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	S2 max	NT	NT	NT	NT	2.4E-08	9.0E-08	5.4E-08	2.4E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S2 max	NT	NT	NT	NT	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	S2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	S2 max	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	S2 max	NT	NT	NT	NT	6.0E-07	2.2E-06	1.3E-06	6 0E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.4E-07	4.2E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S2 max	NT	NT	NT	NT	2.7E-07	1.0E-06	6.0E-07	2.7E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S2 max	4.3E-10	1.1E-09	6.5E-10	9.6E-10	3.1E-04	1.2E-03	7.0E-04	3.1E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S2 max	5.3E-11	1.3E-10	7.9E-11	1.2E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S2 max	NT	NT	NT	NT	2.8E-10	1.0E-09	6.3E-10	2.8E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S2 max	NT	NT	NT	NT	2.1E-08	7.9E-08	4.8E-08	2.1E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	S2 max	NT	NT	NT	NT	2.6E-08	9.6E-08	5.8E-08	2.6E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S2 max	1.3E-10	3.4E-10	2.0E-10	3.0E-10	4 7E-07	1.7E-06	1.1E-06	4.7E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	S2 max	NT	NT	NT	NT	5.9E-08	2.2E-07	1.3E-07	5.9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S2 max	1.2E-11	3.0E-11	1.8E-11	2.7E-11	1.7E-07	6.3E-07	3.8E-07	1.7E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S2 max	4.4E-11	1.1E-10	6.6E-11	9.7E-11	1.1E-06	3.9E-06	2.4E-06	1.1E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	S2 max	3.9E-11	9.7E-11	5.8E-11	8.6E-11	7.7E-05	2.9E-04	1.7E-04	7 7E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S2 max	NT	NT	NT	NT	2 8E-05	1.0E-04	6.3E-05	2 8E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S2 max	NT	NT	NT	NT	4.2E-05	1.6E-04	9 5E-05	4 2E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	S2 max	3.8E-13	9.5E-13	5.7E-13	8.4E-13	8.4E-07	3.2E-06	1.9E-06	8.4E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S2 max	NT	NT	NT	NT	1 6E-05	6.1E-05	3.7E-05	1.6E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	S2 max	NT	NT	NT	NT	5.1E-09	1.9E-08	1 2E-08	5 1E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S2 max	NT	NT	NT	NT	3 5E-08	1 3E-07	8.0E-08	3.5E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S2 max	NT	NT	NT	NT	1 7E-08	6 3E-08	3 8E-08	1.7E-08
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	S2 max	NT	NT	NT	NT	2 2E-09	8 4E-09	5.1E-09	2 2E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5 7E-03	1.3E-05	S2 max	NT	NT	NT	NT	8 4E-08	3 1E-07	1.9E-07	8 4E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S2 max	3.2E-12	8 0E-12	4.8E-12	7 1E-12	7 1E-08	2 6E-07	1 6E-07	7.1E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	S2 max	NT	NT	NT	NT	2 1E-08	7 9E-08	4 8E-08	2 1E-08
Nitroaniline, 2-	NA	0 00005	1.4E-05	6 7E-06	S2 max	NT	NT	NT	NT	1 8E-05	6 7E-05	4 1E-05	1 8E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7 3E-11	2 6E-10	9 6E-10	5 8E-10	2.6E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2 1E-10	7.9E-10	4 8E-10	2.1E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7 3E-11	2 6E-10	9.6E-10	5 8E-10	2.6E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S2 max	1.7E-05	6.0E-10	1.5E-09	9.0E-10	1.3E-09	4.6E-09	1.7E-08	1 0E-08	4.6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2.6E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9 6E-10	5 8E-10	2.6E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2 0E-12	1 2E-12	5 4E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1 2E-12	5.4E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	S2 max	6.7E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1.8E-09	6.8E-09	4.1E-09	1 8E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2 0E-12	1 2E-12	5 4E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S2 max	4 7E-06	1.7E-10	4.1E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2.9E-09	1 3E-09
Pentachlorophenol	NA	0 02625	7.5E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Phenanthrene	NA	NA	NA	6.7E-06	S2 max	9.4E-07	3.3E-11	8.2E-11	5.0E-11	7.3E-11	2.6E-10	9.6E-10	5 8E-10	2 6E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S2 max	1.6E-05	5.7E-10	1.4E-09	8.5E-10	1.3E-09	4.4E-09	1.6E-08	1 0E-08	4.4E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	S2 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.6E-10	3.2E-09	1.9E-09	8.6E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	2.0E-09	6.9E-14	1.7E-13	1.0E-13	1.5E-13	5.4E-13	2.0E-12	1.2E-12	5 4E-13
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4 8E-10	2 1E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6 8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	S2 max	7.2E-06	2.5E-10	6.3E-10	3.8E-10	5.6E-10	2 0E-09	7.3E-09	4 4E-09	2 0E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S2 max	9.5E-07	3.4E-11	8.4E-11	5.0E-11	7.4E-11	2.6E-10	9.7E-10	5 9E-10	2 6E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	S2 max	8.6E-05	3.0E-09	7.5E-09	4.5E-09	6.7E-09	2.3E-08	8.8E-08	5 3E-08	2.3E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S2 max	4.6E-05	1.6E-09	4.1E-09	2.4E-09	3.6E-09	1.3E-08	4.7E-08	2 9E-08	1.3E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S2 max	4.2E-09	1.5E-13	3.7E-13	2.2E-13	3.3E-13	1.2E-12	4.3E-12	2 6E-12	1.2E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4 8E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S2 max	1.8E-06	6.2E-11	1.5E-10	9.3E-11	1.4E-10	4.8E-10	1.8E-09	1.1E-09	4.8E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.0E-10	7.1E-10	2.7E-09	1.6E-09	7.1E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	S2 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.4E-09	3.5E-08	2 1E-08	9.4E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6 0E-11	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7 9E-10	4 8E-10	2.1E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S2 max	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.0E-10	2.5E-09	9.2E-09	5 6E-09	2.5E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S2 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2 7E-09	9.4E-09	3 5E-08	2 1E-08	9.4E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S2 max	5.3E-05	1.9E-09	4.7E-09	2.8E-09	4.2E-09	1.5E-08	5.4E-08	3 3E-08	1.5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S2 max	7.7E-07	2.7E-11	6.8E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4 8E-10	2.1E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S2 max	1.5E-12	5.3E-17	1.3E-16	8 0E-17	1 2E-16	4 1E-16	1 5E-15	9 4E-16	4 1E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S2 max	9.5E-12	3.3E-16	8.3E-16	5.0E-16	7.4E-16	2.6E-15	9.7E-15	5 9E-15	2 6E-15
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S2 max	1.3E-11	4.4E-16	1 1E-15	6.6E-16	9.8E-16	3 4E-15	1 3E-14	7 7E-15	3 4E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S2 max	2.3E-11	8.2E-16	2.0E-15	1.2E-15	1.8E-15	6 3E-15	2 4E-14	1 4E-14	6 3E-15
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	S2 max	1.5E-11	5 4E-16	1 3E-15	8 1E-16	1.2E-15	4 2E-15	1 6E-14	9 4E-15	4 2E-15
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	S2 max	1.7E-10	6 1E-15	1 5E-14	9 2E-15	1 4E-14	4 8E-14	1 8E-13	1 1E-13	4 8E-14
OCDD	1 5E+02	NA	NA	6.15E-09	S2 max	8 6E-10	3.0E-14	7 5E-14	4 6E-14	6 7E-14	2 4E-13	8 8E-13	5 3E-13	2 4E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	S2 max	1 2E-11	4 3E-16	1.1E-15	6 5E-16	9 6E-16	3 4E-15	1 3E-14	7 6E-15	3 4E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	S2 max	4 8E-11	1.7E-15	4 2E-15	2 6E-15	3 8E-15	1 3E-14	4 9E-14	3 0E-14	1 3E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S2 max	6 5E-11	2.3E-15	5 7E-15	3 5E-15	5 1E-15	1 8E-14	6 7E-14	4 0E-14	1 8E-14
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	S2 max	2 0E-10	7 0E-15	1 8E-14	1 1E-14	1 6E-14	5 5E-14	2 0E-13	1 2E-13	5 5E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	S2 max	1 9E-10	6 6E-15	1 6E-14	9 9E-15	1 5E-14	5 1E-14	1 9E-13	1 2E-13	5 1E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S2 max	2 1E-10	7 4E-15	1 8E-14	1 1E-14	1 6E-14	5 8E-14	2 2E-13	1 3E-13	5 8E-14

External Review Draft, Do Not Cite or Quote

TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6 7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S2 max	NT	NT	NT	NT	1.5E-06	5.5E-06	3.3E-06	1.5E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S2 max	3.2E-09	8.0E-09	4.8E-09	7.2E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S2 max	NT	NT	NT	NT	1.7E-06	6.4E-06	3.9E-06	1.7E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S2 max	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Phenanthrene	NA	NA	NA	6.7E-06	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	S2 max	NT	NT	NT	NT	1.4E-09	5.3E-09	3.2E-09	1.4E-09
Pyrene	NA	0.02625	7 5E-03	5.5E-06	S2 max	NT	NT	NT	NT	2.8E-08	1.1E-07	6.3E-08	2.8E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	S2 max	NT	NT	NT	NT	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0.02625	7.5E-03	5.5E-06	S2 max	7.0E-13	1.7E-12	1.1E-12	1.6E-12	2.8E-08	1.1E-07	6.3E-08	2 8E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	S2 max	5.5E-12	1.4E-11	8.3E-12	1.2E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	S2 max	5.1E-13	1.3E-12	7.7E-13	1.1E-12	7.9E-07	2.9E-06	1.8E-06	7 9E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S2 max	NT	NT	NT	NT	3.5E-08	1.3E-07	7.8E-08	3.5E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	S2 max	NT	NT	NT	NT	8.2E-07	3.1E-06	1.9E-06	8 2E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S2 max	NT	NT	NT	NT	5.9E-09	2.2E-08	1.3E-08	5 9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S2 max	NT	NT	NT	NT	1.5E-06	5.5E-06	3.3E-06	1.5E-06
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S2 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S2 max	NT	NT	NT	NT	6.7E-09	2.5E-08	1.5E-08	6 7E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S2 max	3.5E-12	8.7E-12	5.3E-12	7.8E-12	4.8E-07	1.8E-06	1.1E-06	4.8E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S2 max	5.5E-13	1.4E-12	8.2E-13	1.2E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	S2 max	NT	NT	NT	NT	1.9E-07	7.0E-07	4.2E-07	1 9E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S2 max	NT	NT	NT	NT	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S2 max	2.7E-13	6.8E-13	4.1E-13	6.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S2 max	NT	NT	NT	NT	1.7E-07	6.4E-07	3.9E-07	1.7E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S2 max	3.6E-10	9.0E-10	5.5E-10	8.1E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S2 max	NT	NT	NT	NT	2 9E-08	1.1E-07	6.6E-08	2 9E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S2 max	NT	NT	NT	NT	4.2E-10	1.6E-09	9.5E-10	4.2E-10
2,3,7,8-TCDD	1 5E+05	NA	NA	1.08E-11	S2 max	8.0E-12	2.0E-11	1.2E-11	1.8E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S2 max	2.5E-11	6.2E-11	3.8E-11	5.6E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S2 max	6.6E-12	1.6E-11	1.0E-11	1.5E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S2 max	1.2E-11	3.1E-11	1.8E-11	2 7E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1 09E-10	S2 max	8.1E-12	2.0E-11	1 2E-11	1 8E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	S2 max	9.2E-12	2.3E-11	1 4E-11	2 0E-11	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6 15E-09	S2 max	4.5E-12	1.1E-11	6 8E-12	1 0E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	S2 max	6.5E-12	1.6E-11	9 8E-12	1 4E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S2 max	1.3E-11	3 2E-11	1 9E-11	2 8E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	S2 max	1.7E-10	4 3E-10	2.6E-10	3.8E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1 43E-09	S2 max	1 1E-10	2 6E-10	1 6E-10	2 3E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	S2 max	9 9E-11	2 5E-10	1 5E-10	2 2E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S2 max	1.1E-10	2.8E-10	1 7E-10	2 5E-10	NT	NT	NT	NT

TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S2 max	4.1E-11	1.4E-15	3.6E-15	2.2E-15	3.2E-15	1 1E-14	4.2E-14	2.5E-14	1 1E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S2 max	1.3E-09	4.6E-14	1 1E-13	6 9E-14	1 0E-13	3 6E-13	1.3E-12	8.1E-13	3.6E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S2 max	1.7E-10	6 0E-15	1 5E-14	9 1E-15	1.3E-14	4.7E-14	1.7E-13	1.1E-13	4.7E-14
OCDF	1.5E+02	NA	NA	1.89E-08	S2 max	2.7E-09	9.3E-14	2 3E-13	1.4E-13	2.1E-13	7.3E-13	2.7E-12	1.6E-12	7 3E-13
Dioxin TEQ				4.28E-08			2.1E-13	5.3E-13	3.2E-13	4.7E-13	1.6E-12	6.1E-12	3 7E-12	1 6E-12
Aluminum	NA	NA	NA	2.4E-04	S2 max	3.4E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.2E-09	3.4E-08	2.1E-08	9 2E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	S2 max	5.9E-07	2.1E-11	5.2E-11	3.1E-11	4 6E-11	1.6E-10	6.0E-10	3.6E-10	1.6E-10
Arsenic	50	0.000263	7 5E-05	3.7E-05	S2 max	5.2E-06	1.8E-10	4.5E-10	2.7E-10	4.1E-10	1.4E-09	5.3E-09	3.2E-09	1.4E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	S2 max	2.1E-05	7.4E-10	1.8E-09	1.1E-09	1 6E-09	5.8E-09	2.1E-08	1.3E-08	5.8E-09
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	S2 max	4.6E-09	1.6E-13	4.1E-13	2.4E-13	3.6E-13	1 3E-12	4.7E-12	2.9E-12	1.3E-12
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	S2 max	2.2E-06	7.9E-11	2.0E-10	1.2E-10	1.8E-10	6.1E-10	2.3E-09	1 4E-09	6.1E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	S2 max	9.9E-08	3.5E-12	8.7E-12	5 3E-12	7.8E-12	2.7E-11	1.0E-10	6 1E-11	2.7E-11
Chromium (trivalent)	NA	0.875	2 5E-01	7.1E-07	S2 max	9.9E-08	3.5E-12	8.7E-12	5.3E-12	7.8E-12	2.7E-11	1.0E-10	6 1E-11	2 7E-11
Copper	NA	NA	NA	9.4E-05	S2 max	1.3E-05	4.6E-10	1.2E-09	7 0E-10	1.0E-09	3.6E-09	1.3E-08	8.1E-09	3.6E-09
Lead	NA	NA	NA	4.3E-05	S2 max	6.0E-06	2.1E-10	5.3E-10	3 2E-10	4.7E-10	1.6E-09	6.2E-09	3.7E-09	1.6E-09
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	S2 max	2.0E-04	6.9E-09	1.7E-08	1.0E-08	1.5E-08	5.4E-08	2.0E-07	1 2E-07	5 4E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S2 max	7.0E-07	2.5E-11	6 1E-11	3.7E-11	5.5E-11	1.9E-10	7.2E-10	4 3E-10	1.9E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	S2 max	6.6E-05	2.3E-09	5.8E-09	3.5E-09	5.1E-09	1.8E-08	6.7E-08	4.1E-08	1.8E-08
Silver	NA	0.004375	1 3E-03	1.5E-05	S2 max	2.1E-06	7.4E-11	1.8E-10	1.1E-10	1.6E-10	5 8E-10	2.1E-09	1.3E-09	5.8E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	S2 max	4.8E-06	1.7E-10	4.2E-10	2.5E-10	3.7E-10	1.3E-09	4.9E-09	2.9E-09	1.3E-09
Zinc	NA	0.2625	7 5E-02	1.2E-04	S2 max	1.7E-05	5.9E-10	1.5E-09	8.9E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S2 max	4.5E-03	1 6E-07	3.9E-07	2.4E-07	3.5E-07	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S2 max	3.4E-01	1.2E-05	3.0E-05	1.8E-05	2.7E-05	9.3E-05	3.5E-04	2 1E-04	9.3E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S2 max	1.3E-02	4.5E-07	1.1E-06	6.8E-07	1.0E-06	3.5E-06	1.3E-05	7.9E-06	3.5E-06
Particulate matter	NA	NA	NA	7.2E-02	S2 max	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6.2E-06	2.8E-06
Respirable particulates	NF	NF	NF	7.2E-02	S2 max	1.0E-02	3.5E-07	8.8E-07	5.3E-07	7.9E-07	2.8E-06	1.0E-05	6.2E-06	2.8E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 20 Maximum Inhalation Risks and Noncancer HQs in Subarea S2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S2 max	2.2E-11	5.4E-11	3.3E-11	4.8E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S2 max	6.9E-11	1.7E-10	1.0E-10	1.5E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S2 max	9.0E-12	2.2E-11	1.4E-11	2.0E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	S2 max	1.4E-11	3.5E-11	2.1E-11	3.1E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		6.9E-10	1.7E-09	1.0E-09	1.5E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	S2 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	S2 max	NT	NT	NT	NT		1.6E-06	6.0E-06	3.6E-06	1.6E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	S2 max	9.1E-09	2.3E-08	1.4E-08	2.0E-08		1.9E-05	7.1E-05	4.3E-05	1.9E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	S2 max	NT	NT	NT	NT		1.6E-04	6.0E-04	3.6E-04	1.6E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S2 max	1.4E-12	3.4E-12	2.1E-12	3.0E-12		1.0E-09	3.8E-09	2.3E-09	1.0E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	S2 max	4.8E-10	1.2E-09	7.2E-10	1.1E-09		4.9E-06	1.8E-05	1.1E-05	4.9E-06
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	S2 max	1.4E-10	3.6E-10	2.2E-10	3.2E-10		2.2E-08	8.1E-08	4.9E-08	2.2E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S2 max	NT	NT	NT	NT		1.1E-10	4.1E-10	2.5E-10	1.1E-10
Copper	NA	NA	NA	9.4E-05	S2 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	S2 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	S2 max	NT	NT	NT	NT		2.5E-03	9.4E-03	5.7E-03	2.5E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	S2 max	2.1E-11	5.2E-11	3.1E-11	4.6E-11		3.8E-08	1.4E-07	8.7E-08	3.8E-08
Selenium	NA	0.004375	1.3E-03	4.7E-04	S2 max	NT	NT	NT	NT		1.4E-05	5.4E-05	3.3E-05	1.4E-05
Silver	NA	0.004375	1.3E-03	1.5E-05	S2 max	NT	NT	NT	NT		4.6E-07	1.7E-06	1.0E-06	4.6E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	S2 max	NT	NT	NT	NT		7.4E-05	2.8E-04	1.7E-04	7.4E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	S2 max	NT	NT	NT	NT		6.1E-08	2.3E-07	1.4E-07	6.1E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S2 max	NT	NT	NT	NT		2.5E-03	9.2E-03	5.5E-03	2.5E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S2 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S2 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	S2 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	S2 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.5E-08	3.8E-08	2.3E-08	3.4E-08					
										Total HI	5.9E-03	2.2E-02	1.3E-02	5.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

External Review Draft Not Cite or Quote

TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0 0525	1.5E-02	6.7E-06	S3 max	2.8E-07	9.9E-12	2 5E-11	1 5E-11	2 2E-11	7.7E-11	2.9E-10	1 7E-10	7 7E-11
Acenaphthylene	NF	NF	NF	6.7E-06	S3 max	2 8E-07	9.9E-12	2.5E-11	1 5E-11	2 2E-11	7 7E-11	2.9E-10	1 7E-10	7.7E-11
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3 0E-04	S3 max	1.3E-05	4.5E-10	1.1E-09	6 7E-10	9.9E-10	3 5E-09	1.3E-08	7 8E-09	3 5E-09
Acetone	NA	0 0875	2.5E-02	2.9E-03	S3 max	1.2E-04	4.3E-09	1.1E-08	6.5E-09	9.5E-09	3.3E-08	1.2E-07	7 5E-08	3 3E-08
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S3 max	1 2E-05	4.3E-10	1.1E-09	6.5E-10	9.6E-10	3.4E-09	1.3E-08	7.6E-09	3 4E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S3 max	8.5E-06	3.0E-10	7.4E-10	4 5E-10	6.6E-10	2.3E-09	8.7E-09	5 2E-09	2.3E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6 3E-11
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S3 max	6.2E-07	2.2E-11	5.4E-11	3.3E-11	4.8E-11	1.7E-10	6 3E-10	3 8E-10	1.7E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S3 max	4 7E-07	1.7E-11	4.2E-11	2.5E-11	3.7E-11	1.3E-10	4.9E-10	2.9E-10	1.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S3 max	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.1E-10	3.7E-10	1.4E-09	8.3E-10	3 7E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6 3E-11
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6.3E-11
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6 3E-11	2.4E-10	1.4E-10	6 3E-11
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1 2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1.7E-10	7.7E-11
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S3 max	5.6E-07	2.0E-11	4.9E-11	3 0E-11	4.4E-11	1.5E-10	5.7E-10	3 5E-10	1 5E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1.7E-10	7 7E-11
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	S3 max	1.6E-06	5.5E-11	1.4E-10	8 3E-11	1.2E-10	4.3E-10	1.6E-09	9 7E-10	4 3E-10
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	S3 max	4.3E-06	1.5E-10	3.8E-10	2.3E-10	3.4E-10	1.2E-09	4.4E-09	2 7E-09	1.2E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6 3E-11
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S3 max	2.1E-05	7.2E-10	1.8E-09	1.1E-09	1.6E-09	5.6E-09	2.1E-08	1.3E-08	5 6E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1.7E-10	7 7E-11
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	S3 max	2.2E-06	7.6E-11	1.9E-10	1.1E-10	1.7E-10	5.9E-10	2.2E-09	1 3E-09	5 9E-10
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6.3E-11
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S3 max	3.7E-06	1.3E-10	3.3E-10	2.0E-10	2.9E-10	1.0E-09	3.8E-09	2 3E-09	1.0E-09
Carbon tetrachloride	5.3E-02	0.0005	1 4E-04	1.6E-04	S3 max	6.6E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1.8E-09	6.8E-09	4 1E-09	1.8E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S3 max	2.3E-08	8.1E-13	2.0E-12	1.2E-12	1.8E-12	6.3E-12	2.4E-11	1 4E-11	6.3E-12
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1.7E-10	7.7E-11
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1 7E-10	7.7E-11
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6.3E-11
Chlorobenzilate	2.7E-01	0.0175	5 0E-03	3.7E-05	S3 max	1.5E-06	5.4E-11	1 4E-10	8.2E-11	1.2E-10	4.2E-10	1.6E-09	9 6E-10	4.2E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	S3 max	2 1E-05	7.2E-10	1.8E-09	1.1E-09	1.6E-09	5.6E-09	2.1E-08	1 3E-08	5.6E-09
Chloroform	8.1E-02	0.00875	2 5E-03	2.7E-04	S3 max	1.1E-05	3.9E-10	9.8E-10	5.9E-10	8.7E-10	3.1E-09	1.1E-08	6 9E-09	3.1E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	S3 max	1.0E-05	3.6E-10	9.0E-10	5.5E-10	8.1E-10	2.8E-09	1.1E-08	6 4E-09	2.8E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7 7E-11	2.9E-10	1 7E-10	7.7E-11
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S3 max	2 3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2 4E-10	1 4E-10	6.3E-11
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2 2E-11	7.7E-11	2.9E-10	1 7E-10	7 7E-11
Chrysene	NA	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1 2E-11	1.8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	S3 max	2.3E-07	8 1E-12	2.0E-11	1.2E-11	1.8E-11	6 3E-11	2 4E-10	1 4E-10	6.3E-11
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S3 max	2.3E-07	8.1E-12	2 0E-11	1 2E-11	1.8E-11	6 3E-11	2.4E-10	1 4E-10	6 3E-11
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6 3E-11
Crotonaldehyde	NA	NA	NA	1.4E-04	S3 max	5.8E-06	2.1E-10	5 1E-10	3 1E-10	4 6E-10	1.6E-09	6 0E-09	3 6E-09	1 6E-09
Cumene	NA	0.00225	6.4E-04	5 5E-06	S3 max	2 3E-07	8 1E-12	2.0E-11	1 2E-11	1 8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
DDE, 4,4'-	NA	NA	NA	5.5E-07	S3 max	2 3E-08	8 1E-13	2 0E-12	1 2E-12	1 8E-12	6 3E-12	2 4E-11	1 4E-11	6 3E-12
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	S3 max	2.3E-07	8 1E-12	2 0E-11	1 2E-11	1 8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	S3 max	1 1E-06	3 9E-11	9 7E-11	5 9E-11	8 6E-11	3 0E-10	1 1E-09	6 8E-10	3 0E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	S3 max	2 3E-07	8 1E-12	2 0E-11	1 2E-11	1 8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	S3 max	2.3E-07	8 1E-12	2 0E-11	1 2E-11	1 8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	S3 max	2 3E-07	8 1E-12	2 0E-11	1 2E-11	1 8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	S3 max	1 4E-06	4 9E-11	1 2E-10	7 4E-11	1 1E-10	3 8E-10	1 4E-09	8 6E-10	3 8E-10
Dichlorobiphenyl	NA	NA	NA	4 7E-08	S3 max	2 0E-09	6 9E-14	1 7E-13	1 0E-13	1 5E-13	5 4E-13	2 0E-12	1 2E-12	5 4E-13

External Review Draft, Do Not Cite or Quote

TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0 0525	1.5E-02	6.7E-06	S3 max	NT	NT	NT	NT	5 1E-09	1.9E-08	1.2E-08	5.1E-09
Acenaphthylene	NF	NF	NF	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	S3 max	3.4E-12	8.5E-12	5.2E-12	7.6E-12	5 4E-06	2.0E-05	1.2E-05	5 4E-06
Acetone	NA	0.0875	2 5E-02	2.9E-03	S3 max	NT	NT	NT	NT	1 3E-06	5.0E-06	3.0E-06	1.3E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	S3 max	NT	NT	NT	NT	1.3E-07	5.0E-07	3.0E-07	1.3E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	S3 max	7.1E-11	1.8E-10	1 1E-10	1.6E-10	1.6E-05	6.1E-05	3.7E-05	1 6E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	S3 max	NT	NT	NT	NT	8.4E-10	3.2E-09	1.9E-09	8.4E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	S3 max	6.3E-13	1.6E-12	9.5E-13	1.4E-12	3 9E-07	1.5E-06	8.9E-07	3.9E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	S3 max	NT	NT	NT	NT	1.3E-10	4.9E-10	2.9E-10	1.3E-10
Benzotrichloride	NA	NA	NA	3.2E-05	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	S3 max	2.2E-11	5.4E-11	3.3E-11	4.8E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	S3 max	NT	NT	NT	NT	7.7E-09	2.9E-08	1.7E-08	7.7E-09
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	S3 max	NT	NT	NT	NT	8.6E-08	3.2E-07	1.9E-07	8.6E-08
Bromodichloromethane	NA	0.0175	5 0E-03	1.0E-04	S3 max	NT	NT	NT	NT	2.4E-07	8.9E-07	5.4E-07	2 4E-07
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	S3 max	3.1E-14	7.8E-14	4.7E-14	7.0E-14	1.3E-08	4.7E-08	2.9E-08	1.3E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	S3 max	NT	NT	NT	NT	1.6E-05	5.9E-05	3.6E-05	1.6E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	S3 max	NT	NT	NT	NT	8.3E-09	3.1E-08	1.9E-08	8 3E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	S3 max	NT	NT	NT	NT	1.3E-09	4.7E-09	2.9E-09	1.3E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	S3 max	NT	NT	NT	NT	1.4E-08	5.4E-08	3.2E-08	1.4E-08
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	S3 max	1.2E-11	3.1E-11	1.9E-11	2.7E-11	1.3E-05	4.8E-05	2.9E-05	1.3E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	S3 max	1.1E-12	2.6E-12	1.6E-12	2.3E-12	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	S3 max	NT	NT	NT	NT	7.7E-08	2.9E-07	1.7E-07	7.7E-08
Chlorobenzene	NA	0.005	1 4E-03	5.5E-06	S3 max	NT	NT	NT	NT	4.4E-08	1.7E-07	1.0E-07	4.4E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	S3 max	1.5E-11	3.7E-11	2.2E-11	3.3E-11	8.5E-08	3.2E-07	1.9E-07	8.5E-08
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	S3 max	NT	NT	NT	NT	7.9E-09	2.9E-08	1.8E-08	7.9E-09
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	S3 max	3.2E-11	7.9E-11	4.8E-11	7.0E-11	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	S3 max	2.3E-12	5.7E-12	3.4E-12	5.1E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	S3 max	NT	NT	NT	NT	3.8E-09	1.4E-08	8.7E-09	3.8E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	S3 max	NT	NT	NT	NT	5.1E-08	1.9E-07	1.1E-07	5.1E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	S3 max	NT	NT	NT	NT	5 1E-09	1 9E-08	1.1E-08	5.1E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	S3 max	NT	NT	NT	NT	5 1E-09	1 9E-08	1.1E-08	5.1E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	S3 max	NT	NT	NT	NT	5.1E-08	1.9E-07	1.1E-07	5.1E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	S3 max	NT	NT	NT	NT	9 8E-08	3.7E-07	2.2E-07	9 8E-08
DDE, 4,4'-	NA	NA	NA	5.5E-07	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	S3 max	NT	NT	NT	NT	6 1E-08	2.3E-07	1 4E-07	6 1E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	S3 max	NT	NT	NT	NT	1 1E-09	4 1E-09	2 5E-09	1.1E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	S3 max	NT	NT	NT	NT	4 4E-09	1.7E-08	1 0E-08	4.4E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	S3 max	1.0E-05	3.6E-10	9.0E-10	5.5E-10	8 1E-10	2 8E-09	1.1E-08	6.4E-09	2 8E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S3 max	5 3E-07	1.8E-11	4 6E-11	2 8E-11	4.1E-11	1 4E-10	5.4E-10	3 2E-10	1 4E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S3 max	5 3E-07	1.8E-11	4.6E-11	2 8E-11	4.1E-11	1 4E-10	5 4E-10	3 2E-10	1.4E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S3 max	5.3E-07	1.8E-11	4.6E-11	2 8E-11	4 1E-11	1.4E-10	5.4E-10	3 2E-10	1 4E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S3 max	5 3E-07	1.8E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 2E-10	1 4E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S3 max	2 3E-07	8.1E-12	2.0E-11	1 2E-11	1.8E-11	6.3E-11	2 4E-10	1 4E-10	6 3E-11
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S3 max	5 3E-07	1.8E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 2E-10	1.4E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 max	5 3E-07	1.8E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 2E-10	1.4E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 max	5.3E-07	1.8E-11	4.6E-11	2.8E-11	4 1E-11	1.4E-10	5 4E-10	3.2E-10	1.4E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S3 max	7.1E-07	2.5E-11	6.2E-11	3.8E-11	5 5E-11	1 9E-10	7.2E-10	4.4E-10	1 9E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S3 max	4.8E-06	1.7E-10	4.2E-10	2.6E-10	3.8E-10	1 3E-09	4.9E-09	3.0E-09	1.3E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6.3E-11
Dimethylphthalate	NA	NA	NA	5.5E-06	S3 max	2 3E-07	8.1E-12	2 0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6.3E-11
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	S3 max	6.6E-07	2.3E-11	5.8E-11	3.5E-11	5.1E-11	1.8E-10	6.7E-10	4.1E-10	1.8E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6 3E-11	2.4E-10	1.4E-10	6 3E-11
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S3 max	2.3E-07	8 1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S3 max	2.3E-07	8 1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S3 max	2.1E-05	7.3E-10	1.8E-09	1.1E-09	1.6E-09	5.7E-09	2.1E-08	1.3E-08	5 7E-09
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	S3 max	2 3E-07	8.1E-12	2 0E-11	1 2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
D, 2,4-	NA	0 00875	2.5E-03	3.9E-05	S3 max	1.6E-06	5.7E-11	1.4E-10	8.6E-11	1.3E-10	4.5E-10	1.7E-09	1 0E-09	4.5E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S3 max	1.0E-05	3.6E-10	9.0E-10	5.5E-10	8.1E-10	2.6E-09	1.1E-08	6.4E-09	2 8E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S3 max	2.1E-05	7.4E-10	1.8E-09	1.1E-09	1.6E-09	5.7E-09	2.1E-08	1 3E-08	5.7E-09
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1.2E-04	S3 max	4.8E-06	1.7E-10	4.2E-10	2.6E-10	3.8E-10	1.3E-09	4.9E-09	3.0E-09	1.3E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S3 max	1.3E-06	4.5E-11	1.1E-10	6.8E-11	1.0E-10	3.5E-10	1.3E-09	7 9E-10	3 5E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S3 max	6.1E-12	2.2E-16	5.4E-16	3.3E-16	4.8E-16	1.7E-15	6.3E-15	3.8E-15	1.7E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6.3E-11
Fluorene	NA	0.035	1.0E-02	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1 7E-10	7.7E-11
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	S3 max	2 5E-05	9.0E-10	2.2E-09	1.4E-09	2.0E-09	7.0E-09	2.6E-08	1.6E-08	7.0E-09
Furfural	NA	0.0125	3.6E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6.3E-11
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S3 max	2.3E-08	8.1E-13	2.0E-12	1.2E-12	1.8E-12	6.3E-12	2.4E-11	1 4E-11	6 3E-12
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	5 9E-10	2.1E-14	5.2E-14	3.1E-14	4.6E-14	1.6E-13	6.0E-13	3 6E-13	1.6E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	5.9E-10	2.1E-14	5.2E-14	3.1E-14	4.6E-14	1.6E-13	6.0E-13	3 6E-13	1.6E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	S3 max	4.2E-06	1.5E-10	3.7E-10	2.2E-10	3.3E-10	1.2E-09	4 3E-09	2 6E-09	1.2E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S3 max	2.3E-06	8.1E-11	2.0E-10	1.2E-10	1.8E-10	6 3E-10	2.4E-09	1 4E-09	6.3E-10
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6 3E-11	2.4E-10	1.4E-10	6 3E-11
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1 2E-11	1.8E-11	6.3E-11	2 4E-10	1.4E-10	6.3E-11
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S3 max	1.3E-06	4.7E-11	1.2E-10	7.1E-11	1.1E-10	3.7E-10	1 4E-09	6 3E-10	3 7E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	S3 max	2.7E-06	9.5E-11	2 4E-10	1.4E-10	2 1E-10	7.4E-10	2 6E-09	1.7E-09	7 4E-10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5 5E-06	S3 max	2.3E-07	8 1E-12	2 0E-11	1 2E-11	1.8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
Isophorone	NA	0.175	5.0E-02	6.7E-06	S3 max	2 8E-07	9 9E-12	2 5E-11	1.5E-11	2 2E-11	7.7E-11	2 9E-10	1 7E-10	7.7E-11
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S3 max	4 8E-06	1 7E-10	4 2E-10	2 6E-10	3 8E-10	1.3E-09	4 9E-09	3 0E-09	1.3E-09
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S3 max	2 3E-08	8.1E-13	2 0E-12	1 2E-12	1 8E-12	6 3E-12	2 4E-11	1 4E-11	6 3E-12
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	S3 max	5 3E-07	1.8E-11	4 6E-11	2 8E-11	4 1E-11	1 4E-10	5 4E-10	3 2E-10	1 4E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	S3 max	5 3E-07	1 8E-11	4 6E-11	2 8E-11	4.1E-11	1 4E-10	5 4E-10	3 2E-10	1 4E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S3 max	1 7E-05	5 9E-10	1 5E-09	8 8E-10	1 3E-09	4 6E-09	1 7E-08	1 0E-08	4 6E-09
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S3 max	1 8E-06	6 2E-11	1 5E-10	9 3E-11	1 4E-10	4 8E-10	1 8E-09	1 1E-09	4 8E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	S3 max	7 0E-10	2 5E-14	6 1E-14	3 7E-14	5 5E-14	1 9E-13	7 2E-13	4 3E-13	1 9E-13
Naphthalene	NA	0.035	1.0E-02	5.5E-06	S3 max	2 3E-07	8 1E-12	2 0E-11	1 2E-11	1 8E-11	6 3E-11	2 4E-10	1 4E-10	6 3E-11
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	S3 max	2 8E-07	9 9E-12	2 5E-11	1 5E-11	2 2E-11	7 7E-11	2 9E-10	1 7E-10	7 7E-11
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S3 max	2 8E-07	9.9E-12	2 5E-11	1 5E-11	2 2E-11	7 7E-11	2 9E-10	1 7E-10	7 7E-11

External Review Draft, Do Not Cite or Quote

TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	S3 max	NT	NT	NT	NT	2 0E-07	7.4E-07	4.5E-07	2 0E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	S3 max	NT	NT	NT	NT	4.0E-09	1.5E-08	9.1E-09	4.0E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	S3 max	1 7E-12	4 2E-12	2.5E-12	3.7E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	S3 max	2.2E-11	5.5E-11	3.3E-11	4.9E-11	6.4E-08	2.4E-07	1.4E-07	6 4E-08
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	S3 max	NT	NT	NT	NT	2.9E-08	1.1E-07	6.5E-08	2.9E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	S3 max	NT	NT	NT	NT	8.4E-08	3.2E-07	1.9E-07	8 4E-08
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	S3 max	NT	NT	NT	NT	5.0E-07	1.9E-06	1.1E-06	5 0E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 max	2.4E-12	6.0E-12	3.6E-12	5.3E-12	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	S3 max	2.4E-12	6.0E-12	3.6E-12	5.3E-12	1.0E-07	3 8E-07	2.3E-07	1.0E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	S3 max	NT	NT	NT	NT	9.7E-10	3.6E-09	2.2E-09	9.7E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	S3 max	NT	NT	NT	NT	1.3E-08	4.7E-08	2.9E-08	1.3E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2 5E-02	1.6E-05	S3 max	NT	NT	NT	NT	7.2E-09	2.7E-08	1.6E-08	7 2E-09
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	S3 max	NT	NT	NT	NT	2.5E-07	9.5E-07	5.7E-07	2.5E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	S3 max	NT	NT	NT	NT	1.3E-07	4.7E-07	2.9E-07	1.3E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	S3 max	NT	NT	NT	NT	1.3E-07	4.7E-07	2.9E-07	1.3E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	S3 max	NT	NT	NT	NT	1.3E-08	4.7E-08	2.9E-08	1.3E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	S3 max	NT	NT	NT	NT	1.8E-07	6.7E-07	4.0E-07	1.8E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	S3 max	NT	NT	NT	NT	1.3E-07	4.7E-07	2.8E-07	1.3E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	S3 max	NT	NT	NT	NT	8.0E-08	3.0E-07	1.8E-07	8.0E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	S3 max	1.3E-10	3.2E-10	1 9E-10	2.9E-10	9.3E-05	3.5E-04	2.1E-04	9.3E-05
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	S3 max	1.6E-11	3.9E-11	2.4E-11	3.5E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	S3 max	NT	NT	NT	NT	8.4E-11	3.1E-10	1.9E-10	8.4E-11
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	S3 max	NT	NT	NT	NT	6 3E-09	2.4E-08	1.4E-08	6.3E-09
Fluorene	NA	0.035	1.0E-02	6.7E-06	S3 max	NT	NT	NT	NT	7.7E-09	2.9E-08	1.7E-08	7.7E-09
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	S3 max	4.0E-11	1.0E-10	6.1E-11	9.0E-11	1.4E-07	5.2E-07	3.2E-07	1 4E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	S3 max	NT	NT	NT	NT	1.8E-08	6.6E-08	4.0E-08	1.8E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	S3 max	3.7E-12	9.1E-12	5.5E-12	8.1E-12	5.1E-08	1.9E-07	1.1E-07	5.1E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	S3 max	1.3E-11	3.3E-11	2.0E-11	2.9E-11	3.2E-07	1.2E-06	7.1E-07	3.2E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	S3 max	1.2E-11	2.9E-11	1.8E-11	2.6E-11	2.3E-05	8.7E-05	5 2E-05	2 3E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	S3 max	NT	NT	NT	NT	8 4E-08	3.1E-05	1.9E-05	8.4E-08
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	S3 max	NT	NT	NT	NT	1.3E-05	4.7E-05	2.9E-05	1.3E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	S3 max	1.1E-13	2.8E-13	1.7E-13	2.5E-13	2.5E-07	9.5E-07	5.7E-07	2 5E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	S3 max	NT	NT	NT	NT	4.9E-06	1.8E-05	1.1E-05	4.9E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	S3 max	NT	NT	NT	NT	1 5E-09	5 8E-09	3 5E-09	1.5E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	S3 max	NT	NT	NT	NT	1 1E-08	4.0E-08	2 4E-08	1 1E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	S3 max	NT	NT	NT	NT	5 1E-09	1 9E-08	1.1E-08	5.1E-09
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	S3 max	NT	NT	NT	NT	6 7E-10	2 5E-09	1 5E-09	6 7E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	S3 max	NT	NT	NT	NT	2 5E-08	9 4E-08	5 7E-08	2 5E-08
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	S3 max	9.6E-13	2.4E-12	1.5E-12	2 1E-12	2 1E-08	7 9E-08	4 8E-08	2 1E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1 7E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5.5E-06	S3 max	NT	NT	NT	NT	6 3E-09	2 4E-08	1.4E-08	6.3E-09
Nitroaniline, 2-	NA	0.00005	1 4E-05	6 7E-06	S3 max	NT	NT	NT	NT	5 4E-06	2 0E-05	1.2E-05	5 4E-06
Nitroaniline, 3-	NF	NF	NF	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	S3 max	2.8E-07	9.9E-12	2 5E-11	1 5E-11	2.2E-11	7 7E-11	2 9E-10	1 7E-10	7 7E-11
Nitrobenzene	NA	0 0005	1 4E-04	5.5E-06	S3 max	2.3E-07	8.1E-12	2 0E-11	1 2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6 3E-11
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S3 max	2.8E-07	9.9E-12	2 5E-11	1.5E-11	2.2E-11	7.7E-11	2 9E-10	1 7E-10	7.7E-11
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S3 max	2.3E-07	8 1E-12	2 0E-11	1 2E-11	1 8E-11	6.3E-11	2.4E-10	1 4E-10	6 3E-11
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S3 max	5.1E-06	1 8E-10	4.5E-10	2.7E-10	4.0E-10	1 4E-09	5.2E-09	3 1E-09	1.4E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2 2E-11	7.7E-11	2.9E-10	1.7E-10	7.7E-11
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1.7E-10	7 7E-11
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	5.9E-10	2.1E-14	5 2E-14	3.1E-14	4 6E-14	1.6E-13	6.0E-13	3 6E-13	1.6E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	5.9E-10	2.1E-14	5.2E-14	3.1E-14	4.6E-14	1.6E-13	6.0E-13	3.6E-13	1.6E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	S3 max	2.0E-06	7.0E-11	1.8E-10	1.1E-10	1.6E-10	5.5E-10	2.0E-09	1 2E-09	5.5E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	5.9E-10	2.1E-14	5.2E-14	3.1E-14	4.6E-14	1 6E-13	6.0E-13	3 6E-13	1 6E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S3 max	1.4E-08	5.0E-11	1.2E-10	7.5E-11	1.1E-10	3.9E-10	1.4E-09	8 6E-10	3.9E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6.3E-11
Phenanthrene	NA	NA	NA	6.7E-06	S3 max	2.8E-07	9.9E-12	2.5E-11	1.5E-11	2.2E-11	7.7E-11	2.9E-10	1 7E-10	7.7E-11
Phenol	NA	0.525	1.5E-01	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6.3E-11
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S3 max	4.8E-06	1.7E-10	4.2E-10	2.6E-10	3.8E-10	1.3E-09	4.9E-09	3 0E-09	1 3E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	S3 max	9.5E-07	3.3E-11	8.3E-11	5.0E-11	7.4E-11	2.6E-10	9.7E-10	5.8E-10	2 6E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	5.9E-10	2.1E-14	5.2E-14	3.1E-14	4 6E-14	1.6E-13	6.0E-13	3 6E-13	1 6E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6 3E-11	2.4E-10	1.4E-10	6 3E-11
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	S3 max	2.2E-06	7.6E-11	1.9E-10	1.1E-10	1.7E-10	5.9E-10	2.2E-09	1.3E-09	5.9E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S3 max	2.9E-07	1.0E-11	2.5E-11	1.5E-11	2.2E-11	7.8E-11	2.9E-10	1 8E-10	7.8E-11
Toluene	NA	0.1	2 9E-02	6.1E-04	S3 max	2.6E-05	9.1E-10	2.3E-09	1.4E-09	2.0E-09	7.0E-09	2.6E-08	1.6E-08	7 0E-09
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2 1E+00	3.3E-04	S3 max	1.4E-05	4.9E-10	1.2E-09	7.3E-10	1.1E-09	3.8E-09	1.4E-08	8 6E-09	3.8E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1.2E-11	1.8E-11	6.3E-11	2.4E-10	1 4E-10	6 3E-11
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S3 max	1.3E-09	4.5E-14	1.1E-13	6.7E-14	9.9E-14	3.5E-13	1.3E-12	7 8E-13	3.5E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7 1E-02	1.3E-05	S3 max	5.3E-07	1.8E-11	4.6E-11	2 8E-11	4.1E-11	1.4E-10	5.4E-10	3 2E-10	1.4E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	S3 max	5.3E-07	1.8E-11	4.6E-11	2.8E-11	4.1E-11	1.4E-10	5.4E-10	3 2E-10	1.4E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	S3 max	7.8E-07	2.6E-11	6.9E-11	4.2E-11	6.1E-11	2.1E-10	8.0E-10	4 8E-10	2.1E-10
Trichlorofluoromethane	NA	0.175	5 0E-02	2.5E-04	S3 max	1.0E-05	3.6E-10	9.0E-10	5.5E-10	8.1E-10	2.8E-09	1.1E-08	6 4E-09	2.8E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2 5E-02	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1 2E-11	1.8E-11	6.3E-11	2 4E-10	1 4E-10	6.3E-11
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1 2E-11	1.8E-11	6.3E-11	2 4E-10	1 4E-10	6 3E-11
Vinyl acetate	NA	0.05	1.4E-02	8.4E-05	S3 max	2.7E-06	9.5E-11	2.4E-10	1.4E-10	2 1E-10	7.4E-10	2.8E-09	1 7E-09	7.4E-10
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S3 max	1.0E-05	3.6E-10	9.0E-10	5.5E-10	8.1E-10	2.8E-09	1.1E-08	6.4E-09	2.8E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S3 max	1.6E-05	5.6E-10	1.4E-09	8 5E-10	1.2E-09	4 4E-09	1.6E-08	9 9E-09	4 4E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S3 max	2.3E-07	8.1E-12	2.0E-11	1 2E-11	1.8E-11	6.3E-11	2.4E-10	1.4E-10	6 3E-11
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S3 max	4.5E-13	1.6E-17	4.0E-17	2.4E-17	3 5E-17	1 2E-16	4 6E-16	2 8E-16	1 2E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S3 max	2.8E-12	1.0E-16	2.5E-16	1 5E-16	2.2E-16	7 8E-16	2 9E-15	1 8E-15	7 8E-16
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S3 max	3 8E-12	1.3E-16	3 3E-16	2 0E-16	2 9E-16	1.0E-15	3 8E-15	2 3E-15	1 0E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S3 max	7.0E-12	2.4E-16	6 1E-16	3 7E-16	5 4E-16	1.9E-15	7 1E-15	4 3E-15	1 9E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S3 max	4 6E-12	1.6E-16	4 0E-16	2 4E-16	3 6E-16	1 3E-15	4 7E-15	2 8E-15	1 3E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	S3 max	5 2E-11	1 8E-15	4 6E-15	2 8E-15	4 1E-15	1 4E-14	5 3E-14	3 2E-14	1 4E-14
OCDD	1 5E+02	NA	NA	6.15E-09	S3 max	2 6E-10	9 1E-15	2 3E-14	1 4E-14	2 0E-14	7 1E-14	2 6E-13	1 6E-13	7 1E-14
2,3,7,8-TCDF	1.5E+04	NA	NA	8 77E-11	S3 max	3 7E-12	1.3E-16	3 2E-16	2 0E-16	2 9E-16	1 0E-15	3 8E-15	2 3E-15	1 0E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3 45E-10	S3 max	1.4E-11	5 1E-16	1 3E-15	7 7E-16	1 1E-15	4 0E-15	1 5E-14	9 0E-15	4 0E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4 67E-10	S3 max	2.0E-11	6 9E-16	1 7E-15	1 0E-15	1 5E-15	5 4E-15	2 0E-14	1 2E-14	5 4E-15
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	S3 max	6 0E-11	2 1E-15	5 3E-15	3 2E-15	4 7E-15	1 6E-14	6 1E-14	3 7E-14	1 6E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	S3 max	5.6E-11	2 0E-15	4 9E-15	3 0E-15	4 4E-15	1 5E-14	5 7E-14	3 5E-14	1 5E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S3 max	6.3E-11	2.2E-15	5.5E-15	3 3E-15	4 9E-15	1 7E-14	6 5E-14	3 9E-14	1 7E-14

External Review Draft, Do Not Cite or Quote

TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6 7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	S3 max	NT	NT	NT	NT	4.4E-07	1.7E-06	1.0E-06	4.4E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	S3 max	9.7E-10	2.4E-09	1.5E-09	2.1E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	S3 max	NT	NT	NT	NT	5.2E-07	1.9E-06	1.2E-06	5 2E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	S3 max	NT	NT	NT	NT	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Phenanthrene	NA	NA	NA	6.7E-06	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	S3 max	NT	NT	NT	NT	4.2E-10	1.6E-09	9.5E-10	4 2E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	S3 max	NT	NT	NT	NT	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	S3 max	NT	NT	NT	NT	3.6E-09	1.4E-08	8.2E-09	3.6E-09
Tetrachlorobiphenyl	NA	NA	NA	1 4E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0 02625	7.5E-03	5.5E-06	S3 max	2.1E-13	5.2E-13	3.2E-13	4.7E-13	8.4E-09	3.2E-08	1.9E-08	8.4E-09
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	S3 max	1.7E-12	4.1E-12	2.5E-12	3 7E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0.00875	2 5E-03	5.1E-05	S3 max	1.5E-13	3.8E-13	2.3E-13	3.4E-13	2.4E-07	8.8E-07	5.3E-07	2.4E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	S3 max	NT	NT	NT	NT	1.0E-08	3.9E-08	2.4E-08	1.0E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	S3 max	NT	NT	NT	NT	2.5E-07	9.2E-07	5.6E-07	2.5E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	S3 max	NT	NT	NT	NT	1.8E-09	6.8E-09	4.0E-09	1.8E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	S3 max	NT	NT	NT	NT	4.4E-09	1.7E-08	1.0E-08	4.4E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	S3 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	S3 max	NT	NT	NT	NT	2.0E-09	7.5E-09	4.5E-09	2.0E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1 3E-05	S3 max	1.1E-12	2.6E-12	1.6E-12	2.3E-12	1.4E-07	5.4E-07	3.2E-07	1.4E-07
Trichloroethene	6 0E-03	NA	NA	1.9E-05	S3 max	1.6E-13	4.1E-13	2.5E-13	3.6E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	S3 max	NT	NT	NT	NT	5.6E-08	2.1E-07	1.3E-07	5.6E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	S3 max	NT	NT	NT	NT	2.5E-09	9.5E-09	5.7E-09	2.5E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	S3 max	8.1E-14	2.0E-13	1.2E-13	1.8E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	S3 max	NT	NT	NT	NT	5.2E-08	1.9E-07	1.2E-07	5.2E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	S3 max	1.1E-10	2.7E-10	1.6E-10	2.4E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	S3 max	NT	NT	NT	NT	8.7E-09	3.3E-08	2.0E-08	8.7E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	S3 max	NT	NT	NT	NT	1.3E-10	4.7E-10	2.9E-10	1.3E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	S3 max	2.4E-12	6.0E-12	3.6E-12	5 3E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	S3 max	7.5E-12	1.9E-11	1.1E-11	1.7E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	S3 max	2 0E-12	4.9E-12	3 0E-12	4 4E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	S3 max	3.7E-12	9.2E-12	5 5E-12	8 2E-12	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	S3 max	2.4E-12	6.0E-12	3.6E-12	5.4E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	S3 max	2.8E-12	6.9E-12	4 1E-12	6 1E-12	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	S3 max	1.4E-12	3.4E-12	2 1E-12	3 0E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	S3 max	1 9E-12	4 8E-12	2 9E-12	4 3E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	S3 max	3 8E-12	9 5E-12	5 8E-12	8.5E-12	NT	NT	NT	NT
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	S3 max	5 2E-11	1.3E-10	7.8E-11	1 2E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1.43E-09	S3 max	3 2E-11	7.9E-11	4 8E-11	7 0E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	S3 max	3 0E-11	7 4E-11	4 5E-11	6 6E-11	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	S3 max	3 3E-11	8 3E-11	5 0E-11	7 4E-11	NT	NT	NT	NT

TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S3 max	1 2E-11	4.3E-16	1.1E-15	6.5E-16	9.6E-16	3.4E-15	1 3E-14	7.6E-15	3.4E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S3 max	3 9E-10	1.4E-14	3.4E-14	2 1E-14	3.1E-14	1 1E-13	4.0E-13	2 4E-13	1 1E-13
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1.22E-09	S3 max	5 1E-11	1.8E-15	4.5E-15	2 7E-15	4 0E-15	1.4E-14	5 2E-14	3 2E-14	1 4E-14
OCDF	1.5E+02	NA	NA	1.89E-08	S3 max	8.0E-10	2.8E-14	7.0E-14	4 2E-14	6.2E-14	2.2E-13	8.1E-13	4 9E-13	2.2E-13
Dioxin TEQ				4.28E-08			6.3E-14	1.6E-13	9.5E-14	1.4E-13	4.9E-13	1.8E-12	1.1E-12	4.9E-13
Aluminum	NA	NA	NA	2.4E-04	S3 max	1.0E-05	3.5E-10	8 8E-10	5 3E-10	7.9E-10	2.8E-09	1.0E-08	6 2E-09	2 8E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	S3 max	1.8E-07	6.2E-12	1.5E-11	9.4E-12	1.4E-11	4.8E-11	1.8E-10	1 1E-10	4 8E-11
Arsenic	50	0.000263	7.5E-05	3.7E-05	S3 max	1.6E-06	5.5E-11	1.4E-10	8.2E-11	1.2E-10	4.3E-10	1.6E-09	9 6E-10	4.3E-10
Barium	NA	0.000125	3.6E-05	1.5E-04	S3 max	6.3E-06	2.2E-10	5.5E-10	3.3E-10	4.9E-10	1.7E-09	6.4E-09	3.9E-09	1 7E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S3 max	1.4E-09	4.9E-14	1.2E-13	7.3E-14	1.1E-13	3.8E-13	1.4E-12	8 6E-13	3 8E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	S3 max	6.7E-07	2.4E-11	5.9E-11	3.6E-11	5.3E-11	1.6E-10	6.9E-10	4.2E-10	1.8E-10
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	S3 max	3.0E-08	1.0E-12	2.6E-12	1.6E-12	2.3E-12	8.2E-12	3.1E-11	1 8E-11	8 2E-12
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S3 max	3.0E-08	1.0E-12	2.6E-12	1.6E-12	2.3E-12	8.2E-12	3.1E-11	1.8E-11	8 2E-12
Copper	NA	NA	NA	9.4E-05	S3 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Lead	NA	NA	NA	4.3E-05	S3 max	1.8E-06	6.4E-11	1.6E-10	9.6E-11	1.4E-10	4.9E-10	1.8E-09	1 1E-09	4 9E-10
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	S3 max	5.9E-05	2.1E-09	5.2E-09	3.1E-09	4.6E-09	1.6E-08	6.0E-08	3 6E-08	1.6E-08
Nickel	0.84	0.0175	5 0E-03	5.0E-06	S3 max	2.1E-07	7.4E-12	1.8E-11	1.1E-11	1.6E-11	5.8E-11	2.1E-10	1 3E-10	5 8E-11
Selenium	NA	0.004375	1 3E-03	4.7E-04	S3 max	2.0E-05	7.0E-10	1.7E-09	1.0E-09	1.5E-09	5.4E-09	2.0E-08	1 2E-08	5 4E-09
Silver	NA	0.004375	1 3E-03	1.5E-05	S3 max	6.3E-07	2.2E-11	5.5E-11	3.3E-11	4.9E-11	1.7E-10	6.4E-10	3 9E-10	1 7E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	S3 max	1.4E-06	5.0E-11	1.3E-10	7.6E-11	1.1E-10	3.9E-10	1.5E-09	8 8E-10	3 9E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	S3 max	5.0E-06	1.8E-10	4.4E-10	2.7E-10	3.9E-10	1.4E-09	5.2E-09	3.1E-09	1.4E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S3 max	1.3E-03	4.7E-08	1.2E-07	7.1E-08	1.1E-07	3.7E-07	1.4E-06	8 3E-07	3.7E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S3 max	1.0E-01	3.6E-06	8.9E-06	5.4E-06	8.0E-06	2.8E-05	1.0E-04	6.3E-05	2.8E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S3 max	3.8E-03	1.3E-07	3.4E-07	2.0E-07	3 0E-07	1.0E-06	3.9E-06	2 4E-06	1 0E-06
Particulate matter	NA	NA	NA	7.2E-02	S3 max	3.0E-03	1.1E-07	2.7E-07	1.6E-07	2.4E-07	8.3E-07	3.1E-06	1 9E-06	8 3E-07
Respirable particulates	NF	NF	NF	7.2E-02	S3 max	3.0E-03	1.1E-07	2.7E-07	1.6E-07	2.4E-07	8.3E-07	3.1E-06	1.9E-06	8.3E-07

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 21 Maximum Inhalation Risks and Noncancer HQs in Subarea S3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	S3 max	6.5E-12	1.6E-11	9 8E-12	1.4E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	S3 max	2.1E-11	5 1E-11	3.1E-11	4.6E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	S3 max	2.7E-12	6.7E-12	4.1E-12	6 0E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	S3 max	4 2E-12	1.0E-11	6.3E-12	9.3E-12		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		2.1E-10	5.2E-10	3.1E-10	4.6E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	S3 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	S3 max	NT	NT	NT	NT		4.8E-07	1.8E-06	1.1E-06	4 8E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	S3 max	2.7E-09	6.8E-09	4.1E-09	6.1E-09		5.7E-06	2.1E-05	1.3E-05	5.7E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	S3 max	NT	NT	NT	NT		4.8E-05	1.8E-04	1.1E-04	4.8E-05
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	S3 max	4 1E-13	1.0E-12	6.2E-13	9.1E-13		3.0E-10	1.1E-09	6.9E-10	3 0E-10
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	S3 max	1.4E-10	3.6E-10	2.2E-10	3.2E-10		1.5E-06	5.5E-06	3.3E-06	1.5E-06
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	S3 max	4.3E-11	1.1E-10	6.5E-11	9.6E-11		6.5E-09	2.4E-08	1.5E-08	6.5E-09
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	S3 max	NT	NT	NT	NT		3.3E-11	1.2E-10	7.4E-11	3 3E-11
Copper	NA	NA	NA	9.4E-05	S3 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	S3 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	S3 max	NT	NT	NT	NT		7.5E-04	2.8E-03	1.7E-03	7.5E-04
Nickel	0.84	0.0175	5 0E-03	5.0E-06	S3 max	6.2E-12	1.5E-11	9.4E-12	1.4E-11		1.2E-08	4.3E-08	2.6E-08	1.2E-08
Selenium	NA	0 004375	1 3E-03	4.7E-04	S3 max	NT	NT	NT	NT		4.3E-06	1.6E-05	9.8E-06	4.3E-06
Silver	NA	0.004375	1 3E-03	1.5E-05	S3 max	NT	NT	NT	NT		1.4E-07	5.2E-07	3.1E-07	1.4E-07
Thallium	NA	0.000061	1 8E-05	3.4E-05	S3 max	NT	NT	NT	NT		2 2E-05	8.4E-05	5.0E-05	2 2E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	S3 max	NT	NT	NT	NT		1.8E-08	6.9E-08	4.2E-08	1.8E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	S3 max	NT	NT	NT	NT		7.4E-04	2.8E-03	1.7E-03	7.4E-04
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	S3 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	S3 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	S3 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	S3 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	4.6E-09	1.2E-08	7.0E-09	1.0E-08					
										Total HI	1.8E-03	6.6E-03	4.0E-03	1.8E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2 1E-10	3.1E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Acenaphthylene	NF	NF	NF	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3 1E-10	1 1E-09	4 0E-09	2 4E-09	1 1E-09
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	W1 max	1.8E-04	6.3E-09	1 6E-08	9.4E-09	1 4E-08	4 9E-08	1 8E-07	1.1E-07	4.9E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	W1 max	1.7E-03	6.0E-08	1 5E-07	9.1E-08	1.3E-07	4.7E-07	1.8E-06	1 1E-06	4 7E-07
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	W1 max	1.7E-04	6 1E-09	1.5E-08	9.2E-09	1.4E-08	4 7E-08	1.8E-07	1 1E-07	4 7E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W1 max	1.2E-04	4.2E-09	1.0E-08	6 3E-09	9.3E-09	3.3E-08	1.2E-07	7 4E-08	3.3E-08
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1 7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8 9E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W1 max	8.7E-06	3.1E-10	7.6E-10	4 6E-10	6.8E-10	2.4E-09	8.9E-09	5.4E-09	2 4E-09
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W1 max	6.7E-06	2.3E-10	5.8E-10	3.5E-10	5.2E-10	1 8E-09	6 8E-09	4.1E-09	1 8E-09
Benzotrichloride	NA	NA	NA	3.2E-05	W1 max	1.9E-05	6.6E-10	1.7E-09	1.0E-09	1.5E-09	5.2E-09	1.9E-08	1.2E-08	5 2E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2 5E-10	8.9E-10	3.3E-09	2.0E-09	8 9E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 9E-10	3.3E-09	2 0E-09	8 9E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2 5E-10	8 9E-10	3.3E-09	2 0E-09	8.9E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 9E-10	3.3E-09	2.0E-09	8 9E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W1 max	7.8E-06	2.8E-10	6.9E-10	4.2E-10	6 1E-10	2.1E-09	8.0E-09	4 9E-09	2 1E-09
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	W1 max	2.2E-05	7.7E-10	1.9E-09	1.2E-09	1.7E-09	6.0E-09	2.2E-08	1.4E-08	6.0E-09
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	W1 max	6.1E-05	2.1E-09	5.3E-09	3.2E-09	4 8E-09	1 7E-08	6.2E-08	3 8E-08	1 7E-08
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2 0E-09	8.9E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W1 max	2.9E-04	1.0E-08	2.5E-08	1.5E-08	2.3E-08	7.9E-08	3.0E-07	1 8E-07	7.9E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7 1E-02	5.1E-05	W1 max	3.0E-05	1.1E-09	2.7E-09	1.6E-09	2.4E-09	8.3E-09	3.1E-08	1.9E-08	8 3E-09
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8 9E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	W1 max	5.3E-05	1.9E-09	4.6E-09	2.8E-09	4.1E-09	1.4E-08	5.4E-08	3 3E-08	1.4E-08
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W1 max	9.3E-05	3.3E-09	8.2E-09	5.0E-09	7.3E-09	2 6E-08	9.6E-08	5 8E-08	2 6E-08
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W1 max	3.2E-07	1.1E-11	2.8E-11	1.7E-11	2.5E-11	8.9E-11	3.3E-10	2.0E-10	8.9E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2 0E-09	8.9E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W1 max	2.2E-05	7.6E-10	1.9E-09	1.2E-09	1.7E-09	5.9E-09	2.2E-08	1.3E-08	5.9E-09
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	W1 max	2.9E-04	1.0E-08	2.5E-08	1.5E-08	2.3E-08	7.9E-08	3.0E-07	1 8E-07	7.9E-08
Chloroform	8 1E-02	0.00875	2.5E-03	2.7E-04	W1 max	1.6E-04	5.5E-09	1.4E-08	8.3E-09	1.2E-08	4 3E-08	1.6E-07	9 7E-08	4.3E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	W1 max	1.4E-04	5.1E-09	1.3E-08	7.7E-09	1.1E-08	4.0E-08	1.5E-07	8 9E-08	4.0E-08
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3 1E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1 7E-10	2.5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4 0E-09	2 4E-09	1.1E-09
Chrysene	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2 5E-10	8.9E-10	3 3E-09	2 0E-09	8 9E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	5.5E-06	W1 max	3.2E-06	1.1E-10	2 8E-10	1.7E-10	2.5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2 8E-10	1 7E-10	2 5E-10	8 9E-10	3 3E-09	2 0E-09	8.9E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	W1 max	8 2E-05	2.9E-09	7 2E-09	4.3E-09	6 4E-09	2.2E-08	8 4E-08	5 1E-08	2.2E-08
Cumene	NA	0.00225	6.4E-04	5.5E-06	W1 max	3.2E-06	1 1E-10	2 8E-10	1.7E-10	2 5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	W1 max	3.2E-07	1.1E-11	2 8E-11	1.7E-11	2 5E-11	8 9E-11	3 3E-10	2 0E-10	8 9E-11
Dibenz(a,h)anthracene	NA	NA	NA	5 5E-06	W1 max	3.2E-06	1 1E-10	2 8E-10	1 7E-10	2 5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	W1 max	1 6E-05	5.5E-10	1 4E-09	8 2E-10	1 2E-09	4 2E-09	1 6E-08	9 6E-09	4.2E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2 8E-10	1 7E-10	2 5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5 5E-06	W1 max	3 2E-06	1 1E-10	2 8E-10	1.7E-10	2 5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5 5E-06	W1 max	3.2E-06	1 1E-10	2 8E-10	1 7E-10	2 5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	W1 max	2 0E-05	6 9E-10	1 7E-09	1 0E-09	1 5E-09	5 4E-09	2 0E-08	1 2E-08	5 4E-09
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W1 max	2 8E-08	9 7E-13	2 4E-12	1 5E-12	2 2E-12	7 6E-12	2 8E-11	1 7E-11	7 6E-12

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TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W1 max	NT	NT	NT	NT	7 2E-08	2.7E-07	1.6E-07	7.2E-08
Acenaphthylene	NF	NF	NF	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	W1 max	4.8E-11	1.2E-10	7.2E-11	1.1E-10	7.6E-05	2.8E-04	1.7E-04	7 6E-05
Acetone	NA	0.0875	2 5E-02	2.9E-03	W1 max	NT	NT	NT	NT	1.9E-05	7.0E-05	4.2E-05	1.9E-05
Acetophenone	NA	0.0875	2 5E-02	2.9E-04	W1 max	NT	NT	NT	NT	1.9E-06	7.1E-06	4.3E-06	1.9E-06
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W1 max	1.0E-09	2.5E-09	1.5E-09	2 2E-09	2.3E-04	8.5E-04	5.2E-04	2.3E-04
Anthracene	NA	0.2625	7.5E-02	5 5E-06	W1 max	NT	NT	NT	NT	1.2E-08	4.4E-08	2.7E-08	1 2E-08
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W1 max	8.9E-12	2.2E-11	1.3E-11	2.0E-11	5.5E-06	2.1E-05	1.3E-05	5.5E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W1 max	NT	NT	NT	NT	1.8E-09	6.8E-09	4.1E-09	1.8E-09
Benzotrichloride	NA	NA	NA	3.2E-05	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W1 max	3.0E-10	7.6E-10	4.6E-10	6.8E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	W1 max	NT	NT	NT	NT	1.1E-07	4.0E-07	2.4E-07	1.1E-07
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	W1 max	NT	NT	NT	NT	1.2E-06	4.5E-06	2.7E-06	1.2E-06
Bromodichloromethane	NA	0.0175	5 0E-03	1.0E-04	W1 max	NT	NT	NT	NT	3.3E-06	1.2E-05	7.5E-06	3.3E-06
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	W1 max	4.4E-13	1.1E-12	6.6E-13	9.8E-13	1.8E-07	6.6E-07	4.0E-07	1.8E-07
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W1 max	NT	NT	NT	NT	2.2E-04	8.3E-04	5.0E-04	2.2E-04
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W1 max	NT	NT	NT	NT	1.2E-07	4.3E-07	2.6E-07	1.2E-07
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W1 max	NT	NT	NT	NT	1.8E-08	6.6E-08	4.0E-08	1.8E-08
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	W1 max	NT	NT	NT	NT	2.0E-05	7.5E-05	4.6E-05	2.0E-05
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W1 max	1.7E-10	4.3E-10	2.6E-10	3.8E-10	1.8E-04	6.7E-04	4.0E-04	1.8E-04
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W1 max	1.5E-11	3.7E-11	2.2E-11	3.3E-11	5.9E-06	2.2E-05	1.3E-05	5.9E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W1 max	NT	NT	NT	NT	1.1E-06	4.0E-06	2.4E-06	1.1E-06
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W1 max	NT	NT	NT	NT	6.2E-07	2.3E-06	1.4E-06	6.2E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W1 max	2.1E-10	5.2E-10	3.1E-10	4.6E-10	1.2E-06	4.4E-06	2.7E-06	1.2E-06
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W1 max	NT	NT	NT	NT	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W1 max	4.5E-10	1.1E-09	6.7E-10	9.9E-10	1.7E-05	6.4E-05	3.9E-05	1.7E-05
Chloromethane	6.3E-03	NA	NA	2.5E-04	W1 max	3.2E-11	8.0E-11	4.8E-11	7.1E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W1 max	NT	NT	NT	NT	5.4E-06	2.0E-07	1.2E-07	5.4E-06
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W1 max	NT	NT	NT	NT	7.1E-07	2.7E-06	1.6E-06	7.1E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W1 max	NT	NT	NT	NT	7.1E-06	2.7E-07	1.6E-07	7.1E-06
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W1 max	NT	NT	NT	NT	7.1E-06	2 7E-07	1.6E-07	7 1E-06
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W1 max	NT	NT	NT	NT	7.1E-07	2.7E-06	1.6E-06	7.1E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	W1 max	NT	NT	NT	NT	1 4E-06	5 2E-06	3 1E-06	1 4E-06
DDE, 4,4'-	NA	NA	NA	5.5E-07	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	W1 max	NT	NT	NT	NT	8 5E-07	3 2E-06	1.9E-06	8 5E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	5.5E-06	W1 max	NT	NT	NT	NT	1 6E-08	5 8E-08	3 5E-08	1.6E-08
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	W1 max	NT	NT	NT	NT	6 2E-08	2 3E-07	1 4E-07	6.2E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W1 max	1.4E-04	5.1E-09	1 3E-08	7 7E-09	1.1E-08	4 0E-08	1.5E-07	8 9E-08	4 0E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W1 max	7.4E-06	2.6E-10	6 5E-10	3 9E-10	5 8E-10	2.0E-09	7.5E-09	4 6E-09	2.0E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W1 max	7.4E-06	2.6E-10	6 5E-10	3 9E-10	5 8E-10	2.0E-09	7 5E-09	4 6E-09	2 0E-09
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W1 max	7.4E-06	2.6E-10	6.5E-10	3 9E-10	5.8E-10	2 0E-09	7.5E-09	4.6E-09	2 0E-09
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W1 max	7.4E-06	2.6E-10	6.5E-10	3.9E-10	5.8E-10	2.0E-09	7.5E-09	4.6E-09	2 0E-09
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1 7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2 9E-04	1.3E-05	W1 max	7.4E-06	2.6E-10	6.5E-10	3 9E-10	5.8E-10	2.0E-09	7.5E-09	4 6E-09	2.0E-09
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W1 max	7.4E-06	2.6E-10	6.5E-10	3.9E-10	5.8E-10	2.0E-09	7.5E-09	4 6E-09	2.0E-09
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W1 max	7.4E-06	2.6E-10	6.5E-10	3 9E-10	5.8E-10	2.0E-09	7.5E-09	4.6E-09	2.0E-09
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W1 max	9.9E-06	3.5E-10	8.7E-10	5.3E-10	7.8E-10	2.7E-09	1.0E-08	6.2E-09	2.7E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W1 max	6.8E-05	2.4E-09	6.0E-09	3.6E-09	5.3E-09	1 9E-08	6.9E-08	4.2E-08	1.9E-08
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2 8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2 8E-10	1.7E-10	2 5E-10	8 9E-10	3.3E-09	2.0E-09	8 9E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W1 max	9.2E-06	3.3E-10	8.1E-10	4.9E-10	7.2E-10	2.5E-09	9.5E-09	5.7E-09	2.5E-09
Dinitrotoluene, 2,6-	NA	0.000875	2 5E-04	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 9E-10	3.3E-09	2.0E-09	8.9E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2 0E-09	8 9E-10
Dinitrophenol, 2,4-	NA	0.00175	5 0E-04	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W1 max	3.2E-06	1.1E-10	2 8E-10	1.7E-10	2 5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W1 max	2.9E-04	1.0E-08	2.6E-08	1.5E-08	2.3E-08	8 0E-08	3.0E-07	1.8E-07	8.0E-08
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
D, 2,4-	NA	0.00875	2 5E-03	3.9E-05	W1 max	2.3E-05	8.1E-10	2.0E-09	1.2E-09	1.8E-09	6.3E-09	2.3E-08	1 4E-08	6.3E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W1 max	1.4E-04	5.1E-09	1.3E-08	7.7E-09	1.1E-08	4.0E-08	1.5E-07	8.9E-08	4.0E-08
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W1 max	2.9E-04	1.0E-08	2.6E-08	1.6E-08	2.3E-08	8.1E-08	3.0E-07	1.8E-07	8.1E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W1 max	6.8E-05	2.4E-09	6.0E-09	3.6E-09	5.3E-09	1.9E-08	6.9E-08	4.2E-08	1 9E-08
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W1 max	1.8E-05	6.3E-10	1.6E-09	9.5E-10	1.4E-09	4.9E-09	1.8E-08	1.1E-08	4 9E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W1 max	8.6E-11	3.0E-15	7.6E-15	4.6E-15	6.7E-15	2.4E-14	8.8E-14	5.3E-14	2.4E-14
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 9E-10	3.3E-09	2.0E-09	8.9E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2 1E-10	3.1E-10	1.1E-09	4.0E-09	2.4E-09	1.1E-09
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W1 max	3.6E-04	1.3E-08	3.1E-08	1.9E-08	2.8E-08	9 8E-08	3.7E-07	2.2E-07	9.8E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W1 max	3.2E-07	1.1E-11	2.8E-11	1.7E-11	2.5E-11	8.9E-11	3.3E-10	2 0E-10	8.9E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	8.3E-09	2.9E-13	7.2E-13	4.4E-13	6.5E-13	2.3E-12	8.5E-12	5.1E-12	2.3E-12
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2 0E-09	8.9E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	8.3E-09	2.9E-13	7.2E-13	4.4E-13	6.5E-13	2.3E-12	8.5E-12	5 1E-12	2.3E-12
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	W1 max	6.0E-05	2.1E-09	5 2E-09	3.2E-09	4.7E-09	1.6E-08	6.1E-08	3 7E-08	1.6E-08
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7 5E-05	5.5E-05	W1 max	3.2E-05	1.1E-09	2.8E-09	1.7E-09	2.5E-09	8 9E-09	3 3E-08	2 0E-08	8.9E-09
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	W1 max	3 2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2 0E-09	8.9E-10
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W1 max	3.2E-06	1 1E-10	2.8E-10	1 7E-10	2 5E-10	8 9E-10	3.3E-09	2.0E-09	8.9E-10
Hexachlorophene	NA	0.000263	7.5E-05	3 2E-05	W1 max	1.9E-05	6.6E-10	1.7E-09	1 0E-09	1.5E-09	5.2E-09	1 9E-08	1 2E-08	5.2E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	W1 max	3.8E-05	1 3E-09	3 3E-09	2.0E-09	3 0E-09	1 0E-08	3 9E-08	2 3E-08	1.0E-08
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 9E-10	3 3E-09	2 0E-09	8.9E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2 1E-10	3.1E-10	1 1E-09	4 0E-09	2 4E-09	1.1E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	W1 max	6 8E-05	2.4E-09	6 0E-09	3 6E-09	5 3E-09	1 9E-08	6 9E-08	4 2E-08	1 9E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W1 max	3.2E-07	1 1E-11	2 8E-11	1 7E-11	2 5E-11	8 9E-11	3 3E-10	2 0E-10	8 9E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	W1 max	7.4E-06	2 6E-10	6 5E-10	3 9E-10	5 8E-10	2 0E-09	7 5E-09	4 6E-09	2 0E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	W1 max	7.4E-06	2 6E-10	6 5E-10	3 9E-10	5 8E-10	2 0E-09	7 5E-09	4 6E-09	2 0E-09
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	W1 max	2.3E-04	8 2E-09	2 1E-08	1 2E-08	1 8E-08	6 4E-08	2 4E-07	1 4E-07	6 4E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W1 max	2.5E-05	8.7E-10	2 2E-09	1 3E-09	1 9E-09	6 8E-09	2 5E-08	1 5E-08	6 8E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W1 max	9 8E-09	3.5E-13	8 6E-13	5 2E-13	7 7E-13	2 7E-12	1 0E-11	6 1E-12	2.7E-12
Naphthalene	NA	0.035	1 0E-02	5.5E-06	W1 max	3 2E-06	1 1E-10	2 8E-10	1 7E-10	2 5E-10	8 9E-10	3 3E-09	2 0E-09	8 9E-10
Nitroaniline, 2-	NA	0.00005	1.4E-05	6 7E-06	W1 max	3 9E-06	1 4E-10	3 5E-10	2 1E-10	3 1E-10	1 1E-09	4 0E-09	2 4E-09	1 1E-09
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W1 max	3 9E-06	1.4E-10	3 5E-10	2 1E-10	3 1E-10	1 1E-09	4 0E-09	2 4E-09	1 1E-09

External Review Draft, Do Not Cite or Quote

TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W1 max	NT	NT	NT	NT	2 8E-06	1.0E-05	6.3E-06	2 8E-06
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W1 max	NT	NT	NT	NT	5.7E-08	2.1E-07	1.3E-07	5 7E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W1 max	2.4E-11	5.9E-11	3.6E-11	5 3E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W1 max	3.1E-10	7 8E-10	4.7E-10	6.9E-10	9.0E-07	3.4E-06	2.0E-06	9.0E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5 0E-03	1.3E-05	W1 max	NT	NT	NT	NT	4.0E-07	1.5E-06	9.1E-07	4.0E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W1 max	NT	NT	NT	NT	1.2E-06	4.4E-06	2.7E-06	1.2E-06
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W1 max	NT	NT	NT	NT	7.1E-06	2.6E-05	1.6E-05	7.1E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W1 max	3.4E-11	8.4E-11	5.1E-11	7.5E-11	1.4E-06	5.3E-06	3.2E-06	1.4E-06
Dichloropropene (trans), 1,3-	1 3E-01	0.005	1.4E-03	1.3E-05	W1 max	3.4E-11	8.4E-11	5.1E-11	7.5E-11	1.4E-06	5.3E-06	3.2E-06	1.4E-06
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W1 max	NT	NT	NT	NT	1.4E-06	5.1E-06	3.1E-06	1.4E-06
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W1 max	NT	NT	NT	NT	1.8E-07	6.6E-07	4.0E-07	1.8E-07
Dimethylphthalate	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W1 max	NT	NT	NT	NT	1.0E-07	3.8E-07	2.3E-07	1.0E-07
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5 5E-06	W1 max	NT	NT	NT	NT	3.6E-06	1.3E-05	8.0E-06	3.6E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W1 max	NT	NT	NT	NT	1.8E-06	6.6E-06	4.0E-06	1.8E-06
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W1 max	NT	NT	NT	NT	1.8E-06	6.6E-06	4.0E-06	1.8E-06
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5 5E-06	W1 max	NT	NT	NT	NT	1.8E-07	6.6E-07	4.0E-07	1.8E-07
D, 2,4-	NA	0 00875	2 5E-03	3.9E-05	W1 max	NT	NT	NT	NT	2.5E-06	9.4E-06	5.7E-06	2.5E-06
Ethyl methacrylate	NA	0 07875	2.3E-02	2.5E-04	W1 max	NT	NT	NT	NT	1.8E-06	6.6E-06	4.0E-06	1.8E-06
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W1 max	NT	NT	NT	NT	1.1E-06	4.2E-06	2.5E-06	1.1E-06
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W1 max	1.8E-09	4 5E-09	2.7E-09	4.0E-09	1.3E-03	4.9E-03	2.9E-03	1.3E-03
Ethylene oxide	3 5E-01	NA	NA	3.1E-05	W1 max	2.2E-10	5.5E-10	3.3E-10	4.9E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W1 max	NT	NT	NT	NT	1.2E-09	4.4E-09	2.7E-09	1.2E-09
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W1 max	NT	NT	NT	NT	8.9E-08	3.3E-07	2.0E-07	8.9E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	W1 max	NT	NT	NT	NT	1.1E-07	4.0E-07	2.4E-07	1.1E-07
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W1 max	5.7E-10	1.4E-09	8.5E-10	1.3E-09	2.0E-06	7.3E-06	4.4E-06	2.0E-06
Furfural	NA	0.0125	3.6E-03	5.5E-06	W1 max	NT	NT	NT	NT	2.5E-07	9.3E-07	5.6E-07	2.5E-07
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W1 max	5.1E-11	1.3E-10	7.7E-11	1.1E-10	7.1E-07	2.7E-06	1.6E-06	7.1E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W1 max	1.8E-10	4.6E-10	2.8E-10	4.1E-10	4.4E-06	1.7E-05	1.0E-05	4.4E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	W1 max	1.6E-10	4.1E-10	2.5E-10	3.6E-10	3.3E-04	1.2E-03	7.4E-04	3.3E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7 5E-05	5.5E-05	W1 max	NT	NT	NT	NT	1.2E-04	4.4E-04	2.7E-04	1.2E-04
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	W1 max	NT	NT	NT	NT	1 8E-04	6.6E-04	4.0E-04	1.8E-04
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W1 max	1.6E-12	4.0E-12	2.4E-12	3.6E-12	3 6E-06	1.3E-05	8.0E-06	3 6E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W1 max	NT	NT	NT	NT	6.9E-05	2.6E-04	1.6E-04	6.9E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	W1 max	NT	NT	NT	NT	2 2E-08	8 1E-08	4.9E-08	2 2E-08
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	W1 max	NT	NT	NT	NT	1 5E-07	5 6E-07	3 4E-07	1.5E-07
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W1 max	NT	NT	NT	NT	7 1E-08	2 7E-07	1.6E-07	7 1E-08
Methyl-t-butyl ether	NA	0 75	2.1E-01	1.3E-05	W1 max	NT	NT	NT	NT	9 4E-09	3 5E-08	2.1E-08	9 4E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1.3E-05	W1 max	NT	NT	NT	NT	3 5E-07	1 3E-06	8 0E-07	3 5E-07
Methylene chloride	1 6E-03	0.75	2.1E-01	4 0E-04	W1 max	1 4E-11	3 4E-11	2 0E-11	3 0E-11	3 0E-07	1 1E-06	6.7E-07	3 0E-07
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	W1 max	NT	NT	NT	NT	8 9E-08	3 3E-07	2 0E-07	8.9E-08
Nitroaniline, 2-	NA	0 00005	1.4E-05	6 7E-06	W1 max	NT	NT	NT	NT	7 6E-05	2 8E-04	1.7E-04	7.6E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2 1E-10	3 1E-10	1 1E-09	4 0E-09	2.4E-09	1.1E-09
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8 9E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W1 max	3.9E-06	1.4E-10	3 5E-10	2.1E-10	3.1E-10	1.1E-09	4 0E-09	2 4E-09	1.1E-09
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W1 max	3.2E-06	1.1E-10	2 8E-10	1.7E-10	2.5E-10	8 9E-10	3.3E-09	2 0E-09	8.9E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W1 max	7.1E-05	2.5E-09	6.3E-09	3.8E-09	5.6E-09	2 0E-08	7.3E-08	4 4E-08	2.0E-08
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	8.3E-09	2.9E-13	7.2E-13	4.4E-13	6.5E-13	2 3E-12	8.5E-12	5 1E-12	2.3E-12
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	8.3E-09	2.9E-13	7.2E-13	4.4E-13	6.5E-13	2.3E-12	8.5E-12	5.1E-12	2 3E-12
Pentachlorobenzene	NA	NA	NA	4.8E-05	W1 max	2.8E-05	9.9E-10	2.5E-09	1.5E-09	2.2E-09	7.7E-09	2.9E-08	1.7E-08	7.7E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	8.3E-09	2.9E-13	7.2E-13	4.4E-13	6 5E-13	2.3E-12	8.5E-12	5.1E-12	2 3E-12
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W1 max	2.0E-05	7.0E-10	1.7E-09	1.1E-09	1.6E-09	5.4E-09	2.0E-08	1.2E-08	5 4E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8 9E-10
Phenanthrene	NA	NA	NA	6.7E-06	W1 max	3.9E-06	1.4E-10	3.5E-10	2.1E-10	3.1E-10	1.1E-09	4 0E-09	2.4E-09	1.1E-09
Phenol	NA	0.525	1.5E-01	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8 9E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8.9E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W1 max	6.8E-05	2.4E-09	6.0E-09	3.6E-09	5.3E-09	1.9E-08	6.9E-08	4 2E-08	1.9E-08
Styrene	NA	0.25	7.1E-02	2.3E-05	W1 max	1.3E-05	4.7E-10	1.2E-09	7.0E-10	1.0E-09	3.6E-09	1.4E-08	8 2E-09	3 6E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	8.3E-09	2.9E-13	7.2E-13	4.4E-13	6.5E-13	2.3E-12	8.5E-12	5.1E-12	2.3E-12
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2.0E-09	8 9E-10
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3 3E-09	2.0E-09	8.9E-10
Tetrachloroethene	2.0E-03	0.00875	2.5E-03	5.1E-05	W1 max	3.0E-05	1.1E-09	2.7E-09	1.6E-09	2.4E-09	8.3E-09	3.1E-08	1.9E-08	8.3E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W1 max	4.0E-06	1.4E-10	3 5E-10	2.1E-10	3.1E-10	1.1E-09	4.1E-09	2.5E-09	1.1E-09
Toluene	NA	0.1	2.9E-02	6.1E-04	W1 max	3.6E-04	1.3E-08	3.2E-08	1.9E-08	2.8E-08	9.9E-08	3.7E-07	2 2E-07	9.9E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W1 max	1.9E-04	6.9E-09	1.7E-08	1.0E-08	1.5E-08	5.3E-08	2.0E-07	1 2E-07	5.3E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2 0E-09	8.9E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W1 max	1.8E-08	6.3E-13	1.6E-12	9.4E-13	1.4E-12	4.9E-12	1.8E-11	1 1E-11	4.9E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W1 max	7.4E-06	2.6E-10	6.5E-10	3.9E-10	5.8E-10	2.0E-09	7.5E-09	4 6E-09	2 0E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W1 max	7.4E-06	2.6E-10	6.5E-10	3.9E-10	5.8E-10	2.0E-09	7.5E-09	4 6E-09	2.0E-09
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W1 max	1.1E-05	3.9E-10	9.6E-10	5.8E-10	8.6E-10	3 0E-09	1.1E-08	6.8E-09	3.0E-09
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W1 max	1.4E-04	5.1E-09	1.3E-08	7.7E-09	1.1E-08	4 0E-08	1.5E-07	8 9E-08	4 0E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3.3E-09	2 0E-09	8.9E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3 3E-09	2 0E-09	8.9E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W1 max	3.8E-05	1.3E-09	3.3E-09	2.0E-09	3.0E-09	1.0E-08	3.9E-08	2 3E-08	1 0E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W1 max	1.4E-04	5.1E-09	1.3E-08	7.7E-09	1.1E-08	4 0E-08	1 5E-07	8 9E-08	4.0E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W1 max	2.2E-04	7.9E-09	2.0E-08	1.2E-08	1 8E-08	6 1E-08	2.3E-07	1 4E-07	6.1E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W1 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8 9E-10	3.3E-09	2.0E-09	8.9E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W1 max	6.4E-12	2.2E-16	5 6E-16	3.4E-16	5 0E-16	1.7E-15	6 5E-15	3 9E-15	1.7E-15
1,2,3,7,8-PCDD	7 5E+04	NA	NA	6.78E-11	W1 max	4 0E-11	1.4E-15	3.5E-15	2.1E-15	3.1E-15	1 1E-14	4 1E-14	2 5E-14	1 1E-14
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W1 max	5.3E-11	1 9E-15	4 6E-15	2 8E-15	4 1E-15	1.4E-14	5 4E-14	3 3E-14	1 4E-14
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	W1 max	9.8E-11	3 4E-15	8 6E-15	5 2E-15	7 6E-15	2.7E-14	1 0E-13	6 0E-14	2 7E-14
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W1 max	6 4E-11	2 3E-15	5 6E-15	3 4E-15	5 0E-15	1 8E-14	6 6E-14	4 0E-14	1 8E-14
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	W1 max	7 3E-10	2 6E-14	6 4E-14	3.9E-14	5 7E-14	2 0E-13	7 5E-13	4 5E-13	2 0E-13
OCDD	1.5E+02	NA	NA	6.15E-09	W1 max	3 6E-09	1 3E-13	3 2E-13	1.9E-13	2 8E-13	9 9E-13	3 7E-12	2 2E-12	9 9E-13
2,3,7,8-TCDF	1.5E+04	NA	NA	8 77E-11	W1 max	5 2E-11	1 8E-15	4 5E-15	2.7E-15	4 0E-15	1 4E-14	5 3E-14	3 2E-14	1 4E-14
1,2,3,7,8-PCDF	7 5E+03	NA	NA	3.45E-10	W1 max	2 0E-10	7.2E-15	1 8E-14	1 1E-14	1 6E-14	5 6E-14	2 1E-13	1 3E-13	5 6E-14
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	W1 max	2 8E-10	9.7E-15	2 4E-14	1 5E-14	2 2E-14	7 5E-14	2 8E-13	1 7E-13	7 5E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	W1 max	8 4E-10	3.0E-14	7 4E-14	4 5E-14	6 6E-14	2 3E-13	8 6E-13	5 2E-13	2 3E-13
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	W1 max	7 9E-10	2 8E-14	6 9E-14	4 2E-14	6 2E-14	2 2E-13	8 1E-13	4 9E-13	2 2E-13
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	W1 max	8.9E-10	3 1E-14	7.8E-14	4.7E-14	6 9E-14	2 4E-13	9 1E-13	5 5E-13	2 4E-13

External Review Draft, Do Not Cite or Quote

TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6 7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W1 max	NT	NT	NT	NT	6.2E-06	2.3E-05	1.4E-05	6.2E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W1 max	1.4E-08	3.4E-08	2.0E-08	3.0E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W1 max	NT	NT	NT	NT	7.3E-06	2.7E-05	1.6E-05	7.3E-06
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W1 max	NT	NT	NT	NT	1.2E-07	4.4E-07	2.7E-07	1.2E-07
Phenanthrene	NA	NA	NA	6.7E-06	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5.5E-06	W1 max	NT	NT	NT	NT	5.9E-09	2.2E-08	1.3E-08	5.9E-09
Pyrene	NA	0.02625	7 5E-03	5.5E-06	W1 max	NT	NT	NT	NT	1.2E-07	4.4E-07	2.7E-07	1.2E-07
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	W1 max	NT	NT	NT	NT	5.1E-08	1.9E-07	1.1E-07	5.1E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0 02625	7.5E-03	5.5E-06	W1 max	3.0E-12	7.4E-12	4.5E-12	6.6E-12	1.2E-07	4.4E-07	2.7E-07	1.2E-07
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	W1 max	2.3E-11	5.8E-11	3.5E-11	5.2E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	W1 max	2.2E-12	5.4E-12	3.3E-12	4.8E-12	3.3E-06	1.2E-05	7.5E-06	3.3E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W1 max	NT	NT	NT	NT	1.5E-07	5.5E-07	3.3E-07	1.5E-07
Toluene	NA	0.1	2.9E-02	6.1E-04	W1 max	NT	NT	NT	NT	3.5E-06	1.3E-05	7.8E-06	3.5E-06
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W1 max	NT	NT	NT	NT	2.5E-08	9.3E-08	5.6E-08	2.5E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W1 max	NT	NT	NT	NT	6.2E-08	2.3E-07	1.4E-07	6.2E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W1 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W1 max	NT	NT	NT	NT	2.8E-08	1.1E-07	6.4E-08	2 8E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W1 max	1.5E-11	3.7E-11	2.2E-11	3.3E-11	2.0E-06	7.5E-06	4.6E-06	2.0E-06
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W1 max	2.3E-12	5.7E-12	3.5E-12	5.1E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W1 max	NT	NT	NT	NT	7 9E-07	3.0E-06	1.8E-06	7.9E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W1 max	NT	NT	NT	NT	3.6E-08	1.3E-07	8.0E-08	3.6E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W1 max	1.1E-12	2.6E-12	1.7E-12	2.5E-12	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W1 max	NT	NT	NT	NT	7.3E-07	2.7E-06	1.6E-06	7.3E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W1 max	1.5E-09	3.6E-09	2.3E-09	3.4E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W1 max	NT	NT	NT	NT	1.2E-07	4.6E-07	2.8E-07	1.2E-07
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W1 max	NT	NT	NT	NT	1.8E-09	6.8E-09	4.0E-09	1.8E-09
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W1 max	3.4E-11	8.4E-11	5.1E-11	7.5E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W1 max	1.1E-10	2.6E-10	1.6E-10	2.3E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W1 max	2.8E-11	6.9E-11	4.2E-11	6.2E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W1 max	5.2E-11	1.3E-10	7.8E-11	1.1E-10	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1 5E+04	NA	NA	1.09E-10	W1 max	3.4E-11	8.5E-11	5 1E-11	7 5E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	W1 max	3.9E-11	9.6E-11	5 8E-11	8.6E-11	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6.15E-09	W1 max	1.9E-11	4.8E-11	2 9E-11	4 3E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	W1 max	2.7E-11	6.8E-11	4 1E-11	6 1E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	W1 max	5.4E-11	1.3E-10	8 1E-11	1 2E-10	NT	NT	NT	NT
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	W1 max	7.3E-10	1.8E-09	1 1E-09	1.6E-09	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	W1 max	4 4E-10	1.1E-09	6 7E-10	9 9E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	W1 max	4 2E-10	1.0E-09	6 3E-10	9 2E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1 50E-09	W1 max	4.7E-10	1 2E-09	7.1E-10	1 0E-09	NT	NT	NT	NT

TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	2.93E-10	W1 max	1.7E-10	6.1E-15	1 5E-14	9 2E-15	1.4E-14	4 7E-14	1.8E-13	1.1E-13	4 7E-14
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	9.30E-09	W1 max	5.5E-09	1.9E-13	4.8E-13	2.9E-13	4 3E-13	1 5E-12	5.6E-12	3.4E-12	1.5E-12
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W1 max	7.2E-10	2.5E-14	6.3E-14	3 8E-14	5 6E-14	2 0E-13	7.4E-13	4 5E-13	2.0E-13
OCDF	1.5E+02	NA	NA	1.89E-08	W1 max	1.1E-08	3 9E-13	9.8E-13	5.9E-13	8 7E-13	3 1E-12	1.1E-11	6 9E-12	3.1E-12
Dioxin TEQ				4.28E-08			8.9E-13	2.2E-12	1 3E-12	2.0E-12	6.9E-12	2.6E-11	1.6E-11	6.9E-12
Aluminum	NA	NA	NA	2.4E-04	W1 max	1.4E-04	5 0E-09	1.2E-08	7.5E-09	1 1E-08	3.9E-08	1.4E-07	8 8E-08	3 9E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	W1 max	2.5E-06	8.7E-11	2.2E-10	1.3E-10	1.9E-10	6.8E-10	2.5E-09	1.5E-09	6.8E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	W1 max	2 2E-05	7.7E-10	1.9E-09	1.2E-09	1.7E-09	6.0E-09	2.2E-08	1 3E-08	6 0E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	W1 max	8.9E-05	3.1E-09	7.8E-09	4.7E-09	6.9E-09	2.4E-08	9.1E-08	5.5E-08	2.4E-08
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	W1 max	1.9E-08	6.9E-13	1.7E-12	1.0E-12	1.5E-12	5.3E-12	2.0E-11	1 2E-11	5 3E-12
Cadmium	6.1	0.000438	1 3E-04	1.6E-05	W1 max	9.4E-06	3.3E-10	8.3E-10	5.0E-10	7.4E-10	2.6E-09	9.7E-09	5.8E-09	2 6E-09
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	W1 max	4.2E-07	1.5E-11	3.7E-11	2.2E-11	3.3E-11	1.1E-10	4.3E-10	2 6E-10	1.1E-10
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	W1 max	4.2E-07	1.5E-11	3.7E-11	2.2E-11	3.3E-11	1.1E-10	4.3E-10	2 6E-10	1.1E-10
Copper	NA	NA	NA	9.4E-05	W1 max	5.5E-05	2.0E-09	4.9E-09	2.9E-09	4.3E-09	1.5E-08	5.7E-08	3.4E-08	1.5E-08
Lead	NA	NA	NA	4.3E-05	W1 max	2.5E-05	8.9E-10	2.2E-09	1.3E-09	2 0E-09	6.9E-09	2.6E-08	1.6E-08	6.9E-09
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	W1 max	8.3E-04	2.9E-08	7.2E-08	4.4E-08	6.5E-08	2.3E-07	8.5E-07	5.1E-07	2.3E-07
Nickel	0.84	0.0175	5 0E-03	5.0E-06	W1 max	3.0E-06	1.0E-10	2.6E-10	1.6E-10	2.3E-10	8.1E-10	3.0E-09	1.8E-09	8 1E-10
Selenium	NA	0.004375	1.3E-03	4.7E-04	W1 max	2 8E-04	9.8E-09	2.4E-08	1.5E-08	2.2E-08	7.6E-08	2.8E-07	1.7E-07	7.6E-08
Silver	NA	0 004375	1.3E-03	1.5E-05	W1 max	8.9E-06	3.1E-10	7.8E-10	4.7E-10	6.9E-10	2.4E-09	9.1E-09	5.5E-09	2.4E-09
Thallium	NA	0.000061	1.8E-05	3.4E-05	W1 max	2.0E-05	7.1E-10	1.8E-09	1.1E-09	1.6E-09	5.5E-09	2.1E-08	1.2E-08	5 5E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	W1 max	7.1E-05	2.5E-09	6.2E-09	3.8E-09	5.5E-09	1.9E-08	7.2E-08	4.4E-08	1.9E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W1 max	1.9E-02	6.6E-07	1.7E-06	1 0E-06	1.5E-06	5.2E-06	1.9E-05	1 2E-05	5.2E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W1 max	1.4E+00	5.0E-05	1.3E-04	7.6E-05	1.1E-04	3.9E-04	1.5E-03	8 8E-04	3.9E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W1 max	5.4E-02	1.9E-06	4.7E-06	2.8E-06	4.2E-06	1.5E-05	5.5E-05	3 3E-05	1.5E-05
Particulate matter	NA	NA	NA	7.2E-02	W1 max	4.2E-02	1.5E-06	3.7E-06	2.3E-06	3.3E-06	1.2E-05	4.3E-05	2 6E-05	1.2E-05
Respirable particulates	NF	NF	NF	7.2E-02	W1 max	4.2E-02	1.5E-06	3.7E-06	2.3E-06	3.3E-06	1.2E-05	4.3E-05	2.6E-05	1.2E-05

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

External Review Draft, Do Not Cite or Quote

TABLE 22 Maximum Inhalation Risks and Noncancer HQs in Subarea W1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W1 max	9.1E-11	2 3E-10	1.4E-10	2 0E-10		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W1 max	2.9E-10	7.2E-10	4 4E-10	6.4E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W1 max	3.8E-11	9.5E-11	5.7E-11	8.5E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	W1 max	5.9E-11	1.5E-10	8.9E-11	1 3E-10		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		2.9E-09	7.3E-09	4.4E-09	6.5E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	W1 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	W1 max	NT	NT	NT	NT		6.8E-06	2.5E-05	1.5E-05	6 8E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	W1 max	3.8E-08	9.6E-08	5.8E-08	8 5E-08		8 0E-05	3.0E-04	1.8E-04	8 0E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	W1 max	NT	NT	NT	NT		6 8E-04	2.5E-03	1.5E-03	6 8E-04
Beryllium	8.4	0 004375	1.3E-03	3.3E-08	W1 max	5.8E-12	1.4E-11	8.7E-12	1 3E-11		4.3E-09	1.6E-08	9.6E-09	4 3E-09
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	W1 max	2 0E-09	5.1E-09	3.1E-09	4.5E-09		2.1E-05	7.7E-05	4.7E-05	2.1E-05
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	W1 max	6.0E-10	1.5E-09	9.1E-10	1.3E-09		9.2E-08	3.4E-07	2.1E-07	9.2E-08
Chromium (trivalent)	NA	0 875	2 5E-01	7.1E-07	W1 max	NT	NT	NT	NT		4.6E-10	1.7E-09	1.0E-09	4.6E-10
Copper	NA	NA	NA	9.4E-05	W1 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	W1 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	W1 max	NT	NT	NT	NT		1.1E-02	3.9E-02	2.4E-02	1.1E-02
Nickel	0.84	0.0175	5 0E-03	5.0E-06	W1 max	8.7E-11	2.2E-10	1.3E-10	1.9E-10		1 6E-07	6.0E-07	3.6E-07	1.6E-07
Selenium	NA	0 004375	1 3E-03	4.7E-04	W1 max	NT	NT	NT	NT		6.1E-05	2.3E-04	1.4E-04	6.1E-05
Silver	NA	0.004375	1.3E-03	1.5E-05	W1 max	NT	NT	NT	NT		1.9E-06	7.2E-06	4.4E-06	1.9E-06
Thallium	NA	0.000061	1.8E-05	3.4E-05	W1 max	NT	NT	NT	NT		3.1E-04	1.2E-03	7.1E-04	3.1E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	W1 max	NT	NT	NT	NT		2.6E-07	9.7E-07	5.8E-07	2.6E-07
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W1 max	NT	NT	NT	NT		1.0E-02	3.9E-02	2.3E-02	1.0E-02
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W1 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W1 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	W1 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	W1 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	6.5E-08	1.6E-07	9.8E-08	1.4E-07	Total HI	2.5E-02	9.3E-02	5.6E-02	2.5E-02

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	W2 max	1.4E-06	4 9E-11	1 2E-10	7.4E-11	1 1E-10	3.8E-10	1 4E-09	8.7E-10	3 8E-10
Acenaphthylene	NF	NF	NF	6.7E-06	W2 max	1.4E-06	4.9E-11	1 2E-10	7 4E-11	1 1E-10	3 8E-10	1.4E-09	8 7E-10	3 8E-10
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	W2 max	6.3E-05	2.2E-09	5.5E-09	3.4E-09	4 9E-09	1.7E-08	6.5E-08	3 9E-08	1 7E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	W2 max	6.1E-04	2.1E-08	5.3E-08	3.2E-08	4 6E-08	1 7E-07	6.2E-07	3 8E-07	1.7E-07
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	W2 max	6.2E-05	2 2E-09	5.4E-09	3 3E-09	4 8E-09	1.7E-08	6.3E-08	3 8E-08	1.7E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W2 max	4.2E-05	1.5E-09	3.7E-09	2.2E-09	3.3E-09	1 2E-08	4.3E-08	2 6E-08	1.2E-08
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3 2E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W2 max	3.1E-06	1 1E-10	2.7E-10	1.6E-10	2.4E-10	8.5E-10	3.2E-09	1.9E-09	8.5E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W2 max	2.4E-06	8.4E-11	2.1E-10	1.3E-10	1.9E-10	6.5E-10	2.4E-09	1 5E-09	6.5E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W2 max	6.7E-06	2.4E-10	5.9E-10	3.6E-10	5.3E-10	1.8E-09	6.9E-09	4 2E-09	1 8E-09
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9 0E-11	3.2E-10	1.2E-09	7.1E-10	3 2E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1 0E-10	6.1E-11	9 0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9 0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4 1E-11	1 0E-10	6.1E-11	9 0E-11	3.2E-10	1.2E-09	7.1E-10	3 2E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1.1E-10	3 8E-10	1.4E-09	8.7E-10	3.8E-10
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	W2 max	2.8E-06	9 8E-11	2.4E-10	1.5E-10	2.2E-10	7.6E-10	2.9E-09	1.7E-09	7 6E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8 7E-10	3 8E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	W2 max	7.8E-06	2 7E-10	6.8E-10	4.1E-10	6.1E-10	2.1E-09	8.0E-09	4.8E-09	2 1E-09
Bromodichloromethane	NA	0.0175	5 0E-03	1.0E-04	W2 max	2.2E-05	7.6E-10	1.9E-09	1.1E-09	1 7E-09	5.9E-09	2.2E-08	1.3E-08	5 9E-09
Bromoform	3.9E-03	0.0175	5 0E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1 0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3 2E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W2 max	1.0E-04	3.6E-09	9.0E-09	5.5E-09	8.1E-09	2.8E-08	1.1E-07	6 4E-08	2 8E-08
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W2 max	1.4E-06	4 9E-11	1.2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8.7E-10	3.8E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W2 max	1.1E-05	3 8E-10	9.5E-10	5.7E-10	8.5E-10	3.0E-09	1.1E-08	6.7E-09	3.0E-09
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	W2 max	1.9E-05	6.6E-10	1.6E-09	9.9E-10	1.5E-09	5.1E-09	1.9E-08	1 2E-08	5.1E-09
Carbon tetrachloride	5 3E-02	0.0005	1.4E-04	1.6E-04	W2 max	3.3E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W2 max	1.2E-07	4.1E-12	1.0E-11	6.1E-12	9 0E-12	3.2E-11	1.2E-10	7.1E-11	3 2E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8 7E-10	3 8E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8.7E-10	3 8E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1 2E-09	7 1E-10	3.2E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W2 max	7.7E-06	2.7E-10	6.8E-10	4.1E-10	6.0E-10	2.1E-09	7.9E-09	4 8E-09	2.1E-09
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	4.9E-04	W2 max	1.0E-04	3.6E-09	9.0E-09	5.5E-09	8.1E-09	2.8E-08	1.1E-07	6 4E-08	2 8E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W2 max	5.6E-05	2.0E-09	4.9E-09	3.0E-09	4 4E-09	1.5E-08	5.7E-08	3 5E-08	1.5E-08
Chloromethane	6.3E-03	NA	NA	2.5E-04	W2 max	5.1E-05	1.8E-09	4.5E-09	2.7E-09	4.0E-09	1.4E-08	5.3E-08	3 2E-08	1.4E-08
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W2 max	1.4E-06	4.9E-11	1 2E-10	7.4E-11	1 1E-10	3.8E-10	1.4E-09	8 7E-10	3 8E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9 0E-11	3 2E-10	1.2E-09	7 1E-10	3 2E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W2 max	1.4E-06	4 9E-11	1 2E-10	7.4E-11	1 1E-10	3.8E-10	1.4E-09	8 7E-10	3 8E-10
Chrysene	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9 0E-11	3.2E-10	1 2E-09	7 1E-10	3 2E-10
Cresol, m-	NA	0 04375	1.3E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9 0E-11	3 2E-10	1.2E-09	7 1E-10	3 2E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W2 max	1.2E-06	4 1E-11	1.0E-10	6.1E-11	9 0E-11	3.2E-10	1 2E-09	7 1E-10	3 2E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	W2 max	2 9E-05	1.0E-09	2 6E-09	1.5E-09	2 3E-09	8.0E-09	3 0E-08	1 8E-08	8 0E-09
Cumene	NA	0.00225	6.4E-04	5 5E-06	W2 max	1.2E-06	4 1E-11	1 0E-10	6.1E-11	9 0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
DDE, 4,4'-	NA	NA	NA	5 5E-07	W2 max	1.2E-07	4 1E-12	1 0E-11	6 1E-12	9 0E-12	3 2E-11	1 2E-10	7.1E-11	3 2E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4 1E-11	1 0E-10	6 1E-11	9 0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
Dibromochloromethane	NA	0.0175	5 0E-03	2.6E-05	W2 max	5.5E-06	1 9E-10	4 8E-10	2 9E-10	4 3E-10	1 5E-09	5 7E-09	3 4E-09	1 5E-09
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W2 max	1 2E-06	4.1E-11	1 0E-10	6 1E-11	9 0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1 0E-10	6 1E-11	9 0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	W2 max	1 2E-06	4.1E-11	1 0E-10	6 1E-11	9 0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	W2 max	7.0E-06	2 5E-10	6 1E-10	3 7E-10	5 5E-10	1 9E-09	7 2E-09	4 3E-09	1 9E-09
Dichlorobiphenyl	NA	NA	NA	4 7E-08	W2 max	9 8E-09	3 5E-13	8.6E-13	5 2E-13	7 7E-13	2 7E-12	1 0E-11	6 1E-12	2 7E-12

TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0.0525	1 5E-02	6.7E-06	W2 max	NT	NT	NT	NT	2 6E-08	9.6E-08	5.8E-08	2.6E-08
Acenaphthylene	NF	NF	NF	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	W2 max	1.7E-11	4.3E-11	2.6E-11	3 8E-11	2.7E-05	1.0E-04	6.1E-05	2.7E-05
Acetone	NA	0 0875	2.5E-02	2.9E-03	W2 max	NT	NT	NT	NT	6 7E-06	2.5E-05	1.5E-05	6.7E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	W2 max	NT	NT	NT	NT	6.7E-07	2.5E-06	1.5E-06	6.7E-07
Acrylonitrile	2.4E-01	0 0005	1.4E-04	2.0E-04	W2 max	3.6E-10	8 9E-10	5.4E-10	7.9E-10	8.1E-05	3.0E-04	1.8E-04	8.1E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W2 max	NT	NT	NT	NT	4.2E-09	1.6E-08	9.5E-09	4.2E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W2 max	3.2E-12	7.9E-12	4.8E-12	7.0E-12	2.0E-06	7.4E-06	4.5E-06	2.0E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W2 max	NT	NT	NT	NT	6.5E-10	2.4E-09	1.5E-09	6.5E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5 5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W2 max	1.1E-10	2.7E-10	1.6E-10	2.4E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	W2 max	NT	NT	NT	NT	3 8E-08	1.4E-07	8.7E-08	3.8E-08
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	3.7E-05	W2 max	NT	NT	NT	NT	4.3E-07	1.6E-06	9.7E-07	4.3E-07
Bromodichloromethane	NA	0 0175	5.0E-03	1.0E-04	W2 max	NT	NT	NT	NT	1.2E-06	4.4E-06	2.7E-06	1.2E-06
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	W2 max	1.8E-13	3.9E-13	2.4E-13	3 5E-13	6 3E-08	2.4E-07	1.4E-07	6.3E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W2 max	NT	NT	NT	NT	7.9E-05	2.9E-04	1.8E-04	7.9E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W2 max	NT	NT	NT	NT	4.1E-08	1.5E-07	9.4E-08	4.1E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W2 max	NT	NT	NT	NT	6.3E-09	2.4E-08	1.4E-08	6.3E-09
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	W2 max	NT	NT	NT	NT	7.2E-06	2.7E-05	1.6E-05	7.2E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W2 max	6.1E-11	1.5E-10	9.3E-11	1.4E-10	6.4E-05	2.4E-04	1.4E-04	6.4E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W2 max	5.3E-12	1.3E-11	7.9E-12	1.2E-11	2.1E-06	7.9E-06	4.8E-06	2.1E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W2 max	NT	NT	NT	NT	3.8E-07	1.4E-06	8.7E-07	3.8E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W2 max	NT	NT	NT	NT	2.2E-07	8.3E-07	5.0E-07	2.2E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W2 max	7.4E-11	1.9E-10	1.1E-10	1.7E-10	4.2E-07	1.6E-06	9.6E-07	4.2E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W2 max	NT	NT	NT	NT	3.9E-08	1.5E-07	8.9E-08	3.9E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W2 max	1.6E-10	3 9E-10	2.4E-10	3.5E-10	6.1E-06	2.3E-05	1.4E-05	6.1E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	W2 max	1.1E-11	2.8E-11	1.7E-11	2.5E-11	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W2 max	NT	NT	NT	NT	1.9E-08	7.2E-08	4.3E-08	1.9E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W2 max	NT	NT	NT	NT	2.5E-07	9.5E-07	5.7E-07	2.5E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W2 max	NT	NT	NT	NT	2.5E-08	9 5E-08	5.7E-08	2 5E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W2 max	NT	NT	NT	NT	2 5E-08	9.5E-08	5.7E-08	2 5E-08
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W2 max	NT	NT	NT	NT	2.5E-07	9 5E-07	5.7E-07	2.5E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	W2 max	NT	NT	NT	NT	4 9E-07	1 8E-06	1.1E-06	4 9E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2 6E-05	W2 max	NT	NT	NT	NT	3 0E-07	1 1E-06	6.8E-07	3 0E-07
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W2 max	NT	NT	NT	NT	5 5E-09	2 1E-08	1 2E-08	5.5E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	W2 max	NT	NT	NT	NT	2 2E-08	8 3E-08	5 0E-08	2.2E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W2 max	5.1E-05	1.8E-09	4 5E-09	2.7E-09	4 0E-09	1 4E-08	5.3E-08	3 2E-08	1 4E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W2 max	2.6E-06	9.2E-11	2 3E-10	1 4E-10	2 1E-10	7.2E-10	2.7E-09	1 6E-09	7.2E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.1E-10	7.2E-10	2.7E-09	1 6E-09	7.2E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2 3E-03	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.1E-10	7.2E-10	2.7E-09	1 6E-09	7.2E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2 1E-10	7.2E-10	2.7E-09	1 6E-09	7 2E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7 1E-10	3.2E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.1E-10	7.2E-10	2.7E-09	1 6E-09	7.2E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.1E-10	7.2E-10	2.7E-09	1 6E-09	7.2E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.1E-10	7.2E-10	2 7E-09	1 6E-09	7 2E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W2 max	3 5E-06	1.2E-10	3.1E-10	1.9E-10	2.8E-10	9.7E-10	3.6E-09	2 2E-09	9 7E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W2 max	2.4E-05	8.5E-10	2.1E-09	1.3E-09	1 9E-09	6.6E-09	2.5E-08	1.5E-08	6.6E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1 2E-09	7 1E-10	3 2E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7 1E-10	3 2E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W2 max	3.3E-06	1.2E-10	2.9E-10	1 7E-10	2.6E-10	9.0E-10	3.4E-09	2 0E-09	9.0E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3 2E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7 1E-10	3 2E-10
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7 1E-10	3.2E-10
Dinitrotoluene, 2,4-	NA	0 00175	5.0E-04	5.5E-06	W2 max	1 2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3 2E-10	1.2E-09	7.1E-10	3 2E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W2 max	1.0E-04	3.7E-09	9.1E-09	5.5E-09	8.1E-09	2.8E-08	1.1E-07	6 4E-08	2 8E-08
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7 1E-10	3.2E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W2 max	8.1E-06	2.9E-10	7.1E-10	4.3E-10	6.4E-10	2.2E-09	8.3E-09	5 0E-09	2 2E-09
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W2 max	5.1E-05	1.8E-09	4.5E-09	2.7E-09	4.0E-09	1.4E-08	5.3E-08	3 2E-08	1.4E-08
Ethylbenzene	NA	0.25	7 1E-02	5.0E-04	W2 max	1.0E-04	3.7E-09	9.2E-09	5.5E-09	8.2E-09	2.9E-08	1 1E-07	6 5E-08	2.9E-08
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W2 max	2.4E-05	8.5E-10	2.1E-09	1.3E-09	1.9E-09	6.6E-09	2.5E-08	1 5E-08	6 6E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W2 max	6.4E-06	2.3E-10	5.6E-10	3.4E-10	5.0E-10	1.8E-09	6 6E-09	4 0E-09	1 8E-09
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W2 max	3.1E-11	1.1E-15	2.7E-15	1.6E-15	2.4E-15	8.4E-15	3.1E-14	1 9E-14	8.4E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7 1E-10	3 2E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8 7E-10	3.8E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W2 max	1.3E-04	4.5E-09	1.1E-08	6.8E-09	1.0E-08	3.5E-08	1.3E-07	7.9E-08	3.5E-08
Furfural	NA	0.0125	3 6E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1 2E-09	7.1E-10	3.2E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W2 max	1.2E-07	4.1E-12	1.0E-11	6.1E-12	9.0E-12	3.2E-11	1.2E-10	7 1E-11	3.2E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	2.9E-09	1.0E-13	2.6E-13	1.6E-13	2.3E-13	8.1E-13	3.0E-12	1.8E-12	8.1E-13
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1 2E-09	7 1E-10	3.2E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	2.9E-09	1.0E-13	2.6E-13	1.6E-13	2 3E-13	8 1E-13	3.0E-12	1 8E-12	8.1E-13
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	W2 max	2.1E-05	7.5E-10	1.9E-09	1.1E-09	1.7E-09	5.8E-09	2.2E-08	1 3E-08	5 8E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7 5E-05	5.5E-05	W2 max	1.2E-05	4.1E-10	1.0E-09	6.1E-10	9.0E-10	3.2E-09	1.2E-08	7.1E-09	3.2E-09
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3 2E-10
Hexachloroethane	1.4E-02	0 000875	2 5E-04	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3 2E-10	1 2E-09	7 1E-10	3.2E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W2 max	6.7E-06	2.4E-10	5 9E-10	3.6E-10	5 3E-10	1.8E-09	6.9E-09	4 2E-09	1 8E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	W2 max	1.4E-05	4.8E-10	1 2E-09	7.2E-10	1.1E-09	3 7E-09	1 4E-08	8 4E-09	3.7E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W2 max	1 2E-06	4 1E-11	1 0E-10	6 1E-11	9.0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7 4E-11	1 1E-10	3 8E-10	1 4E-09	8 7E-10	3 8E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	W2 max	2.4E-05	8.5E-10	2 1E-09	1 3E-09	1 9E-09	6.6E-09	2 5E-08	1 5E-08	6 6E-09
Methoxychlor	NA	0 004375	1.3E-03	5.5E-07	W2 max	1 2E-07	4.1E-12	1 0E-11	6 1E-12	9 0E-12	3 2E-11	1 2E-10	7 1E-11	3 2E-11
Methyl-t-butyl ether	NA	0 75	2 1E-01	1.3E-05	W2 max	2 6E-06	9 2E-11	2 3E-10	1 4E-10	2 1E-10	7 2E-10	2 7E-09	1 6E-09	7 2E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5.7E-03	1.3E-05	W2 max	2 6E-06	9.2E-11	2 3E-10	1 4E-10	2 1E-10	7 2E-10	2 7E-09	1 6E-09	7 2E-10
Methylene chloride	1.6E-03	0.75	2.1E-01	4.0E-04	W2 max	8 3E-05	2 9E-09	7 3E-09	4 4E-09	6 5E-09	2 3E-08	8 5E-08	5 1E-08	2 3E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W2 max	8 8E-06	3.1E-10	7 7E-10	4.7E-10	6 9E-10	2 4E-09	9 0E-09	5 4E-09	2 4E-09
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W2 max	3 5E-09	1 2E-13	3 1E-13	1 9E-13	2 7E-13	9 6E-13	3 6E-12	2 2E-12	9 6E-13
Naphthalene	NA	0.035	1 0E-02	5 5E-06	W2 max	1.2E-06	4.1E-11	1 0E-10	6 1E-11	9 0E-11	3 2E-10	1 2E-09	7 1E-10	3 2E-10
Nitroaniline, 2-	NA	0.00005	1.4E-05	6 7E-06	W2 max	1 4E-06	4 9E-11	1 2E-10	7 4E-11	1 1E-10	3 8E-10	1 4E-09	8 7E-10	3 8E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W2 max	1 4E-06	4 9E-11	1 2E-10	7 4E-11	1 1E-10	3 8E-10	1 4E-09	8 7E-10	3 8E-10

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TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	W2 max	NT	NT	NT	NT	9 9E-07	3 7E-06	2.2E-06	9.9E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W2 max	NT	NT	NT	NT	2.0E-08	7.5E-08	4.5E-08	2.0E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W2 max	8.4E-12	2.1E-11	1.3E-11	1.9E-11	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W2 max	1.1E-10	2.8E-10	1.7E-10	2.5E-10	3 2E-07	1.2E-06	7.2E-07	3 2E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W2 max	NT	NT	NT	NT	1.4E-07	5.4E-07	3.2E-07	1.4E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W2 max	NT	NT	NT	NT	4.2E-07	1.6E-06	9.5E-07	4.2E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2 9E-04	1.3E-05	W2 max	NT	NT	NT	NT	2.5E-06	9.4E-06	5.7E-06	2.5E-06
Dichloropropene (cis), 1,3-	1.3E-01	0 005	1.4E-03	1.3E-05	W2 max	1.2E-11	3.0E-11	1.8E-11	2.7E-11	5 0E-07	1.9E-06	1.1E-06	5.0E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W2 max	1.2E-11	3.0E-11	1.8E-11	2.7E-11	5.0E-07	1.9E-06	1.1E-06	5.0E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W2 max	NT	NT	NT	NT	4.8E-09	1.8E-08	1.1E-08	4.8E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W2 max	NT	NT	NT	NT	6.3E-08	2.4E-07	1.4E-07	6.3E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W2 max	NT	NT	NT	NT	3.6E-08	1.3E-07	8.1E-08	3 6E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W2 max	NT	NT	NT	NT	1.3E-06	4.7E-06	2.9E-06	1.3E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	W2 max	NT	NT	NT	NT	6.3E-07	2.4E-06	1.4E-06	6.3E-07
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W2 max	NT	NT	NT	NT	6 3E-07	2.4E-06	1.4E-06	6.3E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W2 max	NT	NT	NT	NT	6.3E-08	2.4E-07	1.4E-07	6 3E-08
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W2 max	NT	NT	NT	NT	8.9E-07	3.3E-06	2.0E-06	8.9E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W2 max	NT	NT	NT	NT	6 3E-07	2.3E-06	1.4E-06	6 3E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W2 max	NT	NT	NT	NT	4.0E-07	1.5E-06	9.1E-07	4 0E-07
Ethylene dibromide	7 6E-01	0.00005	1.4E-05	1.2E-04	W2 max	6.5E-10	1.6E-09	9.7E-10	1.4E-09	4.6E-04	1.7E-03	1.0E-03	4.6E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W2 max	7.9E-11	2.0E-10	1 2E-10	1.8E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W2 max	NT	NT	NT	NT	4.2E-10	1.6E-09	9.5E-10	4.2E-10
Fluoranthene	NA	0.035	1 0E-02	5.5E-06	W2 max	NT	NT	NT	NT	3.2E-08	1.2E-07	7.1E-08	3 2E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	W2 max	NT	NT	NT	NT	3.8E-08	1.4E-07	8.7E-08	3 8E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	W2 max	2.0E-10	5.0E-10	3.0E-10	4.5E-10	7.0E-07	2.6E-06	1.6E-06	7.0E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	W2 max	NT	NT	NT	NT	8.9E-08	3.3E-07	2.0E-07	8.9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W2 max	1.8E-11	4.6E-11	2.8E-11	4.1E-11	2.5E-07	9.5E-07	5.7E-07	2 5E-07
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W2 max	6.5E-11	1.6E-10	9.9E-11	1.5E-10	1.6E-06	5.9E-06	3.6E-06	1 6E-06
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0 000175	5.0E-05	1.0E-04	W2 max	5.8E-11	1.5E-10	8.8E-11	1.3E-10	1.2E-04	4.3E-04	2 6E-04	1 2E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W2 max	NT	NT	NT	NT	4 2E-05	1.6E-04	9.5E-05	4.2E-05
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	W2 max	NT	NT	NT	NT	6 3E-05	2.4E-04	1 4E-04	6 3E-05
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	W2 max	5.7E-13	1.4E-12	8.6E-13	1.3E-12	1 3E-06	4.7E-06	2.9E-06	1 3E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W2 max	NT	NT	NT	NT	2.5E-05	9.2E-05	5.5E-05	2 5E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5 0E-02	6.7E-06	W2 max	NT	NT	NT	NT	7.7E-09	2.9E-08	1 7E-08	7 7E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	W2 max	NT	NT	NT	NT	5 3E-08	2 0E-07	1 2E-07	5 3E-08
Methoxychlor	NA	0.004375	1.3E-03	5.5E-07	W2 max	NT	NT	NT	NT	2 5E-08	9 5E-08	5 7E-08	2 5E-08
Methyl-t-butyl ether	NA	0.75	2 1E-01	1.3E-05	W2 max	NT	NT	NT	NT	3 4E-09	1 3E-08	7 6E-09	3 4E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	1.3E-05	W2 max	NT	NT	NT	NT	1 3E-07	4 7E-07	2 8E-07	1 3E-07
Methylene chloride	1 6E-03	0.75	2 1E-01	4.0E-04	W2 max	4.8E-12	1.2E-11	7.3E-12	1 1E-11	1 1E-07	4 0E-07	2 4E-07	1 1E-07
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1 0E-02	5.5E-06	W2 max	NT	NT	NT	NT	3 2E-08	1 2E-07	7 1E-08	3 2E-08
Nitroaniline, 2-	NA	0.00005	1 4E-05	6.7E-06	W2 max	NT	NT	NT	NT	2 7E-05	1.0E-04	6 1E-05	2 7E-05
Nitroaniline, 3-	NF	NF	NF	6 7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1 1E-10	3 8E-10	1.4E-09	8.7E-10	3 8E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6 1E-11	9 0E-11	3 2E-10	1.2E-09	7 1E-10	3.2E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W2 max	1.4E-06	4.9E-11	1 2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8 7E-10	3.8E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9 0E-11	3.2E-10	1.2E-09	7 1E-10	3.2E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W2 max	2.5E-05	8.9E-10	2 2E-09	1.3E-09	2 0E-09	7.0E-09	2.6E-08	1 6E-08	7.0E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8 7E-10	3 8E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W2 max	1.4E-06	4.9E-11	1.2E-10	7.4E-11	1 1E-10	3.8E-10	1.4E-09	8 7E-10	3.8E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	2.9E-09	1.0E-13	2.6E-13	1.6E-13	2.3E-13	8.1E-13	3 0E-12	1 8E-12	8.1E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	2.9E-09	1.0E-13	2.6E-13	1.6E-13	2.3E-13	8.1E-13	3 0E-12	1 8E-12	8.1E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	W2 max	1.0E-05	3.5E-10	8.8E-10	5 3E-10	7 8E-10	2.7E-09	1.0E-08	6 2E-09	2.7E-09
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	2.9E-09	1.0E-13	2.6E-13	1.6E-13	2.3E-13	8.1E-13	3.0E-12	1 8E-12	8 1E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W2 max	7.1E-06	2.5E-10	6 2E-10	3.8E-10	5 5E-10	1.9E-09	7.2E-09	4 4E-09	1.9E-09
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Phenanthrene	NA	NA	NA	6.7E-06	W2 max	1.4E-06	4.9E-11	1 2E-10	7.4E-11	1.1E-10	3.8E-10	1.4E-09	8.7E-10	3.8E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3 2E-10	1.2E-09	7.1E-10	3.2E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W2 max	2.4E-05	8.5E-10	2.1E-09	1.3E-09	1.9E-09	6 6E-09	2.5E-08	1.5E-08	6.6E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	W2 max	4.7E-06	1.7E-10	4.1E-10	2.5E-10	3.7E-10	1.3E-09	4.8E-09	2.9E-09	1.3E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	2.9E-09	1.0E-13	2.6E-13	1.6E-13	2.3E-13	8.1E-13	3.0E-12	1.8E-12	8.1E-13
Tetrachloroethane, 1,1,1,2-	2.6E-02	0 02625	7.5E-03	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9 0E-11	3.2E-10	1.2E-09	7.1E-10	3 2E-10
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	W2 max	1.1E-05	3.8E-10	9.4E-10	5.7E-10	8.4E-10	2.9E-09	1.1E-08	6.7E-09	2.9E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W2 max	1.4E-06	5.0E-11	1.3E-10	7.6E-11	1.1E-10	3.9E-10	1.5E-09	8.8E-10	3 9E-10
Toluene	NA	0 1	2.9E-02	6.1E-04	W2 max	1.3E-04	4.5E-09	1.1E-08	6.8E-09	1.0E-08	3.5E-08	1.3E-07	8 0E-08	3 5E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W2 max	6.9E-05	2.4E-09	6.1E-09	3.7E-09	5.4E-09	1.9E-08	7.1E-08	4.3E-08	1.9E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W2 max	6.3E-09	2.2E-13	5.6E-13	3.4E-13	5.0E-13	1.7E-12	6.5E-12	3.9E-12	1.7E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.1E-10	7 2E-10	2.7E-09	1.6E-09	7.2E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W2 max	2.6E-06	9.2E-11	2.3E-10	1.4E-10	2.1E-10	7.2E-10	2.7E-09	1.6E-09	7.2E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W2 max	3.9E-06	1.4E-10	3.4E-10	2.1E-10	3.1E-10	1.1E-09	4.0E-09	2 4E-09	1.1E-09
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W2 max	5.1E-05	1.8E-09	4.5E-09	2.7E-09	4.0E-09	1.4E-08	5.3E-08	3 2E-08	1.4E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W2 max	1.4E-05	4.8E-10	1 2E-09	7.2E-10	1.1E-09	3.7E-09	1.4E-08	8 4E-09	3.7E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W2 max	5.1E-05	1.8E-09	4.5E-09	2.7E-09	4.0E-09	1.4E-08	5.3E-08	3 2E-08	1.4E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W2 max	8.0E-05	2.8E-09	7.0E-09	4.2E-09	6 2E-09	2.2E-08	8.2E-08	4 9E-08	2.2E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W2 max	1.2E-06	4.1E-11	1.0E-10	6.1E-11	9.0E-11	3.2E-10	1.2E-09	7.1E-10	3.2E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W2 max	2.3E-12	8 0E-17	2 0E-16	1.2E-16	1.8E-16	6 2E-16	2 3E-15	1 4E-15	6.2E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W2 max	1.4E-11	5.0E-16	1.2E-15	7.5E-16	1.1E-15	3.9E-15	1 5E-14	8 8E-15	3.9E-15
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	8.95E-11	W2 max	1.9E-11	6 6E-16	1 6E-15	1 0E-15	1 5E-15	5 1E-15	1 9E-14	1 2E-14	5 1E-15
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	1.66E-10	W2 max	3.5E-11	1.2E-15	3 1E-15	1.8E-15	2 7E-15	9 5E-15	3 6E-14	2 2E-14	9.5E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W2 max	2.3E-11	8 1E-16	2 0E-15	1 2E-15	1 8E-15	6 3E-15	2 3E-14	1 4E-14	6 3E-15
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	W2 max	2.6E-10	9.2E-15	2 3E-14	1 4E-14	2 0E-14	7 1E-14	2.7E-13	1 6E-13	7 1E-14
OCDD	1 5E+02	NA	NA	6.15E-09	W2 max	1.3E-09	4 5E-14	1 1E-13	6 8E-14	1 0E-13	3 5E-13	1 3E-12	8 0E-13	3 5E-13
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	W2 max	1.8E-11	6 5E-16	1 6E-15	9 8E-16	1 4E-15	5 0E-15	1 9E-14	1 1E-14	5 0E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3 45E-10	W2 max	7.2E-11	2 5E-15	6 3E-15	3 8E-15	5 7E-15	2 0E-14	7 4E-14	4 5E-14	2 0E-14
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	W2 max	9.8E-11	3 5E-15	8 6E-15	5 2E-15	7 7E-15	2 7E-14	1 0E-13	6 1E-14	2 7E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	W2 max	3 0E-10	1 1E-14	2 6E-14	1 6E-14	2 3E-14	8 2E-14	3 1E-13	1 9E-13	8 2E-14
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1.33E-09	W2 max	2 8E-10	9 9E-15	2.5E-14	1 5E-14	2 2E-14	7 7E-14	2 9E-13	1 7E-13	7 7E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	W2 max	3.2E-10	1 1E-14	2 8E-14	1 7E-14	2 5E-14	8 7E-14	3 2E-13	2 0E-13	8 7E-14

TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6 7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W2 max	NT	NT	NT	NT	2 2E-06	8.3E-06	5.0E-06	2.2E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W2 max	4.8E-09	1.2E-08	7.3E-09	1.1E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W2 max	NT	NT	NT	NT	2.6E-06	9.7E-06	5.8E-06	2.6E-06
Pentachlorophenol	NA	0.02625	7 5E-03	5.5E-06	W2 max	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Phenanthrene	NA	NA	NA	6.7E-06	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	5 5E-06	W2 max	NT	NT	NT	NT	2.1E-09	7.9E-09	4.8E-09	2.1E-09
Pyrene	NA	0 02625	7.5E-03	5.5E-06	W2 max	NT	NT	NT	NT	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7 1E-02	2.3E-05	W2 max	NT	NT	NT	NT	1.8E-08	6.8E-08	4.1E-08	1.8E-08
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7 5E-03	5.5E-06	W2 max	1 1E-12	2.6E-12	1.6E-12	2.3E-12	4.2E-08	1.6E-07	9.5E-08	4.2E-08
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	W2 max	8.3E-12	2.1E-11	1 2E-11	1.8E-11	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2 5E-03	5.1E-05	W2 max	7.7E-13	1.9E-12	1.2E-12	1.7E-12	1.2E-06	4.4E-06	2.7E-06	1.2E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W2 max	NT	NT	NT	NT	5.2E-08	1.9E-07	1.2E-07	5.2E-08
Toluene	NA	0 1	2 9E-02	6.1E-04	W2 max	NT	NT	NT	NT	1.2E-08	4.6E-08	2.8E-08	1 2E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W2 max	NT	NT	NT	NT	8.9E-09	3.3E-08	2.0E-08	8.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W2 max	NT	NT	NT	NT	2.2E-08	8.3E-08	5.0E-08	2.2E-08
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W2 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7 1E-02	1.3E-05	W2 max	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1 0E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W2 max	5.3E-12	1.3E-11	7.9E-12	1.2E-11	7.2E-07	2.7E-06	1.6E-06	7.2E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W2 max	8.2E-13	2.0E-12	1.2E-12	1.8E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W2 max	NT	NT	NT	NT	2.8E-07	1.1E-06	6.4E-07	2.8E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W2 max	NT	NT	NT	NT	1.3E-08	4.7E-08	2.9E-08	1.3E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W2 max	4.1E-13	1.0E-12	6.1E-13	9.0E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W2 max	NT	NT	NT	NT	2.6E-07	9.7E-07	5.8E-07	2.6E-07
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W2 max	5.4E-10	1.4E-09	8.2E-10	1.2E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5 0E-01	3.8E-04	W2 max	NT	NT	NT	NT	4.4E-08	1.6E-07	9.9E-08	4.4E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W2 max	NT	NT	NT	NT	6.3E-10	2.4E-09	1.4E-09	6.3E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W2 max	1.2E-11	3 0E-11	1.8E-11	2.7E-11	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W2 max	3 8E-11	9.4E-11	5.7E-11	8.4E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W2 max	9.9E-12	2.5E-11	1.5E-11	2 2E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W2 max	1.8E-11	4.6E-11	2.8E-11	4.1E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W2 max	1.2E-11	3.0E-11	1 8E-11	2 7E-11	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	W2 max	1.4E-11	3 4E-11	2 1E-11	3 1E-11	NT	NT	NT	NT
OCDD	1.5E+02	NA	NA	6.15E-09	W2 max	6 8E-12	1 7E-11	1 0E-11	1 5E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	8.77E-11	W2 max	9.7E-12	2 4E-11	1.5E-11	2 2E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	W2 max	1.9E-11	4 8E-11	2 9E-11	4 2E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W2 max	2 6E-10	6 4E-10	3.9E-10	5 8E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1 43E-09	W2 max	1 6E-10	3 9E-10	2 4E-10	3 5E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	W2 max	1 5E-10	3 7E-10	2 2E-10	3 3E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	W2 max	1.7E-10	4 2E-10	2 5E-10	3 7E-10	NT	NT	NT	NT

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TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W2 max	6.2E-11	2.2E-15	5 4E-15	3.3E-15	4.8E-15	1.7E-14	6.3E-14	3 8E-14	1.7E-14
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W2 max	2.0E-09	6.9E-14	1 7E-13	1.0E-13	1 5E-13	5.4E-13	2.0E-12	1 2E-12	5 4E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W2 max	2.6E-10	9 0E-15	2.2E-14	1.4E-14	2 0E-14	7.0E-14	2.6E-13	1 6E-13	7.0E-14
OCDF	1.5E+02	NA	NA	1.89E-08	W2 max	4.0E-09	1.4E-13	3 5E-13	2 1E-13	3 1E-13	1 1E-12	4.1E-12	2.5E-12	1.1E-12
Dioxin TEQ				4.28E-08			3.2E-13	7.9E-13	4.8E-13	7.0E-13	2.5E-12	9.2E-12	5.6E-12	2.5E-12
Aluminum	NA	NA	NA	2.4E-04	W2 max	5.0E-05	1.8E-09	4.4E-09	2.7E-09	3.9E-09	1.4E-08	5.2E-08	3 1E-08	1.4E-08
Antimony	NA	0.00035	1.0E-04	4.2E-06	W2 max	8.8E-07	3.1E-11	7.7E-11	4 7E-11	6.9E-11	2.4E-10	9.0E-10	5 5E-10	2 4E-10
Arsenic	50	0.000263	7.5E-05	3.7E-05	W2 max	7.8E-06	2.7E-10	6.8E-10	4.1E-10	6.1E-10	2.1E-09	8.0E-09	4.8E-09	2.1E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	W2 max	3.2E-05	1.1E-09	2.8E-09	1.7E-09	2.5E-09	8 6E-09	3.2E-08	1 9E-08	8.6E-09
Beryllium	8.4	0 004375	1 3E-03	3.3E-08	W2 max	6.9E-09	2.4E-13	6.1E-13	3.7E-13	5.4E-13	1 9E-12	7.1E-12	4.3E-12	1 9E-12
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	W2 max	3.4E-06	1.2E-10	2.9E-10	1.8E-10	2.6E-10	9.2E-10	3.4E-09	2.1E-09	9.2E-10
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	W2 max	1.5E-07	5.2E-12	1.3E-11	7.9E-12	1.2E-11	4.1E-11	1.5E-10	9 2E-11	4.1E-11
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	W2 max	1.5E-07	5 2E-12	1.3E-11	7.9E-12	1.2E-11	4.1E-11	1.5E-10	9 2E-11	4 1E-11
Copper	NA	NA	NA	9.4E-05	W2 max	2.0E-05	7.0E-10	1.7E-09	1.0E-09	1.5E-09	5.4E-09	2 0E-08	1.2E-08	5.4E-09
Lead	NA	NA	NA	4.3E-05	W2 max	9.0E-06	3.2E-10	7.9E-10	4.8E-10	7.1E-10	2.5E-09	9 2E-09	5 6E-09	2.5E-09
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	W2 max	2.9E-04	1.0E-08	2.6E-08	1.6E-08	2.3E-08	8.1E-08	3.0E-07	1.8E-07	8.1E-08
Nickel	0.84	0.0175	5.0E-03	5.0E-06	W2 max	1.1E-06	3.7E-11	9.2E-11	5.6E-11	8.2E-11	2.9E-10	1.1E-09	6.5E-10	2.9E-10
Selenium	NA	0 004375	1.3E-03	4.7E-04	W2 max	9.9E-05	3.5E-09	8.7E-09	5.2E-09	7.7E-09	2 7E-08	1.0E-07	6.1E-08	2.7E-08
Silver	NA	0 004375	1.3E-03	1.5E-05	W2 max	3.2E-06	1 1E-10	2.8E-10	1.7E-10	2.5E-10	8.6E-10	3.2E-09	1.9E-09	8.6E-10
Thallium	NA	0.000061	1.6E-05	3.4E-05	W2 max	7.1E-06	2 5E-10	6.3E-10	3.8E-10	5.6E-10	2.0E-09	7.3E-09	4.4E-09	2.0E-09
Zinc	NA	0.2625	7.5E-02	1.2E-04	W2 max	2.5E-05	8.9E-10	2.2E-09	1.3E-09	2.0E-09	6.9E-09	2.6E-08	1.6E-08	6.9E-09
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W2 max	6.7E-03	2.4E-07	5.9E-07	3.6E-07	5.3E-07	1.8E-06	6.9E-06	4 2E-06	1.8E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W2 max	5.1E-01	1.8E-05	4.5E-05	2.7E-05	4.0E-05	1.4E-04	5.2E-04	3.1E-04	1.4E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W2 max	1.9E-02	6.7E-07	1.7E-06	1.0E-06	1.5E-06	5.2E-06	2.0E-05	1.2E-05	5.2E-06
Particulate matter	NA	NA	NA	7.2E-02	W2 max	1.5E-02	5.3E-07	1.3E-06	8.0E-07	1.2E-06	4.1E-06	1.5E-05	9.4E-06	4.1E-06
Respirable particulates	NF	NF	NF	7.2E-02	W2 max	1.5E-02	5.3E-07	1.3E-06	8.0E-07	1.2E-06	4.1E-06	1.5E-05	9.4E-06	4.1E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 23 Maximum Inhalation Risks and Noncancer HQs in Subarea W2

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W2 max	3 2E-11	8.1E-11	4 9E-11	7.2E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W2 max	1.0E-10	2.6E-10	1 6E-10	2 3E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W2 max	1.4E-11	3.4E-11	2.0E-11	3.0E-11		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.69E-08	W2 max	2.1E-11	5.2E-11	3.2E-11	4.7E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		1.0E-09	2.6E-09	1.6E-09	2.3E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	W2 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	W2 max	NT	NT	NT	NT		2 4E-06	9.0E-06	5.5E-06	2 4E-06
Arsenic	50	0 000263	7 5E-05	3.7E-05	W2 max	1.4E-08	3.4E-08	2.1E-08	3.0E-08		2.8E-05	1.1E-04	6.4E-05	2.8E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	W2 max	NT	NT	NT	NT		2.4E-04	9.0E-04	5.5E-04	2 4E-04
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	W2 max	2.0E-12	5.1E-12	3.1E-12	4.6E-12		1.5E-09	5.7E-09	3.4E-09	1.5E-09
Cadmium	6.1	0 000438	1.3E-04	1.6E-05	W2 max	7.2E-10	1.8E-09	1.1E-09	1.6E-09		7.4E-06	2.8E-05	1.7E-05	7.4E-06
Chromium (hexavalent)	41	0 004375	1.3E-03	7.1E-07	W2 max	2.2E-10	5.4E-10	3.2E-10	4.8E-10		3.3E-08	1.2E-07	7.4E-08	3 3E-08
Chromium (trivalent)	NA	0 875	2.5E-01	7.1E-07	W2 max	NT	NT	NT	NT		1.6E-10	6.1E-10	3.7E-10	1.6E-10
Copper	NA	NA	NA	9.4E-05	W2 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	W2 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	W2 max	NT	NT	NT	NT		3.8E-03	1.4E-02	8.5E-03	3.8E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	W2 max	3.1E-11	7.7E-11	4.7E-11	6 9E-11		5.8E-08	2.1E-07	1.3E-07	5.8E-08
Selenium	NA	0 004375	1 3E-03	4.7E-04	W2 max	NT	NT	NT	NT		2.2E-05	8.1E-05	4.9E-05	2.2E-05
Silver	NA	0.004375	1.3E-03	1.5E-05	W2 max	NT	NT	NT	NT		6.9E-07	2.6E-06	1.6E-06	6.9E-07
Thallium	NA	0.000061	1 8E-05	3.4E-05	W2 max	NT	NT	NT	NT		1.1E-04	4.2E-04	2.5E-04	1 1E-04
Zinc	NA	0 2625	7 5E-02	1.2E-04	W2 max	NT	NT	NT	NT		9.2E-08	3.4E-07	2.1E-07	9.2E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W2 max	NT	NT	NT	NT		3.7E-03	1.4E-02	8.3E-03	3.7E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W2 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W2 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	W2 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	W2 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	2.3E-08	5.8E-08	3.5E-08	5.1E-08					
										Total HI	8.9E-03	3.3E-02	2.0E-02	8.9E-03

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1 5E-02	6.7E-06	W3 max	4.5E-07	1 6E-11	4 0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1 2E-10
Acenaphthylene	NF	NF	NF	6.7E-06	W3 max	4 5E-07	1.6E-11	4 0E-11	2 4E-11	3 6E-11	1.2E-10	4.7E-10	2 8E-10	1.2E-10
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	W3 max	2.0E-05	7.2E-10	1 8E-09	1.1E-09	1 6E-09	5.6E-09	2.1E-08	1 3E-08	5 6E-09
Acetone	NA	0 0875	2.5E-02	2.9E-03	W3 max	2.0E-04	6.9E-09	1.7E-08	1.0E-08	1 5E-08	5 4E-08	2.0E-07	1 2E-07	5 4E-08
Acetophenone	NA	0 0875	2.5E-02	2.9E-04	W3 max	2.0E-05	7.0E-10	1.7E-09	1 1E-09	1.6E-09	5 5E-09	2.0E-08	1 2E-08	5.5E-09
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W3 max	1.4E-05	4.8E-10	1.2E-09	7 3E-10	1.1E-09	3.8E-09	1.4E-08	8.5E-09	3.8E-09
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2 9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W3 max	1.0E-06	3.5E-11	8.8E-11	5.3E-11	7.8E-11	2.7E-10	1.0E-09	6 2E-10	2 7E-10
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W3 max	7.7E-07	2.7E-11	6.7E-11	4.1E-11	6.0E-11	2.1E-10	7.9E-10	4.8E-10	2 1E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W3 max	2.2E-06	7.7E-11	1 9E-10	1.2E-10	1.7E-10	6.0E-10	2.2E-09	1.3E-09	6 0E-10
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2 0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1 0E-10
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3 8E-10	2 3E-10	1 0E-10
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3 8E-10	2.3E-10	1.0E-10
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1 2E-10
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	W3 max	9.0E-07	3.2E-11	7.9E-11	4.8E-11	7.1E-11	2 5E-10	9.3E-10	5 6E-10	2.5E-10
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1.2E-10
Bis(2-ethylhexyl)phthalate	NA	0.0175	5.0E-03	3.7E-05	W3 max	2.5E-06	8.9E-11	2.2E-10	1.3E-10	2.0E-10	8 9E-10	2.6E-09	1 6E-09	6.9E-10
Bromodichloromethane	NA	0.0175	5.0E-03	1.0E-04	W3 max	7.0E-06	2.5E-10	6.2E-10	3.7E-10	5.5E-10	1.9E-09	7 2E-09	4.3E-09	1.9E-09
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W3 max	3.3E-05	1.2E-09	2.9E-09	1.8E-09	2 6E-09	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2.8E-10	1 2E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W3 max	3.5E-06	1.2E-10	3.1E-10	1.9E-10	2.7E-10	9 6E-10	3.6E-09	2.2E-09	9.6E-10
Butylbenzylphthalate	NA	0.175	5.0E-02	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Carbon disulfide	NA	0.0025	7.1E-04	8.9E-05	W3 max	6.1E-06	2.1E-10	5.3E-10	3.2E-10	4.7E-10	1.7E-09	6.2E-09	3.7E-09	1.7E-09
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W3 max	1.1E-05	3.8E-10	9.4E-10	5.7E-10	8.4E-10	2.9E-09	1.1E-08	6 7E-09	2.9E-09
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W3 max	3.7E-08	1.3E-12	3.3E-12	2.0E-12	2.9E-12	1.0E-11	3.8E-11	2.3E-11	1.0E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1.2E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1 2E-10
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W3 max	2.5E-06	8.8E-11	2.2E-10	1.3E-10	2.0E-10	8.9E-10	2.6E-09	1.5E-09	8.9E-10
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W3 max	3.3E-05	1.2E-09	2.9E-09	1.8E-09	2.6E-09	9 1E-09	3.4E-08	2.1E-08	9.1E-09
Chloroform	8 1E-02	0.00875	2.5E-03	2.7E-04	W3 max	1.8E-05	6.4E-10	1.6E-09	9.6E-10	1.4E-09	5.0E-09	1.9E-08	1 1E-08	5 0E-09
Chloromethane	6.3E-03	NA	NA	2.5E-04	W3 max	1.7E-05	5.9E-10	1.5E-09	8.8E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4.6E-09
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2 4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1.2E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2 0E-11	2.9E-11	1.0E-10	3 8E-10	2 3E-10	1.0E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3 6E-11	1 2E-10	4 7E-10	2 8E-10	1 2E-10
Chrysene	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2 0E-11	2 9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1.0E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W3 max	3 7E-07	1.3E-11	3 3E-11	2.0E-11	2 9E-11	1.0E-10	3 8E-10	2 3E-10	1 0E-10
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W3 max	3 7E-07	1.3E-11	3 3E-11	2 0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1 0E-10
Crotonaldehyde	NA	NA	NA	1.4E-04	W3 max	9 5E-06	3.3E-10	8 3E-10	5 0E-10	7 4E-10	2.6E-09	9 7E-09	5 8E-09	2 6E-09
Cumene	NA	0.00225	6.4E-04	5.5E-06	W3 max	3 7E-07	1.3E-11	3 3E-11	2 0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1 0E-10
DDE, 4,4'-	NA	NA	NA	5.5E-07	W3 max	3 7E-08	1.3E-12	3 3E-12	2 0E-12	2 9E-12	1 0E-11	3 8E-11	2 3E-11	1 0E-11
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3 3E-11	2 0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1 0E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	W3 max	1 8E-06	6 3E-11	1 6E-10	9 5E-11	1 4E-10	4 9E-10	1 8E-09	1 1E-09	4 9E-10
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W3 max	3 7E-07	1.3E-11	3 3E-11	2 0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1 0E-10
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W3 max	3 7E-07	1 3E-11	3 3E-11	2 0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1 0E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	5.5E-06	W3 max	3 7E-07	1.3E-11	3 3E-11	2 0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1 0E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3.3E-05	W3 max	2 3E-06	8.0E-11	2 0E-10	1 2E-10	1 8E-10	6 2E-10	2 3E-09	1 4E-09	6 2E-10
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W3 max	3 2E-09	1.1E-13	2 8E-13	1 7E-13	2 5E-13	8 7E-13	3 3E-12	2 0E-12	8 7E-13

External Review Draft, Do Not Cite or Quote

TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0 0525	1.5E-02	6.7E-06	W3 max	NT	NT	NT	NT	8.3E-09	3.1E-08	1.9E-08	8.3E-09
Acenaphthylene	NF	NF	NF	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	W3 max	5.5E-12	1.4E-11	8.4E-12	1.2E-11	8.7E-06	3.3E-05	2.0E-05	8 7E-06
Acetone	NA	0.0875	2.5E-02	2.9E-03	W3 max	NT	NT	NT	NT	2 2E-06	8.1E-06	4.9E-06	2 2E-06
Acetophenone	NA	0 0875	2.5E-02	2.9E-04	W3 max	NT	NT	NT	NT	2.2E-07	8.2E-07	4.9E-07	2.2E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	W3 max	1.2E-10	2.9E-10	1.7E-10	2.6E-10	2 6E-05	9.8E-05	5.9E-05	2.6E-05
Anthracene	NA	0.2625	7.5E-02	5.5E-06	W3 max	NT	NT	NT	NT	1.4E-09	5.1E-09	3.1E-09	1.4E-09
Benzene	2.9E-02	0.0015	4.3E-04	1.5E-05	W3 max	1.0E-12	2.5E-12	1.5E-12	2.3E-12	6.4E-07	2.4E-06	1.4E-06	6.4E-07
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	W3 max	NT	NT	NT	NT	2.1E-10	7.9E-10	4.8E-10	2.1E-10
Benzotrichloride	NA	NA	NA	3.2E-05	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	W3 max	3.5E-11	8.7E-11	5.3E-11	7.8E-11	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1 0E-02	6.7E-06	W3 max	NT	NT	NT	NT	1.2E-06	4.7E-06	2.8E-06	1.2E-06
Bis(2-ethylhexyl)phthalate	NA	0 0175	5.0E-03	3.7E-05	W3 max	NT	NT	NT	NT	1.4E-07	5.2E-07	3.1E-07	1.4E-07
Bromodichloromethane	NA	0.0175	5 0E-03	1.0E-04	W3 max	NT	NT	NT	NT	3.8E-07	1.4E-06	8.7E-07	3 8E-07
Bromoform	3.9E-03	0.0175	5.0E-03	5.5E-06	W3 max	5.1E-14	1.3E-13	7.6E-14	1.1E-13	2.0E-08	7.7E-08	4.6E-08	2 0E-08
Bromomethane	NA	0.00125	3.6E-04	4.9E-04	W3 max	NT	NT	NT	NT	2.6E-05	9.5E-05	5.8E-05	2.6E-05
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	5.1E-05	W3 max	NT	NT	NT	NT	1.3E-08	5.0E-08	3.0E-08	1.3E-08
Butylbenzylphthalate	NA	0.175	5 0E-02	5.5E-06	W3 max	NT	NT	NT	NT	2.0E-09	7.7E-09	4.6E-09	2.0E-09
Carbon disulfide	NA	0 0025	7.1E-04	8.9E-05	W3 max	NT	NT	NT	NT	2.3E-06	8.7E-06	5.2E-06	2 3E-06
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	1.6E-04	W3 max	2.0E-11	5.0E-11	3.0E-11	4.4E-11	2.1E-05	7.7E-05	4.7E-05	2.1E-05
Chlordane	1.3E+00	0.000053	1.5E-05	5.5E-07	W3 max	1.7E-12	4.2E-12	2.6E-12	3.8E-12	6.8E-07	2.6E-06	1.5E-06	6.8E-07
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	W3 max	NT	NT	NT	NT	1.2E-07	4.7E-07	2.8E-07	1.2E-07
Chlorobenzene	NA	0.005	1.4E-03	5.5E-06	W3 max	NT	NT	NT	NT	7 2E-08	2.7E-07	1.6E-07	7.2E-08
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	W3 max	2.4E-11	6.0E-11	3.6E-11	5.3E-11	1.4E-07	5.1E-07	3.1E-07	1.4E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	4.9E-04	W3 max	NT	NT	NT	NT	1.3E-08	4.8E-08	2.9E-08	1.3E-08
Chloroform	8.1E-02	0.00875	2.5E-03	2.7E-04	W3 max	5.1E-11	1.3E-10	7.7E-11	1.1E-10	2.0E-06	7.4E-06	4.5E-06	2.0E-06
Chloromethane	6.3E-03	NA	NA	2.5E-04	W3 max	3.7E-12	9.2E-12	5.6E-12	8.2E-12	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	W3 max	NT	NT	NT	NT	8.2E-09	2.3E-08	1.4E-08	8.2E-09
Chlorophenol, 2-	NA	0.004375	1.3E-03	5.5E-06	W3 max	NT	NT	NT	NT	8.2E-08	3.1E-07	1.9E-07	8.2E-08
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1.3E-02	5.5E-06	W3 max	NT	NT	NT	NT	8.2E-09	3.1E-08	1.9E-08	8 2E-09
Cresol, o- (2-Methylphenol)	NA	0.04375	1.3E-02	5.5E-06	W3 max	NT	NT	NT	NT	8 2E-09	3.1E-08	1 9E-08	8 2E-09
Cresol, p-	NA	0.004375	1.3E-03	5.5E-06	W3 max	NT	NT	NT	NT	8.2E-08	3 1E-07	1.9E-07	8.2E-08
Crotonaldehyde	NA	NA	NA	1.4E-04	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6.4E-04	5.5E-06	W3 max	NT	NT	NT	NT	1 6E-07	6 0E-07	3.6E-07	1 6E-07
DDE, 4,4'-	NA	NA	NA	5.5E-07	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0.0175	5.0E-03	2.6E-05	W3 max	NT	NT	NT	NT	9 8E-08	3.7E-07	2 2E-07	9 8E-08
Dichlorobenzene, 1,3-	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5.7E-02	5.5E-06	W3 max	NT	NT	NT	NT	1.8E-09	6 7E-09	4 0E-09	1 6E-09
Dichlorobenzene, 1,2-	NA	0.05	1.4E-02	5.5E-06	W3 max	NT	NT	NT	NT	7 2E-09	2 7E-08	1 6E-08	7.2E-09
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	4.7E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1 4E-02	2.5E-04	W3 max	1 7E-05	5.9E-10	1.5E-09	8.8E-10	1 3E-09	4 6E-09	1.7E-08	1 0E-08	4 6E-09
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W3 max	8 5E-07	3 0E-11	7 5E-11	4.5E-11	6 7E-11	2 3E-10	8 7E-10	5 3E-10	2 3E-10
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W3 max	8 5E-07	3.0E-11	7.5E-11	4 5E-11	6.7E-11	2 3E-10	8.7E-10	5 3E-10	2 3E-10
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W3 max	8 5E-07	3.0E-11	7.5E-11	4.5E-11	6.7E-11	2.3E-10	8.7E-10	5.3E-10	2 3E-10
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	1.3E-05	W3 max	8.5E-07	3.0E-11	7 5E-11	4 5E-11	6.7E-11	2.3E-10	8.7E-10	5 3E-10	2 3E-10
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W3 max	3.7E-07	1.3E-11	3 3E-11	2 0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	1.3E-05	W3 max	8.5E-07	3.0E-11	7.5E-11	4 5E-11	6.7E-11	2.3E-10	8 7E-10	5 3E-10	2 3E-10
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 max	8.5E-07	3.0E-11	7.5E-11	4.5E-11	6.7E-11	2.3E-10	8 7E-10	5 3E-10	2.3E-10
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 max	8.5E-07	3.0E-11	7.5E-11	4.5E-11	6.7E-11	2.3E-10	8.7E-10	5.3E-10	2 3E-10
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W3 max	1.1E-06	4.0E-11	1.0E-10	6.1E-11	9.0E-11	3.1E-10	1 2E-09	7 1E-10	3.1E-10
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W3 max	7.8E-06	2.8E-10	6.9E-10	4.1E-10	6.1E-10	2.1E-09	8.0E-09	4 8E-09	2 1E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2 9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Dimethylphthalate	NA	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2 0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1 0E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W3 max	1.1E-06	3.7E-11	9.3E-11	5.6E-11	8.3E-11	2 9E-10	1.1E-09	6 6E-10	2 9E-10
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3 8E-10	2.3E-10	1 0E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Dinitrophenol, 2,4-	NA	0 00175	5.0E-04	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W3 max	3.4E-05	1 2E-09	2.9E-09	1.8E-09	2.6E-09	9.2E-09	3.4E-08	2 1E-08	9 2E-09
Di(n)octyl phthalate	NA	0.0175	5.0E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	W3 max	2.6E-06	9.3E-11	2 3E-10	1.4E-10	2.1E-10	7.2E-10	2.7E-09	1 6E-09	7 2E-10
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W3 max	1.7E-05	5.9E-10	1 5E-09	8.8E-10	1.3E-09	4.6E-09	1.7E-08	1.0E-08	4 6E-09
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W3 max	3.4E-05	1.2E-09	3.0E-09	1.8E-09	2.7E-09	9.3E-09	3 5E-08	2 1E-08	9 3E-09
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	W3 max	7.8E-06	2.8E-10	6.9E-10	4.1E-10	6.1E-10	2.1E-09	8.0E-09	4 8E-09	2.1E-09
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W3 max	2.1E-06	7.3E-11	1.8E-10	1.1E-10	1.6E-10	5.7E-10	2.1E-09	1 3E-09	5 7E-10
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	W3 max	9.9E-12	3.5E-16	8.7E-16	5.3E-16	7.8E-16	2.7E-15	1.0E-14	6 1E-15	2.7E-15
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1.2E-10
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	W3 max	4.1E-05	1.5E-09	3.6E-09	2.2E-09	3.2E-09	1.1E-08	4.2E-08	2 6E-08	1.1E-08
Furfural	NA	0.0125	3.6E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1 0E-10	3 8E-10	2.3E-10	1.0E-10
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W3 max	3.7E-08	1.3E-12	3.3E-12	2.0E-12	2.9E-12	1.0E-11	3.8E-11	2 3E-11	1.0E-11
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	9.5E-10	3.4E-14	8.4E-14	5.0E-14	7.4E-14	2.6E-13	9.7E-13	5.9E-13	2.6E-13
Hexachlorobenzene	1 6E+00	0 0007	2.0E-04	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	9 5E-10	3.4E-14	8.4E-14	5 0E-14	7.4E-14	2.6E-13	9.7E-13	5 9E-13	2.6E-13
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	W3 max	6.9E-06	2.4E-10	6.0E-10	3.6E-10	5.4E-10	1.9E-09	7.0E-09	4.2E-09	1.9E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	W3 max	3.7E-06	1.3E-10	3.3E-10	2 0E-10	2 9E-10	1.0E-09	3.8E-09	2 3E-09	1 0E-09
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	5.5E-06	W3 max	3.7E-07	1.3E-11	3 3E-11	2 0E-11	2 9E-11	1.0E-10	3 8E-10	2 3E-10	1 0E-10
Hexachloroethane	1.4E-02	0 000875	2.5E-04	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1 0E-10	3.8E-10	2 3E-10	1 0E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W3 max	2.2E-06	7.7E-11	1.9E-10	1.2E-10	1 7E-10	6.0E-10	2 2E-09	1 3E-09	6 0E-10
Hexanone, 2-	NF	NF	NF	6.4E-05	W3 max	4.4E-06	1.5E-10	3 8E-10	2 3E-10	3 4E-10	1 2E-09	4 5E-09	2 7E-09	1 2E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W3 max	3 7E-07	1.3E-11	3 3E-11	2 0E-11	2.9E-11	1.0E-10	3 8E-10	2 3E-10	1 0E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	W3 max	4.5E-07	1.6E-11	4 0E-11	2 4E-11	3 6E-11	1 2E-10	4 7E-10	2 8E-10	1 2E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1 2E-04	W3 max	7 8E-06	2 8E-10	6 9E-10	4.1E-10	6.1E-10	2.1E-09	8 0E-09	4 8E-09	2 1E-09
Methoxychlor	NA	0.004375	1.3E-03	5 5E-07	W3 max	3 7E-08	1 3E-12	3 3E-12	2.0E-12	2 9E-12	1 0E-11	3 8E-11	2 3E-11	1 0E-11
Methyl-t-butyl ether	NA	0.75	2.1E-01	1.3E-05	W3 max	8 5E-07	3 0E-11	7 5E-11	4 5E-11	6 7E-11	2 3E-10	8 7E-10	5 3E-10	2 3E-10
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	1 3E-05	W3 max	8 5E-07	3 0E-11	7 5E-11	4 5E-11	6 7E-11	2 3E-10	8 7E-10	5 3E-10	2 3E-10
Methylene chloride	1 6E-03	0.75	2.1E-01	4 0E-04	W3 max	2 7E-05	9 5E-10	2 4E-09	1 4E-09	2 1E-09	7 4E-09	2 8E-08	1 7E-08	7 4E-09
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W3 max	2 8E-06	1 0E-10	2 5E-10	1 5E-10	2 2E-10	7 8E-10	2 9E-09	1 8E-09	7 8E-10
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W3 max	1 1E-09	4 0E-14	9 9E-14	6 0E-14	8 9E-14	3 1E-13	1 2E-12	7 0E-13	3 1E-13
Naphthalene	NA	0.035	1.0E-02	5 5E-06	W3 max	3 7E-07	1.3E-11	3 3E-11	2 0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1 0E-10
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	W3 max	4 5E-07	1 6E-11	4 0E-11	2 4E-11	3 6E-11	1 2E-10	4 7E-10	2 8E-10	1 2E-10
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W3 max	4 5E-07	1 6E-11	4 0E-11	2 4E-11	3 6E-11	1 2E-10	4 7E-10	2 8E-10	1 2E-10

External Review Draft, Do Not Cite or Quote

TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	2.5E-04	W3 max	NT	NT	NT	NT	3 2E-07	1 2E-06	7.2E-07	3.2E-07
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	1.3E-05	W3 max	NT	NT	NT	NT	6.5E-09	2.4E-08	1.5E-08	6 5E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	1.3E-05	W3 max	2 7E-12	6 8E-12	4 1E-12	6.1E-12	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	1.3E-05	W3 max	3.6E-11	8.9E-11	5.4E-11	8.0E-11	1 0E-07	3.9E-07	2.3E-07	1.0E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5 0E-03	1.3E-05	W3 max	NT	NT	NT	NT	4.7E-08	1.7E-07	1.1E-07	4.7E-08
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	5.5E-06	W3 max	NT	NT	NT	NT	1.4E-07	5.1E-07	3.1E-07	1.4E-07
Dichloropropane, 1,2- (Propylene dichloride)	NA	0 001	2.9E-04	1.3E-05	W3 max	NT	NT	NT	NT	8.1E-07	3.0E-06	1.8E-06	8 1E-07
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 max	3.9E-12	9.7E-12	5.8E-12	8.6E-12	1.6E-07	6.1E-07	3.7E-07	1.6E-07
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	1.3E-05	W3 max	3.9E-12	9.7E-12	5.8E-12	8.6E-12	1 6E-07	6.1E-07	3.7E-07	1.6E-07
Diethylphthalate	NA	0.7	2.0E-01	1.7E-05	W3 max	NT	NT	NT	NT	1.6E-09	5.9E-09	3.5E-09	1.6E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	5.5E-06	W3 max	NT	NT	NT	NT	2.0E-08	7.7E-08	4.6E-08	2.0E-08
Dimethylphthalate	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	1.6E-05	W3 max	NT	NT	NT	NT	1.2E-08	4.4E-08	2.6E-08	1.2E-08
Dinitrotoluene, 2,6-	NA	0.000875	2 5E-04	5.5E-06	W3 max	NT	NT	NT	NT	4.1E-07	1.5E-06	9.3E-07	4.1E-07
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	5.5E-06	W3 max	NT	NT	NT	NT	2.0E-07	7.7E-07	4.6E-07	2.0E-07
Dinitrotoluene, 2,4-	NA	0.00175	5 0E-04	5.5E-06	W3 max	NT	NT	NT	NT	2.0E-07	7.7E-07	4.6E-07	2.0E-07
Dioxane, 1,4-	NA	NA	NA	4.9E-04	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5 0E-03	5.5E-06	W3 max	NT	NT	NT	NT	2.0E-08	7.7E-08	4.6E-08	2.0E-08
D, 2,4-	NA	0 00875	2 5E-03	3.9E-05	W3 max	NT	NT	NT	NT	2.9E-07	1.1E-06	6.5E-07	2.9E-07
Ethyl methacrylate	NA	0.07875	2.3E-02	2.5E-04	W3 max	NT	NT	NT	NT	2.0E-07	7.6E-07	4.6E-07	2.0E-07
Ethylbenzene	NA	0.25	7.1E-02	5.0E-04	W3 max	NT	NT	NT	NT	1.3E-07	4.9E-07	2.9E-07	1.3E-07
Ethylene dibromide	7.6E-01	0 00005	1.4E-05	1.2E-04	W3 max	2.1E-10	5.2E-10	3.2E-10	4.7E-10	1.5E-04	5.6E-04	3.4E-04	1.5E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	W3 max	2.6E-11	6.4E-11	3.8E-11	5.7E-11	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2 0E-05	1.5E-10	W3 max	NT	NT	NT	NT	1.4E-10	5.1E-10	3.1E-10	1.4E-10
Fluoranthene	NA	0.035	1.0E-02	5.5E-06	W3 max	NT	NT	NT	NT	1.0E-08	3.8E-08	2.3E-08	1.0E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	W3 max	NT	NT	NT	NT	1.2E-08	4.7E-08	2.8E-08	1.2E-08
Formaldehyde	4.5E-02	0.175	5 0E-02	6.1E-04	W3 max	6.5E-11	1.6E-10	9.8E-11	1.5E-10	2.3E-07	8.4E-07	5.1E-07	2.3E-07
Furfural	NA	0.0125	3.6E-03	5.5E-06	W3 max	NT	NT	NT	NT	2 9E-08	1.1E-07	6.5E-08	2.9E-08
Heptachlor	4.5E+00	0.000438	1.3E-04	5.5E-07	W3 max	5.9E-12	1.5E-11	8.9E-12	1.3E-11	8.2E-08	3.1E-07	1.9E-07	8.2E-08
Heptachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	5.5E-06	W3 max	2.1E-11	5.3E-11	3.2E-11	4.7E-11	5.1E-07	1.9E-06	1.2E-06	5.1E-07
Hexachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5 0E-05	1.0E-04	W3 max	1.9E-11	4.7E-11	2.8E-11	4.2E-11	3.8E-05	1.4E-04	8.5E-05	3.8E-05
Hexachlorocyclohexane, gamma (Lindane)	NA	0 000263	7.5E-05	5.5E-05	W3 max	NT	NT	NT	NT	1.4E-05	5.1E-05	3.1E-05	1.4E-05
Hexachlorocyclopentadiene	NA	0 000018	5.0E-06	5.5E-06	W3 max	NT	NT	NT	NT	2.0E-05	7.7E-05	4.6E-05	2.0E-05
Hexachloroethane	1.4E-02	0.000875	2.5E-04	5.5E-06	W3 max	1.8E-13	4.6E-13	2.8E-13	4.1E-13	4.1E-07	1.5E-06	9.3E-07	4.1E-07
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	W3 max	NT	NT	NT	NT	7.9E-06	3.0E-05	1.8E-05	7.9E-06
Hexanone, 2-	NF	NF	NF	6.4E-05	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	5.5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	W3 max	NT	NT	NT	NT	2.5E-09	9 3E-09	5 6E-09	2.5E-09
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	W3 max	NT	NT	NT	NT	1 7E-08	6 4E-08	3 9E-08	1.7E-08
Methoxychlor	NA	0 004375	1.3E-03	5.5E-07	W3 max	NT	NT	NT	NT	8 2E-09	3 1E-08	1 9E-08	8 2E-09
Methyl-t-butyl ether	NA	0 75	2.1E-01	1.3E-05	W3 max	NT	NT	NT	NT	1 1E-09	4 1E-09	2 5E-09	1 1E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0 02	5 7E-03	1.3E-05	W3 max	NT	NT	NT	NT	4 1E-08	1 5E-07	9 2E-08	4 1E-08
Methylene chloride	1.6E-03	0 75	2.1E-01	4.0E-04	W3 max	1.6E-12	3 9E-12	2 3E-12	3 5E-12	3 4E-08	1 3E-07	7 8E-08	3.4E-08
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	1.7E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	5 5E-06	W3 max	NT	NT	NT	NT	1 0E-08	3 8E-08	2 3E-08	1.0E-08
Nitroaniline, 2-	NA	0 00005	1 4E-05	6.7E-06	W3 max	NT	NT	NT	NT	8 7E-06	3.3E-05	2 0E-05	8.7E-06
Nitroaniline, 3-	NF	NF	NF	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT

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TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2 4E-11	3 6E-11	1.2E-10	4 7E-10	2 8E-10	1.2E-10
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W3 max	3.7E-07	1.3E-11	3 3E-11	2.0E-11	2 9E-11	1 0E-10	3 8E-10	2 3E-10	1.0E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2 4E-11	3 6E-11	1.2E-10	4.7E-10	2.8E-10	1.2E-10
Nitrophenol, 4-	NF	NF	NF	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W3 max	8.2E-06	2.9E-10	7.2E-10	4.4E-10	6 4E-10	2.3E-09	8.4E-09	5.1E-09	2.3E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2 8E-10	1.2E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2.8E-10	1.2E-10
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	9.5E-10	3.4E-14	8.4E-14	5.0E-14	7.4E-14	2 8E-13	9.7E-13	5 9E-13	2 6E-13
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	9.5E-10	3.4E-14	8.4E-14	5 0E-14	7 4E-14	2.6E-13	9.7E-13	5.9E-13	2.6E-13
Pentachlorobenzene	NA	NA	NA	4.8E-05	W3 max	3.2E-06	1.1E-10	2.8E-10	1.7E-10	2.5E-10	8.9E-10	3 3E-09	2.0E-09	8 9E-10
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	9.5E-10	3.4E-14	8 4E-14	5.0E-14	7.4E-14	2.6E-13	9.7E-13	5.9E-13	2 6E-13
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W3 max	2.3E-06	8 1E-11	2.0E-10	1.2E-10	1.8E-10	6.3E-10	2.3E-09	1.4E-09	6.3E-10
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3 8E-10	2 3E-10	1 0E-10
Phenanthrene	NA	NA	NA	6.7E-06	W3 max	4.5E-07	1.6E-11	4.0E-11	2.4E-11	3.6E-11	1.2E-10	4.7E-10	2.8E-10	1.2E-10
Phenol	NA	0.525	1.5E-01	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1 0E-10
Pyrene	NA	0.02625	7.5E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2 9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W3 max	7.8E-06	2.8E-10	6.9E-10	4.1E-10	6.1E-10	2.1E-09	8.0E-09	4.8E-09	2.1E-09
Styrene	NA	0.25	7.1E-02	2.3E-05	W3 max	1.5E-06	5.4E-11	1.3E-10	8.1E-11	1.2E-10	4.2E-10	1.6E-09	9.5E-10	4 2E-10
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	9.5E-10	3.4E-14	8.4E-14	5.0E-14	7 4E-14	2.6E-13	9.7E-13	5.9E-13	2 6E-13
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2.3E-10	1.0E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2 9E-11	1.0E-10	3.8E-10	2.3E-10	1 0E-10
Tetrachloroethene	2.0E-03	0.00875	2 5E-03	5.1E-05	W3 max	3.5E-06	1.2E-10	3.1E-10	1.8E-10	2.7E-10	9.6E-10	3.6E-09	2 2E-09	9.6E-10
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7 5E-03	6.8E-06	W3 max	4.6E-07	1.6E-11	4.1E-11	2.5E-11	3.6E-11	1.3E-10	4.7E-10	2 9E-10	1.3E-10
Toluene	NA	0.1	2.9E-02	6.1E-04	W3 max	4.2E-05	1.5E-09	3.7E-09	2.2E-09	3.3E-09	1.1E-08	4.3E-08	2 6E-08	1.1E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W3 max	2.2E-05	7.9E-10	2.0E-09	1.2E-09	1.8E-09	6.1E-09	2.3E-08	1 4E-08	6 1E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1 0E-10
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W3 max	2.1E-09	7.2E-14	1.8E-13	1.1E-13	1.6E-13	5.6E-13	2.1E-12	1 3E-12	5 6E-13
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W3 max	8.5E-07	3.0E-11	7.5E-11	4.5E-11	6.7E-11	2.3E-10	8.7E-10	5 3E-10	2.3E-10
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W3 max	8.5E-07	3.0E-11	7.5E-11	4.5E-11	6.7E-11	2 3E-10	8 7E-10	5 3E-10	2.3E-10
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W3 max	1.3E-06	4.5E-11	1.1E-10	6.7E-11	9.9E-11	3.5E-10	1.3E-09	7 8E-10	3.5E-10
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W3 max	1.7E-05	5.9E-10	1.5E-09	8.8E-10	1.3E-09	4.6E-09	1.7E-08	1 0E-08	4.6E-09
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2.0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W3 max	4.4E-06	1.5E-10	3.8E-10	2.3E-10	3.4E-10	1.2E-09	4.5E-09	2.7E-09	1.2E-09
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W3 max	1.7E-05	5.9E-10	1.5E-09	8.8E-10	1.3E-09	4.6E-09	1.7E-08	1 0E-08	4.6E-09
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W3 max	2.6E-05	9.1E-10	2.3E-09	1.4E-09	2.0E-09	7.1E-09	2.6E-08	1 6E-08	7.1E-09
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W3 max	3.7E-07	1.3E-11	3.3E-11	2 0E-11	2.9E-11	1.0E-10	3.8E-10	2 3E-10	1.0E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W3 max	7.3E-13	2.6E-17	6.4E-17	3 9E-17	5.7E-17	2 0E-16	7 5E-16	4 5E-16	2 0E-16
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W3 max	4.6E-12	1.6E-16	4 0E-16	2.4E-16	3 6E-16	1.3E-15	4 7E-15	2 9E-15	1.3E-15
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	8.95E-11	W3 max	6.1E-12	2 1E-16	5 3E-16	3 2E-16	4 8E-16	1 7E-15	6 2E-15	3 8E-15	1.7E-15
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W3 max	1.1E-11	4 0E-16	9 9E-16	6 0E-16	8 8E-16	3.1E-15	1 2E-14	7 0E-15	3.1E-15
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W3 max	7.4E-12	2.6E-16	6 5E-16	3 9E-16	5 8E-16	2 0E-15	7 6E-15	4 6E-15	2 0E-15
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.24E-09	W3 max	8 4E-11	3 0E-15	7 4E-15	4 5E-15	6 6E-15	2 3E-14	8 6E-14	5 2E-14	2 3E-14
OCDD	1.5E+02	NA	NA	6.15E-09	W3 max	4 2E-10	1.5E-14	3 7E-14	2.2E-14	3 3E-14	1 1E-13	4 3E-13	2 6E-13	1.1E-13
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	W3 max	6 0E-12	2 1E-16	5 2E-16	3 2E-16	4 7E-16	1 6E-15	6 1E-15	3 7E-15	1 6E-15
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	W3 max	2 3E-11	8 3E-16	2 1E-15	1 2E-15	1 8E-15	6 4E-15	2 4E-14	1 4E-14	6 4E-15
2,3,4,7,8-PCDF	7.5E+04	NA	NA	4.67E-10	W3 max	3.2E-11	1.1E-15	2 8E-15	1 7E-15	2 5E-15	8 7E-15	3 2E-14	2 0E-14	8 7E-15
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	W3 max	9 7E-11	3 4E-15	8 5E-15	5 1E-15	7 6E-15	2 7E-14	9 9E-14	6 0E-14	2 7E-14
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1.33E-09	W3 max	9 1E-11	3 2E-15	8 0E-15	4 8E-15	7 1E-15	2 5E-14	9 3E-14	5 6E-14	2 5E-14
2,3,4,6,7,8-HxCDF	1.5E+04	NA	NA	1.50E-09	W3 max	1.0E-10	3 6E-15	9 0E-15	5 4E-15	8 0E-15	2 8E-14	1 0E-13	6 3E-14	2 8E-14

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TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	5.5E-06	W3 max	NT	NT	NT	NT	7.2E-07	2.7E-06	1.6E-06	7 2E-07
Nitrophenol, 2-	NF	NF	NF	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	5 5E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	W3 max	1.6E-09	3.9E-09	2.4E-09	3.5E-09	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	W3 max	NT	NT	NT	NT	8.4E-07	3.1E-06	1.9E-06	8.4E-07
Pentachlorophenol	NA	0.02625	7.5E-03	5.5E-06	W3 max	NT	NT	NT	NT	1.4E-08	5.1E-08	3.1E-08	1.4E-08
Phenanthrene	NA	NA	NA	6.7E-06	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1 5E-01	5.5E-06	W3 max	NT	NT	NT	NT	6 8E-10	2.6E-09	1.5E-09	6.8E-10
Pyrene	NA	0 02625	7.5E-03	5.5E-06	W3 max	NT	NT	NT	NT	1.4E-08	5.1E-08	3.1E-08	1.4E-08
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	2.3E-05	W3 max	NT	NT	NT	NT	5.9E-09	2.2E-08	1.3E-08	5.9E-09
Tetrachlorobiphenyl	NA	NA	NA	1.4E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2.6E-02	0.02625	7.5E-03	5.5E-06	W3 max	3.4E-13	8.5E-13	5.1E-13	7.6E-13	1.4E-08	5.1E-08	3.1E-08	1.4E-08
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	5.5E-06	W3 max	2.7E-12	6.7E-12	4.0E-12	5.9E-12	NT	NT	NT	NT
Tetrachloroethene	2.0E-03	0 00875	2.5E-03	5.1E-05	W3 max	2.5E-13	6.2E-13	3.8E-13	5.5E-13	3.8E-07	1.4E-06	8.6E-07	3 8E-07
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	W3 max	NT	NT	NT	NT	1.7E-08	6.3E-08	3.8E-08	1.7E-08
Toluene	NA	0.1	2.9E-02	6.1E-04	W3 max	NT	NT	NT	NT	4.0E-07	1.5E-06	9.0E-07	4.0E-07
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	W3 max	NT	NT	NT	NT	2.9E-09	1.1E-08	6.5E-09	2.9E-09
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	5.5E-06	W3 max	NT	NT	NT	NT	7.2E-09	2.7E-08	1.6E-08	7.2E-09
Trichlorobiphenyl	NA	NA	NA	3.0E-08	W3 max	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	1.3E-05	W3 max	NT	NT	NT	NT	3.3E-09	1.2E-08	7.4E-09	3.3E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	1.3E-05	W3 max	1.7E-12	4.2E-12	2.6E-12	3.8E-12	2.3E-07	8.7E-07	5.3E-07	2.3E-07
Trichloroethene	6.0E-03	NA	NA	1.9E-05	W3 max	2.7E-13	6.6E-13	4.0E-13	5.9E-13	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	2.5E-04	W3 max	NT	NT	NT	NT	9.1E-08	3.4E-07	2.1E-07	9.1E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	5.5E-06	W3 max	NT	NT	NT	NT	4.1E-09	1.5E-08	9.3E-09	4.1E-09
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	5.5E-06	W3 max	1.3E-13	3.3E-13	2.0E-13	2.9E-13	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	W3 max	NT	NT	NT	NT	8.4E-08	3.1E-07	1.9E-07	8.4E-08
Vinyl chloride	3.0E-01	NA	NA	2.5E-04	W3 max	1.8E-10	4.4E-10	2.6E-10	3.9E-10	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5.0E-01	3.8E-04	W3 max	NT	NT	NT	NT	1.4E-08	5.3E-08	3.2E-08	1.4E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	5.5E-06	W3 max	NT	NT	NT	NT	2.0E-10	7.7E-10	4.6E-10	2.0E-10
2,3,7,8-TCDD	1.5E+05	NA	NA	1.08E-11	W3 max	3.9E-12	9.7E-12	5 8E-12	8 6E-12	NT	NT	NT	NT
1,2,3,7,8-PCDD	7.5E+04	NA	NA	6.78E-11	W3 max	1.2E-11	3.0E-11	1 8E-11	2.7E-11	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	8.95E-11	W3 max	3.2E-12	8.0E-12	4.8E-12	7.1E-12	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	1.66E-10	W3 max	5.9E-12	1.5E-11	9 0E-12	1 3E-11	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.09E-10	W3 max	3.9E-12	9.7E-12	5.9E-12	8 7E-12	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1.5E+03	NA	NA	1.24E-09	W3 max	4 5E-12	1.1E-11	6 7E-12	9 9E-12	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	6.15E-09	W3 max	2.2E-12	5.5E-12	3 3E-12	4 9E-12	NT	NT	NT	NT
2,3,7,8-TCDF	1 5E+04	NA	NA	8.77E-11	W3 max	3 1E-12	7 8E-12	4.7E-12	7 0E-12	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	3.45E-10	W3 max	6.2E-12	1.5E-11	9.3E-12	1 4E-11	NT	NT	NT	NT
2,3,4,7,8-PCDF	7 5E+04	NA	NA	4.67E-10	W3 max	8 4E-11	2.1E-10	1 3E-10	1 9E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1.43E-09	W3 max	5 1E-11	1.3E-10	7 7E-11	1 1E-10	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 33E-09	W3 max	4 8E-11	1 2E-10	7 2E-11	1 1E-10	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	1.50E-09	W3 max	5 4E-11	1.3E-10	8 1E-11	1 2E-10	NT	NT	NT	NT

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TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W3 max	2.0E-11	7.0E-16	1 7E-15	1.1E-15	1.6E-15	5 5E-15	2 0E-14	1.2E-14	5 5E-15
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W3 max	6.3E-10	2.2E-14	5.5E-14	3 4E-14	5.0E-14	1 7E-13	6 5E-13	3.9E-13	1.7E-13
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.22E-09	W3 max	8.3E-11	2.9E-15	7.3E-15	4 4E-15	6.5E-15	2.3E-14	8.5E-14	5.1E-14	2 3E-14
OCDF	1.5E+02	NA	NA	1.89E-08	W3 max	1.3E-09	4.5E-14	1.1E-13	6.8E-14	1.0E-13	3.5E-13	1.3E-12	8.0E-13	3 5E-13
Dioxin TEQ				4.28E-08			1.0E-13	2.6E-13	1.5E-13	2.3E-13	8.0E-13	3.0E-12	1.8E-12	8.0E-13
Aluminum	NA	NA	NA	2.4E-04	W3 max	1.6E-05	5.7E-10	1.4E-09	8.7E-10	1.3E-09	4.5E-09	1.7E-08	1.0E-08	4.5E-09
Antimony	NA	0.00035	1.0E-04	4.2E-06	W3 max	2.9E-07	1.0E-11	2.5E-11	1 5E-11	2.2E-11	7.8E-11	2 9E-10	1 8E-10	7 8E-11
Arsenic	50	0 000263	7.5E-05	3.7E-05	W3 max	2.5E-06	8.9E-11	2.2E-10	1.3E-10	2.0E-10	6.9E-10	2.6E-09	1.6E-09	6 9E-10
Barium	NA	0 000125	3.6E-05	1.5E-04	W3 max	1.0E-05	3.6E-10	8.9E-10	5.4E-10	8.0E-10	2 8E-09	1.0E-08	6.3E-09	2 8E-09
Beryllium	8.4	0.004375	1.3E-03	3.3E-08	W3 max	2.2E-09	7.9E-14	2.0E-13	1.2E-13	1.8E-13	6.1E-13	2.3E-12	1.4E-12	6 1E-13
Cadmium	6.1	0.000438	1.3E-04	1.6E-05	W3 max	1.1E-06	3.8E-11	9.5E-11	5.8E-11	8.5E-11	3.0E-10	1.1E-09	6.7E-10	3 0E-10
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	W3 max	4.8E-08	1.7E-12	4.2E-12	2.6E-12	3.8E-12	1.3E-11	4.9E-11	3.0E-11	1.3E-11
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	W3 max	4.8E-08	1.7E-12	4.2E-12	2.6E-12	3.8E-12	1.3E-11	4.9E-11	3 0E-11	1 3E-11
Copper	NA	NA	NA	9.4E-05	W3 max	6.4E-06	2.3E-10	5.6E-10	3.4E-10	5.0E-10	1.8E-09	6.5E-09	4 0E-09	1.8E-09
Lead	NA	NA	NA	4.3E-05	W3 max	2.9E-06	1.0E-10	2.6E-10	1.5E-10	2.3E-10	8.0E-10	3.0E-09	1 8E-09	8.0E-10
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	W3 max	9.5E-05	3.4E-09	8.4E-09	5.0E-09	7.4E-09	2.6E-08	9.7E-08	5.9E-08	2 6E-08
Nickel	0.84	0.0175	5 0E-03	5.0E-06	W3 max	3.4E-07	1.2E-11	3.0E-11	1 8E-11	2.7E-11	9.3E-11	3.5E-10	2 1E-10	9 3E-11
Selenium	NA	0 004375	1.3E-03	4.7E-04	W3 max	3.2E-05	1.1E-09	2.8E-09	1.7E-09	2.5E-09	8 8E-09	3.3E-08	2 0E-08	8 8E-09
Silver	NA	0 004375	1 3E-03	1.5E-05	W3 max	1.0E-06	3.6E-11	8.9E-11	5.4E-11	8.0E-11	2.8E-10	1.0E-09	6 3E-10	2.8E-10
Thallium	NA	0.000061	1.8E-05	3.4E-05	W3 max	2.3E-06	8.1E-11	2.0E-10	1.2E-10	1.8E-10	6.3E-10	2.4E-09	1.4E-09	6 3E-10
Zinc	NA	0.2625	7.5E-02	1.2E-04	W3 max	8.2E-06	2.9E-10	7.2E-10	4.3E-10	6.4E-10	2.2E-09	8.4E-09	5.0E-09	2.2E-09
Hydrogen chloride	NA	0.00175	5 0E-04	3.2E-02	W3 max	2.2E-03	7.7E-08	1.9E-07	1.2E-07	1.7E-07	6.0E-07	2.2E-06	1 3E-06	6 0E-07
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W3 max	1.6E-01	5.8E-06	1.4E-05	8.7E-06	1.3E-05	4.5E-05	1.7E-04	1.0E-04	4.5E-05
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W3 max	6.2E-03	2.2E-07	5.4E-07	3.3E-07	4.8E-07	1.7E-06	6.3E-06	3 8E-06	1.7E-06
Particulate matter	NA	NA	NA	7.2E-02	W3 max	4.9E-03	1.7E-07	4.3E-07	2.6E-07	3.8E-07	1.3E-06	5.0E-06	3 0E-06	1.3E-06
Respirable particulates	NF	NF	NF	7.2E-02	W3 max	4.9E-03	1.7E-07	4.3E-07	2.6E-07	3.8E-07	1.3E-06	5.0E-06	3.0E-06	1.3E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 24 Maximum Inhalation Risks and Noncancer HQs in Subarea W3

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	2.93E-10	W3 max	1 1E-11	2.6E-11	1 6E-11	2 3E-11		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	9.30E-09	W3 max	3 3E-11	8.3E-11	5 0E-11	7.4E-11		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1 5E+03	NA	NA	1.22E-09	W3 max	4 4E-12	1.1E-11	6.6E-12	9 7E-12		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	1.89E-08	W3 max	6 8E-12	1.7E-11	1.0E-11	1.5E-11		NT	NT	NT	NT
Dioxin TEQ				4.28E-08		3.4E-10	8.4E-10	5.1E-10	7.5E-10		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	W3 max	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1.0E-04	4.2E-06	W3 max	NT	NT	NT	NT		7 8E-07	2.9E-06	1.8E-06	7.8E-07
Arsenic	50	0.000263	7.5E-05	3.7E-05	W3 max	4.4E-09	1.1E-08	6.7E-09	9.8E-09		9.2E-06	3.4E-05	2.1E-05	9 2E-06
Barium	NA	0.000125	3.6E-05	1.5E-04	W3 max	NT	NT	NT	NT		7 8E-05	2.9E-04	1.8E-04	7.8E-05
Beryllium	8.4	0.004375	1 3E-03	3.3E-08	W3 max	6.6E-13	1.7E-12	1.0E-12	1.5E-12		4.9E-10	1.8E-09	1.1E-09	4 9E-10
Cadmium	6.1	0 000438	1 3E-04	1.6E-05	W3 max	2.3E-10	5.8E-10	3.5E-10	5.2E-10		2.4E-06	8.9E-06	5.4E-06	2.4E-06
Chromium (hexavalent)	41	0.004375	1.3E-03	7.1E-07	W3 max	7.0E-11	1.7E-10	1.0E-10	1.5E-10		1.1E-08	4.0E-08	2.4E-08	1 1E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	W3 max	NT	NT	NT	NT		5.3E-11	2.0E-10	1.2E-10	5.3E-11
Copper	NA	NA	NA	9.4E-05	W3 max	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4.3E-05	W3 max	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	W3 max	NT	NT	NT	NT		1.2E-03	4.5E-03	2.7E-03	1.2E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	W3 max	1.0E-11	2.5E-11	1.5E-11	2.2E-11		1.9E-08	7.0E-08	4.2E-08	1.9E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	W3 max	NT	NT	NT	NT		7.0E-06	2.6E-05	1.6E-05	7.0E-06
Silver	NA	0.004375	1 3E-03	1.5E-05	W3 max	NT	NT	NT	NT		2.2E-07	8.4E-07	5.0E-07	2.2E-07
Thallium	NA	0.000061	1 8E-05	3.4E-05	W3 max	NT	NT	NT	NT		3.6E-05	1.4E-04	8.2E-05	3 6E-05
Zinc	NA	0.2625	7.5E-02	1.2E-04	W3 max	NT	NT	NT	NT		3.0E-08	1.1E-07	6.7E-08	3.0E-08
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	W3 max	NT	NT	NT	NT		1.2E-03	4.5E-03	2.7E-03	1.2E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	W3 max	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	W3 max	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	W3 max	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	W3 max	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	7.5E-09	1.9E-08	1.1E-08	1.7E-08	Total HI	2.9E-03	1.1E-02	6.5E-03	2.9E-03

NOTES:
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APPENDIX V-15

Estimation of Cancer Risks and Hazard Indices for Indirect Exposure Pathways for Subsistence Farmer in Subarea E1

TABLE 6 Avg Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	CARCINOGENIC RISKS													
		Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk
2,3,7,8-TCDD	E1 avg	9.6E-12	5.2E-12	6.2E-09	6.6E-10	3.5E-11	9.6E-12	2.2E-11	6 9E-09	1.1E-09	1.4E-09	7 4E-10	3.4E-11	2.9E-10	1.4E-09
1,2,3,7,8-PeCDD	E1 avg	2.4E-11	1.3E-11	5 1E-08	4.2E-09	8.5E-11	2.3E-11	5.3E-11	5.6E-08	8.9E-09	1.2E-08	6.3E-09	2 9E-10	2 4E-09	1.2E-08
1,2,3,4,7,8-HxCDD	E1 avg	5.3E-12	2.9E-12	6.9E-09	5.5E-10	9.1E-12	2.5E-12	5.7E-12	7.5E-09	1 2E-09	1.6E-09	8.4E-10	3.9E-11	3 2E-10	1.6E-09
1,2,3,6,7,8-HxCDD	E1 avg	9.4E-12	5.1E-12	1.9E-09	2.1E-10	1.4E-11	3.8E-12	8.8E-12	2.1E-09	3.2E-10	4.2E-10	2.3E-10	1.1E-11	8.8E-11	4.3E-10
1,2,3,7,8,9-HxCDD	E1 avg	6.0E-12	3.3E-12	2.6E-09	2.5E-10	1.1E-11	3.1E-12	7.2E-12	2.8E-09	4.4E-10	5.8E-10	3.1E-10	1.4E-11	1.2E-10	5 9E-10
1,2,3,4,6,7,8-HpCDD	E1 avg	6.9E-12	3.8E-12	2.0E-09	1.6E-10	2.1E-12	5 7E-13	1.3E-12	2.2E-09	3.5E-10	4 5E-10	2.5E-10	1.1E-11	9.4E-11	4.6E-10
OCDD	E1 avg	3.4E-12	1.8E-12	3.6E-08	2.6E-09	1.5E-12	4.0E-13	9.3E-13	3.9E-08	6.3E-09	8 2E-09	4.4E-09	2 0E-10	1.7E-09	8 4E-09
2,3,7,8-TCDF	E1 avg	8.6E-12	4.7E-12	1.9E-09	1.8E-10	7.0E-12	1.9E-12	4.4E-12	2.1E-09	3.3E-10	4.3E-10	2.3E-10	1.1E-11	9.0E-11	4.4E-10
1,2,3,7,8-PeCDF	E1 avg	1.4E-11	7.6E-12	4.5E-09	3.7E-10	8.7E-12	2.3E-12	5.5E-12	4.9E-09	7.7E-10	1.0E-09	5.5E-10	2.5E-11	2.1E-10	1.0E-09
2,3,4,7,8-PeCDF	E1 avg	1.7E-10	9 3E-11	2 6E-07	2 1E-08	4.5E-10	1.2E-10	2.9E-10	2.8E-07	4.4E-08	5.8E-08	3.1E-08	1.4E-09	1.2E-08	5.9E-08
1,2,3,4,7,8-HxCDF	E1 avg	8.3E-11	4 5E-11	2 9E-08	3.0E-09	1 6E-10	4.5E-11	1.0E-10	3.2E-08	5.0E-09	6.5E-09	3.5E-09	1.6E-10	1.4E-09	6.7E-09
1,2,3,6,7,8-HxCDF	E1 avg	7.8E-11	4 2E-11	5 3E-08	4.5E-09	1.3E-10	3.6E-11	8.3E-11	5.8E-08	9.1E-09	1.2E-08	6.4E-09	3.0E-10	2.5E-09	1.2E-08
1,2,3,7,8,9-HxCDF	E1 avg	1.8E-11	9 8E-12	1.2E-08	1.0E-09	3.0E-11	8.2E-12	1.9E-11	1.3E-08	2.1E-09	2.7E-09	1.5E-09	6.7E-11	5.6E-10	2 8E-09
2,3,4,6,7,8-HxCDF	E1 avg	8.8E-11	4.8E-11	3.5E-08	3.3E-09	1.3E-10	3.6E-11	8.4E-11	3.9E-08	6.0E-09	7.9E-09	4.3E-09	2.0E-10	1.6E-09	8 1E-09
1,2,3,4,6,7,8-HpCDF	E1 avg	5.3E-11	2 9E-11	2.8E-09	3.0E-10	1.8E-11	5 0E-12	1.2E-11	3 2E-09	4.8E-10	6.3E-10	3.4E-10	1.6E-11	1.3E-10	6.5E-10
1,2,3,4,7,8,9-HpCDF	E1 avg	6.8E-12	3 7E-12	5.8E-10	7.3E-11	5.7E-12	1.6E-12	3.6E-12	6.6E-10	9.9E-11	1.3E-10	7.0E-11	3.2E-12	2.7E-11	1 3E-10
OCDF	E1 avg	1 0E-11	5 6E-12	3.0E-09	2.3E-10	1.7E-12	4.7E-13	1.1E-12	3.3E-09	5.2E-10	6.8E-10	3.7E-10	1.7E-11	1.4E-10	7 0E-10
Tetrachlorobiphenyl	E1 avg	5 2E-13	2 8E-13	7.4E-11	2.2E-11	2.7E-12	7.3E-13	1.7E-12	1.0E-10	1.2E-11	1.6E-11	8.7E-12	4.0E-13	3.3E-12	1 6E-11
Hexachlorobiphenyl	E1 avg	8.5E-13	4.6E-13	4.7E-11	1.4E-11	1.6E-12	4.3E-13	1.0E-12	6.4E-11	7.9E-12	1.0E-11	5.5E-12	2.6E-13	2.1E-12	1.0E-11
Heptachlorobiphenyl	E1 avg	8.3E-13	4.5E-13	1.2E-09	9.7E-11	1.6E-12	4.4E-13	1.0E-12	1.3E-09	2.1E-10	2.7E-10	1.5E-10	6.8E-12	5.7E-11	2 8E-10
Benzo(a)pyrene	E1 avg	1.2E-11	1.3E-11	9.6E-08	2.6E-09	1.8E-13	4.8E-14	1.0E-10	9.9E-08	8.6E-08	7.5E-09	9.4E-09	2.8E-09	1.9E-09	2 8E-09
Benzo(b)fluoranthene	E1 avg	4.8E-12	5 2E-12	5.7E-09	1.9E-10	9.0E-14	2.4E-14	5.2E-11	5.9E-09	5.1E-09	4.4E-10	5.5E-10	1.7E-10	1.1E-10	1.7E-10
Bis(2-ethylhexyl)phthalate	E1 avg	7.9E-15	8.7E-15	1.5E-08	4.1E-10	1.9E-17	5.0E-18	1.1E-14	1.6E-08	1.4E-08	1.2E-09	1.5E-09	4.4E-10	3.0E-10	4.4E-10
Carbon tetrachloride	E1 avg	4.9E-13	5 4E-13	7 3E-14	1.2E-14	7.4E-17	2.0E-17	4.2E-14	1.3E-13	7.2E-14	6.2E-15	7.8E-15	2.3E-15	1.6E-15	2 3E-15
Dibenz(a,h)anthracene	E1 avg	2.7E-11	3.0E-11	1.5E-08	6.8E-10	1.6E-12	4.3E-13	9.1E-10	1.6E-08	1.3E-08	1.1E-09	1.4E-09	4.3E-10	2.8E-10	4.3E-10
Di(n)octyl phthalate	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlor	E1 avg	1.4E-14	1.6E-14	3.8E-11	1.2E-12	3.1E-16	8.4E-17	1 8E-13	4.0E-11	3.4E-11	3.0E-12	3.7E-12	1.1E-12	7.4E-13	1 1E-12
Hexachlorobenzene	E1 avg	9.8E-12	1 1E-11	1.3E-10	3.7E-11	9.6E-14	2.6E-14	5.5E-11	2.2E-10	1.0E-10	9.0E-12	1.1E-11	3.4E-12	2.3E-12	3 4E-12
Hexachlorobutadiene	E1 avg	1.3E-12	1.4E-12	1.2E-12	4.1E-13	1.1E-15	3.0E-16	6.4E-13	2.3E-12	9.5E-13	8.3E-14	1.0E-13	3.1E-14	2.1E-14	3.1E-14
Hexachlorocyclopentadiene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorophene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	E1 avg	3.1E-12	3 4E-12	1.4E-09	7.0E-11	1.6E-13	4.4E-14	9.4E-11	1.5E-09	1.2E-09	1.1E-10	1.3E-10	3.9E-11	2.6E-11	3 9E-11
Antimony	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	E1 avg	4.7E-11	8 6E-12	2.6E-10	3.5E-11	1.9E-11	5.1E-12	1.1E-11	3.3E-10	2.2E-11	1.9E-12	2.4E-12	7.1E-13	4.7E-13	7 1E-13
Barium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Beryllium	E1 avg	3.1E-13	5.6E-14	3 8E-13	1.2E-13	6.3E-15	1.7E-15	3.4E-15	5.1E-13	9.0E-16	7.9E-17	9.8E-17	2.9E-17	2.0E-17	2 9E-17
Cadmium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chromium (hexavalent)	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nickel	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Selenium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Silver	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Thallium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Zinc	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
DIOXIN TEQ	E1 avg	6.0E-10	3 2E-10	5 1E-07	4.3E-08	1 1E-09	3 0E-10	7 0E-10	5 5E-07	8 7E-08	1 1E-07	6 2E-08	2 8E-09	2 4E-08	1 2E-07
ORGANICS TOTAL (non-dioxin)	E1 avg	6.1E-11	6 5E-11	1 4E-07	4 2E-09	8 0E-12	2 2E-12	1 2E-09	1 4E-07	1 2E-07	1 1E-08	1 3E-08	3 9E-09	2 7E-09	4 2E-09
INORGANICS TOTAL	E1 avg	4 8E-11	8 6E-12	2 6E-10	3 5E-11	1 9E-11	5 1E-12	1 1E-11	3 3E-10	2 2E-11	1 9E-12	2 4E-12	7 1E-13	4 7E-13	7 1E-13
SUBAREA TOTAL	E1 avg	7.0E-10	4 0E-10	6 4E-07	4.7E-08	1.1E-09	3 1E-10	1 9E-09	6 9E-07	2 1E-07	1 2E-07	7 5E-08	6 7E-09	2 6E-08	1 2E-07

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TABLE 6 Avg Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	CARCINOGENIC RISKS TOTAL DAIRY PRODUCT INGESTION RISK	Exposed Produce Ingestion Risk	Protected Produce Ingestion Risk	Leafy Produce Ingestion Risk	Root Produce Ingestion Risk	Exposed Fruit Ingestion Risk	Protected Fruit Ingestion Risk	TOTAL FRUIT & PRODUCE INGESTION RISK	River Water Ingestion Risk	River Water Dermal Contact Risk	Lake Water Ingestion Risk	Lake Water Dermal Contact Risk	Infant Breast milk Ingestion Risk	TOTAL CANCER RISK
2,3,7,8-TCDD	E1 avg	4 9E-09	8.2E-12	3.3E-13	1.6E-10	7.0E-13	7.0E-12	8.0E-13	1 8E-10	4 9E-17	2 1E-13	NA	NA	6.9E-09	1 2E-08
1,2,3,7,8-PeCDD	E1 avg	4.1E-08	7 0E-11	8.3E-13	1.5E-09	1.7E-12	6 0E-11	2.0E-12	1.6E-09	1 2E-16	4.0E-13	NA	NA	5.6E-08	9 9E-08
1,2,3,4,7,8-HxCDD	E1 avg	5.6E-09	1.9E-11	3.9E-14	4.1E-10	2.1E-13	1.7E-11	9.5E-14	4 5E-10	6.3E-18	1.1E-13	NA	NA	7.7E-09	1 4E-08
1,2,3,6,7,8-HxCDD	E1 avg	1 5E-09	6.7E-12	1.3E-13	1.1E-10	5.1E-13	5.7E-12	3.2E-13	1.2E-10	2 5E-17	2 0E-13	NA	NA	2 2E-09	3.8E-09
1,2,3,7,8,9-HxCDD	E1 avg	2.1E-09	6.8E-12	4.5E-14	1.3E-10	3.3E-13	5.8E-12	1.1E-13	1.4E-10	1.6E-17	2 8E-13	NA	NA	2.9E-09	5.1E-09
1,2,3,4,6,7,8-HpCDD	E1 avg	1.6E-09	3.2E-11	3.0E-14	6.7E-10	2.2E-13	2.7E-11	7.1E-14	7.3E-10	3 6E-18	9.6E-14	NA	NA	2.6E-09	4 5E-09
OCDD	E1 avg	2.9E-08	3.9E-10	3 3E-14	8.6E-09	1 5E-13	3.3E-10	7.8E-14	9.3E-09	5.6E-18	4.3E-14	NA	NA	4.4E-08	7 8E-08
2,3,7,8-TCDF	E1 avg	1.5E-09	1.2E-11	3.5E-13	2.4E-10	6.7E-13	9 9E-12	8.4E-13	2.7E-10	4.7E-17	1 9E-13	NA	NA	2.3E-09	3 9E-09
1,2,3,7,8-PeCDF	E1 avg	3.6E-09	3 5E-11	4.0E-13	7.3E-10	9 4E-13	3.0E-11	9.5E-13	8.0E-10	6.4E-17	3.1E-13	NA	NA	5.3E-09	9 3E-09
2,3,4,7,8-PeCDF	E1 avg	2.1E-07	4.7E-10	4.1E-12	9.9E-09	1 1E-11	4.0E-10	9.8E-12	1.1E-08	7.1E-16	4.3E-12	NA	NA	2.8E-07	5 0E-07
1,2,3,4,7,8-HxCDF	E1 avg	2 3E-08	7.5E-11	1 2E-12	1.3E-09	4.5E-12	6.4E-11	2.9E-12	1.5E-09	2.2E-16	1.9E-12	NA	NA	3.3E-08	5 7E-08
1,2,3,6,7,8-HxCDF	E1 avg	4 2E-08	1 5E-10	1.1E-12	3.1E-09	4.2E-12	1 3E-10	2.7E-12	3.4E-09	2.1E-16	1.8E-12	NA	NA	5.9E-08	1.0E-07
1,2,3,7,8,9-HxCDF	E1 avg	9 6E-09	3.4E-11	2.6E-13	7.0E-10	9.8E-13	2.9E-11	6.2E-13	7.7E-10	4.8E-17	4.2E-13	NA	NA	1.3E-08	2 4E-08
2,3,4,6,7,8-HxCDF	E1 avg	2.8E-08	1 2E-10	1.3E-12	2.2E-09	4.8E-12	9 8E-11	3.0E-12	2.5E-09	2.4E-16	2.1E-12	NA	NA	4.0E-08	6.9E-08
1,2,3,4,6,7,8-HpCDF	E1 avg	2 2E-09	4.1E-11	3.4E-13	7.3E-10	2.0E-12	3.5E-11	8.2E-13	8.1E-10	5.1E-17	9.4E-13	NA	NA	3.6E-09	6.3E-09
1,2,3,4,7,8,9-HpCDF	E1 avg	4 6E-10	3 7E-12	4 4E-14	5.6E-11	2 6E-13	3.1E-12	1.1E-13	6.3E-11	6.5E-18	1.2E-13	NA	NA	6.8E-10	1.2E-09
OCDF	E1 avg	2 4E-09	8 5E-11	2 0E-14	1.8E-09	2.4E-13	7.3E-11	4.8E-14	2.0E-09	1.4E-18	8.9E-14	NA	NA	4.4E-09	7 7E-09
Tetrachlorobiphenyl	E1 avg	5 7E-11	1 1E-13	4 9E-14	1.1E-12	8 6E-13	9.5E-14	1.2E-13	2.3E-12	5.2E-18	1.4E-14	NA	NA	9.3E-11	1.6E-10
Hexachlorobiphenyl	E1 avg	3 7E-11	1.1E-13	1 5E-14	2.0E-12	1.3E-13	9 1E-14	3.5E-14	2 4E-12	4.2E-18	3.3E-14	NA	NA	6.0E-11	1.0E-10
Heptachlorobiphenyl	E1 avg	9 7E-10	2 9E-12	7.2E-15	6.4E-11	7.9E-13	2.5E-12	1.7E-14	7.0E-11	5.0E-18	7.2E-14	NA	NA	1.4E-09	2 4E-09
Benzo(a)pyrene	E1 avg	1 1E-07	3.2E-10	7.7E-13	6.8E-09	2.2E-13	2.8E-10	1.9E-12	7.4E-09	7.9E-17	2.3E-13	NA	NA	6.3E-07	2.2E-07
Benzo(b)fluoranthene	E1 avg	6 5E-09	1.5E-11	2 9E-13	3.3E-10	7.7E-13	1.3E-11	6.9E-13	3.6E-10	3.0E-17	1.0E-13	NA	NA	4.6E-08	1 3E-08
Bis(2-ethylhexyl)phthalate	E1 avg	1.7E-08	3.2E-10	1.1E-16	7.1E-09	3.9E-16	2.7E-10	2.6E-16	7.7E-09	2.9E-19	2.3E-15	NA	NA	1.8E-08	4 1E-08
Carbon tetrachloride	E1 avg	9 2E-14	4 6E-11	4 0E-11	1.0E-11	1.1E-11	3.9E-11	9.5E-11	2.4E-10	2.6E-17	6.1E-16	NA	NA	2.9E-13	2 4E-10
Dibenz(a,h)anthracene	E1 avg	1 7E-08	2 6E-11	8.6E-13	1.5E-11	3.4E-12	2.2E-11	2.1E-12	6.9E-11	1.2E-16	7.8E-13	NA	NA	3.7E-07	3 3E-08
Di(n)octyl phthalate	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Heptachlor	E1 avg	4.4E-11	8.8E-14	7 9E-16	1.9E-12	4 6E-14	7.5E-14	1.9E-15	2.1E-12	9.4E-20	1.5E-16	NA	NA	3.5E-10	8 5E-11
Hexachlorobenzene	E1 avg	1 3E-10	3 4E-12	2.8E-12	3.9E-12	1.5E-10	2.9E-12	6.7E-12	1.7E-10	1.8E-16	3.0E-13	NA	NA	9.6E-10	5.5E-10
Hexachlorobutadiene	E1 avg	1.2E-12	7.1E-13	6.1E-13	1.8E-13	2.3E-12	6.1E-13	1.5E-12	5.8E-12	1.0E-17	3.4E-15	NA	NA	1.8E-12	1.2E-11
Hexachlorocyclopentadiene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Hexachlorophene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Indeno(1,2,3-cd)pyrene	E1 avg	1.6E-09	2.6E-12	1.0E-13	1.5E-12	3.8E-13	2.2E-12	2.5E-13	7.0E-12	1.4E-17	8.2E-14	NA	NA	3.1E-08	3.1E-09
Antimony	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Arsenic	E1 avg	2.8E-11	3.7E-11	1.2E-11	3.4E-11	8.7E-15	3.2E-11	2.9E-11	1.5E-10	1.7E-15	8.0E-16	NA	NA	NA	5 6E-10
Barium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Beryllium	E1 avg	1.2E-15	6.0E-14	7.8E-15	4.3E-14	1.3E-18	5.1E-14	1.9E-14	1.8E-13	4.8E-18	1.7E-18	NA	NA	NA	1 1E-12
Cadmium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Chromium (hexavalent)	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Mercury	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Nickel	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Selenium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Silver	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Thallium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Zinc	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
DIOXIN TEQ	E1 avg	4 1E-07	1.6E-09	1 1E-11	3.2E-08	3.3E-11	1 3E-09	2 5E-11	3 5E-08	1 8E-15	1 3E-11	NA	NA	5 7E-07	9 9E-07
ORGANICS TOTAL (non-dioxin)	E1 avg	1.5E-07	7.4E-10	4 5E-11	1.4E-08	1 7E-10	6 3E-10	1 1E-10	1 6E-08	4 8E-16	1 6E-12	NA	NA	1 1E-06	3 1E-07
INORGANICS TOTAL	E1 avg	2 8E-11	3.7E-11	1 2E-11	3 4E-11	8 7E-15	3 2E-11	2 9E-11	1 5E-10	1 7E-15	6 0E-16	NA	NA	NA	5 6E-10
SUBAREA TOTAL	E1 avg	5.6E-07	2.3E-09	6 8E-11	4 7E-08	2 1E-10	2 0E-09	1 6E-10	5 1E-08	4 0E-15	1 5E-11	NA	NA	1 7E-06	1 3E-06

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TABLE 6 Avg Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	NONCARCINOGENIC HAZARD QUOTIENTS TOTAL DAIRY PRODUCT INGESTION HQ	Exposed Produce Ingestion HQ	Protected Produce Ingestion HQ	Leafy Produce Ingestion HQ	Root Produce Ingestion HQ	Exposed Fruit Ingestion HQ	Protected Fruit Ingestion HQ	TOTAL FRUIT & PRODUCE INGESTION HQ	River Water Ingestion HQ	River Water Dermal Contact HQ	Lake Water Ingestion HQ	Lake Water Dermal Contact HQ	TOTAL HI
2,3,7,8-TCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,7,8-TCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Tetrachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Hexachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Heptachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(a)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(b)fluoranthene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Bis(2-ethylhexyl)phthalate	E1 avg	2.2E-04	4.0E-06	1 4E-12	8.8E-05	4 9E-12	3.4E-06	3.3E-12	9.6E-05	3.6E-15	2.8E-11	NA	NA	5.1E-04
Carbon tetrachloride	E1 avg	3.5E-09	1.8E-06	1.5E-06	3.9E-07	4.2E-07	1.5E-06	3.6E-06	9.3E-06	1.0E-12	2.3E-11	NA	NA	9.3E-06
Dibenz(a,h)anthracene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Di(n)octyl phthalate	E1 avg	5.9E-04	1.9E-08	1.4E-13	4.1E-07	3.5E-09	1.6E-08	3.4E-13	4.5E-07	1.9E-16	5.2E-12	NA	NA	1.1E-03
Heptachlor	E1 avg	6.8E-08	1.4E-10	1.2E-12	3.0E-09	7.1E-11	1.2E-10	2.9E-12	3.3E-09	1.5E-16	2.4E-13	NA	NA	1.3E-07
Hexachlorobenzene	E1 avg	3 6E-07	9.3E-09	7.6E-09	1.1E-08	4.2E-07	7.9E-09	1.8E-08	4.8E-07	4.9E-13	8.1E-10	NA	NA	1.5E-06
Hexachlorobutadiene	E1 avg	2.7E-07	1 6E-07	1.4E-07	4.1E-08	5.1E-07	1.4E-07	3.3E-07	1.3E-06	2.3E-12	7.7E-10	NA	NA	2.7E-06
Hexachlorocyclopentadiene	E1 avg	4.8E-10	3 0E-11	2.5E-11	2.0E-11	7.0E-10	2.6E-11	6.0E-11	8.6E-10	9.4E-16	7.4E-13	NA	NA	2.5E-09
Hexachlorophene	E1 avg	1.0E-03	2 3E-07	1.3E-09	1.3E-07	1.3E-06	2.0E-07	3.0E-09	1.9E-06	1.3E-12	1.3E-08	NA	NA	2.0E-03
Indeno(1,2,3-cd)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Antimony	E1 avg	2.6E-08	3 5E-08	1.9E-08	4.0E-08	4 4E-11	3.0E-08	4.5E-08	1.7E-07	3.8E-13	1.4E-13	NA	NA	2.9E-07
Arsenic	E1 avg	1.9E-07	2 5E-07	8.2E-08	2.3E-07	5 8E-11	2.1E-07	2.0E-07	9.7E-07	1.1E-11	4 0E-12	NA	NA	3.7E-06
Barium	E1 avg	1.8E-08	5.3E-09	2.3E-09	7.4E-09	4 0E-12	4.6E-09	5.5E-09	2 5E-08	9.7E-14	3.5E-14	NA	NA	5 3E-08
Beryllium	E1 avg	1.9E-13	9.7E-12	1 3E-12	6.9E-12	2.1E-16	8.3E-12	3.0E-12	2.9E-11	7.7E-16	2 8E-16	NA	NA	1 7E-10
Cadmium	E1 avg	7.0E-09	9.7E-08	4.9E-08	6.9E-08	1.7E-10	8 3E-08	1.2E-07	4 1E-07	2 9E-13	1.1E-13	NA	NA	4 6E-07
Chromium (hexavalent)	E1 avg	7.3E-09	2.7E-10	8.3E-11	1.4E-10	1.0E-14	2.3E-10	2.0E-10	9.3E-10	1.7E-14	6.2E-15	NA	NA	2.2E-08
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Mercury	E1 avg	2 0E-05	1.0E-04	8.6E-05	1.3E-04	3 2E-08	8 7E-05	2.1E-04	6.1E-04	2 4E-10	8.6E-11	NA	NA	6 5E-04
Nickel	E1 avg	6 4E-09	2.1E-09	1.5E-09	5.8E-10	7.3E-14	1 8E-09	3.7E-09	9 7E-09	2 0E-14	7 2E-15	NA	NA	4 6E-08
Selenium	E1 avg	1.1E-04	4.4E-07	2 8E-07	1.4E-07	7 9E-11	3 8E-07	6.7E-07	1 9E-06	9 5E-12	3 5E-12	NA	NA	1 4E-04
Silver	E1 avg	1.8E-06	2.5E-08	1 8E-08	2.1E-08	4 2E-11	2.1E-08	4.3E-08	1 3E-07	1 1E-13	3 9E-14	NA	NA	2 0E-06
Thallium	E1 avg	3 8E-05	6 4E-07	2.6E-08	3.6E-07	1 8E-12	5 4E-07	6 2E-08	1 6E-06	6 1E-11	2 2E-11	NA	NA	7 7E-04
Zinc	E1 avg	6.9E-10	2.3E-08	2.0E-08	8.7E-09	5.8E-12	2 0E-08	4.7E-08	1 2E-07	1 3E-14	4 8E-15	NA	NA	1 2E-07
DIOXIN TEQ	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 avg	1 9E-03	6 2E-06	1.7E-06	8 9E-05	2.7E-06	5 3E-06	4 0E-06	1 1E-04	5 1E-12	1 5E-08	NA	NA	3 7E-03
INORGANICS TOTAL	E1 avg	1 7E-04	1 0E-04	8 6E-05	1 3E-04	3 2E-08	8 8E-05	2 1E-04	6 1E-04	3 2E-10	1 2E-10	NA	NA	1 6E-03
SUBAREA TOTAL	E1 avg	2.0E-03	1 1E-04	8 8E-05	2 2E-04	2.7E-06	9 3E-05	2 1E-04	7 2E-04	3 2E-10	1 5E-08	NA	NA	5 2E-03

TABLE 6 Avg Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

NONCARCINOGENIC HAZARD QUOTIENTS

Chemical	Subarea	Soil Ingestion HQ	Soil Dermal Contact HQ	Beef Ingestion HQ	Pork Ingestion HQ	Chicken Ingestion HQ	Other Poultry Ingestion HQ	Egg Ingestion HQ	TOTAL MEAT & EGG INGESTION HQ	Milk Ingestion HQ	Cheese Ingestion HQ	Milk Desserts Ingestion HQ	Yogurt Ingestion HQ	Cream Ingestion HQ	Butter Ingestion HQ
2,3,7,8-TCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,7,8-TCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-ethylhexyl)phthalate	E1 avg	9 9E-11	1 1E-10	1.9E-04	5.2E-06	2.3E-13	6 3E-14	1.3E-10	2.0E-04	1 7E-04	1.5E-05	1.9E-05	5.6E-06	3.7E-06	5 6E-06
Carbon tetrachloride	E1 avg	1.9E-08	2 1E-08	2.8E-09	4.6E-10	2.8E-12	7.7E-13	1.6E-09	4.9E-09	2.8E-09	2.4E-10	3.0E-10	9.0E-11	6.0E-11	9.0E-11
Dibenz(a,h)anthracene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	E1 avg	2.8E-11	3 1E-11	5 1E-04	1.4E-05	3.8E-11	1.0E-11	2.2E-08	5.3E-04	4.6E-04	4.0E-05	5.0E-05	1.5E-05	1.0E-05	1 5E-05
Heptachlor	E1 avg	2.2E-11	2 4E-11	5.9E-08	1.8E-09	4.8E-13	1.3E-13	2.8E-10	6.2E-08	5.3E-08	4.6E-09	5.8E-09	1.7E-09	1.2E-09	1 7E-09
Hexachlorobenzene	E1 avg	2.7E-08	2.9E-08	3.6E-07	1.0E-07	2.6E-10	7.1E-11	1.5E-07	6.1E-07	2.8E-07	2.5E-08	3.1E-08	9.2E-09	6.2E-09	9 2E-09
Hexachlorobutadiene	E1 avg	2.9E-07	3.2E-07	2.7E-07	9.2E-08	2.5E-10	6.8E-11	1.4E-07	5.1E-07	2.1E-07	1.9E-08	2.3E-08	7.0E-09	4.6E-09	7 0E-09
Hexachlorocyclopentadiene	E1 avg	1.4E-10	1 5E-10	4 8E-10	1.6E-10	4.1E-13	1.1E-13	2.4E-10	8.8E-10	3 8E-10	3.3E-11	4.1E-11	1.2E-11	8.2E-12	1 2E-11
Hexachlorophene	E1 avg	1.2E-07	1.3E-07	9.2E-04	2.3E-05	4.9E-08	1.3E-08	2.8E-05	9.7E-04	8.2E-04	7.1E-05	8.9E-05	2.7E-05	1.8E-05	2.7E-05
Indeno(1,2,3-cd)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Antimony	E1 avg	6.1E-09	1.1E-09	7.2E-08	1.2E-08	1.3E-10	3 4E-11	6.8E-10	8.5E-08	2.0E-08	1.8E-09	2.2E-09	6.6E-10	4 4E-10	6.6E-10
Arsenic	E1 avg	3.2E-07	5.7E-08	1.8E-06	2.3E-07	1.3E-07	3.4E-08	7.5E-08	2.2E-06	1.4E-07	1.3E-08	1.6E-08	4 7E-09	3 2E-09	4 7E-09
Barium	E1 avg	1.7E-09	3 0E-10	2 2E-09	4.0E-09	2.1E-12	5 8E-13	7.8E-10	7.0E-09	1.4E-08	1 3E-09	1.6E-09	4.7E-10	3 1E-10	4 7E-10
Beryllium	E1 avg	5.0E-11	9 1E-12	6.2E-11	1.9E-11	1.0E-12	2.8E-13	5.6E-13	8 2E-11	1 5E-13	1 3E-14	1.6E-14	4 8E-15	3.2E-15	4 8E-15
Cadmium	E1 avg	2 8E-09	5.0E-10	3.1E-08	5.8E-10	3 4E-09	9.1E-10	3.7E-11	3.6E-08	5.5E-09	4 7E-10	5 9E-10	1 8E-10	1 2E-10	1 8E-10
Chromium (hexavalent)	E1 avg	1.3E-09	2.4E-10	7.9E-09	3.7E-09	5 9E-11	1 6E-11	4.4E-11	1.2E-08	5 7E-09	5.0E-10	6.2E-10	1.9E-10	1 2E-10	1 9E-10
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 avg	3.7E-06	6 6E-07	4 4E-06	6.0E-06	1 6E-06	4.3E-07	6.2E-08	1 2E-05	1 6E-05	1.4E-06	1 7E-06	5 1E-07	3 4E-07	5 1E-07
Nickel	E1 avg	4.8E-10	8.7E-11	1.1E-08	1.9E-08	4 1E-11	1.1E-11	3.0E-11	3 0E-08	5 0E-09	4 4E-10	5 4E-10	1.6E-10	1 1E-10	1 6E-10
Selenium	E1 avg	3 6E-07	6 5E-08	2 2E-06	2.1E-05	9 4E-07	2 5E-07	4 3E-07	2 4E-05	8 9E-05	7 7E-06	9 7E-06	2 9E-06	1 9E-06	2 9E-06
Silver	E1 avg	1.8E-09	3.2E-10	7 3E-08	6 7E-10	1 1E-11	3 1E-12	1 0E-10	7 4E-08	1 4E-06	1 2E-07	1 5E-07	4 5E-08	3 0E-08	4 5E-08
Thallium	E1 avg	6 3E-06	1 1E-06	2 3E-04	3 3E-04	9.2E-05	2 5E-05	4.2E-05	7 2E-04	3 0E-05	2 6E-06	3 3E-06	9 8E-07	6 5E-07	9 8E-07
Zinc	E1 avg	2.1E-10	3.8E-11	7.3E-10	7.9E-11	9.7E-11	2.6E-11	4.5E-11	9 8E-10	5 4E-10	4 7E-11	5 9E-11	1.8E-11	1 2E-11	1 8E-11
DIOXIN TEQ	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
ORGANICS TOTAL (non-dioxin)	E1 avg	4 6E-07	5 0E-07	1 6E-03	4.2E-05	4 9E-08	1 3E-08	2 8E-05	1 7E-03	1 4E-03	1 3E-04	1 6E-04	4 7E-05	3 1E-05	4 7E-05
INORGANICS TOTAL	E1 avg	1.1E-05	1 9E-06	2 4E-04	3 6E-04	9 5E-05	2 6E-05	4 3E-05	7.6E-04	1 4E-04	1 2E-05	1 5E-05	4 4E-06	3 0E-06	4 4E-06
SUBAREA TOTAL	E1 avg	1.1E-05	2 4E-06	1 9E-03	4 0E-04	9 5E-05	2 6E-05	7 1E-05	2 5E-03	1 6E-03	1 4E-04	1 7E-04	5 2E-05	3 4E-05	5 2E-05

TABLE 13 Max Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	CARCINOGENIC RISKS													
		Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk

NOTES:
NA = Not applicable
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index
TEQ = TCDD equivalents

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TABLE 13 Max Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	NONCARCINOGENIC HAZARD QUOTIENTS TOTAL DAIRY PRODUCT INGESTION HQ	Exposed Produce Ingestion HQ	Protected Produce Ingestion HQ	Leafy Produce Ingestion HQ	Root Produce Ingestion HQ	Exposed Fruit Ingestion HQ	Protected Fruit Ingestion HQ	TOTAL FRUIT & PRODUCE INGESTION HQ	River Water Ingestion HQ	River Water Dermal Contact HQ	Lake Water Ingestion HQ	Lake Water Dermal Contact HQ	TOTAL HI
2,3,7,8-TCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,7,8-TCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,7,8-PeCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,6,7,8-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Tetrachlorobiphenyl	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Hexachlorobiphenyl	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Heptachlorobiphenyl	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(a)pyrene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(b)fluoranthene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Bis(2-ethylhexyl)phthalate	E1 max	6.9E-04	1 3E-05	3.2E-12	2.8E-04	1.1E-11	1 1E-05	7.6E-12	3.0E-04	6.4E-15	5.0E-11	NA	NA	1.6E-03
Carbon tetrachloride	E1 max	1.1E-06	5.6E-06	4.8E-06	1.2E-06	1.3E-06	4.8E-06	1.1E-05	2.9E-05	2.7E-12	6.3E-11	NA	NA	2.9E-05
Dibenz(a,h)anthracene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Di(n)octyl phthalate	E1 max	1.8E-03	5.9E-08	4.5E-13	1.3E-06	1.1E-08	5.0E-08	1.1E-12	1.4E-06	5.1E-16	1.4E-11	NA	NA	3.5E-03
Heptachlor	E1 max	2.1E-07	4 3E-10	3.9E-12	9.4E-09	2.2E-10	3.7E-10	9.2E-12	1.0E-08	3.9E-16	6.3E-13	NA	NA	4.2E-07
Hexachlorobenzene	E1 max	1.1E-06	2.9E-08	2.4E-08	3.3E-08	1 3E-06	2.5E-08	5.7E-08	1.5E-06	1.3E-12	2.2E-09	NA	NA	4.7E-06
Hexachlorobutadiene	E1 max	8.6E-07	5.0E-07	4 3E-07	1.3E-07	1.6E-06	4.3E-07	1.0E-06	4.1E-06	6.2E-12	2 1E-09	NA	NA	8.5E-06
Hexachlorocyclopentadiene	E1 max	1 5E-09	9 4E-11	7.9E-11	6.4E-11	2.2E-09	8.1E-11	1.9E-10	2.7E-09	2.5E-15	2.0E-12	NA	NA	7.9E-09
Hexachlorophene	E1 max	2.0E-03	4.5E-07	2.4E-09	2.6E-07	2.4E-06	3.8E-07	5.7E-09	3.5E-06	2.3E-12	2.4E-08	NA	NA	3.9E-03
Indeno(1,2,3-cd)pyrene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Antimony	E1 max	4.6E-08	6.1E-08	3 2E-08	6.9E-08	7.6E-11	5 2E-08	7.7E-08	2.9E-07	6.3E-13	2.3E-13	NA	NA	5.0E-07
Arsenic	E1 max	3.3E-07	4.4E-07	1 4E-07	4.0E-07	9.9E-11	3 7E-07	3.3E-07	1.7E-06	1.8E-11	6.6E-12	NA	NA	6.6E-06
Barium	E1 max	3.3E-08	9.3E-09	3 9E-09	1.3E-08	6 9E-12	8.0E-09	9.4E-09	4 3E-08	1.6E-13	5.8E-14	NA	NA	9 2E-08
Beryllium	E1 max	3.3E-13	1.7E-11	2 2E-12	1.2E-11	3.6E-16	1.5E-11	5 2E-12	5 2E-11	1.3E-15	4 6E-16	NA	NA	3.0E-10
Cadmium	E1 max	1.2E-08	1 7E-07	8.4E-08	1.2E-07	2 9E-10	1 4E-07	2.0E-07	7.2E-07	4.8E-13	1 7E-13	NA	NA	8.0E-07
Chromium (hexavalent)	E1 max	1.3E-08	4 8E-10	1.4E-10	2.4E-10	1 8E-14	4.1E-10	3.4E-10	1 6E-09	2.8E-14	1.0E-14	NA	NA	3.8E-08
Lead	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Mercury	E1 max	6.4E-05	3.2E-04	2 7E-04	4 0E-04	1 0E-07	2 7E-04	6.4E-04	1.9E-03	6 3E-10	2 3E-10	NA	NA	2 0E-03
Nickel	E1 max	1.1E-08	3.7E-09	2 6E-09	1.0E-09	1.3E-13	3 1E-09	6.3E-09	1 7E-08	3 3E-14	1 2E-14	NA	NA	8 1E-08
Selenium	E1 max	2 0E-04	7.7E-07	4 8E-07	2 4E-07	1.4E-10	6 5E-07	1 1E-06	3 3E-06	1 6E-11	5 7E-12	NA	NA	2 5E-04
Silver	E1 max	3 2E-06	4 2E-08	3 0E-08	3 5E-08	7.2E-11	3 6E-08	7.3E-08	2 2E-07	1 8E-13	6 5E-14	NA	NA	3.5E-06
Thallium	E1 max	6.7E-05	1.1E-06	4 4E-08	6 4E-07	3 1E-12	9.7E-07	1 1E-07	2 9E-06	1 0E-10	3 7E-11	NA	NA	1 3E-03
Zinc	E1 max	1 2E-09	4.0E-08	3 4E-08	1.5E-08	9 9E-12	3 4E-08	8 1E-08	2 0E-07	2 2E-14	7 9E-15	NA	NA	2.1E-07
DIOXIN TEQ	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 max	4 5E-03	1 9E-05	5 2E-06	2.8E-04	6 7E-06	1 6E-05	1 3E-05	3.4E-04	1 2E-11	2 8E-08	NA	NA	9 0E-03
INORGANICS TOTAL	E1 max	3 4E-04	3 2E-04	2 7E-04	4 1E-04	1 0E-07	2 7E-04	6 5E-04	1 9E-03	7 7E-10	2 8E-10	NA	NA	3 6E-03
SUBAREA TOTAL	E1 max	4.9E-03	3 4E-04	2 8E-04	6.9E-04	6 8E-06	2.9E-04	6 6E-04	2 3E-03	7 8E-10	2 8E-08	NA	NA	1 3E-02

External Review Dra[illegible] Not Cite or Quote

TABLE 13 Max Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	CARCINOGENIC RISKS: Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk
2,3,7,8-TCDD	E1 max	2 7E-11	1 5E-11	1.9E-08	2 0E-09	9.9E-11	2 7E-11	6 3E-11	2 1E-08	3.3E-09	4 3E-09	2 3E-09	1.1E-10	8.9E-10	4 4E-09
1,2,3,7,8-PeCDD	E1 max	5.8E-11	3.1E-11	1.6E-07	1 3E-08	2.0E-10	5.5E-11	1 3E-10	1.7E-07	2 8E-08	3 6E-08	1.9E-08	9.0E-10	7.5E-09	3 7E-08
1,2,3,4,7,8-HxCDD	E1 max	1.1E-11	6.0E-12	2.2E-08	1.6E-09	1.9E-11	5.1E-12	1.2E-11	2 3E-08	3.7E-09	4 8E-09	2 6E-09	1 2E-10	1.0E-09	5 0E-09
1,2,3,6,7,8-HxCDD	E1 max	1.9E-11	1.0E-11	5 5E-09	5.5E-10	2.7E-11	7.4E-12	1 7E-11	6 1E-09	9.5E-10	1.2E-09	6 7E-10	3.1E-11	2.6E-10	1 3E-09
1,2,3,7,8,9-HxCDD	E1 max	1.2E-11	6 3E-12	7.8E-09	6 8E-10	2.2E-11	6.0E-12	1 4E-11	8 5E-09	1.3E-09	1 7E-09	9.4E-10	4.3E-11	3.6E-10	1 8E-09
1,2,3,4,6,7,8-HpCDD	E1 max	1.3E-11	7.3E-12	6.3E-09	4.7E-10	4.1E-12	1.1E-12	2.6E-12	6 7E-09	1.1E-09	1 4E-09	7.6E-10	3.5E-11	2.9E-10	1 4E-09
OCDD	E1 max	6 3E-12	3 4E-12	1.1E-07	8.1E-09	2.8E-12	7.5E-13	1.8E-12	1.2E-07	2.0E-08	2.6E-08	1.4E-08	6.4E-10	5.4E-09	2 6E-08
2,3,7,8-TCDF	E1 max	2.5E-11	1.4E-11	6.0E-09	5.6E-10	2 0E-11	5.5E-12	1.3E-11	6.6E-09	1.0E-09	1.3E-09	7.3E-10	3.4E-11	2.8E-10	1 4E-09
1,2,3,7,8-PeCDF	E1 max	3 7E-11	2 0E-11	1 4E-08	1 1E-09	2 3E-11	6 2E-12	1.4E-11	1 5E-08	2.4E-09	3.1E-09	1 7E-09	7.8E-11	6.5E-10	3 2E-09
2,3,4,7,8-PeCDF	E1 max	4 3E-10	2 3E-10	8.0E-07	6.4E-08	1.1E-09	3.1E-10	7.1E-10	8.7E-07	1.4E-07	1 8E-07	9 8E-08	4.5E-09	3.8E-08	1 8E-07
1,2,3,4,7,8-HxCDF	E1 max	1.7E-10	9 2E-11	8 7E-08	8.1E-09	3.3E-10	9.1E-11	2.1E-10	9.6E-08	1.5E-08	2.0E-08	1 1E-08	4.9E-10	4.1E-09	2.0E-08
1,2,3,6,7,8-HxCDF	E1 max	1.6E-10	8 6E-11	1 6E-07	1.3E-08	2.7E-10	7.3E-11	1.7E-10	1.8E-07	2.8E-08	3.6E-08	2.0E-08	9.1E-10	7.6E-09	3 7E-08
1,2,3,7,8,9-HxCDF	E1 max	3 8E-11	2 1E-11	3 7E-08	3.0E-09	6 5E-11	1.8E-11	4.1E-11	4.0E-08	6.4E-09	8.3E-09	4.5E-09	2.1E-10	1.7E-09	8.5E-09
2,3,4,6,7,8-HxCDF	E1 max	1 8E-10	9 8E-11	1.1E-07	9.2E-09	2 7E-10	7 4E-11	1.7E-10	1.2E-07	1.8E-08	2.4E-08	1.3E-08	6.0E-10	5.0E-09	2 5E-08
1,2,3,4,6,7,8-HpCDF	E1 max	1 1E-10	5 8E-11	8 4E-09	8 0E-10	3.7E-11	9.9E-12	2 3E-11	9.2E-09	1.4E-09	1.9E-09	1.0E-09	4.7E-11	3.9E-10	1 9E-09
1,2,3,4,7,8,9-HpCDF	E1 max	1 3E-11	7 2E-12	1 7E-09	1.8E-10	1 1E-11	3.0E-12	7.0E-12	1.9E-09	2.8E-10	3.7E-10	2 0E-10	9.2E-12	7.7E-11	3.8E-10
OCDF	E1 max	1 9E-11	1 1E-11	9 5E-09	6 9E-10	3.3E-12	8.9E-13	2.1E-12	1.0E-08	1.6E-09	2.1E-09	1.2E-09	5.3E-11	4.4E-10	2 2E-09
Tetrachlorobiphenyl	E1 max	1 6E-12	8 8E-13	2 3E-10	6.9E-11	8 4E-12	2.3E-12	5.3E-12	3.2E-10	3.8E-11	5.0E-11	2 7E-11	1.2E-12	1.0E-11	5 1E-11
Hexachlorobiphenyl	E1 max	2 7E-12	1 4E-12	1.5E-10	4 3E-11	5.0E-12	1.3E-12	3.1E-12	2.0E-10	2.5E-11	3.2E-11	1.7E-11	8.0E-13	6.7E-12	3 3E-11
Heptachlorobiphenyl	E1 max	2 6E-12	1 4E-12	3.8E-09	3.0E-10	5.1E-12	1.4E-12	3.2E-12	4.1E-09	6.6E-10	8.6E-10	4.6E-10	2.1E-11	1.8E-10	8 8E-10
Benzo(a)pyrene	E1 max	2 9E-11	3 2E-11	3 0E-07	8.2E-09	4 5E-13	1.2E-13	2 6E-10	3.1E-07	2.7E-07	2.3E-08	2.9E-08	8.7E-09	5.8E-09	8 7E-09
Benzo(b)fluoranthene	E1 max	1 5E-11	1 6E-11	1 8E-08	5.9E-10	2 8E-13	7 6E-14	1 6E-10	1.9E-08	1.6E-08	1.4E-09	1.7E-09	5.2E-10	3.5E-10	5 2E-10
Bis(2-ethylhexyl)phthalate	E1 max	1.9E-14	2.0E-14	4 8E-08	1.3E-09	4.4E-17	1.2E-17	2.5E-14	4.9E-08	4.3E-08	3.7E-09	4 6E-09	1.4E-09	9.3E-10	1 4E-09
Carbon tetrachloride	E1 max	1 5E-12	1.7E-12	2.3E-13	3.7E-14	2.3E-16	6.3E-17	1 3E-13	4.0E-13	2.3E-13	2.0E-14	2.4E-14	7.3E-15	4.9E-15	7 3E-15
Dibenz(a,h)anthracene	E1 max	5.1E-11	5 6E-11	2 9E-08	1.3E-09	3.0E-12	8.0E-13	1.7E-09	3.2E-08	2.5E-08	2.2E-09	2.7E-09	8.2E-10	5.5E-10	8 2E-10
Di(n)octyl phthalate	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlor	E1 max	4 5E-14	4.9E-14	1.2E-10	3.6E-12	9.8E-16	2.6E-16	5.6E-13	1.2E-10	1.1E-10	9.3E-12	1.2E-11	3.5E-12	2.3E-12	3 5E-12
Hexachlorobenzene	E1 max	3 1E-11	3.3E-11	4.1E-10	1.2E-10	3 0E-13	8.2E-14	1.7E-10	7.0E-10	3.2E-10	2.8E-11	3.5E-11	1.1E-11	7.1E-12	1 1E-11
Hexachlorobutadiene	E1 max	4.1E-12	4.5E-12	3.8E-12	1.3E-12	3.5E-15	9.5E-16	2.0E-12	7.1E-12	3.0E-12	2.6E-13	3.2E-13	9.7E-14	6.5E-14	9.7E-14
Hexachlorocyclopentadiene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorophene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	E1 max	5.8E-12	6 3E-12	2.6E-09	1.3E-10	3.1E-13	8.3E-14	1 8E-10	2.9E-09	2.3E-09	2.0E-10	2 5E-10	7.6E-11	5.1E-11	7 6E-11
Antimony	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	E1 max	8.1E-11	1.5E-11	4.6E-10	6.0E-11	3.2E-11	8.7E-12	1.9E-11	5.8E-10	3.9E-11	3.3E-12	4 2E-12	1.3E-12	8.4E-13	1.3E-12
Barium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Beryllium	E1 max	5.3E-13	9.6E-14	6.6E-13	2.0E-13	1.1E-14	2.9E-15	5.8E-15	8.8E-13	1.6E-15	1 4E-16	1.7E-16	5.2E-17	3 5E-17	5 2E-17
Cadmium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chromium (hexavalent)	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Lead	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nickel	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Selenium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Silver	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Thallium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Zinc	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
DIOXIN TEQ	E1 max	1 3E-09	7 2E-10	1 6E-06	1 3E-07	2.5E-09	6 9E-10	1 6E-09	1 7E-06	2 7E-07	3 5E-07	1 9E-07	8 8E-09	7 3E-08	3 6E-07
ORGANICS TOTAL (non-dioxin)	E1 max	1 4E-10	1 5E-10	4 0E-07	1 2E-08	2 3E-11	6 1E-12	2 5E-09	4 2E-07	3 5E-07	3 2E-08	3 9E-08	1 2E-08	7 9E-09	1 3E-08
INORGANICS TOTAL	E1 max	8 2E-11	1 5E-11	4 7E-10	6 0E-11	3 2E-11	8 7E 12	1 9E-11	5 9E-10	3 9E-11	3 3E-12	4 2E-12	1 3E-12	8 4E-13	1 3E-12
SUBAREA TOTAL	E1 max	1 5E-09	8 9E-10	2 0E-06	1.4E-07	2 6E-09	7.0E-10	4 1E-09	2 1E-06	6 2E-07	3 8E-07	2 3E-07	2 0E-08	8 1E-08	3 7E-07

TABLE 6 Avg Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	CARCINOGENIC RISKS													
		Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk

NOTES:
NA = Not applicable
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index
TEQ = TCDD equivalents

External Review Dra Not Cite or Quote

TABLE 13 Max Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

NONCARCINOGENIC HAZARD QUOTIENTS

Chemical	Subarea	Soil Ingestion HQ	Soil Dermal Contact HQ	Beef Ingestion HQ	Pork Ingestion HQ	Chicken Ingestion HQ	Other Poultry Ingestion HQ	Egg Ingestion HQ	TOTAL MEAT & EGG INGESTION HQ	Milk Ingestion HQ	Cheese Ingestion HQ	Milk Desserts Ingestion HQ	Yogurt Ingestion HQ	Cream Ingestion HQ	Butter Ingestion HQ
2,3,7,8-TCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDD	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,7,8-TCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,7,8-PeCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDF	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachlorobiphenyl	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobiphenyl	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlorobiphenyl	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-ethylhexyl)phthalate	E1 max	2.3E-10	2 5E-10	6.0E-04	1.6E-05	5.5E-13	1.5E-13	3.1E-10	6.2E-04	5.3E-04	4.6E-05	5.8E-05	1.7E-05	1.2E-05	1 7E-05
Carbon tetrachloride	E1 max	6.0E-08	6.5E-08	8.8E-09	1.4E-09	8.9E-12	2.4E-12	5.1E-09	1.5E-08	8.7E-09	7.5E-10	9.4E-10	2.8E-10	1.9E-10	2 8E-10
Dibenz(a,h)anthracene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	E1 max	8.9E-11	9.7E-11	1.6E-03	4.4E-05	1.2E-10	3.2E-11	6.9E-08	1.7E-03	1.4E-03	1.3E-04	1.6E-04	4.7E-05	3.1E-05	4 7E-05
Heptachlor	E1 max	7.0E-11	7.7E-11	1.9E-07	5.6E-09	1.5E-12	4.1E-13	8.7E-10	1.9E-07	1.7E-07	1.4E-08	1.8E-08	5.4E-09	3.6E-09	5 4E-09
Hexachlorobenzene	E1 max	8.4E-08	9 2E-08	1.1E-06	3.2E-07	8.2E-10	2.2E-10	4.7E-07	1.9E-06	8.9E-07	7.7E-08	9.7E-08	2 9E-08	1.9E-08	2 9E-08
Hexachlorobutadiene	E1 max	9 2E-07	1.0E-06	8.6E-07	2.9E-07	7.8E-10	2.1E-10	4.5E-07	1.6E-06	6.7E-07	5.8E-08	7.3E-08	2.2E-08	1.5E-08	2 2E-08
Hexachlorocyclopentadiene	E1 max	4.3E-10	4.7E-10	1.5E-09	5.0E-10	1.3E-12	3.5E-13	7.4E-10	2.8E-09	1.2E-09	1.0E-10	1.3E-10	3.8E-11	2.6E-11	3 8E-11
Hexachlorophene	E1 max	2.2E-07	2.4E-07	1.8E-03	4.3E-05	9.1E-08	2.5E-08	5.2E-05	1.9E-03	1.6E-03	1.4E-04	1.7E-04	5.1E-05	3.4E-05	5 1E-05
Indeno(1,2,3-cd)pyrene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Antimony	E1 max	1.1E-08	1.9E-09	1.3E-07	2.1E-08	2.2E-10	5.9E-11	1.2E-09	1.5E-07	3.6E-08	3.1E-09	3.9E-09	1.2E-09	7 8E-10	1 2E-09
Arsenic	E1 max	5.4E-07	9.8E-08	3.1E-06	4.0E-07	2.2E-07	5 8E-08	1.3E-07	3.9E-06	2.6E-07	2.2E-08	2 8E-08	8 4E-09	5.6E-09	8 4E-09
Barium	E1 max	2.9E-09	5.2E-10	3.9E-09	7.0E-09	3.7E-12	9.9E-13	1.3E-09	1.2E-08	2.6E-08	2.2E-09	2.8E-09	8 3E-10	5 6E-10	8 3E-10
Beryllium	E1 max	8.6E-11	1.6E-11	1.1E-10	3.2E-11	1.8E-12	4.8E-13	9.5E-13	1.4E-10	2.6E-13	2.2E-14	2.8E-14	8 4E-15	5 6E-15	8 4E-15
Cadmium	E1 max	4.8E-09	8.6E-10	5.5E-08	1.0E-09	5.8E-09	1.6E-09	6.3E-11	6.3E-08	9.7E-09	8.4E-10	1.1E-09	3.2E-10	2 1E-10	3 2E-10
Chromium (hexavalent)	E1 max	2.3E-09	4.1E-10	1.4E-08	6.4E-09	1.0E-10	2.8E-11	7.6E-11	2.1E-08	1.0E-08	8.7E-10	1.1E-09	3.3E-10	2 2E-10	3 3E-10
Lead	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 max	1.1E-05	2.1E-06	1 4E-05	1.9E-05	5.0E-06	1.4E-06	1.9E-07	3.9E-05	5.0E-05	4.3E-06	5 4E-06	1 6E-06	1 1E-06	1 6E-06
Nickel	E1 max	8.3E-10	1.5E-10	1.9E-08	3.2E-08	7.0E-11	1.9E-11	5.2E-11	5.1E-08	8 9E-09	7.7E-10	9 6E-10	2.9E-10	1 9E-10	2 9E-10
Selenium	E1 max	6.1E-07	1.1E-07	3.8E-06	3.5E-05	1.6E-06	4 4E-07	7 4E-07	4 2E-05	1 6E-04	1 4E-05	1 7E-05	5 1E-06	3 4E-06	5 1E-06
Silver	E1 max	3 0E-09	5.4E-10	1 3E-07	1.2E-09	1 9E-11	5 2E-12	1.8E-10	1 3E-07	2 5E-06	2.1E-07	2 7E-07	8 0E-08	5 3E-08	8 0E-08
Thallium	E1 max	1 1E-05	2.0E-06	4 0E-04	5.6E-04	1.6E-04	4 3E-05	7 2E-05	1 2E-03	5 2E-05	4 6E-06	5 7E-06	1 7E-06	1 1E-06	1 7E-06
Zinc	E1 max	3.6E-10	6.5E-11	1.3E-09	1.4E-10	1 7E-10	4 5E-11	7 6E-11	1 7E-09	9 4E-10	8 2E-11	1 0E-10	3 1E-11	2 0E-11	3 1E-11
DIOXIN TEQ	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
ORGANICS TOTAL (non-dioxin)	E1 max	1.3E-06	1.4E-06	4.0E-03	1 0E-04	9 3E-08	2.5E-08	5 3E-05	4 1E-03	3 5E-03	3 1E-04	3 9E-04	1 2E-04	7 7E-05	1 2E-04
INORGANICS TOTAL	E1 max	2.3E-05	4.2E-06	4 2E-04	6 2E-04	1 6E-04	4 4E-05	7 3E-05	1 3E-03	2 6E-04	2 3E-05	2 8E-05	8 5E-06	5 7E-06	8 5E-06
SUBAREA TOTAL	E1 max	2.5E-05	5.7E-06	4 4E-03	7.2E-04	1 6E-04	4 4E-05	1 3E-04	5 5E-03	3 8E-03	3 3E-04	4 1E-04	1 2E-04	8 3E-05	1 2E-04

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TABLE 13 Max Cancer Risks and Noncancer HQs, Adult Subsistence Farmer

Chemical	Subarea	CARCINOGENIC RISKS TOTAL DAIRY PRODUCT INGESTION RISK	Exposed Produce Ingestion Risk	Protected Produce Ingestion Risk	Leafy Produce Ingestion Risk	Root Produce Ingestion Risk	Exposed Fruit Ingestion Risk	Protected Fruit Ingestion Risk	TOTAL FRUIT & PRODUCE INGESTION RISK	River Water Ingestion Risk	River Water Dermal Contact Risk	Lake Water Ingestion Risk	Lake Water Dermal Contact Risk	Infant Breast milk Ingestion Risk	TOTAL CANCER RISK
2,3,7,8-TCDD	E1 max	1.5E-08	2.5E-11	9.4E-13	5.1E-10	2.0E-12	2.1E-11	2.2E-12	5.6E-10	1 2E-16	5.2E-13	NA	NA	2.1E-08	3 7E-08
1,2,3,7,8-PeCDD	E1 max	1.3E-07	2.2E-10	2.0E-12	4.6E-09	4 2E-12	1.9E-10	4.8E-12	5 1E-09	2.6E-16	8.8E-13	NA	NA	1.8E-07	3 1E-07
1,2,3,4,7,8-HxCDD	E1 max	1.7E-08	6.0E-11	8.2E-14	1.3E-09	4.3E-13	5.1E-11	2.0E-13	1.4E-09	1.2E-17	2.1E-13	NA	NA	2.4E-08	4.2E-08
1,2,3,6,7,8-HxCDD	E1 max	4.4E-09	1.9E-11	2.7E-13	3.5E-10	1.0E-12	1.6E-11	6.4E-13	3.9E-10	4 6E-17	3 6E-13	NA	NA	6.3E-09	1.1E-08
1,2,3,7,8,9-HxCDD	E1 max	6.2E-09	2.0E-11	8.7E-14	4.0E-10	6.3E-13	1.7E-11	2.1E-13	4.4E-10	2.9E-17	5.1E-13	NA	NA	8.7E-09	1 5E-08
1,2,3,4,6,7,8-HpCDD	E1 max	5.0E-09	9.8E-11	5.8E-14	2.1E-09	4.2E-13	8.3E-11	1.4E-13	2.3E-09	6.5E-18	1.7E-13	NA	NA	8.1E-09	1 4E-08
OCDD	E1 max	9.2E-08	1.2E-09	6.1E-14	2.7E-08	2.8E-13	1.0E-09	1.5E-13	2.9E-08	1.0E-17	7.7E-14	NA	NA	1.4E-07	2 4E-07
2,3,7,8-TCDF	E1 max	4.8E-09	3.6E-11	1.0E-12	7.6E-10	2.0E-12	3.1E-11	2.5E-12	8.3E-10	1.2E-16	4.9E-13	NA	NA	7.0E-09	1 2E-08
1,2,3,7,8-PeCDF	E1 max	1.1E-08	1.1E-10	1.0E-12	2.3E-09	2.5E-12	9.2E-11	2.5E-12	2.5E-09	1.5E-16	7.3E-13	NA	NA	1.7E-08	2 9E-08
2,3,4,7,8-PeCDF	E1 max	6.4E-07	1.5E-09	1.0E-11	3.1E-08	2 7E-11	1.2E-09	2.4E-11	3 4E-08	1.6E-15	9.5E-12	NA	NA	8.8E-07	1 5E-06
1,2,3,4,7,8-HxCDF	E1 max	7.0E-08	2 2E-10	2.4E-12	4 2E-09	9.2E-12	1.9E-10	5.8E-12	4.6E-09	4.2E-16	3.7E-12	NA	NA	9.8E-08	1 7E-07
1,2,3,6,7,8-HxCDF	E1 max	1.3E-07	4.6E-10	2 3E-12	9.6E-09	8.6E-12	3.9E-10	5.4E-12	1.1E-08	4.0E-16	3.5E-12	NA	NA	1.8E-07	3 2E-07
1,2,3,7,8,9-HxCDF	E1 max	3 0E-08	1.0E-10	5 5E-13	2.2E-09	2 1E-12	8.9E-11	1.3E-12	2.4E-09	9.6E-17	8.4E-13	NA	NA	4.1E-08	7 2E-08
2,3,4,6,7,8-HxCDF	E1 max	8.5E-08	3 4E-10	2.6E-12	7.0E-09	9.8E-12	2.9E-10	6.2E-12	7.7E-09	4.5E-16	3.9E-12	NA	NA	1.2E-07	2 1E-07
1,2,3,4,6,7,8-HpCDF	E1 max	6.7E-09	1 2E-10	6 8E-13	2 3E-09	4.0E-12	1.0E-10	1.6E-12	2.5E-09	9.5E-17	1.7E-12	NA	NA	1.1E-08	1.9E-08
1,2,3,4,7,8,9-HpCDF	E1 max	1.3E-09	1.0E-11	8 5E-14	1 8E-10	5.0E-13	8 6E-12	2.0E-13	1.9E-10	1 2E-17	2 2E-13	NA	NA	1.9E-09	3 4E-09
OCDF	E1 max	7.6E-09	2 7E-10	3 8E-14	5 8E-09	4.5E-13	2.3E-10	9.0E-14	6.3E-09	2.5E-18	1.6E-13	NA	NA	1.4E-08	2 4E-08
Tetrachlorobiphenyl	E1 max	1 8E-10	3 4E-13	1 5E-13	3.5E-12	2.7E-12	2.9E-13	3.6E-13	7.3E-12	1 4E-17	3.7E-14	NA	NA	2 9E-10	5 0E-10
Hexachlorobiphenyl	E1 max	1.1E-10	3 4E-13	4.6E-14	6 3E-12	4.2E-13	2.9E-13	1.1E-13	7.5E-12	1 1E-17	8.9E-14	NA	NA	1.9E-10	3 3E-10
Heptachlorobiphenyl	E1 max	3.1E-09	9.2E-12	2.3E-14	2.0E-10	2.5E-12	7.8E-12	5.4E-14	2.2E-10	1 3E-17	1.9E-13	NA	NA	4.2E-09	7.4E-09
Benzo(a)pyrene	E1 max	3.4E-07	9 9E-10	2.0E-12	2.1E-08	5.5E-13	8 5E-10	4.7E-12	2.3E-08	1.6E-16	4.8E-13	NA	NA	2.0E-06	6 7E-07
Benzo(b)fluoranthene	E1 max	2.0E-08	4 7E-11	9 0E-13	1.0E-09	2 4E-12	4 1E-11	2.2E-12	1.1E-09	8.0E-17	2.7E-13	NA	NA	1.4E-07	4 0E-08
Bis(2-ethylhexyl)phthalate	E1 max	5.5E-08	1.0E-09	2 6E-16	2.2E-08	9 2E-16	8.6E-10	6.1E-16	2.4E-08	5 1E-19	4.0E-15	NA	NA	5.7E-08	1 3E-07
Carbon tetrachloride	E1 max	2.9E-13	1 5E-10	1 2E-10	3.2E-11	3.5E-11	1.2E-10	3.0E-10	7.6E-10	6.9E-17	1.6E-15	NA	NA	9.2E-13	7 6E-10
Dibenz(a,h)anthracene	E1 max	3.2E-08	5.0E-11	1.6E-12	2 8E-11	6.4E-12	4.2E-11	3.8E-12	1.3E-10	3.3E-16	2.1E-12	NA	NA	7.0E-07	6.4E-08
Di(n)octyl phthalate	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Heptachlor	E1 max	1.4E-10	2.8E-13	2.5E-15	6.0E-12	1.4E-13	2.4E-13	5.9E-15	6.7E-12	2.5E-19	4.1E-16	NA	NA	1.1E-09	2 7E-10
Hexachlorobenzene	E1 max	4.2E-10	1.1E-11	8.7E-12	1.2E-11	4.9E-10	9.1E-12	2.1E-11	5.5E-10	4.8E-16	8.0E-13	NA	NA	3 0E-09	1 7E-09
Hexachlorobutadiene	E1 max	3.8E-12	2.2E-12	1.9E-12	5.7E-13	7.2E-12	1.9E-12	4.6E-12	1.8E-11	2.8E-17	9.2E-15	NA	NA	5.5E-12	3 8E-11
Hexachlorocyclopentadiene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Hexachlorophene	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Indeno(1,2,3-cd)pyrene	E1 max	3.0E-09	5.0E-12	1.9E-13	2.8E-12	7.1E-13	4.3E-12	4.6E-13	1.3E-11	3.6E-17	2.2E-13	NA	NA	6 0E-08	6 0E-09
Antimony	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Arsenic	E1 max	4.9E-11	6.6E-11	2.1E-11	6.0E-11	1.5E-14	5.6E-11	5.0E-11	2.5E-10	2.7E-15	9.9E-16	NA	NA	NA	9 8E-10
Barium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Beryllium	E1 max	2.0E-15	1.1E-13	1 3E-14	7.5E-14	2.2E-18	9.0E-14	3.2E-14	3.2E-13	7.8E-18	2.8E-18	NA	NA	NA	1 8E-12
Cadmium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Chromium (hexavalent)	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Lead	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Mercury	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Nickel	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Selenium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Silver	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Thallium	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Zinc	E1 max	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
DIOXIN TEQ	E1 max	1.3E-06	4 8E-09	2.4E-11	1 0E-07	7 5E-11	4 1E-09	5 8E-11	1 1E-07	3 8E-15	2 8E-11	NA	NA	1 8E-06	3 1E-06
ORGANICS TOTAL (non-dioxin)	E1 max	4 6E-07	2 3E-09	1 4E-10	4 5E-08	5.4E-10	1.9E-09	3 3E-10	5 0E-08	1 2E-15	4 2E-12	NA	NA	2 9E-06	9 2E-07
INORGANICS TOTAL	E1 max	4 9E-11	6 6E-11	2 1E-11	6 0E-11	1 5E-14	5 6E-11	5 0E-11	2 5E-10	2 7E-15	1 0E-15	NA	NA	NA	9 8E-10
SUBAREA TOTAL	E1 max	1.7E-06	7 1E-09	1 9E-10	1 5E-07	6 2E-10	6 1E-09	4 4E-10	1 6E-07	7 8E-15	3 2E-11	NA	NA	4 7E-06	4 0E-06

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APPENDIX V-16

Exposure Pathway Cancer Risks and Hazard Indices

TABLE 1
Average Cancer Risks for an Adult Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	1×10^{-10}	4×10^{-11}	2×10^{-11}	6×10^{-11}	2×10^{-11}	1×10^{-11}	5×10^{-11}	2×10^{-11}	7×10^{-12}	7×10^{-11}	3×10^{-11}	1×10^{-11}
Soil Dermal Contact	6×10^{-11}	2×10^{-11}	9×10^{-12}	3×10^{-11}	1×10^{-11}	5×10^{-12}	2×10^{-11}	8×10^{-12}	4×10^{-12}	3×10^{-11}	1×10^{-11}	6×10^{-12}
Meat & Egg Ingestion	5×10^{-8}	2×10^{-8}	1×10^{-8}	2×10^{-8}	9×10^{-9}	4×10^{-9}	2×10^{-8}	1×10^{-8}	5×10^{-9}	3×10^{-8}	2×10^{-8}	7×10^{-9}
Dairy Ingestion	8×10^{-8}	4×10^{-8}	2×10^{-8}	4×10^{-8}	2×10^{-8}	7×10^{-9}	4×10^{-8}	2×10^{-8}	8×10^{-9}	5×10^{-8}	3×10^{-8}	1×10^{-8}
Vegetable & Fruit Ingestion	6×10^{-9}	3×10^{-9}	1×10^{-9}	3×10^{-9}	1×10^{-9}	5×10^{-10}	3×10^{-9}	1×10^{-9}	6×10^{-10}	4×10^{-9}	2×10^{-9}	9×10^{-10}
River Ingestion	2×10^{-15}	6×10^{-16}	2×10^{-16}	NA	3×10^{-15}	NA	2×10^{-15}	NA	NA	NA	3×10^{-15}	3×10^{-15}
River Dermal Contact	7×10^{-12}	2×10^{-12}	7×10^{-13}	NA	3×10^{-12}	NA	9×10^{-12}	NA	NA	NA	1×10^{-11}	1×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	3×10^{-15}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-12}	NA	NA	NA
Total Risk	1×10^{-7}	6×10^{-8}	3×10^{-8}	6×10^{-8}	3×10^{-8}	1×10^{-8}	6×10^{-8}	3×10^{-8}	1×10^{-8}	9×10^{-8}	4×10^{-8}	2×10^{-8}

TABLE 2
Average Cancer Risks for a Child Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-9}	6×10^{-10}	2×10^{-10}	8×10^{-10}	3×10^{-10}	1×10^{-10}	6×10^{-10}	2×10^{-10}	9×10^{-11}	9×10^{-10}	3×10^{-10}	2×10^{-10}
Soil Dermal Contact	1×10^{-10}	3×10^{-11}	1×10^{-11}	5×10^{-11}	2×10^{-11}	7×10^{-12}	4×10^{-11}	1×10^{-11}	6×10^{-12}	5×10^{-11}	2×10^{-11}	9×10^{-12}
Meat & Egg Ingestion	5×10^{-8}	3×10^{-8}	1×10^{-8}	3×10^{-8}	1×10^{-8}	4×10^{-9}	3×10^{-8}	1×10^{-8}	5×10^{-9}	4×10^{-8}	2×10^{-8}	8×10^{-9}
Dairy Ingestion	3×10^{-7}	1×10^{-7}	6×10^{-8}	1×10^{-7}	5×10^{-8}	2×10^{-8}	1×10^{-7}	6×10^{-8}	3×10^{-8}	2×10^{-7}	9×10^{-8}	4×10^{-8}
Vegetable & Fruit Ingestion	7×10^{-9}	4×10^{-9}	2×10^{-9}	4×10^{-9}	1×10^{-9}	6×10^{-10}	4×10^{-9}	2×10^{-9}	7×10^{-10}	5×10^{-9}	2×10^{-9}	1×10^{-9}
River Ingestion	6×10^{-15}	2×10^{-15}	6×10^{-16}	NA	9×10^{-15}	NA	7×10^{-15}	NA	NA	NA	8×10^{-15}	8×10^{-15}
River Dermal Contact	8×10^{-12}	3×10^{-12}	9×10^{-13}	NA	4×10^{-12}	NA	1×10^{-11}	NA	NA	NA	1×10^{-11}	1×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-12}	NA	NA	NA
Total Risk	3×10^{-7}	2×10^{-7}	7×10^{-8}	2×10^{-7}	6×10^{-8}	3×10^{-8}	2×10^{-7}	7×10^{-8}	3×10^{-8}	2×10^{-7}	1×10^{-7}	5×10^{-8}

TABLE 3
Average Cancer Risks for a School-age Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-10}	8×10^{-11}	3×10^{-11}	1×10^{-10}	4×10^{-11}	2×10^{-11}	9×10^{-11}	3×10^{-11}	1×10^{-11}	1×10^{-10}	5×10^{-11}	2×10^{-11}
Soil Dermal Contact	6×10^{-11}	2×10^{-11}	1×10^{-11}	3×10^{-11}	1×10^{-11}	5×10^{-12}	3×10^{-11}	8×10^{-12}	4×10^{-12}	4×10^{-11}	1×10^{-11}	6×10^{-12}
Meat & Egg Ingestion	5×10^{-8}	2×10^{-8}	1×10^{-8}	2×10^{-8}	9×10^{-9}	4×10^{-9}	2×10^{-8}	1×10^{-8}	5×10^{-9}	3×10^{-8}	2×10^{-8}	7×10^{-9}
Dairy Ingestion	2×10^{-7}	8×10^{-8}	3×10^{-8}	8×10^{-8}	3×10^{-8}	1×10^{-8}	8×10^{-8}	4×10^{-8}	2×10^{-8}	1×10^{-7}	5×10^{-8}	2×10^{-8}
Vegetable & Fruit Ingestion	5×10^{-9}	3×10^{-9}	1×10^{-9}	3×10^{-9}	1×10^{-9}	5×10^{-10}	3×10^{-9}	1×10^{-9}	5×10^{-10}	4×10^{-9}	2×10^{-9}	8×10^{-10}
River Ingestion	3×10^{-15}	9×10^{-16}	3×10^{-16}	NA	4×10^{-15}	NA	3×10^{-15}	NA	NA	NA	4×10^{-15}	4×10^{-15}
River Dermal Contact	6×10^{-12}	2×10^{-12}	6×10^{-13}	NA	3×10^{-12}	NA	7×10^{-12}	NA	NA	NA	8×10^{-12}	9×10^{-12}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	5×10^{-15}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-12}	NA	NA	NA
Total Risk	2×10^{-7}	1×10^{-7}	4×10^{-8}	1×10^{-7}	4×10^{-8}	2×10^{-8}	1×10^{-7}	5×10^{-8}	2×10^{-8}	1×10^{-7}	7×10^{-8}	3×10^{-8}

TABLE 4
Average Cancer Risks for an Adult Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	7×10^{-10}	2×10^{-10}	1×10^{-10}	4×10^{-10}	1×10^{-10}	5×10^{-11}	3×10^{-10}	9×10^{-11}	4×10^{-11}	4×10^{-10}	1×10^{-10}	7×10^{-11}
Soil Dermal Contact	4×10^{-10}	1×10^{-10}	6×10^{-11}	2×10^{-10}	7×10^{-11}	3×10^{-11}	2×10^{-10}	5×10^{-11}	2×10^{-11}	2×10^{-10}	8×10^{-11}	4×10^{-11}
Meat & Egg Ingestion	3×10^{-7}	1×10^{-7}	6×10^{-8}	1×10^{-7}	6×10^{-8}	3×10^{-8}	1×10^{-7}	7×10^{-8}	3×10^{-8}	2×10^{-7}	1×10^{-7}	4×10^{-8}
Dairy Ingestion	2×10^{-7}	1×10^{-7}	5×10^{-8}	1×10^{-7}	4×10^{-8}	2×10^{-8}	1×10^{-7}	5×10^{-8}	2×10^{-8}	2×10^{-7}	7×10^{-8}	3×10^{-8}
Vegetable & Fruit Ingestion	1×10^{-8}	6×10^{-9}	3×10^{-9}	6×10^{-9}	2×10^{-9}	1×10^{-9}	6×10^{-9}	3×10^{-9}	1×10^{-9}	9×10^{-9}	4×10^{-9}	2×10^{-9}
River Ingestion	4×10^{-15}	1×10^{-15}	4×10^{-16}	NA	6×10^{-15}	NA	5×10^{-15}	NA	NA	NA	6×10^{-15}	6×10^{-15}
River Dermal Contact	2×10^{-11}	5×10^{-12}	2×10^{-12}	NA	7×10^{-12}	NA	2×10^{-11}	NA	NA	NA	2×10^{-11}	2×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	8×10^{-15}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-12}	NA	NA	NA
Total Risk	5×10^{-7}	3×10^{-7}	1×10^{-7}	3×10^{-7}	1×10^{-7}	4×10^{-8}	3×10^{-7}	1×10^{-7}	5×10^{-8}	4×10^{-7}	2×10^{-7}	8×10^{-8}

TABLE 5
Average Cancer Risks for a Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-9}	6×10^{-10}	2×10^{-10}	8×10^{-10}	3×10^{-10}	1×10^{-10}	6×10^{-10}	2×10^{-10}	9×10^{-11}	9×10^{-10}	3×10^{-10}	2×10^{-10}
Soil Dermal Contact	1×10^{-10}	3×10^{-11}	1×10^{-11}	5×10^{-11}	2×10^{-11}	7×10^{-12}	4×10^{-11}	1×10^{-11}	6×10^{-12}	5×10^{-11}	2×10^{-11}	9×10^{-12}
Meat & Egg Ingestion	2×10^{-7}	7×10^{-8}	3×10^{-8}	7×10^{-8}	3×10^{-8}	1×10^{-8}	7×10^{-8}	3×10^{-8}	1×10^{-8}	1×10^{-7}	5×10^{-8}	2×10^{-8}
Dairy Ingestion	3×10^{-7}	2×10^{-7}	7×10^{-8}	2×10^{-7}	6×10^{-8}	3×10^{-8}	2×10^{-7}	7×10^{-8}	3×10^{-8}	2×10^{-7}	1×10^{-7}	5×10^{-8}
Vegetable & Fruit Ingestion	7×10^{-9}	4×10^{-9}	2×10^{-9}	4×10^{-9}	1×10^{-9}	6×10^{-10}	4×10^{-9}	2×10^{-9}	7×10^{-10}	5×10^{-9}	2×10^{-9}	1×10^{-9}
River Ingestion	6×10^{-15}	2×10^{-15}	6×10^{-16}	NA	9×10^{-15}	NA	7×10^{-15}	NA	NA	NA	8×10^{-15}	8×10^{-15}
River Dermal Contact	8×10^{-12}	3×10^{-12}	9×10^{-13}	NA	4×10^{-12}	NA	1×10^{-11}	NA	NA	NA	1×10^{-11}	1×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-12}	NA	NA	NA
Total Risk	5×10^{-7}	2×10^{-7}	1×10^{-7}	2×10^{-7}	9×10^{-8}	4×10^{-8}	2×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	2×10^{-7}	7×10^{-8}

TABLE 6
Average Cancer Risks for an Adult Subsistence Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	7×10^{-10}	2×10^{-10}	1×10^{-10}	4×10^{-10}	1×10^{-10}	5×10^{-11}	3×10^{-10}	9×10^{-11}	4×10^{-11}	4×10^{-10}	1×10^{-10}	7×10^{-11}
Soil Dermal Contact	4×10^{-10}	1×10^{-10}	6×10^{-11}	2×10^{-10}	7×10^{-11}	3×10^{-11}	2×10^{-10}	5×10^{-11}	2×10^{-11}	2×10^{-10}	8×10^{-11}	4×10^{-11}
Meat & Egg Ingestion	7×10^{-7}	3×10^{-7}	1×10^{-7}	3×10^{-7}	1×10^{-7}	6×10^{-8}	3×10^{-7}	2×10^{-7}	7×10^{-8}	5×10^{-7}	2×10^{-7}	1×10^{-7}
Dairy Ingestion	6×10^{-7}	3×10^{-7}	1×10^{-7}	3×10^{-7}	1×10^{-7}	5×10^{-8}	3×10^{-7}	1×10^{-7}	5×10^{-8}	4×10^{-7}	2×10^{-7}	8×10^{-8}
Vegetable & Fruit Ingestion	5×10^{-8}	2×10^{-8}	1×10^{-8}	2×10^{-8}	1×10^{-8}	4×10^{-9}	2×10^{-8}	1×10^{-8}	5×10^{-9}	4×10^{-8}	2×10^{-8}	8×10^{-9}
River Ingestion	4×10^{-15}	1×10^{-15}	4×10^{-16}	NA	6×10^{-15}	NA	5×10^{-15}	NA	NA	NA	6×10^{-15}	6×10^{-15}
River Dermal Contact	2×10^{-11}	5×10^{-12}	2×10^{-12}	NA	7×10^{-12}	NA	2×10^{-11}	NA	NA	NA	2×10^{-11}	2×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	8×10^{-15}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-12}	NA	NA	NA
Total Risk	1×10^{-6}	6×10^{-7}	3×10^{-7}	6×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	3×10^{-7}	1×10^{-7}	9×10^{-7}	4×10^{-7}	2×10^{-7}

TABLE 7
Average Cancer Risks for a Subsistence Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-9}	6×10^{-10}	2×10^{-10}	8×10^{-10}	3×10^{-10}	1×10^{-10}	6×10^{-10}	2×10^{-10}	9×10^{-11}	9×10^{-10}	3×10^{-10}	2×10^{-10}
Soil Dermal Contact	1×10^{-10}	3×10^{-11}	1×10^{-11}	5×10^{-11}	2×10^{-11}	7×10^{-12}	4×10^{-11}	1×10^{-11}	6×10^{-12}	5×10^{-11}	2×10^{-11}	9×10^{-12}
Meat & Egg Ingestion	3×10^{-7}	2×10^{-7}	7×10^{-8}	2×10^{-7}	6×10^{-8}	3×10^{-8}	2×10^{-7}	8×10^{-8}	3×10^{-8}	2×10^{-7}	1×10^{-7}	5×10^{-8}
Dairy Ingestion	9×10^{-7}	4×10^{-7}	2×10^{-7}	4×10^{-7}	2×10^{-7}	7×10^{-8}	4×10^{-7}	2×10^{-7}	8×10^{-8}	6×10^{-7}	3×10^{-7}	1×10^{-7}
Vegetable & Fruit Ingestion	3×10^{-8}	2×10^{-8}	6×10^{-9}	2×10^{-8}	6×10^{-9}	3×10^{-9}	2×10^{-8}	7×10^{-9}	3×10^{-9}	2×10^{-8}	1×10^{-8}	5×10^{-9}
River Ingestion	6×10^{-15}	2×10^{-15}	6×10^{-16}	NA	9×10^{-15}	NA	7×10^{-15}	NA	NA	NA	8×10^{-15}	8×10^{-15}
River Dermal Contact	8×10^{-12}	3×10^{-12}	9×10^{-13}	NA	4×10^{-12}	NA	1×10^{-11}	NA	NA	NA	1×10^{-11}	1×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-12}	NA	NA	NA
Total Risk	1×10^{-6}	6×10^{-7}	2×10^{-7}	6×10^{-7}	2×10^{-7}	1×10^{-7}	6×10^{-7}	3×10^{-7}	1×10^{-7}	8×10^{-7}	4×10^{-7}	2×10^{-7}

TABLE 8
Average Noncancer Hazard Indices for an Adult Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	4×10^{-6}	2×10^{-6}	7×10^{-7}	2×10^{-6}	8×10^{-7}	4×10^{-7}	2×10^{-6}	6×10^{-7}	3×10^{-7}	3×10^{-6}	1×10^{-6}	5×10^{-7}
Soil Dermal Contact	8×10^{-7}	3×10^{-7}	1×10^{-7}	4×10^{-7}	1×10^{-7}	7×10^{-8}	3×10^{-7}	1×10^{-7}	6×10^{-8}	5×10^{-7}	2×10^{-7}	9×10^{-8}
Meat & Egg Ingestion	4×10^{-4}	1×10^{-4}	6×10^{-5}	2×10^{-4}	6×10^{-5}	3×10^{-5}	1×10^{-4}	5×10^{-5}	2×10^{-5}	2×10^{-4}	8×10^{-5}	4×10^{-5}
Dairy Ingestion	6×10^{-4}	2×10^{-4}	1×10^{-4}	3×10^{-4}	1×10^{-4}	5×10^{-5}	3×10^{-4}	1×10^{-4}	4×10^{-5}	4×10^{-4}	2×10^{-4}	7×10^{-5}
Vegetable & Fruit Ingestion	1×10^{-4}	7×10^{-5}	3×10^{-5}	7×10^{-5}	3×10^{-5}	1×10^{-5}	7×10^{-5}	3×10^{-5}	1×10^{-5}	1×10^{-4}	5×10^{-5}	2×10^{-5}
River Ingestion	3×10^{-10}	1×10^{-10}	4×10^{-11}	NA	1×10^{-9}	NA	4×10^{-10}	NA	NA	NA	5×10^{-10}	5×10^{-10}
River Dermal Contact	2×10^{-8}	5×10^{-9}	2×10^{-9}	NA	3×10^{-8}	NA	2×10^{-8}	NA	NA	NA	2×10^{-8}	2×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-8}	NA	NA	NA
Total HI	1×10^{-3}	5×10^{-4}	2×10^{-4}	6×10^{-4}	2×10^{-4}	9×10^{-5}	5×10^{-4}	2×10^{-4}	8×10^{-5}	7×10^{-4}	3×10^{-4}	1×10^{-4}

TABLE 9
Average Noncancer Hazard Indices for a Child Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	8×10^{-5}	3×10^{-5}	1×10^{-5}	4×10^{-5}	1×10^{-5}	7×10^{-6}	3×10^{-5}	1×10^{-5}	5×10^{-6}	5×10^{-5}	2×10^{-5}	9×10^{-6}
Soil Dermal Contact	2×10^{-6}	7×10^{-7}	3×10^{-7}	1×10^{-6}	3×10^{-7}	2×10^{-7}	8×10^{-7}	3×10^{-7}	1×10^{-7}	1×10^{-6}	5×10^{-7}	2×10^{-7}
Meat & Egg Ingestion	7×10^{-4}	2×10^{-4}	1×10^{-4}	3×10^{-4}	1×10^{-4}	6×10^{-5}	3×10^{-4}	9×10^{-5}	4×10^{-5}	4×10^{-4}	1×10^{-4}	7×10^{-5}
Dairy Ingestion	5×10^{-3}	2×10^{-3}	9×10^{-4}	3×10^{-3}	9×10^{-4}	4×10^{-4}	2×10^{-3}	8×10^{-4}	4×10^{-4}	3×10^{-3}	1×10^{-3}	6×10^{-4}
Vegetable & Fruit Ingestion	4×10^{-4}	2×10^{-4}	8×10^{-5}	2×10^{-4}	8×10^{-5}	3×10^{-5}	2×10^{-4}	9×10^{-5}	4×10^{-5}	3×10^{-4}	1×10^{-4}	6×10^{-5}
River Ingestion	2×10^{-9}	6×10^{-10}	2×10^{-10}	NA	5×10^{-9}	NA	2×10^{-9}	NA	NA	NA	2×10^{-9}	2×10^{-9}
River Dermal Contact	3×10^{-8}	1×10^{-8}	3×10^{-9}	NA	5×10^{-8}	NA	3×10^{-8}	NA	NA	NA	4×10^{-8}	4×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	9×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	8×10^{-8}	NA	NA	NA
Total HI	7×10^{-3}	3×10^{-3}	1×10^{-3}	3×10^{-3}	1×10^{-3}	5×10^{-4}	3×10^{-3}	1×10^{-3}	5×10^{-4}	4×10^{-3}	2×10^{-3}	7×10^{-4}

TABLE 10
Average Noncancer Hazard Indices for a School-age Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	1×10^{-5}	4×10^{-6}	2×10^{-6}	6×10^{-6}	2×10^{-6}	1×10^{-6}	5×10^{-6}	2×10^{-6}	8×10^{-7}	7×10^{-6}	3×10^{-6}	1×10^{-6}
Soil Dermal Contact	1×10^{-6}	5×10^{-7}	2×10^{-7}	6×10^{-7}	2×10^{-7}	1×10^{-7}	5×10^{-7}	2×10^{-7}	9×10^{-8}	8×10^{-7}	3×10^{-7}	1×10^{-7}
Meat & Egg Ingestion	6×10^{-4}	2×10^{-4}	9×10^{-5}	3×10^{-4}	1×10^{-4}	5×10^{-5}	2×10^{-4}	8×10^{-5}	4×10^{-5}	3×10^{-4}	1×10^{-4}	6×10^{-5}
Dairy Ingestion	3×10^{-3}	1×10^{-3}	5×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-4}	1×10^{-3}	4×10^{-4}	2×10^{-4}	2×10^{-3}	7×10^{-4}	3×10^{-4}
Vegetable & Fruit Ingestion	3×10^{-4}	1×10^{-4}	5×10^{-5}	1×10^{-4}	5×10^{-5}	2×10^{-5}	1×10^{-4}	6×10^{-5}	3×10^{-5}	2×10^{-4}	8×10^{-5}	4×10^{-5}
River Ingestion	7×10^{-10}	3×10^{-10}	9×10^{-11}	NA	2×10^{-9}	NA	9×10^{-10}	NA	NA	NA	1×10^{-9}	1×10^{-9}
River Dermal Contact	2×10^{-8}	7×10^{-9}	2×10^{-9}	NA	4×10^{-8}	NA	2×10^{-8}	NA	NA	NA	3×10^{-8}	3×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	6×10^{-8}	NA	NA	NA
Total HI	4×10^{-3}	1×10^{-3}	6×10^{-4}	2×10^{-3}	6×10^{-4}	3×10^{-4}	2×10^{-3}	6×10^{-4}	3×10^{-4}	2×10^{-3}	9×10^{-4}	4×10^{-4}

TABLE 11
Average Noncancer Hazard Indices for an Adult Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	1×10^{-5}	4×10^{-6}	2×10^{-6}	6×10^{-6}	2×10^{-6}	9×10^{-7}	5×10^{-6}	2×10^{-6}	7×10^{-7}	6×10^{-6}	3×10^{-6}	1×10^{-6}
Soil Dermal Contact	2×10^{-6}	9×10^{-7}	4×10^{-7}	1×10^{-6}	4×10^{-7}	2×10^{-7}	1×10^{-6}	4×10^{-7}	2×10^{-7}	1×10^{-6}	6×10^{-7}	3×10^{-7}
Meat & Egg Ingestion	1×10^{-3}	4×10^{-4}	2×10^{-4}	5×10^{-4}	2×10^{-4}	9×10^{-5}	4×10^{-4}	1×10^{-4}	7×10^{-5}	6×10^{-4}	2×10^{-4}	1×10^{-4}
Dairy Ingestion	8×10^{-4}	3×10^{-4}	1×10^{-4}	4×10^{-4}	1×10^{-4}	6×10^{-5}	3×10^{-4}	1×10^{-4}	5×10^{-5}	5×10^{-4}	2×10^{-4}	9×10^{-5}
Vegetable & Fruit Ingestion	1×10^{-4}	7×10^{-5}	3×10^{-5}	7×10^{-5}	3×10^{-5}	1×10^{-5}	7×10^{-5}	3×10^{-5}	1×10^{-5}	1×10^{-4}	5×10^{-5}	2×10^{-5}
River Ingestion	3×10^{-10}	1×10^{-10}	4×10^{-11}	NA	1×10^{-9}	NA	4×10^{-10}	NA	NA	NA	5×10^{-10}	5×10^{-10}
River Dermal Contact	2×10^{-8}	5×10^{-9}	2×10^{-9}	NA	3×10^{-8}	NA	2×10^{-8}	NA	NA	NA	2×10^{-8}	2×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-8}	NA	NA	NA
Total HI	2×10^{-3}	8×10^{-4}	3×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-4}	8×10^{-4}	3×10^{-4}	1×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-4}

TABLE 12
Average Noncancer Hazard Indices for a Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	8×10^{-5}	3×10^{-5}	1×10^{-5}	4×10^{-5}	1×10^{-5}	7×10^{-6}	3×10^{-5}	1×10^{-5}	5×10^{-6}	5×10^{-5}	2×10^{-5}	9×10^{-6}
Soil Dermal Contact	2×10^{-6}	7×10^{-7}	3×10^{-7}	1×10^{-6}	3×10^{-7}	2×10^{-7}	8×10^{-7}	3×10^{-7}	1×10^{-7}	1×10^{-6}	5×10^{-7}	2×10^{-7}
Meat & Egg Ingestion	2×10^{-3}	7×10^{-4}	3×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-4}	8×10^{-4}	3×10^{-4}	1×10^{-4}	1×10^{-3}	4×10^{-4}	2×10^{-4}
Dairy Ingestion	7×10^{-3}	3×10^{-3}	1×10^{-3}	3×10^{-3}	1×10^{-3}	5×10^{-4}	3×10^{-3}	1×10^{-3}	5×10^{-4}	4×10^{-3}	2×10^{-3}	7×10^{-4}
Vegetable & Fruit Ingestion	4×10^{-4}	2×10^{-4}	8×10^{-5}	2×10^{-4}	8×10^{-5}	3×10^{-5}	2×10^{-4}	9×10^{-5}	4×10^{-5}	3×10^{-4}	1×10^{-4}	6×10^{-5}
River Ingestion	2×10^{-9}	6×10^{-10}	2×10^{-10}	NA	5×10^{-9}	NA	2×10^{-9}	NA	NA	NA	2×10^{-9}	2×10^{-9}
River Dermal Contact	3×10^{-8}	1×10^{-8}	3×10^{-9}	NA	5×10^{-8}	NA	3×10^{-8}	NA	NA	NA	4×10^{-8}	4×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	9×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	8×10^{-8}	NA	NA	NA
Total HI	9×10^{-3}	4×10^{-3}	2×10^{-3}	5×10^{-3}	2×10^{-3}	7×10^{-4}	4×10^{-3}	1×10^{-3}	6×10^{-4}	6×10^{-3}	2×10^{-3}	1×10^{-3}

TABLE 13
Average Noncancer Hazard Indices for an Adult Subsistence Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	1×10^{-5}	4×10^{-6}	2×10^{-6}	6×10^{-6}	2×10^{-6}	9×10^{-7}	5×10^{-6}	2×10^{-6}	7×10^{-7}	6×10^{-6}	3×10^{-6}	1×10^{-6}
Soil Dermal Contact	2×10^{-6}	9×10^{-7}	4×10^{-7}	1×10^{-6}	4×10^{-7}	2×10^{-7}	1×10^{-6}	4×10^{-7}	2×10^{-7}	1×10^{-6}	6×10^{-7}	3×10^{-7}
Meat & Egg Ingestion	2×10^{-3}	9×10^{-4}	4×10^{-4}	1×10^{-3}	4×10^{-4}	2×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-4}	1×10^{-3}	5×10^{-4}	3×10^{-4}
Dairy Ingestion	2×10^{-3}	8×10^{-4}	3×10^{-4}	1×10^{-3}	3×10^{-4}	2×10^{-4}	8×10^{-4}	3×10^{-4}	1×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-4}
Vegetable & Fruit Ingestion	7×10^{-4}	3×10^{-4}	1×10^{-4}	3×10^{-4}	1×10^{-4}	6×10^{-5}	3×10^{-4}	2×10^{-4}	7×10^{-5}	5×10^{-4}	2×10^{-4}	1×10^{-4}
River Ingestion	3×10^{-10}	1×10^{-10}	4×10^{-11}	NA	1×10^{-9}	NA	4×10^{-10}	NA	NA	NA	5×10^{-10}	5×10^{-10}
River Dermal Contact	2×10^{-8}	5×10^{-9}	2×10^{-9}	NA	3×10^{-8}	NA	2×10^{-8}	NA	NA	NA	2×10^{-8}	2×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-8}	NA	NA	NA
Total HI	5×10^{-3}	2×10^{-3}	9×10^{-4}	3×10^{-3}	9×10^{-4}	4×10^{-4}	2×10^{-3}	8×10^{-4}	4×10^{-4}	3×10^{-3}	1×10^{-3}	6×10^{-4}

TABLE 14
Average Noncancer Hazard Indices and Cancer Risks for a Subsistence Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	8×10^{-5}	3×10^{-5}	1×10^{-5}	4×10^{-5}	1×10^{-5}	7×10^{-6}	3×10^{-5}	1×10^{-5}	5×10^{-6}	5×10^{-5}	2×10^{-5}	9×10^{-6}
Soil Dermal Contact	2×10^{-6}	7×10^{-7}	3×10^{-7}	1×10^{-6}	3×10^{-7}	2×10^{-7}	8×10^{-7}	3×10^{-7}	1×10^{-7}	1×10^{-6}	5×10^{-7}	2×10^{-7}
Meat & Egg Ingestion	5×10^{-3}	2×10^{-3}	7×10^{-4}	2×10^{-3}	8×10^{-4}	4×10^{-4}	2×10^{-3}	6×10^{-4}	3×10^{-4}	3×10^{-3}	1×10^{-3}	5×10^{-4}
Dairy Ingestion	2×10^{-2}	7×10^{-3}	3×10^{-3}	8×10^{-3}	3×10^{-3}	1×10^{-3}	7×10^{-3}	3×10^{-3}	1×10^{-3}	1×10^{-2}	4×10^{-3}	2×10^{-3}
Vegetable & Fruit Ingestion	2×10^{-3}	1×10^{-3}	5×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-4}	2×10^{-3}	8×10^{-4}	4×10^{-4}
River Ingestion	2×10^{-9}	6×10^{-10}	2×10^{-10}	NA	5×10^{-9}	NA	2×10^{-9}	NA	NA	NA	2×10^{-9}	2×10^{-9}
River Dermal Contact	3×10^{-8}	1×10^{-8}	3×10^{-9}	NA	5×10^{-8}	NA	3×10^{-8}	NA	NA	NA	4×10^{-8}	4×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	9×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	8×10^{-8}	NA	NA	NA
Total HI	2×10^{-2}	9×10^{-3}	4×10^{-3}	1×10^{-2}	4×10^{-3}	2×10^{-3}	1×10^{-2}	4×10^{-3}	2×10^{-3}	1×10^{-2}	6×10^{-3}	3×10^{-3}

TABLE 15
Maximum Cancer Risks for an Adult Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	3×10^{-10}	8×10^{-11}	3×10^{-11}	2×10^{-10}	5×10^{-11}	2×10^{-11}	2×10^{-10}	4×10^{-11}	1×10^{-11}	2×10^{-10}	5×10^{-11}	1×10^{-11}
Soil Dermal Contact	1×10^{-10}	4×10^{-11}	1×10^{-11}	9×10^{-11}	2×10^{-11}	7×10^{-12}	1×10^{-10}	2×10^{-11}	5×10^{-12}	8×10^{-11}	3×10^{-11}	7×10^{-12}
Meat & Egg Ingestion	1×10^{-7}	5×10^{-8}	1×10^{-8}	6×10^{-8}	2×10^{-8}	6×10^{-9}	8×10^{-8}	2×10^{-8}	7×10^{-9}	9×10^{-8}	3×10^{-8}	1×10^{-8}
Dairy Ingestion	2×10^{-7}	8×10^{-8}	2×10^{-8}	1×10^{-7}	4×10^{-8}	1×10^{-8}	1×10^{-7}	4×10^{-8}	1×10^{-8}	2×10^{-7}	6×10^{-8}	2×10^{-8}
Vegetable & Fruit Ingestion	2×10^{-8}	6×10^{-9}	2×10^{-9}	7×10^{-9}	3×10^{-9}	7×10^{-10}	1×10^{-8}	3×10^{-9}	8×10^{-10}	1×10^{-8}	4×10^{-9}	1×10^{-9}
River Ingestion	4×10^{-15}	1×10^{-15}	2×10^{-16}	NA	7×10^{-15}	NA	6×10^{-15}	NA	NA	NA	6×10^{-15}	6×10^{-15}
River Dermal Contact	1×10^{-11}	4×10^{-12}	1×10^{-12}	NA	7×10^{-12}	NA	2×10^{-11}	NA	NA	NA	2×10^{-11}	2×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	6×10^{-15}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	3×10^{-12}	NA	NA	NA
Total Risk	4×10^{-7}	1×10^{-7}	4×10^{-8}	2×10^{-7}	6×10^{-8}	2×10^{-8}	2×10^{-7}	6×10^{-8}	2×10^{-8}	3×10^{-7}	9×10^{-8}	3×10^{-8}

TABLE 16
Maximum Cancer Risks for a Child Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	3×10^{-9}	1×10^{-9}	3×10^{-10}	2×10^{-9}	6×10^{-10}	2×10^{-10}	3×10^{-9}	5×10^{-10}	1×10^{-10}	2×10^{-9}	7×10^{-10}	2×10^{-10}
Soil Dermal Contact	2×10^{-10}	6×10^{-11}	2×10^{-11}	1×10^{-10}	4×10^{-11}	1×10^{-11}	2×10^{-10}	3×10^{-11}	9×10^{-12}	1×10^{-10}	4×10^{-11}	1×10^{-11}
Meat & Egg Ingestion	2×10^{-7}	5×10^{-8}	2×10^{-8}	7×10^{-8}	3×10^{-8}	7×10^{-9}	9×10^{-8}	2×10^{-8}	7×10^{-9}	1×10^{-7}	4×10^{-8}	1×10^{-8}
Dairy Ingestion	8×10^{-7}	3×10^{-7}	8×10^{-8}	4×10^{-7}	1×10^{-7}	4×10^{-8}	5×10^{-7}	1×10^{-7}	4×10^{-8}	5×10^{-7}	2×10^{-7}	6×10^{-8}
Vegetable & Fruit Ingestion	2×10^{-8}	8×10^{-9}	2×10^{-9}	1×10^{-8}	4×10^{-9}	1×10^{-9}	1×10^{-8}	4×10^{-9}	1×10^{-9}	2×10^{-8}	5×10^{-9}	2×10^{-9}
River Ingestion	1×10^{-14}	3×10^{-15}	8×10^{-16}	NA	2×10^{-14}	NA	2×10^{-14}	NA	NA	NA	2×10^{-14}	2×10^{-14}
River Dermal Contact	2×10^{-11}	5×10^{-12}	1×10^{-12}	NA	9×10^{-12}	NA	3×10^{-11}	NA	NA	NA	3×10^{-11}	3×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-12}	NA	NA	NA
Total Risk	1×10^{-6}	3×10^{-7}	1×10^{-7}	4×10^{-7}	2×10^{-7}	4×10^{-8}	6×10^{-7}	2×10^{-7}	5×10^{-8}	7×10^{-7}	2×10^{-7}	7×10^{-8}

TABLE 17
Maximum Cancer Risks for a School-age Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	5×10^{-10}	2×10^{-10}	5×10^{-11}	4×10^{-10}	9×10^{-11}	3×10^{-11}	4×10^{-10}	7×10^{-11}	2×10^{-11}	3×10^{-10}	9×10^{-11}	3×10^{-11}
Soil Dermal Contact	1×10^{-10}	4×10^{-11}	1×10^{-11}	1×10^{-10}	3×10^{-11}	8×10^{-12}	1×10^{-10}	2×10^{-11}	6×10^{-12}	8×10^{-11}	3×10^{-11}	7×10^{-12}
Meat & Egg Ingestion	2×10^{-7}	5×10^{-8}	2×10^{-8}	7×10^{-8}	2×10^{-8}	7×10^{-9}	9×10^{-8}	2×10^{-8}	7×10^{-9}	1×10^{-7}	4×10^{-8}	1×10^{-8}
Dairy Ingestion	5×10^{-7}	2×10^{-7}	5×10^{-8}	2×10^{-7}	8×10^{-8}	2×10^{-8}	3×10^{-7}	8×10^{-8}	2×10^{-8}	3×10^{-7}	1×10^{-7}	4×10^{-8}
Vegetable & Fruit Ingestion	2×10^{-8}	6×10^{-9}	2×10^{-9}	7×10^{-9}	3×10^{-9}	7×10^{-10}	1×10^{-8}	3×10^{-9}	8×10^{-10}	1×10^{-8}	4×10^{-9}	1×10^{-9}
River Ingestion	5×10^{-15}	2×10^{-15}	4×10^{-16}	NA	1×10^{-14}	NA	8×10^{-15}	NA	NA	NA	9×10^{-15}	9×10^{-15}
River Dermal Contact	1×10^{-11}	4×10^{-12}	8×10^{-13}	NA	6×10^{-12}	NA	2×10^{-11}	NA	NA	NA	2×10^{-11}	2×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	8×10^{-15}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	3×10^{-12}	NA	NA	NA
Total Risk	7×10^{-7}	2×10^{-7}	7×10^{-8}	3×10^{-7}	1×10^{-7}	3×10^{-8}	4×10^{-7}	1×10^{-7}	3×10^{-8}	4×10^{-7}	2×10^{-7}	5×10^{-8}

TABLE 18
Maximum Cancer Risks for an Adult Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-9}	5×10^{-10}	1×10^{-10}	1×10^{-9}	3×10^{-10}	9×10^{-11}	1×10^{-9}	2×10^{-10}	6×10^{-11}	9×10^{-10}	3×10^{-10}	8×10^{-11}
Soil Dermal Contact	9×10^{-10}	3×10^{-10}	8×10^{-11}	6×10^{-10}	2×10^{-10}	5×10^{-11}	7×10^{-10}	1×10^{-10}	4×10^{-11}	5×10^{-10}	2×10^{-10}	5×10^{-11}
Meat & Egg Ingestion	9×10^{-7}	3×10^{-7}	9×10^{-8}	4×10^{-7}	1×10^{-7}	4×10^{-8}	5×10^{-7}	1×10^{-7}	4×10^{-8}	6×10^{-7}	2×10^{-7}	7×10^{-8}
Dairy Ingestion	7×10^{-7}	2×10^{-7}	7×10^{-8}	3×10^{-7}	1×10^{-7}	3×10^{-8}	4×10^{-7}	1×10^{-7}	3×10^{-8}	4×10^{-7}	2×10^{-7}	5×10^{-8}
Vegetable & Fruit Ingestion	4×10^{-8}	1×10^{-8}	4×10^{-9}	2×10^{-8}	6×10^{-9}	2×10^{-9}	2×10^{-8}	6×10^{-9}	2×10^{-9}	3×10^{-8}	9×10^{-9}	3×10^{-9}
River Ingestion	8×10^{-15}	2×10^{-15}	5×10^{-16}	NA	1×10^{-14}	NA	1×10^{-14}	NA	NA	NA	1×10^{-14}	1×10^{-14}
River Dermal Contact	3×10^{-11}	9×10^{-12}	2×10^{-12}	NA	2×10^{-11}	NA	5×10^{-11}	NA	NA	NA	5×10^{-11}	5×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	7×10^{-12}	NA	NA	NA
Total Risk	2×10^{-6}	6×10^{-7}	2×10^{-7}	7×10^{-7}	3×10^{-7}	7×10^{-8}	1×10^{-6}	3×10^{-7}	8×10^{-8}	1×10^{-6}	4×10^{-7}	1×10^{-7}

TABLE 19
Maximum Cancer Risks for a Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	3×10^{-9}	1×10^{-9}	3×10^{-10}	2×10^{-9}	6×10^{-10}	2×10^{-10}	3×10^{-9}	5×10^{-10}	1×10^{-10}	2×10^{-9}	7×10^{-10}	2×10^{-10}
Soil Dermal Contact	2×10^{-10}	6×10^{-11}	2×10^{-11}	1×10^{-10}	4×10^{-11}	1×10^{-11}	2×10^{-10}	3×10^{-11}	9×10^{-12}	1×10^{-10}	4×10^{-11}	1×10^{-11}
Meat & Egg Ingestion	5×10^{-7}	2×10^{-7}	5×10^{-8}	2×10^{-7}	7×10^{-8}	2×10^{-8}	3×10^{-7}	7×10^{-8}	2×10^{-8}	3×10^{-7}	1×10^{-7}	3×10^{-8}
Dairy Ingestion	1×10^{-6}	4×10^{-7}	1×10^{-7}	5×10^{-7}	2×10^{-7}	4×10^{-8}	6×10^{-7}	2×10^{-7}	5×10^{-8}	7×10^{-7}	2×10^{-7}	8×10^{-8}
Vegetable & Fruit Ingestion	2×10^{-8}	8×10^{-9}	2×10^{-9}	1×10^{-8}	4×10^{-9}	1×10^{-9}	1×10^{-8}	4×10^{-9}	1×10^{-9}	2×10^{-8}	5×10^{-9}	2×10^{-9}
River Ingestion	1×10^{-14}	3×10^{-15}	8×10^{-16}	NA	2×10^{-14}	NA	2×10^{-14}	NA	NA	NA	2×10^{-14}	2×10^{-14}
River Dermal Contact	2×10^{-11}	5×10^{-12}	1×10^{-12}	NA	9×10^{-12}	NA	3×10^{-11}	NA	NA	NA	3×10^{-11}	3×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-12}	NA	NA	NA
Total Risk	2×10^{-6}	5×10^{-7}	2×10^{-7}	7×10^{-7}	2×10^{-7}	7×10^{-8}	9×10^{-7}	2×10^{-7}	7×10^{-8}	1×10^{-6}	3×10^{-7}	1×10^{-7}

TABLE 20
Maximum Cancer Risks for an Adult Subsistence Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-9}	5×10^{-10}	1×10^{-10}	1×10^{-9}	3×10^{-10}	9×10^{-11}	1×10^{-9}	2×10^{-10}	6×10^{-11}	9×10^{-10}	3×10^{-10}	8×10^{-11}
Soil Dermal Contact	9×10^{-10}	3×10^{-10}	8×10^{-11}	6×10^{-10}	2×10^{-10}	5×10^{-11}	7×10^{-10}	1×10^{-10}	4×10^{-11}	5×10^{-10}	2×10^{-10}	5×10^{-11}
Meat & Egg Ingestion	2×10^{-6}	7×10^{-7}	2×10^{-7}	9×10^{-7}	3×10^{-7}	9×10^{-8}	1×10^{-6}	3×10^{-7}	1×10^{-7}	1×10^{-6}	5×10^{-7}	2×10^{-7}
Dairy Ingestion	2×10^{-6}	6×10^{-7}	2×10^{-7}	7×10^{-7}	3×10^{-7}	7×10^{-8}	1×10^{-6}	3×10^{-7}	8×10^{-8}	1×10^{-6}	4×10^{-7}	1×10^{-7}
Vegetable & Fruit Ingestion	2×10^{-7}	5×10^{-8}	2×10^{-8}	7×10^{-8}	2×10^{-8}	7×10^{-9}	9×10^{-8}	2×10^{-8}	7×10^{-9}	1×10^{-7}	4×10^{-8}	1×10^{-8}
River Ingestion	8×10^{-15}	2×10^{-15}	5×10^{-16}	NA	1×10^{-14}	NA	1×10^{-14}	NA	NA	NA	1×10^{-14}	1×10^{-14}
River Dermal Contact	3×10^{-11}	9×10^{-12}	2×10^{-12}	NA	2×10^{-11}	NA	5×10^{-11}	NA	NA	NA	5×10^{-11}	5×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	7×10^{-12}	NA	NA	NA
Total Risk	4×10^{-6}	1×10^{-6}	4×10^{-7}	2×10^{-6}	6×10^{-7}	2×10^{-7}	2×10^{-6}	6×10^{-7}	2×10^{-7}	3×10^{-6}	9×10^{-7}	3×10^{-7}

TABLE 21
Maximum Cancer Risks for a Subsistence Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	3×10^{-9}	1×10^{-9}	3×10^{-10}	2×10^{-9}	6×10^{-10}	2×10^{-10}	3×10^{-9}	5×10^{-10}	1×10^{-10}	2×10^{-9}	7×10^{-10}	2×10^{-10}
Soil Dermal Contact	2×10^{-10}	6×10^{-11}	2×10^{-11}	1×10^{-10}	4×10^{-11}	1×10^{-11}	2×10^{-10}	3×10^{-11}	9×10^{-12}	1×10^{-10}	4×10^{-11}	1×10^{-11}
Meat & Egg Ingestion	1×10^{-6}	4×10^{-7}	1×10^{-7}	5×10^{-7}	2×10^{-7}	5×10^{-8}	6×10^{-7}	2×10^{-7}	5×10^{-8}	7×10^{-7}	2×10^{-7}	8×10^{-8}
Dairy Ingestion	3×10^{-6}	9×10^{-7}	3×10^{-7}	1×10^{-6}	4×10^{-7}	1×10^{-7}	2×10^{-6}	4×10^{-7}	1×10^{-7}	2×10^{-6}	6×10^{-7}	2×10^{-7}
Vegetable & Fruit Ingestion	1×10^{-7}	3×10^{-8}	1×10^{-8}	4×10^{-8}	2×10^{-8}	4×10^{-9}	6×10^{-8}	2×10^{-8}	5×10^{-9}	6×10^{-8}	2×10^{-8}	7×10^{-9}
River Ingestion	1×10^{-14}	3×10^{-15}	8×10^{-16}	NA	2×10^{-14}	NA	2×10^{-14}	NA	NA	NA	2×10^{-14}	2×10^{-14}
River Dermal Contact	2×10^{-11}	5×10^{-12}	1×10^{-12}	NA	9×10^{-12}	NA	3×10^{-11}	NA	NA	NA	3×10^{-11}	3×10^{-11}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	2×10^{-14}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	4×10^{-12}	NA	NA	NA
Total Risk	4×10^{-6}	1×10^{-6}	4×10^{-7}	2×10^{-6}	6×10^{-7}	2×10^{-7}	2×10^{-6}	6×10^{-7}	2×10^{-7}	2×10^{-6}	9×10^{-7}	3×10^{-7}

TABLE 22
Maximum Noncancer Hazard Indices for an Adult Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	1×10^{-5}	3×10^{-6}	1×10^{-6}	7×10^{-6}	2×10^{-6}	6×10^{-7}	8×10^{-6}	1×10^{-6}	4×10^{-7}	5×10^{-6}	2×10^{-6}	6×10^{-7}
Soil Dermal Contact	2×10^{-6}	6×10^{-7}	2×10^{-7}	1×10^{-6}	3×10^{-7}	1×10^{-7}	1×10^{-6}	3×10^{-7}	9×10^{-8}	1×10^{-6}	4×10^{-7}	1×10^{-7}
Meat & Egg Ingestion	8×10^{-4}	3×10^{-4}	8×10^{-5}	5×10^{-4}	1×10^{-4}	5×10^{-5}	6×10^{-4}	1×10^{-4}	3×10^{-5}	4×10^{-4}	2×10^{-4}	4×10^{-5}
Dairy Ingestion	2×10^{-3}	5×10^{-4}	1×10^{-4}	9×10^{-4}	3×10^{-4}	8×10^{-5}	1×10^{-3}	2×10^{-4}	7×10^{-5}	9×10^{-4}	3×10^{-4}	9×10^{-5}
Vegetable & Fruit Ingestion	4×10^{-4}	2×10^{-4}	5×10^{-5}	2×10^{-4}	7×10^{-5}	2×10^{-5}	3×10^{-4}	7×10^{-5}	2×10^{-5}	3×10^{-4}	1×10^{-4}	3×10^{-5}
River Ingestion	8×10^{-10}	2×10^{-10}	6×10^{-11}	NA	2×10^{-9}	NA	1×10^{-9}	NA	NA	NA	1×10^{-9}	1×10^{-9}
River Dermal Contact	3×10^{-8}	9×10^{-9}	2×10^{-9}	NA	7×10^{-8}	NA	4×10^{-8}	NA	NA	NA	5×10^{-8}	5×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	3×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	7×10^{-8}	NA	NA	NA
Total HI	3×10^{-3}	9×10^{-4}	3×10^{-4}	2×10^{-3}	5×10^{-4}	1×10^{-4}	2×10^{-3}	4×10^{-4}	1×10^{-4}	2×10^{-3}	6×10^{-4}	2×10^{-4}

TABLE 23
Maximum Noncancer Hazard Indices for a Child Resident

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-4}	6×10^{-5}	2×10^{-5}	1×10^{-4}	3×10^{-5}	1×10^{-5}	2×10^{-4}	3×10^{-5}	8×10^{-6}	9×10^{-5}	4×10^{-5}	1×10^{-5}
Soil Dermal Contact	5×10^{-6}	1×10^{-6}	5×10^{-7}	3×10^{-6}	8×10^{-7}	2×10^{-7}	3×10^{-6}	7×10^{-7}	2×10^{-7}	2×10^{-6}	9×10^{-7}	3×10^{-7}
Meat & Egg Ingestion	1×10^{-3}	5×10^{-4}	1×10^{-4}	1×10^{-3}	3×10^{-4}	9×10^{-5}	1×10^{-3}	2×10^{-4}	6×10^{-5}	8×10^{-4}	3×10^{-4}	8×10^{-5}
Dairy Ingestion	1×10^{-2}	4×10^{-3}	1×10^{-3}	8×10^{-3}	2×10^{-3}	7×10^{-4}	9×10^{-3}	2×10^{-3}	6×10^{-4}	8×10^{-3}	3×10^{-3}	8×10^{-4}
Vegetable & Fruit Ingestion	1×10^{-3}	4×10^{-4}	1×10^{-4}	5×10^{-4}	2×10^{-4}	5×10^{-5}	7×10^{-4}	2×10^{-4}	6×10^{-5}	8×10^{-4}	3×10^{-4}	9×10^{-5}
River Ingestion	4×10^{-9}	1×10^{-9}	3×10^{-10}	NA	1×10^{-8}	NA	5×10^{-9}	NA	NA	NA	6×10^{-9}	6×10^{-9}
River Dermal Contact	5×10^{-8}	2×10^{-8}	4×10^{-9}	NA	1×10^{-7}	NA	8×10^{-8}	NA	NA	NA	9×10^{-8}	9×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-8}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-7}	NA	NA	NA
Total HI	2×10^{-2}	5×10^{-3}	2×10^{-3}	1×10^{-2}	3×10^{-3}	8×10^{-4}	1×10^{-2}	2×10^{-3}	7×10^{-4}	9×10^{-3}	3×10^{-3}	1×10^{-3}

TABLE 24
Maximum Noncancer Hazard Indices for a School-age Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	3×10^{-5}	9×10^{-6}	3×10^{-6}	2×10^{-5}	5×10^{-6}	2×10^{-6}	2×10^{-5}	4×10^{-6}	1×10^{-6}	1×10^{-5}	5×10^{-6}	2×10^{-6}
Soil Dermal Contact	3×10^{-6}	1×10^{-6}	3×10^{-7}	2×10^{-6}	5×10^{-7}	2×10^{-7}	2×10^{-6}	4×10^{-7}	1×10^{-7}	2×10^{-6}	6×10^{-7}	2×10^{-7}
Meat & Egg Ingestion	1×10^{-3}	4×10^{-4}	1×10^{-4}	9×10^{-4}	2×10^{-4}	7×10^{-5}	1×10^{-3}	2×10^{-4}	6×10^{-5}	7×10^{-4}	3×10^{-4}	7×10^{-5}
Dairy Ingestion	7×10^{-3}	2×10^{-3}	7×10^{-4}	4×10^{-3}	1×10^{-3}	4×10^{-4}	5×10^{-3}	1×10^{-3}	3×10^{-4}	4×10^{-3}	1×10^{-3}	4×10^{-4}
Vegetable & Fruit Ingestion	8×10^{-4}	3×10^{-4}	8×10^{-5}	3×10^{-4}	1×10^{-4}	3×10^{-5}	4×10^{-4}	1×10^{-4}	4×10^{-5}	5×10^{-4}	2×10^{-4}	6×10^{-5}
River Ingestion	2×10^{-9}	5×10^{-10}	1×10^{-10}	NA	5×10^{-9}	NA	3×10^{-9}	NA	NA	NA	3×10^{-9}	3×10^{-9}
River Dermal Contact	4×10^{-8}	1×10^{-8}	3×10^{-9}	NA	9×10^{-8}	NA	6×10^{-8}	NA	NA	NA	6×10^{-8}	7×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	6×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	9×10^{-8}	NA	NA	NA
Total HI	9×10^{-3}	3×10^{-3}	9×10^{-4}	5×10^{-3}	2×10^{-3}	5×10^{-4}	6×10^{-3}	1×10^{-3}	4×10^{-4}	5×10^{-3}	2×10^{-3}	5×10^{-4}

TABLE 25
Maximum Noncancer Hazard Indices for an Adult Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-5}	8×10^{-6}	2×10^{-6}	2×10^{-5}	4×10^{-6}	1×10^{-6}	2×10^{-5}	4×10^{-6}	1×10^{-6}	1×10^{-5}	5×10^{-6}	1×10^{-6}
Soil Dermal Contact	6×10^{-6}	2×10^{-6}	6×10^{-7}	4×10^{-6}	1×10^{-6}	3×10^{-7}	4×10^{-6}	8×10^{-7}	3×10^{-7}	3×10^{-6}	1×10^{-6}	3×10^{-7}
Meat & Egg Ingestion	2×10^{-3}	7×10^{-4}	2×10^{-4}	2×10^{-3}	4×10^{-4}	1×10^{-4}	2×10^{-3}	3×10^{-4}	1×10^{-4}	1×10^{-3}	5×10^{-4}	1×10^{-4}
Dairy Ingestion	2×10^{-3}	6×10^{-4}	2×10^{-4}	1×10^{-3}	3×10^{-4}	1×10^{-4}	1×10^{-3}	3×10^{-4}	8×10^{-5}	1×10^{-3}	4×10^{-4}	1×10^{-4}
Vegetable & Fruit Ingestion	4×10^{-4}	2×10^{-4}	5×10^{-5}	2×10^{-4}	7×10^{-5}	2×10^{-5}	3×10^{-4}	7×10^{-5}	2×10^{-5}	3×10^{-4}	1×10^{-4}	3×10^{-5}
River Ingestion	8×10^{-10}	2×10^{-10}	6×10^{-11}	NA	2×10^{-9}	NA	1×10^{-9}	NA	NA	NA	1×10^{-9}	1×10^{-9}
River Dermal Contact	3×10^{-8}	9×10^{-9}	2×10^{-9}	NA	7×10^{-8}	NA	4×10^{-8}	NA	NA	NA	5×10^{-8}	5×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	3×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	7×10^{-8}	NA	NA	NA
Total HI	5×10^{-3}	2×10^{-3}	5×10^{-4}	3×10^{-3}	9×10^{-4}	3×10^{-4}	4×10^{-3}	7×10^{-4}	2×10^{-4}	3×10^{-3}	1×10^{-3}	3×10^{-4}

TABLE 26
Maximum Noncancer Hazard Indices for a Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-4}	6×10^{-5}	2×10^{-5}	1×10^{-4}	3×10^{-5}	1×10^{-5}	2×10^{-4}	3×10^{-5}	8×10^{-6}	9×10^{-5}	4×10^{-5}	1×10^{-5}
Soil Dermal Contact	5×10^{-6}	1×10^{-6}	5×10^{-7}	3×10^{-6}	8×10^{-7}	2×10^{-7}	3×10^{-6}	7×10^{-7}	2×10^{-7}	2×10^{-6}	9×10^{-7}	3×10^{-7}
Meat & Egg Ingestion	4×10^{-3}	1×10^{-3}	4×10^{-4}	3×10^{-3}	8×10^{-4}	3×10^{-4}	4×10^{-3}	6×10^{-4}	2×10^{-4}	2×10^{-3}	9×10^{-4}	2×10^{-4}
Dairy Ingestion	2×10^{-2}	5×10^{-3}	2×10^{-3}	1×10^{-2}	3×10^{-3}	8×10^{-4}	1×10^{-2}	2×10^{-3}	7×10^{-4}	1×10^{-2}	3×10^{-3}	1×10^{-3}
Vegetable & Fruit Ingestion	1×10^{-3}	4×10^{-4}	1×10^{-4}	5×10^{-4}	2×10^{-4}	5×10^{-5}	7×10^{-4}	2×10^{-4}	6×10^{-5}	8×10^{-4}	3×10^{-4}	9×10^{-5}
River Ingestion	4×10^{-9}	1×10^{-9}	3×10^{-10}	NA	1×10^{-8}	NA	5×10^{-9}	NA	NA	NA	6×10^{-9}	6×10^{-9}
River Dermal Contact	5×10^{-8}	2×10^{-8}	4×10^{-9}	NA	1×10^{-7}	NA	8×10^{-8}	NA	NA	NA	9×10^{-8}	9×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-8}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-7}	NA	NA	NA
Total HI	2×10^{-2}	7×10^{-3}	2×10^{-3}	1×10^{-2}	4×10^{-3}	1×10^{-3}	2×10^{-2}	3×10^{-3}	1×10^{-3}	1×10^{-2}	4×10^{-3}	1×10^{-3}

TABLE 27
Maximum Noncancer Hazard Indices for an Adult Subsistence Farmer

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-5}	8×10^{-6}	2×10^{-6}	2×10^{-5}	4×10^{-6}	1×10^{-6}	2×10^{-5}	4×10^{-6}	1×10^{-6}	1×10^{-5}	5×10^{-6}	1×10^{-6}
Soil Dermal Contact	6×10^{-6}	2×10^{-6}	6×10^{-7}	4×10^{-6}	1×10^{-6}	3×10^{-7}	4×10^{-6}	8×10^{-7}	3×10^{-7}	3×10^{-6}	1×10^{-6}	3×10^{-7}
Meat & Egg Ingestion	5×10^{-3}	2×10^{-3}	5×10^{-4}	4×10^{-3}	1×10^{-3}	3×10^{-4}	4×10^{-3}	8×10^{-4}	2×10^{-4}	3×10^{-3}	1×10^{-3}	3×10^{-4}
Dairy Ingestion	5×10^{-3}	2×10^{-3}	5×10^{-4}	3×10^{-3}	9×10^{-4}	3×10^{-4}	3×10^{-3}	7×10^{-4}	2×10^{-4}	3×10^{-3}	1×10^{-3}	3×10^{-4}
Vegetable & Fruit Ingestion	2×10^{-3}	8×10^{-4}	2×10^{-4}	9×10^{-4}	3×10^{-4}	9×10^{-5}	1×10^{-3}	3×10^{-4}	1×10^{-4}	1×10^{-3}	5×10^{-4}	2×10^{-4}
River Ingestion	8×10^{-10}	2×10^{-10}	6×10^{-11}	NA	2×10^{-9}	NA	1×10^{-9}	NA	NA	NA	1×10^{-9}	1×10^{-9}
River Dermal Contact	3×10^{-8}	9×10^{-9}	2×10^{-9}	NA	7×10^{-8}	NA	4×10^{-8}	NA	NA	NA	5×10^{-8}	5×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	3×10^{-9}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	7×10^{-8}	NA	NA	NA
Total HI	1×10^{-2}	4×10^{-3}	1×10^{-3}	8×10^{-3}	2×10^{-3}	7×10^{-4}	9×10^{-3}	2×10^{-3}	5×10^{-4}	7×10^{-3}	3×10^{-3}	8×10^{-4}

TABLE 28
Maximum Noncancer Hazard Indices for a Subsistence Farmer Child

Exposure Pathway	Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
Soil Ingestion	2×10^{-4}	6×10^{-5}	2×10^{-5}	1×10^{-4}	3×10^{-5}	1×10^{-5}	2×10^{-4}	3×10^{-5}	8×10^{-6}	9×10^{-5}	4×10^{-5}	1×10^{-5}
Soil Dermal Contact	5×10^{-6}	1×10^{-6}	5×10^{-7}	3×10^{-6}	8×10^{-7}	2×10^{-7}	3×10^{-6}	7×10^{-7}	2×10^{-7}	2×10^{-6}	9×10^{-7}	3×10^{-7}
Meat & Egg Ingestion	1×10^{-2}	3×10^{-3}	1×10^{-3}	7×10^{-3}	2×10^{-3}	6×10^{-4}	8×10^{-3}	1×10^{-3}	4×10^{-4}	5×10^{-3}	2×10^{-3}	5×10^{-4}
Dairy Ingestion	4×10^{-2}	1×10^{-2}	4×10^{-3}	2×10^{-2}	7×10^{-3}	2×10^{-3}	3×10^{-2}	6×10^{-3}	2×10^{-3}	2×10^{-2}	8×10^{-3}	2×10^{-3}
Vegetable & Fruit Ingestion	7×10^{-3}	3×10^{-3}	8×10^{-4}	3×10^{-3}	1×10^{-3}	3×10^{-4}	4×10^{-3}	1×10^{-3}	3×10^{-4}	5×10^{-3}	2×10^{-3}	6×10^{-4}
River Ingestion	4×10^{-9}	1×10^{-9}	3×10^{-10}	NA	1×10^{-8}	NA	5×10^{-9}	NA	NA	NA	6×10^{-9}	6×10^{-9}
River Dermal Contact	5×10^{-8}	2×10^{-8}	4×10^{-9}	NA	1×10^{-7}	NA	8×10^{-8}	NA	NA	NA	9×10^{-8}	9×10^{-8}
Lake Ingestion	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-8}	NA	NA	NA
Lake Dermal Contact	NA	NA	NA	NA	NA	NA	NA	NA	1×10^{-7}	NA	NA	NA
Total HI	6×10^{-2}	2×10^{-2}	6×10^{-3}	4×10^{-2}	1×10^{-2}	3×10^{-3}	4×10^{-2}	8×10^{-3}	3×10^{-3}	3×10^{-2}	1×10^{-2}	4×10^{-3}

APPENDIX V-17

Estimation of High-end Cancer Risks and Hazard Quotients for Subsistence Farmer and Child in Subarea E1

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	6.4E-17	3.5E-17	4.1E-14	4.4E-15	2.4E-16	6.4E-17	1.5E-16	7.0E-15	9.2E-15	5.0E-15	2 3E-16	1.9E-15	9.4E-15	5 5E-17
1,2,3,7,8-PeCDD	E1 avg	3.2E-16	1.7E-16	6.9E-13	5.6E-14	1 1E-15	3.1E-16	7.1E-16	1.2E-13	1.5E-13	8.3E-14	3 9E-15	3 2E-14	1 6E-13	9 4E-16
1,2,3,4,7,8-HxCDD	E1 avg	3.5E-16	1.9E-16	4.6E-13	3.6E-14	6.0E-16	1.6E-16	3.8E-16	8.0E-14	1.0E-13	5.6E-14	2.6E-15	2.2E-14	1.1E-13	1 3E-15
1,2,3,6,7,8-HxCDD	E1 avg	6.3E-16	3.4E-16	1.3E-13	1.4E-14	9.3E-16	2.5E-16	5.8E-16	2.1E-14	2.8E-14	1.5E-14	7 0E-16	5 8E-15	2 9E-14	4 4E-16
1,2,3,7,8,9-HxCDD	E1 avg	4.0E-16	2.2E-16	1.7E-13	1.6E-14	7.6E-16	2.1E-16	4.8E-16	2.9E-14	3.8E-14	2.1E-14	9.6E-16	8.0E-15	3.9E-14	4 5E-16
1,2,3,4,6,7,8-HpCDD	E1 avg	4.6E-15	2.5E-15	1.3E-12	1.0E-13	1 4E-15	3.8E-16	8.9E-16	2.3E-13	3.0E-13	1.6E-13	7 5E-15	6 3E-14	3.1E-13	2 1E-14
OCDD	E1 avg	2.2E-14	1 2E-14	2.4E-10	1.7E-11	9.8E-15	2.7E-15	6.2E-15	4.2E-11	5.5E-11	3 0E-11	1.4E-12	1.1E-11	5.6E-11	2 6E-12
2,3,7,8-TCDF	E1 avg	5.7E-16	3.1E-16	1.3E-13	1.2E-14	4.6E-16	1.3E-16	2.9E-16	2.2E-14	2.9E-14	1.6E-14	7.2E-16	6.0E-15	2.9E-14	7 7E-16
1,2,3,7,8-PeCDF	E1 avg	1.9E-15	1.0E-15	6.0E-13	5.0E-14	1 2E-15	3.1E-16	7.3E-16	1.0E-13	1.3E-13	7.3E-14	3.4E-15	2.8E-14	1.4E-13	4 6E-15
2,3,4,7,8-PeCDF	E1 avg	2.3E-15	1.2E-15	3.4E-12	2.8E-13	6.0E-15	1.6E-15	3.8E-15	5.9E-13	7.7E-13	4.2E-13	1 9E-14	1 6E-13	7.9E-13	6 3E-15
1,2,3,4,7,8-HxCDF	E1 avg	5.5E-15	3 0E-15	1.9E-12	2.0E-13	1.1E-14	3.0E-15	7.0E-15	3.3E-13	4.3E-13	2.4E-13	1.1E-14	9.0E-14	4.5E-13	5 0E-15
1,2,3,6,7,8-HxCDF	E1 avg	5.2E-15	2.8E-15	3.5E-12	3.0E-13	8.8E-15	2.4E-15	5.6E-15	6.1E-13	7.9E-13	4.3E-13	2.0E-14	1.6E-13	8.1E-13	1 0E-14
1,2,3,7,8,9-HxCDF	E1 avg	1.2E-15	6.5E-16	8.0E-13	6.9E-14	2.0E-15	5.5E-16	1.3E-15	1.4E-13	1.8E-13	9.7E-14	4 5E-15	3.7E-14	1.8E-13	2 3E-15
2,3,4,6,7,8-HxCDF	E1 avg	5.9E-15	3 2E-15	2.3E-12	2.2E-13	8.9E-15	2.4E-15	5.6E-15	4.0E-13	5.2E-13	2.8E-13	1 3E-14	1 1E-13	5.4E-13	7.7E-15
1,2,3,4,6,7,8-HpCDF	E1 avg	3.5E-14	1.9E-14	1.9E-12	2.0E-13	1.2E-14	3 3E-15	7.8E-15	3.2E-13	4.2E-13	2.3E-13	1 0E-14	8 7E-14	4.3E-13	2 8E-14
1,2,3,4,7,8,9-HpCDF	E1 avg	4.6E-15	2 5E-15	3.9E-13	4 9E-14	3 8E-15	1 0E-15	2.4E-15	6.6E-14	8.6E-14	4.6E-14	2 1E-15	1.8E-14	8.8E-14	2 4E-15
OCDF	E1 avg	6.9E-14	3.7E-14	2.0E-11	1.5E-12	1 2E-14	3.1E-15	7.3E-15	3.5E-12	4.6E-12	2.5E-12	1 1E-13	9.5E-13	4.7E-12	5 7E-13
Tetrachlorobiphenyl	E1 avg	6.8E-14	3 7E-14	9.7E-12	2.9E-12	3 5E-13	9.5E-14	2.2E-13	1.6E-12	2.1E-12	1.1E-12	5.2E-14	4 3E-13	2.1E-12	1 4E-14
Hexachlorobiphenyl	E1 avg	1.1E-13	6.0E-14	6.1E-12	1.8E-12	2.1E-13	5.6E-14	1.3E-13	1.0E-12	1.3E-12	7.2E-13	3.3E-14	2.8E-13	1.4E-12	1 4E-14
Heptachlorobiphenyl	E1 avg	1.1E-13	5.9E-14	1.6E-10	1.3E-11	2.1E-13	5.7E-14	1 3E-13	2.7E-11	3.5E-11	1 9E-11	8.9E-13	7.4E-12	3.6E-11	3 8E-13
Benzo(a)pyrene	E1 avg	1.6E-12	1.7E-12	1.3E-08	3.6E-10	2.4E-14	6.6E-15	1.4E-11	1.2E-08	1.0E-09	1.3E-09	3.8E-10	2.6E-10	3.8E-10	4 4E-11
Benzo(b)fluoranthene	E1 avg	6.6E-12	7.1E-12	7.8E-09	2.6E-10	1.2E-13	3.3E-14	7.1E-11	6.9E-09	6 0E-10	7.5E-10	2.3E-10	1.5E-10	2.3E-10	2 1E-11
Bis(2-ethylhexyl)phthalate	E1 avg	5.7E-13	6.2E-13	1.1E-06	3.0E-08	1.3E-15	3.6E-16	7.6E-13	9.7E-07	8.5E-08	1 1E-07	3.2E-08	2.1E-08	3.2E-08	2 3E-08
Carbon tetrachloride	E1 avg	3.8E-12	4.1E-12	5.6E-13	9.1E-14	5.7E-16	1.5E-16	3.3E-13	5.5E-13	4.8E-14	6.0E-14	1.8E-14	1.2E-14	1.8E-14	3 6E-10
Dibenz(a,h)anthracene	E1 avg	3.7E-12	4.1E-12	2.0E-09	9 3E-11	2.2E-13	5.9E-14	1.2E-10	1.8E-09	1.6E-10	2.0E-10	5.9E-11	3.9E-11	5.9E-11	3 5E-12
Di(n)octyl phthalate	E1 avg	1.6E-13	1.8E-13	2.9E-06	8.0E-08	2.2E-13	5.9E-14	1.2E-10	2.6E-06	2.3E-07	2.9E-07	8.6E-08	5.7E-08	8.6E-08	1 1E-10
Heptachlor	E1 avg	3.2E-15	3.5E-15	8.5E-12	2.6E-13	6.9E-17	1.9E-17	4.0E-14	7.6E-12	6.6E-13	8.2E-13	2.5E-13	1.8E-13	2.5E-13	2 0E-14
Hexachlorobenzene	E1 avg	6.1E-12	6.7E-12	8.1E-11	2.3E-11	6.0E-14	1.6E-14	3.4E-11	6.5E-11	5.6E-12	7.0E-12	2.1E-12	1.4E-12	2.1E-12	2 1E-12
Hexachlorobutadiene	E1 avg	1.7E-11	1.8E-11	1.6E-11	5.3E-12	1.4E-14	3.9E-15	8.2E-12	1.2E-11	1.1E-12	1.3E-12	4.0E-13	2.7E-13	4 0E-13	9 1E-12
Hexachlorocyclopentadiene	E1 avg	2.7E-13	3.0E-13	9.7E-13	3.2E-13	8.3E-16	2.2E-16	4 7E-13	7.5E-13	6.5E-14	8.2E-14	2.4E-14	1.6E-14	2.4E-14	6 0E-14
Hexachlorophene	E1 avg	1.0E-11	1.1E-11	7.9E-08	2.0E-09	4.2E-12	1.1E-12	2.4E-09	7.0E-08	6.1E-09	7.6E-09	2 3E-09	1.5E-09	2 3E-09	2 0E-11
Indeno(1,2,3-cd)pyrene	E1 avg	4.2E-12	4.6E-12	1.9E-09	9.6E-11	2.2E-13	6.1E-14	1.3E-10	1.7E-09	1.4E-10	1.8E-10	5.4E-11	3.6E-11	5 4E-11	3 6E-12
Antimony	E1 avg	7.0E-13	1.3E-13	8 2E-12	1 4E-12	1.4E-14	3.9E-15	7.7E-14	2.3E-12	2.0E-13	2.5E-13	7.6E-14	5.1E-14	7.6E-14	4 0E-12
Arsenic	E1 avg	2.7E-11	4.9E-12	1.5E-10	2.0E-11	1.1E-11	2.9E-12	6.4E-12	1 2E-11	1 1E-12	1.4E-12	4.1E-13	2.7E-13	4 1E-13	2 1E-11
Barium	E1 avg	3.3E-11	6.0E-12	4.4E-11	8 1E-11	4.3E-14	1.2E-14	1.6E-11	2 9E-10	2.5E-11	3 1E-11	9 4E-12	6 3E-12	9 4E-12	1 1E-10
Beryllium	E1 avg	7.2E-14	1.3E-14	8.8E-14	2.7E-14	1.5E-15	4 0E-16	7.9E-16	2.1E-16	1.8E-17	2.3E-17	6 9E-18	4 6E-18	6 9E-18	1 4E-14
Cadmium	E1 avg	4.0E-13	7.2E-14	4 4E-12	8.3E-14	4 8E-13	1.3E-13	5.2E-15	7.8E-13	6.8E-14	8 5E-14	2 5E-14	1 7E-14	2 5E-14	1 4E-11
Chromium (hexavalent)	E1 avg	1.9E-12	3.4E-13	1.1E-11	5.3E-12	8 5E-14	2.3E-14	6.3E-14	8.1E-12	7.1E-13	8 9E-13	2 7E-13	1 8E-13	2 7E-13	3 9E-13
Lead	E1 avg	1.2E-10	2.2E-11	4 0E-11	4.1E-11	1 8E-09	4.9E-10	8.2E-10	8 8E-11	7 6E-12	9 6E-12	2 9E-12	1 9E-12	2 9E-12	3 2E-11
Mercury	E1 avg	3.1E-10	5.7E-11	3 8E-10	5.1E-10	1.4E-10	3 7E-11	5.3E-12	1 4E-09	1 2E-10	1 5E-10	4 4E-11	2 9E-11	4 4E-11	8 7E-09
Nickel	E1 avg	2.8E-12	5.0E-13	6.1E-11	1.1E-10	2.3E-13	6.3E-14	1.7E-13	2 9E-11	2.5E-12	3 1E-12	9 3E-13	6.2E-13	9 3E-13	1 2E-11
Selenium	E1 avg	5.1E-10	9 3E-11	3 1E-09	3 0E-08	1.3E-09	3 6E-10	6 2E-10	1 3E-07	1 1E-08	1 4E-08	4 1E-09	2 8E-09	4 1E-09	6 3E-10
Silver	E1 avg	2 5E-12	4 5E-13	1 0E-10	9 6E-13	1 6E-14	4 4E-15	1.5E-13	2 0E-09	1 7E-10	2 2E-10	6 5E-11	4 3E-11	6 5E-11	3 5E-11
Thallium	E1 avg	1 3E-10	2 3E-11	4 6E-09	6 6E-09	1 8E-09	5 0E-10	8 4E-10	6 0E-10	5 2E-11	6 5E-11	2 0E-11	1 3E-11	2 0E-11	1 3E-11
Zinc	E1 avg	1 8E-11	3.2E-12	6.3E-11	6.8E-12	8.3E-12	2 3E-12	3.8E-12	4 6E-11	4 0E-12	5 0E-12	1 5E-12	1 0E-12	1 5E-12	2 0E-09

External Review Draft, Do Not Cite or Quote

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d	Infant Breast milk Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	2.2E-18	1.1E-15	4.7E-18	4.7E-17	5 3E-18	3 3E-22	1.4E-18	NA	NA	4 6E-14
1,2,3,7,8-PeCDD	E1 avg	1.1E-17	2.0E-14	2 3E-17	8.0E-16	2.6E-17	1.6E-21	5.4E-18	NA	NA	7.5E-13
1,2,3,4,7,8-HxCDD	E1 avg	2.6E-18	2.7E-14	1.4E-17	1.1E-15	6.3E-18	4.2E-22	7.4E-18	NA	NA	5.2E-13
1,2,3,6,7,8-HxCDD	E1 avg	9.0E-18	7.4E-15	3.4E-17	3.8E-16	2.1E-17	1.7E-21	1.3E-17	NA	NA	1.4E-13
1,2,3,7,8,9-HxCDD	E1 avg	3.0E-18	8 5E-15	2.2E-17	3.9E-16	7.2E-18	1.1E-21	1.9E-17	NA	NA	1.9E-13
1,2,3,4,6,7,8-HpCDD	E1 avg	2.0E-17	4.5E-13	1 5E-16	1.8E-14	4.8E-17	2.4E-21	6.4E-17	NA	NA	1.7E-12
OCDD	E1 avg	2.2E-16	5 7E-11	9 8E-16	2.2E-12	5.2E-16	3 8E-20	2.9E-16	NA	NA	3.0E-10
2,3,7,8-TCDF	E1 avg	2.3E-17	1.6E-14	4.5E-17	6.6E-16	5.6E-17	3.2E-21	1.3E-17	NA	NA	1.5E-13
1,2,3,7,8-PeCDF	E1 avg	5.3E-17	9 8E-14	1.3E-16	3.9E-15	1 3E-16	8.6E-21	4.2E-17	NA	NA	7.1E-13
2,3,4,7,8-PeCDF	E1 avg	5.5E-17	1.3E-13	1.4E-16	5.3E-15	1.3E-16	9.5E-21	5.7E-17	NA	NA	3.8E-12
1,2,3,4,7,8-HxCDF	E1 avg	7.9E-17	9.0E-14	3 0E-16	4.2E-15	1.9E-16	1.5E-20	1.3E-16	NA	NA	2.2E-12
1,2,3,6,7,8-HxCDF	E1 avg	7.4E-17	2.1E-13	2 8E-16	8.6E-15	1 8E-16	1.4E-20	1.2E-16	NA	NA	3.9E-12
1,2,3,7,8,9-HxCDF	E1 avg	1.7E-17	4.7E-14	6 5E-17	2.0E-15	4 1E-17	3 2E-21	2.8E-17	NA	NA	9.0E-13
2,3,4,6,7,8-HxCDF	E1 avg	8 4E-17	1.5E-13	3 2E-16	6.6E-15	2.0E-16	1.6E-20	1.4E-16	NA	NA	2.6E-12
1,2,3,4,6,7,8-HpCDF	E1 avg	2.3E-16	4 8E-13	1.3E-15	2.4E-14	5.5E-16	3.4E-20	6 2E-16	NA	NA	2.4E-12
1,2,3,4,7,8,9-HpCDF	E1 avg	2.9E-17	3 7E-14	1 7E-16	2.1E-15	7.0E-17	4.4E-21	8.0E-17	NA	NA	4.6E-13
OCDF	E1 avg	1.3E-16	1 2E-11	1.6E-15	4.8E-13	3.2E-16	9.5E-21	5.9E-16	NA	NA	2.9E-11
Tetrachlorobiphenyl	E1 avg	6.4E-15	1.4E-13	1 1E-13	1.2E-14	1.5E-14	6.8E-19	1.8E-15	NA	NA	1.2E-11
Hexachlorobiphenyl	E1 avg	1.9E-15	2 6E-13	1 7E-14	1.2E-14	4.5E-15	5.5E-19	4.3E-15	NA	NA	7.8E-12
Heptachlorobiphenyl	E1 avg	9.3E-16	8 3E-12	1.0E-13	3.2E-13	2.2E-15	6.5E-19	9.4E-15	NA	NA	1.8E-10
Benzo(a)pyrene	E1 avg	1.1E-13	9.2E-10	3.0E-14	3.8E-11	2 5E-13	1.1E-17	3.2E-14	NA	NA	8.6E-08
Benzo(b)fluoranthene	E1 avg	4.0E-13	4.5E-10	1.1E-12	1.8E-11	9.5E-13	4.1E-17	1.4E-13	NA	NA	6.2E-08
Bis(2-ethylhexyl)phthalate	E1 avg	7.8E-15	5 1E-07	2 8E-14	2.0E-08	1.9E-14	2.1E-17	1.6E-13	NA	NA	1.3E-06
Carbon tetrachloride	E1 avg	3.0E-10	7.9E-11	8 5E-11	3.0E-10	7.3E-10	2.0E-16	4.7E-15	NA	NA	2.3E-12
Dibenz(a,h)anthracene	E1 avg	1.2E-13	2.0E-12	4.7E-13	3.0E-12	2.8E-13	1.7E-17	1.1E-13	NA	NA	5.0E-08
Di(n)octyl phthalate	E1 avg	8.2E-16	2.4E-09	2.0E-11	9.2E-11	2.0E-15	1.1E-18	3.0E-14	NA	NA	1.6E-03
Heptachlor	E1 avg	1.8E-16	4.3E-13	1.0E-14	1.7E-14	4 2E-16	2.1E-20	3 4E-17	NA	NA	7.8E-11
Hexachlorobenzene	E1 avg	1.7E-12	2.4E-12	9.7E-11	1.8E-12	4.2E-12	1.1E-16	1.9E-13	NA	NA	6.0E-10
Hexachlorobutadiene	E1 avg	7.8E-12	2.3E-12	2 9E-11	7.8E-12	1.9E-11	1.3E-16	4.4E-14	NA	NA	2.2E-11
Hexachlorocyclopentadiene	E1 avg	5.0E-14	4.1E-14	1.4E-12	5.1E-14	1 2E-13	1.9E-18	1.5E-15	NA	NA	2.8E-12
Hexachlorophene	E1 avg	1.1E-13	1.2E-11	1.1E-10	1.7E-11	2.6E-13	1.1E-16	1.1E-12	NA	NA	1.3E-05
Indeno(1,2,3-cd)pyrene	E1 avg	1.4E-13	2.0E-12	5.2E-13	3.0E-12	3.4E-13	1.9E-17	1.1E-13	NA	NA	4.3E-08
Antimony	E1 avg	2.1E-12	4.5E-12	5.1E-15	3.4E-12	5.1E-12	4.3E-17	1.6E-17	NA	NA	NA
Arsenic	E1 avg	7.0E-12	2.0E-11	5.0E-15	1.8E-11	1 7E-11	9.5E-16	3 4E-16	NA	NA	NA
Barium	E1 avg	4.6E-11	1.5E-10	8 1E-14	9.1E-11	1.1E-10	1.9E-15	7.1E-16	NA	NA	NA
Beryllium	E1 avg	1 8E-15	9.9E-15	3 0E-19	1.2E-14	4.3E-15	1.1E-18	4.0E-19	NA	NA	NA
Cadmium	E1 avg	7.0E-12	9.9E-12	2 4E-14	1.2E-11	1.7E-11	4.2E-17	1 5E-17	NA	NA	NA
Chromium (hexavalent)	E1 avg	1.2E-13	2.0E-13	1 5E-17	3.3E-13	2.8E-13	2.4E-17	8.9E-18	NA	NA	NA
Lead	E1 avg	1.4E-11	2.7E-11	1.9E-14	2.7E-11	3 5E-11	1.5E-15	5.4E-16	NA	NA	NA
Mercury	E1 avg	7.4E-09	1.1E-08	2.7E-12	7.4E-09	1 8E-08	2.0E-14	7.4E-15	NA	NA	NA
Nickel	E1 avg	8.8E-12	3.3E-12	4 2E-16	1.0E-11	2 1E-11	1.1E-16	4.1E-17	NA	NA	NA
Selenium	E1 avg	4.0E-10	2 0E-10	1 1E-13	5.4E-10	9 5E-10	1.4E-14	4.9E-15	NA	NA	NA
Silver	E1 avg	2.5E-11	2 9E-11	6 0E-14	3.0E-11	6 1E-11	1.6E-16	5 6E-17	NA	NA	NA
Thallium	E1 avg	5.2E-13	7.1E-12	3 7E-17	1.1E-11	1 2E-12	1.2E-15	4 4E-16	NA	NA	NA
Zinc	E1 avg	1.7E-09	7.5E-10	5 0E-13	1.7E-09	4 0E-09	1.1E-15	4.1E-16	NA	NA	NA

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	2.2E-16	1.2E-16	1.4E-13	1.5E-14	8.3E-16	2.2E-16	5.2E-16	2.5E-14	3 2E-14	1 7E-14	8 0E-16	6.7E-15	3.3E-14	1 9E-16
1,2,3,7,8-PeCDD	E1 avg	1.1E-15	6.0E-16	2 4E-12	1.9E-13	3.9E-15	1.1E-15	2.5E-15	4 1E-13	5 4E-13	2.9E-13	1.3E-14	1.1E-13	5 5E-13	3 3E-15
1,2,3,4,7,8-HxCDD	E1 avg	1.2E-15	6.7E-16	1 6E-12	1.3E-13	2 1E-15	5.7E-16	1 3E-15	2 8E-13	3 6E-13	2 0E-13	9 1E-15	7.6E-14	3.7E-13	4 5E-15
1,2,3,6,7,8-HxCDD	E1 avg	2.2E-15	1.2E-15	4 4E-13	4.9E-14	3 2E-15	8.8E-16	2 0E-15	7.5E-14	9.8E-14	5.3E-14	2 5E-15	2 0E-14	1.0E-13	1 6E-15
1,2,3,7,8,9-HxCDD	E1 avg	1.4E-15	7.7E-16	6 0E-13	5.8E-14	2.7E-15	7.2E-16	1.7E-15	1.0E-13	1.3E-13	7 3E-14	3.4E-15	2.8E-14	1.4E-13	1 6E-15
1,2,3,4,6,7,8-HpCDD	E1 avg	1.6E-14	8.8E-15	4 7E-12	3.6E-13	4 9E-15	1.3E-15	3.1E-15	8.1E-13	1.1E-12	5 7E-13	2 6E-14	2.2E-13	1 1E-12	7.4E-14
OCDD	E1 avg	7.8E-14	4.3E-14	8 5E-10	6.1E-11	3.4E-14	9.3E-15	2.2E-14	1.5E-10	1.9E-10	1 0E-10	4.8E-12	4.0E-11	2 0E-10	9 1E-12
2,3,7,8-TCDF	E1 avg	2.0E-15	1 1E-15	4.5E-13	4.2E-14	1 6E-15	4.4E-16	1.0E-15	7.7E-14	1.0E-13	5 4E-14	2.5E-15	2.1E-14	1 0E-13	2 7E-15
1,2,3,7,8-PeCDF	E1 avg	6.5E-15	3 5E-15	2.1E-12	1.7E-13	4 0E-15	1 1E-15	2.6E-15	3 6E-13	4.7E-13	2.5E-13	1 2E-14	9.8E-14	4 8E-13	1.6E-14
2,3,4,7,8-PeCDF	E1 avg	8.0E-15	4.4E-15	1 2E-11	9.8E-13	2.1E-14	5.7E-15	1.3E-14	2.1E-12	2.7E-12	1.5E-12	6 7E-14	5.6E-13	2.8E-12	2 2E-14
1,2,3,4,7,8-HxCDF	E1 avg	1.9E-14	1 1E-14	6 8E-12	7.0E-13	3.8E-14	1.0E-14	2.4E-14	1.2E-12	1.5E-12	8.2E-13	3.8E-14	3.2E-13	1.6E-12	1.7E-14
1,2,3,6,7,8-HxCDF	E1 avg	1.8E-14	9.9E-15	1.2E-11	1.1E-12	3.1E-14	8.3E-15	1.9E-14	2.1E-12	2.8E-12	1.5E-12	6.9E-14	5 8E-13	2.8E-12	3 5E-14
1,2,3,7,8,9-HxCDF	E1 avg	4 2E-15	2 3E-15	2 8E-12	2.4E-13	7.1E-15	1.9E-15	4.5E-15	4.8E-13	6.3E-13	3 4E-13	1.6E-14	1.3E-13	6.4E-13	8 0E-15
2,3,4,6,7,8-HxCDF	E1 avg	2 1E-14	1 1E-14	8 2E-12	7.6E-13	3.1E-14	8.4E-15	2.0E-14	1.4E-12	1.8E-12	9 9E-13	4.6E-14	3.8E-13	1.9E-12	2 7E-14
1,2,3,4,6,7,8-HpCDF	E1 avg	1.2E-13	6 8E-14	6.6E-12	7.1E-13	4.3E-14	1.2E-14	2.7E-14	1.1E-12	1 5E-12	8.0E-13	3 7E-14	3.1E-13	1.5E-12	9 7E-14
1,2,3,4,7,8,9-HpCDF	E1 avg	1 6E-14	8 7E-15	1 3E-12	1.7E-13	1 3E-14	3.6E-15	8.4E-15	2.3E-13	3.0E-13	1.6E-13	7.5E-15	6.3E-14	3.1E-13	8 6E-15
OCDF	E1 avg	2 4E-13	1 3E-13	7.1E-11	5 3E-12	4 1E-14	1.1E-14	2.6E-14	1.2E-11	1.6E-11	8.6E-12	4.0E-13	3.3E-12	1.6E-11	2 0E-12
Tetrachlorobiphenyl	E1 avg	2 4E-13	1.3E-13	3 4E-11	1 0E-11	1 2E-12	3.3E-13	7.8E-13	5.6E-12	7.3E-12	4.0E-12	1.8E-13	1.5E-12	7.5E-12	5 0E-14
Hexachlorobiphenyl	E1 avg	3.8E-13	2.1E-13	2.2E-11	6.2E-12	7.2E-13	1 9E-13	4.5E-13	3.6E-12	4 7E-12	2 5E-12	1.2E-13	9.7E-13	4.8E-12	4 9E-14
Heptachlorobiphenyl	E1 avg	3.8E-13	2.1E-13	5 5E-10	4.4E-11	7.3E-13	2.0E-13	4.6E-13	9.5E-11	1 2E-10	6.7E-11	3.1E-12	2.6E-11	1.3E-10	1 3E-12
Benzo(a)pyrene	E1 avg	5.5E-12	6.0E-12	4 6E-08	1.3E-09	8.5E-14	2 3E-14	4.9E-11	4.1E-08	3.6E-09	4.5E-09	1.3E-09	9.0E-10	1.3E-09	1 6E-10
Benzo(b)fluoranthene	E1 avg	2.3E-11	2.5E-11	2 7E-08	9.0E-10	4 3E-13	1.2E-13	2.5E-10	2.4E-08	2.1E-09	2.6E-09	7.9E-10	5.3E-10	7.9E-10	7 3E-11
Bis(2-ethylhexyl)phthalate	E1 avg	2.0E-12	2.2E-12	3 8E-06	1.0E-07	4 6E-15	1.3E-15	2.7E-12	3.4E-06	3.0E-07	3.7E-07	1.1E-07	7.4E-08	1.1E-07	8 0E-08
Carbon tetrachloride	E1 avg	1.3E-11	1.4E-11	2.0E-12	3.2E-13	2 0E-15	5.4E-16	1.1E-12	1.9E-12	1.7E-13	2.1E-13	6 3E-14	4.2E-14	6.3E-14	1 2E-09
Dibenz(a,h)anthracene	E1 avg	1.3E-11	1.4E-11	7.1E-09	3.3E-10	7 6E-13	2 0E-13	4.3E-10	6.3E-09	5.5E-10	6 8E-10	2.0E-10	1.4E-10	2.0E-10	1 2E-11
Di(n)octyl phthalate	E1 avg	5.7E-13	6.2E-13	1 0E-05	2.8E-07	7.6E-13	2.1E-13	4.4E-10	9.2E-06	8.0E-07	1 0E-06	3.0E-07	2.0E-07	3 0E-07	3 8E-10
Heptachlor	E1 avg	1.1E-14	1.2E-14	3 0E-11	8.9E-13	2.4E-16	6.6E-17	1.4E-13	2.7E-11	2 3E-12	2.9E-12	8.6E-13	5.8E-13	8.6E-13	6 9E-14
Hexachlorobenzene	E1 avg	2.1E-11	2.3E-11	2 8E-10	8.1E-11	2.1E-13	5.7E-14	1.2E-10	2.3E-10	2.0E-11	2.5E-11	7.4E-12	4.9E-12	7.4E-12	7.4E-12
Hexachlorobutadiene	E1 avg	5.9E-11	6.4E-11	5 5E-11	1.8E-11	5.0E-14	1.4E-14	2.9E-11	4.3E-11	3.7E-12	4.6E-12	1.4E-12	9.3E-13	1 4E-12	3 2E-11
Hexachlorocyclopentadiene	E1 avg	9 6E-13	1 0E-12	3 4E-12	1.1E-12	2.9E-15	7.8E-16	1.7E-12	2.6E-12	2.3E-13	2.9E-13	8.6E-14	5.7E-14	8 6E-14	2 1E-13
Hexachlorophene	E1 avg	3.6E-11	3.9E-11	2 8E-07	6.9E-09	1.5E-11	3.9E-12	8.4E-09	2.5E-07	2.1E-06	2 7E-06	8.0E-09	5.3E-09	8.0E-09	7 0E-11
Indeno(1,2,3-cd)pyrene	E1 avg	1.5E-11	1.6E-11	6.6E-09	3.3E-10	7.8E-13	2.1E-13	4.5E-10	5 8E-09	5.0E-10	6 3E-10	1.9E-10	1.3E-10	1 9E-10	1 3E-11
Antimony	E1 avg	2.5E-12	4.5E-13	2 9E-11	4.9E-12	5.1E-14	1.4E-14	2 7E-13	8.2E-12	7.1E-13	8 9E-13	2.7E-13	1 8E-13	2.7E-13	1 4E-11
Arsenic	E1 avg	9.5E-11	1.7E-11	5.3E-10	7.0E-11	3.8E-11	1 0E-11	2 2E-11	4 3E-11	3 8E-12	4 7E-12	1 4E-12	9.5E-13	1.4E-12	7 5E-11
Barium	E1 avg	1.2E-10	2 1E-11	1 5E-10	2.8E-10	1.5E-13	4.0E-14	5.5E-11	1.0E-09	8.8E-11	1 1E-10	3.3E-11	2.2E-11	3 3E-11	3 7E-10
Beryllium	E1 avg	2.5E-13	4 6E-14	3.1E-13	9.5E-14	5.1E-15	1.4E-15	2.8E-15	7.4E-16	6 4E-17	8 0E-17	2.4E-17	1 6E-17	2 4E-17	4 9E-14
Cadmium	E1 avg	1.4E-12	2.5E-13	1 5E-11	2.9E-13	1.7E-12	4.6E-13	1.8E-14	2 7E-12	2 4E-13	3 0E-13	8 9E-14	5 9E-14	8 9E-14	4 8E-11
Chromium (hexavalent)	E1 avg	6 6E-12	1 2E-12	4 0E-11	1.9E-11	3 0E-13	8.1E-14	2 2E-13	2 9E-11	2.5E-12	3 1E-12	9 3E-13	6 2E-13	9 3E-13	1 4E-12
Lead	E1 avg	4.2E-10	7.5E-11	1 4E-10	1.4E-10	6 3E-09	1.7E-09	2.9E-09	3.1E-10	2 7E-11	3 3E-11	1 0E-11	6.7E-12	1 0E-11	1 1E-10
Mercury	E1 avg	1 1E-09	2 0E-10	1 3E-09	1 8E-09	4 8E-10	1 3E-10	1 8E-11	4 7E-09	4 1E-10	5 1E-10	1 5E-10	1 0E-10	1 5E-10	3 0E-08
Nickel	E1 avg	9.6E-12	1 7E-12	2 1E-10	3.8E-10	8 2E-13	2 2E-13	6 1E-13	1 0E-10	8 7E-12	1 1E-11	3 3E-12	2 2E-12	3 3E-12	4 2E-11
Selenium	E1 avg	1 8E-09	3 2E-10	1 1E-08	1 0E-07	4 7E-09	1 3E-09	2 2E-09	4 4E-07	3 9E-08	4 8E-08	1 4E-08	9 7E-09	1 4E-08	2 2E-09
Silver	E1 avg	8.8E-12	1.6E-12	3 7E-10	3 4E-12	5 7E-14	1 5E-14	5 2E-13	7 0E-09	6 1E-10	7 6E-10	2 3E-10	1 5E-10	2 3E-10	1 2E-10
Thallium	E1 avg	4 4E-10	8 0E-11	1 6E-08	2.3E-08	6 4E-09	1 7E-09	2 9E-09	2 1E-09	1 8E-10	2 3E-10	6 8E-11	4 6E-11	6 8E-11	4 4E-11
Zinc	E1 avg	6.2E-11	1.1E-11	2.2E-10	2 4E-11	2.9E-11	7 9E-12	1 3E-11	1 6E-10	1.4E-11	1 8E-11	5 3E-12	3 5E-12	5 3E-12	7 0E-09

External Review Draft, Do Not Cite or Quote

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d
2,3,7,8-TCDD	E1 avg	7.8E-18	3.8E-15	1.6E-17	1.6E-16	1 9E-17	1.1E-21	5.0E-18	NA	NA
1,2,3,7,8-PeCDD	E1 avg	3.9E-17	6.9E-14	8 1E-17	2.8E-15	9.3E-17	5.5E-21	1.9E-17	NA	NA
1,2,3,4,7,8-HxCDD	E1 avg	9.2E-18	9.6E-14	4.9E-17	3.9E-15	2.2E-17	1.5E-21	2.6E-17	NA	NA
1,2,3,6,7,8-HxCDD	E1 avg	3.1E-17	2.6E-14	1.2E-16	1.3E-15	7.5E-17	5 8E-21	4.6E-17	NA	NA
1,2,3,7,8,9-HxCDD	E1 avg	1.1E-17	3.0E-14	7.7E-17	1.4E-15	2.5E-17	3.7E-21	6.5E-17	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 avg	7.0E-17	1.6E-12	5.1E-16	6.3E-14	1.7E-16	8 4E-21	2.2E-16	NA	NA
OCDD	E1 avg	7.6E-16	2.0E-10	3.4E-15	7.8E-12	1.8E-15	1.3E-19	1.0E-15	NA	NA
2,3,7,8-TCDF	E1 avg	8.2E-17	5.6E-14	1.6E-16	2.3E-15	2.0E-16	1.1E-20	4.5E-17	NA	NA
1,2,3,7,8-PeCDF	E1 avg	1.8E-16	3.4E-13	4.4E-16	1 4E-14	4.4E-16	3.0E-20	1.5E-16	NA	NA
2,3,4,7,8-PeCDF	E1 avg	1.9E-16	4.6E-13	5.1E-16	1.9E-14	4 6E-16	3.3E-20	2.0E-16	NA	NA
1,2,3,4,7,8-HxCDF	E1 avg	2.8E-16	3.1E-13	1.1E-15	1.5E-14	6.7E-16	5.2E-20	4.5E-16	NA	NA
1,2,3,6,7,8-HxCDF	E1 avg	2.6E-16	7 2E-13	9.9E-16	3.0E-14	6.2E-16	4.8E-20	4.2E-16	NA	NA
1,2,3,7,8,9-HxCDF	E1 avg	6 0E-17	1.6E-13	2.3E-16	6.9E-15	1.4E-16	1.1E-20	9.9E-17	NA	NA
2,3,4,6,7,8-HxCDF	E1 avg	2.9E-16	5.2E-13	1.1E-15	2.3E-14	7 0E-16	5.5E-20	4.8E-16	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 avg	8 0E-16	1.7E-12	4 7E-15	6.2E-14	1.9E-15	1.2E-19	2.2E-15	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 avg	1 0E-16	1.3E-13	6 0E-16	7.3E-15	2.5E-16	1.5E-20	2.8E-16	NA	NA
OCDF	E1 avg	4.7E-16	4 3E-11	5.6E-15	1.7E-12	1.1E-15	3.3E-20	2.1E-15	NA	NA
Tetrachlorobiphenyl	E1 avg	2.2E-14	5.0E-13	3 9E-13	4 3E-14	5.3E-14	2.4E-18	6.3E-15	NA	NA
Hexachlorobiphenyl	E1 avg	6 6E-15	9.1E-13	6 1E-14	4.2E-14	1.6E-14	1.9E-18	1.5E-14	NA	NA
Heptachlorobiphenyl	E1 avg	3.3E-15	2 9E-11	3.6E-13	1.1E-12	7.8E-15	2.3E-18	3.3E-14	NA	NA
Benzo(a)pyrene	E1 avg	3.7E-13	3 2E-09	1.0E-13	1.3E-10	8 9E-13	3.8E-17	1.1E-13	NA	NA
Benzo(b)fluoranthene	E1 avg	1.4E-12	1 6E-09	3.7E-12	6.2E-11	3.3E-12	1.4E-16	4.9E-13	NA	NA
Bis(2-ethylhexyl)phthalate	E1 avg	2.7E-14	1.8E-06	9.8E-14	6.8E-08	6.5E-14	7.2E-17	5.7E-13	NA	NA
Carbon tetrachloride	E1 avg	1.1E-09	2.7E-10	3 0E-10	1.1E-09	2.6E-09	7.0E-16	1.6E-14	NA	NA
Dibenz(a,h)anthracene	E1 avg	4.1E-13	7.0E-12	1.6E-12	1.1E-11	9.8E-13	5.9E-17	3.8E-13	NA	NA
Di(n)octyl phthalate	E1 avg	2.9E-15	8 3E-09	7.0E-11	3.2E-10	6.8E-15	3.8E-18	1.0E-13	NA	NA
Heptachlor	E1 avg	6.1E-16	1.5E-12	3.6E-14	5.9E-14	1.5E-15	7.3E-20	1.2E-16	NA	NA
Hexachlorobenzene	E1 avg	6.1E-12	8.4E-12	3.4E-10	6.3E-12	1.5E-11	4.0E-16	6.5E-13	NA	NA
Hexachlorobutadiene	E1 avg	2.7E-11	8.2E-12	1.0E-10	2.7E-11	6.5E-11	4.6E-16	1.5E-13	NA	NA
Hexachlorocyclopentadiene	E1 avg	1.8E-13	1.4E-13	4.9E-12	1.8E-13	4.2E-13	6.5E-18	5.2E-15	NA	NA
Hexachlorophene	E1 avg	3 8E-13	4.0E-11	3.9E-10	6.0E-11	9.0E-13	3.9E-16	4.0E-12	NA	NA
Indeno(1,2,3-cd)pyrene	E1 avg	4 9E-13	7.0E-12	1.8E-12	1.1E-11	1.2E-12	6.5E-17	3.9E-13	NA	NA
Antimony	E1 avg	7.5E-12	1.6E-11	1.8E-14	1.2E-11	1.8E-11	1.5E-16	5.5E-17	NA	NA
Arsenic	E1 avg	2.4E-11	6.9E-11	1.7E-14	6.4E-11	5.9E-11	3.3E-15	1.2E-15	NA	NA
Barium	E1 avg	1.6E-10	5.2E-10	2.8E-13	3.2E-10	3.8E-10	6.8E-15	2.5E-15	NA	NA
Beryllium	E1 avg	6.3E-15	3.5E-14	1 0E-18	4.1E-14	1.5E-14	3.9E-18	1.4E-18	NA	NA
Cadmium	E1 avg	2.4E-11	3.5E-11	8.5E-14	4.1E-11	5.8E-11	1.5E-16	5.3E-17	NA	NA
Chromium (hexavalent)	E1 avg	4.2E-13	6 9E-13	5.2E-17	1.2E-12	9.9E-13	8.6E-17	3.1E-17	NA	NA
Lead	E1 avg	5.0E-11	9.6E-11	6 6E-14	9.6E-11	1.2E-10	5.2E-15	1 9E-15	NA	NA
Mercury	E1 avg	2.6E-08	3.9E-08	9.6E-12	2 6E-08	6.2E-08	7.1E-14	2.6E-14	NA	NA
Nickel	E1 avg	3.1E-11	1.2E-11	1.5E-15	3.6E-11	7 4E-11	4.0E-16	1 4E-16	NA	NA
Selenium	E1 avg	1.4E-09	7.0E-10	3.9E-13	1.9E-09	3 3E-09	4.8E-14	1.7E-14	NA	NA
Silver	E1 avg	8.9E-11	1.0E-10	2.1E-13	1.0E-10	2.1E-10	5 4E-16	2 0E-16	NA	NA
Thallium	E1 avg	1 8E-12	2 5E-11	1.3E-16	3.8E-11	4 3E-12	4.3E-15	1.6E-15	NA	NA
Zinc	E1 avg	5.9E-09	2.6E-09	1.7E-12	6.0E-09	1 4E-08	3 9E-15	1.4E-15	NA	NA

External Review Dra ot Cite or Quote

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 hi end	1.3E-16	7 0E-17	2.1E-13	2.5E-14	1.0E-15	2.9E-16	4.8E-16	4 2E-14	4.4E-14	2.4E-14	1 1E-15	1.6E-14	7.2E-14	2 7E-16
1,2,3,7,8-PeCDD	E1 hi end	6.3E-16	3.4E-16	3 4E-12	3.1E-13	5.0E-15	1.4E-15	2.3E-15	7.1E-13	7.3E-13	4.0E-13	1.8E-14	2.7E-13	1 2E-12	4 7E-15
1,2,3,4,7,8-HxCDD	E1 hi end	7.1E-16	3 8E-16	2.3E-12	2 0E-13	2.7E-15	7.3E-16	1.2E-15	4.8E-13	4.9E-13	2.7E-13	1 2E-14	1.8E-13	8 2E-13	6 5E-15
1,2,3,6,7,8-HxCDD	E1 hi end	1.3E-15	6 8E-16	6.3E-13	7 9E-14	4.1E-15	1.1E-15	1.9E-15	1 3E-13	1.3E-13	7.3E-14	3.3E-15	5.0E-14	2 2E-13	2 2E-15
1,2,3,7,8,9-HxCDD	E1 hi end	8.1E-16	4.4E-16	8.6E-13	9,2E-14	3.4E-15	9.2E-16	1.5E-15	1.8E-13	1.8E-13	1.0E-13	4 5E-15	6.8E-14	3 0E-13	2 3E-15
1,2,3,4,6,7,8-HpCDD	E1 hi end	9.2E-15	5.0E-15	6.7E-12	5.8E-13	6.2E-15	1 7E-15	2.8E-15	1 4E-12	1.4E-12	7.8E-13	3 5E-14	5.3E-13	2.4E-12	1.1E-13
OCDD	E1 hi end	4.5E-14	2.4E-14	1.2E-09	9.7E-11	4 3E-14	1 2E-14	2.0E-14	2.5E-10	2.6E-10	1.4E-10	6.4E-12	9.7E-11	4.3E-10	1 3E-11
2,3,7,8-TCDF	E1 hi end	1.1E-15	6.3E-16	6.4E-13	6.7E-14	2.0E-15	5.6E-16	9.3E-16	1 3E-13	1.4E-13	7.5E-14	3 3E-15	5.1E-14	2.3E-13	3 9E-15
1,2,3,7,8-PeCDF	E1 hi end	3.7E-15	2.0E-15	3.0E-12	2.8E-13	5 1E-15	1 4E-15	2.3E-15	6.2E-13	6.4E-13	3.5E-13	1 6E-14	2.4E-13	1.1E-12	2 3E-14
2,3,4,7,8-PeCDF	E1 hi end	4.6E-15	2.5E-15	1 7E-11	1.6E-12	2 7E-14	7.3E-15	1.2E-14	3.5E-12	3.7E-12	2.0E-12	9.0E-14	1.4E-12	6.1E-12	3 1E-14
1,2,3,4,7,8-HxCDF	E1 hi end	1.1E-14	6 0E-15	9.7E-12	1.1E-12	4.9E-14	1.3E-14	2.2E-14	2.0E-12	2.1E-12	1.1E-12	5.1E-14	7.7E-13	3.4E-12	2.5E-14
1,2,3,6,7,8-HxCDF	E1 hi end	1.0E-14	5.6E-15	1,8E-11	1.7E-12	3.9E-14	1.1E-14	1.8E-14	3.6E-12	3.8E-12	2.1E-12	9 2E-14	1.4E-12	6.2E-12	5 1E-14
1,2,3,7,8,9-HxCDF	E1 hi end	2.4E-15	1.3E-15	4.0E-12	3.8E-13	9.0E-15	2.5E-15	4.1E-15	8.3E-13	8.5E-13	4.7E-13	2.1E-14	3.2E-13	1.4E-12	1.1E-14
2,3,4,6,7,8-HxCDF	E1 hi end	1.2E-14	6 4E-15	1.2E-11	1.2E-12	3.9E-14	1 1E-14	1.8E-14	2.4E-12	2.5E-12	1.4E-12	6.1E-14	9.3E-13	4.1E-12	3 8E-14
1,2,3,4,6,7,8-HpCDF	E1 hi end	7 1E-14	3.9E-14	9 4E-12	1.1E-12	5 4E-14	1.5E-14	2.5E-14	1.9E-12	2.0E-12	1.1E-12	4 9E-14	7.4E-13	3.3E-12	1 4E-13
1,2,3,4,7,8,9-HpCDF	E1 hi end	9 1E-15	5 0E-15	1 9E-12	2.7E-13	1 7E-14	4.6E-15	7.7E-15	3.9E-13	4.1E-13	2.2E-13	1.0E-14	1.5E-13	6.7E-13	1 2E-14
OCDF	E1 hi end	1 4E-13	7.5E-14	1 0E-10	8.4E-12	5.1E-14	1.4E-14	2.3E-14	2 1E-11	2.2E-11	1.2E-11	5.3E-13	8.1E-12	3.6E-11	2 8E-12
Tetrachlorobiphenyl	E1 hi end	1 4E-13	7.4E-14	4 8E-11	1.6E-11	1 5E-12	4.2E-13	7.1E-13	9.6E-12	9.9E-12	5.4E-12	2.4E-13	3.7E-12	1.6E-11	7 2E-14
Hexachlorobiphenyl	E1 hi end	2 2E-13	1.2E-13	3 1E-11	9.9E-12	9.1E-13	2.5E-13	4.1E-13	6.1E-12	6.3E-12	3.5E-12	1.6E-13	2.4E-12	1.0E-11	7 0E-14
Heptachlorobiphenyl	E1 hi end	2.2E-13	1.2E-13	7.9E-10	7.0E-11	9.3E-13	2.5E-13	4.2E-13	1.6E-10	1.7E-10	9.2E-11	4.1E-12	6.3E-11	2.8E-10	1 9E-12
Benzo(a)pyrene	E1 hi end	3 2E-12	3 4E-12	6 6E-08	2.0E-09	1 1E-13	2.9E-14	4.4E-11	7.1E-08	4.9E-09	6.2E-09	1.8E-09	2.2E-09	2.9E-09	2 2E-10
Benzo(b)fluoranthene	E1 hi end	1.3E-11	1.4E-11	3 9E-08	1.4E-09	5 5E-13	1.5E-13	2.3E-10	4.2E-08	2.9E-09	3.6E-09	1.1E-09	1.3E-09	1.7E-09	1 0E-10
Bis(2-ethylhexyl)phthalate	E1 hi end	1.1E-12	1 2E-12	5 5E-06	1.7E-07	5 9E-15	1.6E-15	2.4E-12	5.8E-06	4.0E-07	5.1E-07	1.5E-07	1.8E-07	2.4E-07	1 1E-07
Carbon tetrachloride	E1 hi end	7.6E-12	8 3E-12	2.8E-12	5.1E-13	2.5E-15	6.8E-16	1.0E-12	3.3E-12	2.3E-13	2.9E-13	8 4E-14	1.0E-13	1.4E-13	1 8E-09
Dibenz(a,h)anthracene	E1 hi end	7.5E-12	8 2E-12	1.0E-08	5.2E-10	9.5E-13	2.6E-13	4.0E-10	1.1E-08	7.4E-10	9.4E-10	2.7E-10	3 3E-10	4 5E-10	1 8E-11
Di(n)octyl phthalate	E1 hi end	3.2E-13	3 5E-13	1.5E-05	4.5E-07	9.6E-13	2.6E-13	4.0E-10	1.6E-05	1.1E-06	1.4E-06	4.0E-07	4.8E-07	6.6E-07	5.4E-10
Heptachlor	E1 hi end	6.4E-15	7 0E-15	4.3E-11	1.4E-12	3.1E-16	8.4E-17	1.3E-13	4.5E-11	3.1E-12	4.0E-12	1.2E-12	1.4E-12	1.9E-12	9 8E-14
Hexachlorobenzene	E1 hi end	1.2E-11	1 3E-11	4 1E-10	1.3E-10	2.6E-13	7.2E-14	1.1E-10	3.9E-10	2.7E-11	3.4E-11	9.9E-12	1.2E-11	1.6E-11	1 1E-11
Hexachlorobutadiene	E1 hi end	3.3E-11	3.6E-11	7.8E-11	3.0E-11	6.3E-14	1.7E-14	2.6E-11	7.3E-11	5.0E-12	6.4E-12	1.9E-12	2.3E-12	3.1E-12	4 6E-11
Hexachlorocyclopentadiene	E1 hi end	5.5E-13	6.0E-13	4.9E-12	1.8E-12	3.6E-15	1.0E-15	1.5E-12	4.5E-12	3.1E-13	3.9E-13	1.1E-13	1.4E-13	1 9E-13	3 0E-13
Hexachlorophene	E1 hi end	2.0E-11	2.2E-11	3.9E-07	1.1E-08	1.8E-11	5.0E-12	7.6E-09	4.2E-07	2.9E-08	3.7E-08	1.1E-08	1.3E-08	1 8E-08	1 0E-10
Indeno(1,2,3-cd)pyrene	E1 hi end	8.5E-12	9.2E-12	9.5E-09	5.3E-10	9.9E-13	2.7E-13	4.1E-10	1.0E-08	6.9E-10	8.7E-10	2 5E-10	3 1E-10	4 1E-10	1 8E-11
Antimony	E1 hi end	1.4E-12	2.5E-13	4 1E-11	7.8E-12	6 4E-14	1.7E-14	2.5E-13	1.4E-11	9.6E-13	1.2E-12	3 5E-13	4.3E-13	5 8E-13	2.0E-11
Arsenic	E1 hi end	5.4E-11	9 8E-12	7.5E-10	1.1E-10	4.8E-11	1.3E-11	2.0E-11	7.5E-11	5.1E-12	6.5E-12	1 9E-12	2.3E-12	3.1E-12	1 1E-10
Barium	E1 hi end	6.7E-11	1.2E-11	2 2E-10	4.5E-10	1.9E-13	5.2E-14	5.0E-11	1.7E-09	1.2E-10	1.5E-10	4 4E-11	5.3E-11	7 2E-11	5 3E-10
Beryllium	E1 hi end	1.4E-13	2.6E-14	4.4E-13	1.5E-13	6.5E-15	1.8E-15	2.5E-15	1.3E-15	8.7E-17	1.1E-16	3 2E-17	3 9E-17	5 3E-17	6 9E-14
Cadmium	E1 hi end	7.9E-13	1 4E-13	2 2E-11	4.6E-13	2 1E-12	5 8E-13	1.7E-14	4.7E-12	3.2E-13	4.1E-13	1 2E-13	1 4E-13	1 9E-13	6 9E-11
Chromium (hexavalent)	E1 hi end	3.8E-12	6 8E-13	5.7E-11	3.0E-11	3.8E-13	1.0E-13	2.0E-13	4.9E-11	3.4E-12	4.2E-12	1.2E-12	1 5E-12	2.0E-12	2 0E-12
Lead	E1 hi end	2.4E-10	4 3E-11	2 0E-10	2.3E-10	7.9E-09	2.2E-09	2.6E-09	5.3E-10	3 6E-11	4.6E-11	1 3E-11	1 6E-11	2 2E-11	1 6E-10
Mercury	E1 hi end	6.3E-10	1.1E-10	1 9E-09	2.9E-09	6.1E-10	1.7E-10	1.7E-11	8.1E-09	5 6E-10	7.1E-10	2 1E-10	2 5E-10	3 4E-10	4 4E-08
Nickel	E1 hi end	5.5E-12	1 0E-12	3 1E-10	6.0E-10	1.0E-12	2.8E-13	5 5E-13	1 7E-10	1 2E-11	1 5E-11	4 4E-12	5 3E-12	7 2E-12	6 1E-11
Selenium	E1 hi end	1 0E-09	1 9E-10	1.5E-08	1.7E-07	5 9E-09	1.6E-09	2 0E-09	7 6E-07	5 2E-08	6 6E-08	1 9E-08	2 3E-08	3 2E-08	3 2E-09
Silver	E1 hi end	5 0E-12	9 1E-13	5 3E-10	5.4E-12	7.1E-14	2 0E-14	4 7E-13	1 2E-08	8 2E-10	1 0E-09	3 0E-10	3 7E-10	5 0E-10	1 8E-10
Thallium	E1 hi end	2.5E-10	4 6E-11	2 3E-08	3.7E-08	8 1E-09	2 2E-09	2 7E-09	3 6E-09	2 5E-10	3 1E-10	9 1E-11	1 1E-10	1 5E-10	6 4E-11
Zinc	E1 hi end	3 6E-11	6 5E-12	3 1E-10	3.8E-11	3.7E-11	1.0E-11	1 2E-11	2 8E-10	1 9E-11	2 4E-11	7 0E-12	8 5E-12	1 2E-11	1 0E-08

External Review Draft. Do Not Cite or Quote

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d	Infant Breast milk Ingestion mg/kg-d
2,3,7,8-TCDD	E1 hi end	1.1E-17	5.4E-15	2.4E-17	2.3E-16	2 7E-17	6 6E-22	2 8E-18	NA	NA	2.5E-13
1,2,3,7,8-PeCDD	E1 hi end	5.5E-17	9.8E-14	1.2E-16	4.0E-15	1.3E-16	3.2E-21	1.1E-17	NA	NA	4.1E-12
1,2,3,4,7,8-HxCDD	E1 hi end	1.3E-17	1.4E-13	7.0E-17	5.5E-15	3.2E-17	8.4E-22	1.5E-17	NA	NA	2 8E-12
1,2,3,6,7,8-HxCDD	E1 hi end	4.5E-17	3.7E-14	1 7E-16	1.9E-15	1.1E-16	3 3E-21	2.6E-17	NA	NA	7.8E-13
1,2,3,7,8,9-HxCDD	E1 hi end	1.5E-17	4.2E-14	1.1E-16	1.9E-15	3 6E-17	2.1E-21	3.7E-17	NA	NA	1.1E-12
1,2,3,4,6,7,8-HpCDD	E1 hi end	9.9E-17	2 2E-12	7.3E-16	8.9E-14	2.4E-16	4 8E-21	1.3E-16	NA	NA	9 3E-12
OCDD	E1 hi end	1.1E-15	2.8E-10	4.9E-15	1.1E-11	2.6E-15	7.5E-20	5.8E-16	NA	NA	1.6E-09
2,3,7,8-TCDF	E1 hi end	1.2E-16	8.0E-14	2.2E-16	3.3E-15	2.8E-16	6.3E-21	2.5E-17	NA	NA	8 2E-13
1,2,3,7,8-PeCDF	E1 hi end	2.6E-16	4 9E-13	6.3E-16	2.0E-14	6 4E-16	1.7E-20	8.3E-17	NA	NA	3.9E-12
2,3,4,7,8-PeCDF	E1 hi end	2.7E-16	6.6E-13	7.3E-16	2.7E-14	6.6E-16	1 9E-20	1.1E-16	NA	NA	2.1E-11
1,2,3,4,7,8-HxCDF	E1 hi end	3.9E-16	4 5E-13	1.5E-15	2.1E-14	9 6E-16	3.0E-20	2.6E-16	NA	NA	1.2E-11
1,2,3,6,7,8-HxCDF	E1 hi end	3 7E-16	1.0E-12	1.4E-15	4.3E-14	8.9E-16	2.8E-20	2.4E-16	NA	NA	2.2E-11
1,2,3,7,8,9-HxCDF	E1 hi end	8 5E-17	2.3E-13	3 3E-16	9.7E-15	2 1E-16	6.4E-21	5.6E-17	NA	NA	4.9E-12
2,3,4,6,7,8-HxCDF	E1 hi end	4.2E-16	7.4E-13	1 6E-15	3.3E-14	1 0E-15	3.1E-20	2.7E-16	NA	NA	1.4E-11
1,2,3,4,6,7,8-HpCDF	E1 hi end	1.1E-15	2 4E-12	6 7E-15	1.2E-13	2 8E-15	6.8E-20	1.2E-15	NA	NA	1.3E-11
1,2,3,4,7,8,9-HpCDF	E1 hi end	1.5E-16	1 9E-13	8 7E-16	1.0E-14	3 5E-16	8.7E-21	1.6E-16	NA	NA	2.5E-12
OCDF	E1 hi end	6 6E-16	6.1E-11	8 0E-15	2.4E-12	1.6E-15	1.9E-20	1.2E-15	NA	NA	1.6E-10
Tetrachlorobiphenyl	E1 hi end	3 2E-14	7.1E-13	5 6E-13	6.1E-14	7 7E-14	1.4E-18	3.6E-15	NA	NA	6.5E-11
Hexachlorobiphenyl	E1 hi end	9.4E-15	1 3E-12	8 7E-14	5.9E-14	2 3E-14	1 1E-18	8.6E-15	NA	NA	4.2E-11
Heptachlorobiphenyl	E1 hi end	4.6E-15	4.1E-11	5 2E-13	1.6E-12	1.1E-14	1.3E-18	1.9E-14	NA	NA	9.6E-10
Benzo(a)pyrene	E1 hi end	5 3E-13	4 6E-09	1 5E-13	1.9E-10	1.3E-12	2.2E-17	6.4E-14	NA	NA	4.7E-07
Benzo(b)fluoranthene	E1 hi end	2 0E-12	2.2E-09	5.3E-12	8.8E-11	4.8E-12	8.2E-17	2.8E-13	NA	NA	3.4E-07
Bis(2-ethylhexyl)phthalate	E1 hi end	3.9E-14	2.5E-06	1.4E-13	9.7E-08	9 4E-14	4.1E-17	3.2E-13	NA	NA	7.0E-06
Carbon tetrachloride	E1 hi end	1 5E-09	3.9E-10	4 3E-10	1.5E-09	3.7E-09	4.0E-16	9.4E-15	NA	NA	1.1E-11
Dibenz(a,h)anthracene	E1 hi end	5.8E-13	9.9E-12	2.4E-12	1.5E-11	1.4E-12	3.4E-17	2.1E-13	NA	NA	2.7E-07
Di(n)octyl phthalate	E1 hi end	4.1E-15	1 2E-08	1 0E-10	4.5E-10	9.9E-15	2.2E-18	5.9E-14	NA	NA	9.0E-03
Heptachlor	E1 hi end	8.7E-16	2.1E-12	5.1E-14	8.3E-14	2.1E-15	4.2E-20	6.8E-17	NA	NA	4.2E-10
Hexachlorobenzene	E1 hi end	8.6E-12	1.2E-11	4.9E-10	9.0E-12	2.1E-11	2.3E-16	3.7E-13	NA	NA	3 0E-09
Hexachlorobutadiene	E1 hi end	3.9E-11	1.2E-11	1.5E-10	3.9E-11	9.4E-11	2.6E-16	8.8E-14	NA	NA	9.7E-11
Hexachlorocyclopentadiene	E1 hi end	2.5E-13	2.0E-13	7.0E-12	2.5E-13	6.1E-13	3.7E-18	3.0E-15	NA	NA	1.3E-11
Hexachlorophene	E1 hi end	5.4E-13	5.7E-11	5 6E-10	8.5E-11	1.3E-12	2.2E-16	2.3E-12	NA	NA	7.3E-05
Indeno(1,2,3-cd)pyrene	E1 hi end	7.0E-13	1.0E-11	2.6E-12	1.5E-11	1.7E-12	3.7E-17	2.3E-13	NA	NA	2.3E-07
Antimony	E1 hi end	1.1E-11	2.3E-11	2.5E-14	1.7E-11	2.6E-11	8.7E-17	3.2E-17	NA	NA	NA
Arsenic	E1 hi end	3.5E-11	9.8E-11	2.5E-14	9.0E-11	8.4E-11	1.9E-15	6.9E-16	NA	NA	NA
Barium	E1 hi end	2.3E-10	7.4E-10	4.1E-13	4.5E-10	5.5E-10	3.9E-15	1.4E-15	NA	NA	NA
Beryllium	E1 hi end	9 0E-15	4 9E-14	1 5E-18	5.9E-14	2.2E-14	2.2E-18	8 0E-19	NA	NA	NA
Cadmium	E1 hi end	3.5E-11	4 9E-11	1.2E-13	5.9E-11	8.4E-11	8 4E-17	3.0E-17	NA	NA	NA
Chromium (hexavalent)	E1 hi end	5.9E-13	9.8E-13	7 5E-17	1.7E-12	1.4E-12	4.9E-17	1.8E-17	NA	NA	NA
Lead	E1 hi end	7.2E-11	1.4E-10	9 5E-14	1.4E-10	1.7E-10	3.0E-15	1.1E-15	NA	NA	NA
Mercury	E1 hi end	3.7E-08	5.5E-08	1.4E-11	3.7E-08	8.9E-08	4.1E-14	1.5E-14	NA	NA	NA
Nickel	E1 hi end	4.4E-11	1.6E-11	2.1E-15	5.1E-11	1 1E-10	2.3E-16	8 3E-17	NA	NA	NA
Selenium	E1 hi end	2.0E-09	9 9E-10	5.7E-13	2.7E-09	4.8E-09	2.7E-14	9.9E-15	NA	NA	NA
Silver	E1 hi end	1.3E-10	1.5E-10	3 0E-13	1.5E-10	3 1E-10	3 1E-16	1.1E-16	NA	NA	NA
Thallium	E1 hi end	2.6E-12	3 5E-11	1 8E-16	5.4E-11	6.2E-12	2 4E-15	8 9E-16	NA	NA	NA
Zinc	E1 hi end	8.4E-09	3.7E-09	2 5E-12	8.5E-09	2 0E-08	2.3E-15	8.2E-16	NA	NA	NA

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 hi end	2.2E-16	1.2E-16	3.6E-13	4.3E-14	1 8E-15	5.0E-16	8.3E-16	7 4E-14	7 6E-14	4 2E-14	1 9E-15	2.8E-14	1.3E-13	4 8E-16
1,2,3,7,8-PeCDD	E1 hi end	1.1E-15	6.0E-16	6.0E-12	5.4E-13	8 7E-15	2.4E-15	4.0E-15	1.2E-12	1 3E-12	7.0E-13	3 1E-14	4.8E-13	2.1E-12	8 2E-15
1,2,3,4,7,8-HxCDD	E1 hi end	1.2E-15	6.7E-16	4 1E-12	3.6E-13	4 7E-15	1.3E-15	2.1E-15	8.4E-13	8 6E-13	4.7E-13	2.1E-14	3.2E-13	1.4E-12	1 1E-14
1,2,3,6,7,8-HxCDD	E1 hi end	2.2E-15	1.2E-15	1.1E-12	1.4E-13	7.1E-15	2.0E-15	3.3E-15	2.3E-13	2.3E-13	1.3E-13	5 7E-15	8.7E-14	3.9E-13	3 9E-15
1,2,3,7,8,9-HxCDD	E1 hi end	1.4E-15	7.7E-16	1.5E-12	1.6E-13	5.9E-15	1.6E-15	2.7E-15	3.1E-13	3 2E-13	1.7E-13	7 8E-15	1.2E-13	5.3E-13	4 0E-15
1,2,3,4,6,7,8-HpCDD	E1 hi end	1.6E-14	8.8E-15	1 2E-11	1.0E-12	1.1E-14	3.0E-15	4.9E-15	2.4E-12	2.5E-12	1.4E-12	6.2E-14	9.3E-13	4.1E-12	1.8E-13
OCDD	E1 hi end	7.8E-14	4.3E-14	2.1E-09	1.7E-10	7.6E-14	2.1E-14	3.5E-14	4 4E-10	4 5E-10	2.5E-10	1.1E-11	1.7E-10	7.5E-10	2 3E-11
2,3,7,8-TCDF	E1 hi end	2.0E-15	1.1E-15	1.1E-12	1.2E-13	3.6E-15	9.8E-16	1.6E-15	2.3E-13	2 4E-13	1.3E-13	5.9E-15	8.9E-14	3.9E-13	6 8E-15
1,2,3,7,8-PeCDF	E1 hi end	6.5E-15	3.5E-15	5.2E-12	4.9E-13	8.9E-15	2.4E-15	4.1E-15	1.1E-12	1.1E-12	6 1E-13	2.7E-14	4.2E-13	1.8E-12	4.0E-14
2,3,4,7,8-PeCDF	E1 hi end	8.0E-15	4 4E-15	3.0E-11	2.7E-12	4 7E-14	1.3E-14	2.1E-14	6.2E-12	6 4E-12	3 5E-12	1.6E-13	2.4E-12	1.1E-11	5 5E-14
1,2,3,4,7,8-HxCDF	E1 hi end	1.9E-14	1.1E-14	1.7E-11	2.0E-12	8.5E-14	2.3E-14	3.9E-14	3.5E-12	3 6E-12	2.0E-12	8.9E-14	1.3E-12	6.0E-12	4 4E-14
1,2,3,6,7,8-HxCDF	E1 hi end	1.8E-14	9.9E-15	3.1E-11	2.9E-12	6 8E-14	1.9E-14	3.1E-14	6.4E-12	6.6E-12	3.6E-12	1.6E-13	2.4E-12	1.1E-11	8 9E-14
1,2,3,7,8,9-HxCDF	E1 hi end	4.2E-15	2.3E-15	7.0E-12	6.7E-13	1.6E-14	4.3E-15	7.1E-15	1.4E-12	1.5E-12	8.2E-13	3.7E-14	5.6E-13	2.5E-12	2 0E-14
2,3,4,6,7,8-HxCDF	E1 hi end	2.1E-14	1.1E-14	2.1E-11	2.1E-12	6.8E-14	1.9E-14	3.1E-14	4.2E-12	4.4E-12	2.4E-12	1 1E-13	1.6E-12	7.2E-12	6.7E-14
1,2,3,4,6,7,8-HpCDF	E1 hi end	1.2E-13	6.8E-14	1 6E-11	2.0E-12	9 5E-14	2.6E-14	4.3E-14	3.4E-12	3.5E-12	1.9E-12	8.6E-14	1.3E-12	5.8E-12	2 4E-13
1,2,3,4,7,8,9-HpCDF	E1 hi end	1.6E-14	8 7E-15	3 4E-12	4.8E-13	2 9E-14	8.1E-15	1.3E-14	8 9E-13	7.1E-13	3.9E-13	1.8E-14	2.7E-13	1.2E-12	2 1E-14
OCDF	E1 hi end	2.4E-13	1.3E-13	1 8E-10	1.5E-11	9.0E-14	2.5E-14	4.1E-14	3.7E-11	3.8E-11	2.1E-11	9.3E-13	1.4E-11	6.3E-11	5 0E-12
Tetrachlorobiphenyl	E1 hi end	2.4E-13	1.3E-13	8.5E-11	2.8E-11	2.7E-12	7.4E-13	1.2E-12	1.7E-11	1.7E-11	9 5E-12	4.3E-13	6.5E-12	2.9E-11	1.3E-13
Hexachlorobiphenyl	E1 hi end	3.8E-13	2.1E-13	5.4E-11	1.7E-11	1.6E-12	4.3E-13	7.2E-13	1 1E-11	1.1E-11	6.1E-12	2.7E-13	4.1E-12	1.8E-11	1 2E-13
Heptachlorobiphenyl	E1 hi end	3.8E-13	2.1E-13	1.4E-09	1.2E-10	1.6E-12	4.4E-13	7.4E-13	2.8E-10	2.9E-10	1.6E-10	7.2E-12	1.1E-10	4.9E-10	3 3E-12
Benzo(a)pyrene	E1 hi end	5.5E-12	6 0E-12	1 2E-07	3.5E-09	1 9E-13	5.1E-14	7.8E-11	1.2E-07	8.5E-09	1.1E-08	3.1E-09	3.8E-09	5.2E-09	3 9E-10
Benzo(b)fluoranthene	E1 hi end	2.3E-11	2.5E-11	6.8E-08	2.5E-09	9 5E-13	2.6E-13	4.0E-10	7.3E-08	5.0E-09	6.3E-09	1.8E-09	2.2E-09	3.0E-09	1 8E-10
Bis(2-ethylhexyl)phthalate	E1 hi end	2.0E-12	2 2E-12	9 6E-06	2.9E-07	1.0E-14	2.8E-15	4.2E-12	1 0E-05	7.0E-07	8.9E-07	2.6E-07	3.1E-07	4.3E-07	2 0E-07
Carbon tetrachloride	E1 hi end	1.3E-11	1 4E-11	4 9E-12	8.9E-13	4.4E-15	1.2E-15	1.8E-12	5 8E-12	4.0E-13	5.0E-13	1.5E-13	1.8E-13	2.4E-13	3 1E-09
Dibenz(a,h)anthracene	E1 hi end	1.3E-11	1.4E-11	1.8E-08	9.1E-10	1.7E-12	4.6E-13	6.9E-10	1.9E-08	1 3E-09	1 6E-09	4.8E-10	5 8E-10	7.9E-10	3 1E-11
Di(n)octyl phthalate	E1 hi end	5.7E-13	6.2E-13	2 6E-05	7.8E-07	1.7E-12	4.6E-13	7.0E-10	2.8E-05	1.9E-06	2.4E-06	7.0E-07	8.5E-07	1 1E-06	9 4E-10
Heptachlor	E1 hi end	1.1E-14	1.2E-14	7.5E-11	2.5E-12	5.3E-16	1.5E-16	2.2E-13	8.0E-11	5.5E-12	6.9E-12	2.0E-12	2.4E-12	3.3E-12	1 7E-13
Hexachlorobenzene	E1 hi end	2.1E-11	2.3E-11	7.1E-10	2.3E-10	4.6E-13	1.3E-13	1.9E-10	6 8E-10	4 7E-11	5.9E-11	1.7E-11	2.1E-11	2.8E-11	1 9E-11
Hexachlorobutadiene	E1 hi end	5.9E-11	6 4E-11	1 4E-10	5.2E-11	1.1E-13	3.0E-14	4.6E-11	1.3E-10	8.8E-12	1.1E-11	3.2E-12	3.9E-12	5.3E-12	8 0E-11
Hexachlorocyclopentadiene	E1 hi end	9.6E-13	1 0E-12	8.5E-12	3.1E-12	6.4E-15	1.7E-15	2.6E-12	7.9E-12	5.4E-13	6.9E-13	2.0E-13	2.4E-13	3.3E-13	5 3E-13
Hexachlorophene	E1 hi end	3.6E-11	3.9E-11	6.9E-07	1.9E-08	3 2E-11	8.8E-12	1.3E-08	7.4E-07	5.1E-08	6.4E-08	1.9E-08	2.3E-08	3.1E-08	1 7E-10
Indeno(1,2,3-cd)pyrene	E1 hi end	1.5E-11	1.6E-11	1 7E-08	9.4E-10	1.7E-12	4.7E-13	7.2E-10	1.7E-08	1.2E-09	1.5E-09	4.4E-10	5.4E-10	7.3E-10	3 1E-11
Antimony	E1 hi end	2.5E-12	4.5E-13	7.2E-11	1.4E-11	1.1E-13	3.1E-14	4.3E-13	2.4E-11	1.7E-12	2.1E-12	6.2E-13	7.5E-13	1 0E-12	3.5E-11
Arsenic	E1 hi end	9.5E-11	1.7E-11	1.3E-09	2.0E-10	8.3E-11	2.3E-11	3.6E-11	1 3E-10	9.0E-12	1.1E-11	3.3E-12	4.0E-12	5.4E-12	1 9E-10
Barium	E1 hi end	1.2E-10	2.1E-11	3.8E-10	7.9E-10	3 3E-13	9.0E-14	8.7E-11	3.0E-09	2.1E-10	2.6E-10	7.7E-11	9 3E-11	1.3E-10	9 3E-10
Beryllium	E1 hi end	2.5E-13	4.6E-14	7.7E-13	2.6E-13	1 1E-14	3.1E-15	4.4E-15	2.2E-15	1.5E-16	1.9E-16	5.6E-17	6 8E-17	9.2E-17	1 2E-13
Cadmium	E1 hi end	1.4E-12	2.5E-13	3 8E-11	8.1E-13	3.7E-12	1.0E-12	2.9E-14	8 2E-12	5 6E-13	7 1E-13	2.1E-13	2 5E-13	3 4E-13	1 2E-10
Chromium (hexavalent)	E1 hi end	6.6E-12	1 2E-12	1.0E-10	5.2E-11	6 6E-13	1.8E-13	3.5E-13	8 6E-11	5 9E-12	7.4E-12	2.2E-12	2 6E-12	3 6E-12	3 4E-12
Lead	E1 hi end	4.2E-10	7.5E-11	3 5E-10	4.0E-10	1.4E-08	3.8E-09	4 6E-09	9 2E-10	6 4E-11	8.0E-11	2.3E-11	2 8E-11	3 8E-11	2 8E-10
Mercury	E1 hi end	1.1E-09	2.0E-10	3.3E-09	5.0E-09	1 1E-09	2 9E-10	2 9E-11	1.4E-08	9 8E-10	1 2E-09	3 6E-10	4 4E-10	5 9E-10	7 6E-08
Nickel	E1 hi end	9.6E-12	1 7E-12	5.4E-10	1.1E-09	1.8E-12	4.9E-13	9.7E-13	3 0E-10	2 1E-11	2 6E-11	7 6E-12	9 3E-12	1 3E-11	1 1E-10
Selenium	E1 hi end	1.8E-09	3.2E-10	2 7E-08	2 9E-07	1 0E-08	2 8E-09	3.4E-09	1 3E-06	9 2E-08	1 2E-07	3 4E-08	4 1E-08	5 6E-08	5 5E-09
Silver	E1 hi end	8.8E-12	1 6E-12	9 2E-10	9.4E-12	1 2E-13	3 4E-14	8 2E-13	2 1E-08	1 4E-09	1 8E-09	5 3E-10	6 4E-10	8 7E-10	3 1E-10
Thallium	E1 hi end	4.4E-10	8.0E-11	4 1E-08	6.4E-08	1 4E-08	3 9E-09	4.7E-09	6 3E-09	4 3E-10	5 5E-10	1 6E-10	1 9E-10	2 6E-10	1 1E-10
Zinc	E1 hi end	6.2E-11	1.1E-11	5 5E-10	6.6E-11	6 4E-11	1.8E-11	2 1E-11	4 9E-10	3 3E-11	4 2E-11	1 2E-11	1 5E-11	2 0E-11	1 8E-08

External Review Draft, Do Not Cite or Quote

TABLE 1 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Adult

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d
2,3,7,8-TCDD	E1 hi end	1.9E-17	9.5E-15	4.1E-17	4 1E-16	4 7E-17	1.1E-21	5.0E-18	NA	NA
1,2,3,7,8-PeCDD	E1 hi end	9.6E-17	1 7E-13	2.0E-16	6 9E-15	2.3E-16	5.5E-21	1.9E-17	NA	NA
1,2,3,4,7,8-HxCDD	E1 hi end	2.3E-17	2.4E-13	1.2E-16	9 6E-15	5.6E-17	1.5E-21	2.6E-17	NA	NA
1,2,3,6,7,8-HxCDD	E1 hi end	7.8E-17	6.5E-14	3.0E-16	3.3E-15	1.9E-16	5.8E-21	4.6E-17	NA	NA
1,2,3,7,8,9-HxCDD	E1 hi end	2.6E-17	7.4E-14	1.9E-16	3.4E-15	6.4E-17	3 7E-21	6.5E-17	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 hi end	1.7E-16	3.9E-12	1.3E-15	1.6E-13	4.2E-16	8.4E-21	2.2E-16	NA	NA
OCDD	E1 hi end	1.9E-15	5.0E-10	8.6E-15	1.9E-11	4.6E-15	1.3E-19	1.0E-15	NA	NA
2,3,7,8-TCDF	E1 hi end	2.0E-16	1.4E-13	3.9E-16	5.7E-15	4.9E-16	1.1E-20	4.5E-17	NA	NA
1,2,3,7,8-PeCDF	E1 hi end	4.6E-16	8.5E-13	1.1E-15	3.4E-14	1.1E-15	3.0E-20	1.5E-16	NA	NA
2,3,4,7,8-PeCDF	E1 hi end	4.7E-16	1.2E-12	1.3E-15	4.6E-14	1.2E-15	3.3E-20	2.0E-16	NA	NA
1,2,3,4,7,8-HxCDF	E1 hi end	6.9E-16	7.8E-13	2.7E-15	3.7E-14	1.7E-15	5 2E-20	4.5E-16	NA	NA
1,2,3,6,7,8-HxCDF	E1 hi end	6 5E-16	1 8E-12	2.5E-15	7.5E-14	1.6E-15	4.8E-20	4.2E-16	NA	NA
1,2,3,7,8,9-HxCDF	E1 hi end	1.5E-16	4.1E-13	5.7E-16	1.7E-14	3.6E-16	1.1E-20	9.9E-17	NA	NA
2,3,4,6,7,8-HxCDF	E1 hi end	7 3E-16	1.3E-12	2.8E-15	5.7E-14	1.8E-15	5 5E-20	4.8E-16	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 hi end	2.0E-15	4.2E-12	1 2E-14	2.0E-13	4.8E-15	1.2E-19	2.2E-15	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 hi end	2.5E-16	3.2E-13	1.5E-15	1.8E-14	6.2E-16	1.5E-20	2.8E-16	NA	NA
OCDF	E1 hi end	1 2E-15	1 1E-10	1 4E-14	4.2E-12	2.8E-15	3.3E-20	2.1E-15	NA	NA
Tetrachlorobiphenyl	E1 hi end	5.5E-14	1 2E-12	9 8E-13	1 1E-13	1 3E-13	2.4E-18	6.3E-15	NA	NA
Hexachlorobiphenyl	E1 hi end	1 6E-14	2.2E-12	1.5E-13	1.0E-13	4.0E-14	1.9E-18	1.5E-14	NA	NA
Heptachlorobiphenyl	E1 hi end	8 1E-15	7.2E-11	9.0E-13	2.8E-12	2.0E-14	2.3E-18	3.3E-14	NA	NA
Benzo(a)pyrene	E1 hi end	9 2E-13	8 0E-09	2 6E-13	3.3E-10	2.2E-12	3.8E-17	1.1E-13	NA	NA
Benzo(b)fluoranthene	E1 hi end	3 5E-12	3 9E-09	9 2E-12	1.5E-10	8.4E-12	1.4E-16	4.9E-13	NA	NA
Bis(2-ethylhexyl)phthalate	E1 hi end	6.8E-14	4.4E-06	2.5E-13	1.7E-07	1.6E-13	7.2E-17	5.7E-13	NA	NA
Carbon tetrachloride	E1 hi end	2 6E-09	6.8E-10	7.4E-10	2.6E-09	6.4E-09	7.0E-16	1.6E-14	NA	NA
Dibenz(a,h)anthracene	E1 hi end	1.0E-12	1.7E-11	4.1E-12	2.6E-11	2.5E-12	5.9E-17	3.8E-13	NA	NA
Di(n)octyl phthalate	E1 hi end	7.1E-15	2.1E-08	1.8E-10	8.0E-10	1.7E-14	3.8E-18	1.0E-13	NA	NA
Heptachlor	E1 hi end	1.5E-15	3.7E-12	9.0E-14	1.5E-13	3.7E-15	7.3E-20	1.2E-16	NA	NA
Hexachlorobenzene	E1 hi end	1.5E-11	2.1E-11	8.5E-10	1.6E-11	3.7E-11	4.0E-16	6.5E-13	NA	NA
Hexachlorobutadiene	E1 hi end	6.8E-11	2.0E-11	2.6E-10	6.8E-11	1.6E-10	4 6E-16	1.5E-13	NA	NA
Hexachlorocyclopentadiene	E1 hi end	4.4E-13	3.5E-13	1.2E-11	4.5E-13	1.1E-12	6.5E-18	5.2E-15	NA	NA
Hexachlorophene	E1 hi end	9.4E-13	1.0E-10	9.7E-10	1.5E-10	2.3E-12	3.9E-16	4.0E-12	NA	NA
Indeno(1,2,3-cd)pyrene	E1 hi end	1.2E-12	1.7E-11	4.5E-12	2.6E-11	3.0E-12	6.5E-17	3.9E-13	NA	NA
Antimony	E1 hi end	1.9E-11	3.9E-11	4.4E-14	3.0E-11	4.5E-11	1.5E-16	5.5E-17	NA	NA
Arsenic	E1 hi end	6.1E-11	1.7E-10	4.4E-14	1.6E-10	1.5E-10	3.3E-15	1.2E-15	NA	NA
Barium	E1 hi end	4.0E-10	1.3E-09	7.1E-13	7.9E-10	9.6E-10	6.8E-15	2.5E-15	NA	NA
Beryllium	E1 hi end	1.6E-14	8.6E-14	2.6E-18	1.0E-13	3.8E-14	3.9E-18	1.4E-18	NA	NA
Cadmium	E1 hi end	6.1E-11	8.6E-11	2.1E-13	1.0E-10	1.5E-10	1.5E-16	5.3E-17	NA	NA
Chromium (hexavalent)	E1 hi end	1.0E-12	1.7E-12	1.3E-16	2.9E-12	2.5E-12	8.6E-17	3.1E-17	NA	NA
Lead	E1 hi end	1.3E-10	2.4E-10	1.7E-13	2.4E-10	3 0E-10	5.2E-15	1.9E-15	NA	NA
Mercury	E1 hi end	6.4E-08	9.6E-08	2.4E-11	6.5E-08	1.6E-07	7.1E-14	2.6E-14	NA	NA
Nickel	E1 hi end	7.7E-11	2.9E-11	3 7E-15	9.0E-11	1.9E-10	4.0E-16	1.4E-16	NA	NA
Selenium	E1 hi end	3 5E-09	1.7E-09	9.9E-13	4 7E-09	8 4E-09	4 8E-14	1 7E-14	NA	NA
Silver	E1 hi end	2.2E-10	2.5E-10	5.3E-13	2 6E-10	5.4E-10	5.4E-16	2.0E-16	NA	NA
Thallium	E1 hi end	4 5E-12	6 2E-11	3 2E-16	9.4E-11	1.1E-11	4 3E-15	1 6E-15	NA	NA
Zinc	E1 hi end	1.5E-08	6.5E-09	4 4E-12	1.5E-08	3 6E-08	3.9E-15	1.4E-15	NA	NA

External Review Dra l Cite or Quote

TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

Chemical	Subarea	CARCINOGENIC RISKS: Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk
2,3,7,8-TCDD	E1 avg	9.6E-12	5.2E-12	6.2E-09	6.6E-10	3.5E-11	9.6E-12	2.2E-11	6.9E-09	1.1E-09	1.4E-09	7 4E-10	3.4E-11	2.9E-10	1.4E-09
1,2,3,7,8-PeCDD	E1 avg	2 4E-11	1.3E-11	5 1E-08	4.2E-09	8.5E-11	2 3E-11	5.3E-11	5.6E-08	8.9E-09	1.2E-08	6.3E-09	2.9E-10	2 4E-09	1 2E-08
1,2,3,4,7,8-HxCDD	E1 avg	5 3E-12	2.9E-12	6.9E-09	5.5E-10	9.1E-12	2 5E-12	5.7E-12	7.5E-09	1.2E-09	1.6E-09	8.4E-10	3 9E-11	3 2E-10	1 6E-09
1,2,3,6,7,8-HxCDD	E1 avg	9.4E-12	5.1E-12	1.9E-09	2.1E-10	1.4E-11	3 8E-12	8.8E-12	2.1E-09	3.2E-10	4 2E-10	2.3E-10	1.1E-11	8.8E-11	4 3E-10
1,2,3,7,8,9-HxCDD	E1 avg	6 0E-12	3.3E-12	2 6E-09	2.5E-10	1.1E-11	3.1E-12	7.2E-12	2 8E-09	4 4E-10	5.8E-10	3.1E-10	1.4E-11	1.2E-10	5.9E-10
1,2,3,4,6,7,8-HpCDD	E1 avg	6.9E-12	3.8E-12	2.0E-09	1.6E-10	2.1E-12	5.7E-13	1.3E-12	2.2E-09	3.5E-10	4.5E-10	2.5E-10	1.1E-11	9.4E-11	4.6E-10
OCDD	E1 avg	3 4E-12	1.8E-12	3.6E-08	2.6E-09	1.5E-12	4.0E-13	9.3E-13	3.9E-08	6.3E-09	8.2E-09	4.4E-09	2.0E-10	1.7E-09	8.4E-09
2,3,7,8-TCDF	E1 avg	8.6E-12	4.7E-12	1.9E-09	1.8E-10	7 0E-12	1.9E-12	4.4E-12	2.1E-09	3.3E-10	4.3E-10	2.3E-10	1.1E-11	9.0E-11	4 4E-10
1,2,3,7,8-PeCDF	E1 avg	1.4E-11	7.6E-12	4.5E-09	3.7E-10	8.7E-12	2.3E-12	5.5E-12	4.9E-09	7.7E-10	1.0E-09	5.5E-10	2.5E-11	2.1E-10	1 0E-09
2,3,4,7,8-PeCDF	E1 avg	1.7E-10	9.3E-11	2 6E-07	2.1E-08	4 5E-10	1.2E-10	2.9E-10	2.8E-07	4.4E-08	5.8E-08	3.1E-08	1.4E-09	1.2E-08	5.9E-08
1,2,3,4,7,8-HxCDF	E1 avg	8.3E-11	4.5E-11	2 9E-08	3.0E-09	1 6E-10	4.5E-11	1.0E-10	3.2E-08	5.0E-09	6.5E-09	3.5E-09	1.6E-10	1.4E-09	6.7E-09
1,2,3,6,7,8-HxCDF	E1 avg	7.8E-11	4 2E-11	5 3E-08	4 5E-09	1 3E-10	3.6E-11	8.3E-11	5.8E-08	9.1E-09	1.2E-08	6.4E-09	3.0E-10	2.5E-09	1 2E-08
1,2,3,7,8,9-HxCDF	E1 avg	1 8E-11	9.8E-12	1.2E-08	1.0E-09	3.0E-11	8.2E-12	1.9E-11	1.3E-08	2.1E-09	2.7E-09	1.5E-09	6.7E-11	5.6E-10	2 8E-09
2,3,4,6,7,8-HxCDF	E1 avg	8.8E-11	4.8E-11	3.5E-08	3.3E-09	1 3E-10	3.6E-11	8.4E-11	3.9E-08	6.0E-09	7.9E-09	4.3E-09	2.0E-10	1.6E-09	8.1E-09
1,2,3,4,6,7,8-HpCDF	E1 avg	5.3E-11	2.9E-11	2.8E-09	3.0E-10	1.8E-11	5.0E-12	1.2E-11	3.2E-09	4.8E-10	6.3E-10	3.4E-10	1.6E-11	1.3E-10	6 5E-10
1,2,3,4,7,8,9-HpCDF	E1 avg	6 8E-12	3.7E-12	5.8E-10	7.3E-11	5 7E-12	1.6E-12	3.6E-12	6.6E-10	9.9E-11	1.3E-10	7.0E-11	3.2E-12	2.7E-11	1 3E-10
OCDF	E1 avg	1.0E-11	5 6E-12	3.0E-09	2.3E-10	1 7E-12	4 7E-13	1.1E-12	3.3E-09	5.2E-10	6.8E-10	3.7E-10	1.7E-11	1.4E-10	7 0E-10
Tetrachlorobiphenyl	E1 avg	5 2E-13	2.8E-13	7.4E-11	2.2E-11	2 7E-12	7.3E-13	1.7E-12	1.0E-10	1.2E-11	1.6E-11	8.7E-12	4.0E-13	3.3E-12	1 6E-11
Hexachlorobiphenyl	E1 avg	8 5E-13	4.6E-13	4.7E-11	1.4E-11	1.6E-12	4.3E-13	1.0E-12	6.4E-11	7.9E-12	1.0E-11	5.5E-12	2.6E-13	2.1E-12	1 0E-11
Heptachlorobiphenyl	E1 avg	8.3E-13	4.5E-13	1.2E-09	9.7E-11	1 6E-12	4.4E-13	1.0E-12	1.3E-09	2.1E-10	2.7E-10	1.5E-10	6.8E-12	5.7E-11	2 8E-10
Benzo(a)pyrene	E1 avg	1.2E-11	1.3E-11	9 6E-08	2.6E-09	1.8E-13	4.8E-14	1.0E-10	9.9E-08	8.6E-08	7.5E-09	9.4E-09	2.8E-09	1.9E-09	2 8E-09
Benzo(b)fluoranthene	E1 avg	4.8E-12	5.2E-12	5.7E-09	1.9E-10	9.0E-14	2.4E-14	5.2E-11	5.9E-09	5.1E-09	4.4E-10	5.5E-10	1.7E-10	1.1E-10	1.7E-10
Bis(2-ethylhexyl)phthalate	E1 avg	7.9E-15	8.7E-15	1.5E-08	4.1E-10	1 9E-17	5.0E-18	1.1E-14	1.6E-08	1.4E-08	1.2E-09	1.5E-09	4.4E-10	3.0E-10	4 4E-10
Carbon tetrachloride	E1 avg	4 9E-13	5.4E-13	7 3E-14	1.2E-14	7 4E-17	2.0E-17	4.2E-14	1.3E-13	7.2E-14	6.2E-15	7.8E-15	2.3E-15	1.6E-15	2 3E-15
Dibenz(a,h)anthracene	E1 avg	2.7E-11	3.0E-11	1.5E-08	6.8E-10	1.6E-12	4.3E-13	9.1E-10	1.6E-08	1.3E-08	1.1E-09	1.4E-09	4.3E-10	2.8E-10	4 3E-10
Di(n)octyl phthalate	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlor	E1 avg	1.4E-14	1.6E-14	3.8E-11	1.2E-12	3.1E-16	8.4E-17	1.8E-13	4.0E-11	3.4E-11	3.0E-12	3.7E-12	1.1E-12	7.4E-13	1 1E-12
Hexachlorobenzene	E1 avg	9.8E-12	1.1E-11	1.3E-10	3.7E-11	9.6E-14	2.6E-14	5.5E-11	2.2E-10	1.0E-10	9.0E-12	1.1E-11	3.4E-12	2.3E-12	3.4E-12
Hexachlorobutadiene	E1 avg	1.3E-12	1.4E-12	1.2E-12	4.1E-13	1.1E-15	3.0E-16	6.4E-13	2.3E-12	9.5E-13	8.3E-14	1.0E-13	3.1E-14	2.1E-14	3.1E-14
Hexachlorocyclopentadiene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorophene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	E1 avg	3.1E-12	3.4E-12	1.4E-09	7.0E-11	1.6E-13	4.4E-14	9.4E-11	1.5E-09	1.2E-09	1.1E-10	1.3E-10	3.9E-11	2.6E-11	3 9E-11
Antimony	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	E1 avg	4.7E-11	8.6E-12	2.6E-10	3.5E-11	1.9E-11	5.1E-12	1.1E-11	3.3E-10	2.2E-11	1.9E-12	2.4E-12	7.1E-13	4.7E-13	7 1E-13
Barium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Beryllium	E1 avg	3.1E-13	5.6E-14	3.8E-13	1.2E-13	6.3E-15	1.7E-15	3.4E-15	5.1E-13	9.0E-16	7.9E-17	9.8E-17	2.9E-17	2 0E-17	2 9E-17
Cadmium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chromium (hexavalent)	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nickel	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Selenium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Silver	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Thallium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Zinc	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
DIOXIN TEQ	E1 avg	6.0E-10	3 2E-10	5 1E-07	4 3E-08	1 1E-09	3.0E-10	7 0E-10	5 5E-07	8 7E-08	1 1E-07	6 2E-08	2 8E-09	2 4E-08	1 2E-07
ORGANICS TOTAL (non-dioxin)	E1 avg	6 1E-11	6 5E-11	1 4E-07	4.2E-09	8 0E-12	2.2E-12	1 2E-09	1 4E-07	1 2E-07	1 1E-08	1 3E-08	3 9E-09	2 7E-09	4 2E-09
INORGANICS TOTAL	E1 avg	4.8E-11	8 6E-12	2 6E-10	3 5E-11	1 9E-11	5 1E-12	1 1E-11	3 3E-10	2 2E-11	1 9E-12	2 4E-12	7 1E-13	4 7E-13	7 1E-13
SUBAREA TOTAL	E1 avg	7.0E-10	4 0E-10	6 4E-07	4 7E-08	1 1E-09	3.1E-10	1 9E-09	6.9E-07	2 1E-07	1 2E-07	7 5E-08	6 7E-09	2 6E-08	1 2E-07

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TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

Chemical	Subarea	CARCINOGENIC RISKS TOTAL DAIRY PRODUCT INGESTION RISK	Exposed Produce Ingestion Risk	Protected Produce Ingestion Risk	Leafy Produce Ingestion Risk	Root Produce Ingestion Risk	Exposed Fruit Ingestion Risk	Protected Fruit Ingestion Risk	TOTAL FRUIT & PRODUCE INGESTION RISK	River Water Ingestion Risk	River Water Dermal Contact Risk	Lake Water Ingestion Risk	Lake Water Dermal Contact Risk	Infant Breast milk Ingestion Risk	TOTAL CANCER RISK
2,3,7,8-TCDD	E1 avg	4.9E-09	8 2E-12	3.3E-13	1.6E-10	7.0E-13	7.0E-12	8 0E-13	1.8E-10	4.9E-17	2 1E-13	NA	NA	6 9E-09	1 2E-08
1,2,3,7,8-PeCDD	E1 avg	4.1E-08	7.0E-11	8.3E-13	1.5E-09	1.7E-12	6.0E-11	2.0E-12	1.6E-09	1.2E-16	4 0E-13	NA	NA	5.6E-08	9 9E-08
1,2,3,4,7,8-HxCDD	E1 avg	5 6E-09	1 9E-11	3.9E-14	4.1E-10	2.1E-13	1.7E-11	9.5E-14	4.5E-10	6.3E-18	1.1E-13	NA	NA	7.7E-09	1.4E-08
1,2,3,6,7,8-HxCDD	E1 avg	1.5E-09	6 7E-12	1,3E-13	1.1E-10	5 1E-13	5.7E-12	3.2E-13	1.2E-10	2.5E-17	2 0E-13	NA	NA	2.2E-09	3 8E-09
1,2,3,7,8,9-HxCDD	E1 avg	2.1E-09	6 8E-12	4.5E-14	1.3E-10	3.3E-13	5.8E-12	1.1E-13	1.4E-10	1.6E-17	2.8E-13	NA	NA	2.9E-09	5.1E-09
1,2,3,4,6,7,8-HpCDD	E1 avg	1.6E-09	3 2E-11	3.0E-14	6.7E-10	2.2E-13	2.7E-11	7.1E-14	7.3E-10	3.6E-18	9.6E-14	NA	NA	2.6E-09	4.5E-09
OCDD	E1 avg	2 9E-08	3.9E-10	3.3E-14	8.6E-09	1.5E-13	3.3E-10	7.8E-14	9 3E-09	5.6E-18	4.3E-14	NA	NA	4.4E-08	7.8E-08
2,3,7,8-TCDF	E1 avg	1 5E-09	1.2E-11	3.5E-13	2.4E-10	6.7E-13	9.9E-12	8.4E-13	2.7E-10	4.7E-17	1.9E-13	NA	NA	2.3E-09	3 9E-09
1,2,3,7,8-PeCDF	E1 avg	3.6E-09	3.5E-11	4.0E-13	7.3E-10	9.4E-13	3.0E-11	9.5E-13	8 0E-10	6.4E-17	3.1E-13	NA	NA	5.3E-09	9 3E-09
2,3,4,7,8-PeCDF	E1 avg	2.1E-07	4.7E-10	4.1E-12	9.9E-09	1.1E-11	4.0E-10	9.8E-12	1.1E-08	7.1E-16	4 3E-12	NA	NA	2.8E-07	5.0E-07
1,2,3,4,7,8-HxCDF	E1 avg	2.3E-08	7.5E-11	1.2E-12	1.3E-09	4.5E-12	6.4E-11	2.9E-12	1.5E-09	2.2E-16	1.9E-12	NA	NA	3.3E-08	5.7E-08
1,2,3,6,7,8-HxCDF	E1 avg	4.2E-08	1 5E-10	1 1E-12	3.1E-09	4.2E-12	1 3E-10	2 7E-12	3.4E-09	2.1E-16	1.8E-12	NA	NA	5.9E-08	1.0E-07
1,2,3,7,8,9-HxCDF	E1 avg	9 6E-09	3.4E-11	2 6E-13	7.0E-10	9.8E-13	2.9E-11	6.2E-13	7.7E-10	4.8E-17	4.2E-13	NA	NA	1.3E-08	2.4E-08
2,3,4,6,7,8-HxCDF	E1 avg	2 8E-08	1 2E-10	1 3E-12	2.2E-09	4 8E-12	9 8E-11	3.0E-12	2.5E-09	2.4E-16	2.1E-12	NA	NA	4.0E-08	6 9E-08
1,2,3,4,6,7,8-HpCDF	E1 avg	2 2E-09	4 1E-11	3 4E-13	7.3E-10	2.0E-12	3 5E-11	8.2E-13	8.1E-10	5.1E-17	9.4E-13	NA	NA	3.6E-09	6.3E-09
1,2,3,4,7,8,9-HpCDF	E1 avg	4 6E-10	3 7E-12	4.4E-14	5 6E-11	2.6E-13	3.1E-12	1.1E-13	6.3E-11	6.5E-18	1.2E-13	NA	NA	6.8E-10	1 2E-09
OCDF	E1 avg	2 4E-09	8 5E-11	2.0E-14	1.8E-09	2.4E-13	7.3E-11	4.8E-14	2.0E-09	1.4E-18	8.9E-14	NA	NA	4.4E-09	7 7E-09
Tetrachlorobiphenyl	E1 avg	5:7E-11	1 1E-13	4 9E-14	1.1E-12	8.6E-13	9.5E-14	1.2E-13	2.3E-12	5.2E-18	1.4E-14	NA	NA	9.3E-11	1 6E-10
Hexachlorobiphenyl	E1 avg	3 7E-11	1.1E-13	1.5E-14	2.0E-12	1.3E-13	9.1E-14	3.5E-14	2.4E-12	4.2E-18	3.3E-14	NA	NA	6.0E-11	1 0E-10
Heptachlorobiphenyl	E1 avg	9 7E-10	2 9E-12	7.2E-15	6.4E-11	7.9E-13	2.5E-12	1 7E-14	7.0E-11	5.0E-18	7.2E-14	NA	NA	1.4E-09	2.4E-09
Benzo(a)pyrene	E1 avg	1.1E-07	3 2E-10	7.7E-13	6.8E-09	2.2E-13	2 8E-10	1.9E-12	7.4E-09	7.9E-17	2.3E-13	NA	NA	6.3E-07	2.2E-07
Benzo(b)fluoranthene	E1 avg	6.5E-09	1 5E-11	2.9E-13	3.3E-10	7.7E-13	1.3E-11	6.9E-13	3.6E-10	3.0E-17	1.0E-13	NA	NA	4.6E-08	1.3E-08
Bis(2-ethylhexyl)phthalate	E1 avg	1 7E-08	3 2E-10	1.1E-16	7.1E-09	3.9E-16	2.7E-10	2.6E-16	7.7E-09	2.9E-19	2.3E-15	NA	NA	1.8E-08	4.1E-08
Carbon tetrachloride	E1 avg	9 2E-14	4.6E-11	4 0E-11	1.0E-11	1.1E-11	3.9E-11	9.5E-11	2.4E-10	2.6E-17	6.1E-16	NA	NA	2.9E-13	2 4E-10
Dibenz(a,h)anthracene	E1 avg	1.7E-08	2.6E-11	8.6E-13	1.5E-11	3.4E-12	2.2E-11	2.1E-12	6.9E-11	1.2E-16	7.8E-13	NA	NA	3.7E-07	3 3E-08
Di(n)octyl phthalate	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Heptachlor	E1 avg	4.4E-11	8 8E-14	7.9E-16	1.9E-12	4.6E-14	7.5E-14	1.9E-15	2.1E-12	9.4E-20	1.5E-16	NA	NA	3.5E-10	8 5E-11
Hexachlorobenzene	E1 avg	1.3E-10	3.4E-12	2.8E-12	3.9E-12	1.5E-10	2.9E-12	6.7E-12	1.7E-10	1.8E-16	3.0E-13	NA	NA	9.6E-10	5 5E-10
Hexachlorobutadiene	E1 avg	1.2E-12	7.1E-13	6.1E-13	1.8E-13	2.3E-12	6.1E-13	1.5E-12	5.8E-12	1.0E-17	3.4E-15	NA	NA	1.8E-12	1.2E-11
Hexachlorocyclopentadiene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Hexachlorophene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Indeno(1,2,3-cd)pyrene	E1 avg	1.6E-09	2.6E-12	1.0E-13	1.5E-12	3.8E-13	2.2E-12	2.5E-13	7.0E-12	1.4E-17	8.2E-14	NA	NA	3.1E-08	3.1E-09
Antimony	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Arsenic	E1 avg	2.8E-11	3.7E-11	1.2E-11	3.4E-11	8.7E-15	3.2E-11	2.9E-11	1.5E-10	1.7E-15	6.0E-16	NA	NA	NA	5.6E-10
Barium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Beryllium	E1 avg	1.2E-15	6.0E-14	7.8E-15	4.3E-14	1.3E-18	5.1E-14	1.9E-14	1.8E-13	4.8E-18	1.7E-18	NA	NA	NA	1.1E-12
Cadmium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Chromium (hexavalent)	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Mercury	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Nickel	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Selenium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Silver	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Thallium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Zinc	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
DIOXIN TEQ	E1 avg	4 1E-07	1 6E-09	1 1E-11	3 2E-08	3.3E-11	1 3E-09	2 5E-11	3 5E-08	1 8E-15	1 3E-11	NA	NA	5.7E-07	9 9E-07
ORGANICS TOTAL (non-dioxin)	E1 avg	1 5E-07	7 4E-10	4 5E-11	1 4E-08	1 7E-10	6 3E-10	1 1E-10	1 6E-08	4 8E-16	1 6E-12	NA	NA	1 1E-06	3 1E-07
INORGANICS TOTAL	E1 avg	2 8E-11	3 7E-11	1 2E-11	3 4E-11	8.7E-15	3 2E-11	2 9E-11	1 5E-10	1 7E-15	6 0E-16	NA	NA	NA	5 6E-10
SUBAREA TOTAL	E1 avg	5 6E-07	2 3E-09	6 8E-11	4.7E-08	2 1E-10	2 0E-09	1 6E-10	5 1E-08	4 0E-15	1 5E-11	NA	NA	1 7E-06	1 3E-06

TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

NONCARCINOGENIC HAZARD QUOTIENTS

Chemical	Subarea	Soil Ingestion HQ	Soil Dermal Contact HQ	Beef Ingestion HQ	Pork Ingestion HQ	Chicken Ingestion HQ	Other Poultry Ingestion HQ	Egg Ingestion HQ	TOTAL MEAT & EGG INGESTION HQ	Milk Ingestion HQ	Cheese Ingestion HQ	Milk Desserts Ingestion HQ	Yogurt Ingestion HQ	Cream Ingestion HQ	Butter Ingestion HQ
2,3,7,8-TCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,7,8-TCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-ethylhexyl)phthalate	E1 avg	9 9E-11	1.1E-10	1 9E-04	5.2E-06	2.3E-13	6 3E-14	1.3E-10	2.0E-04	1.7E-04	1.5E-05	1.9E-05	5.6E-06	3.7E-06	5 6E-06
Carbon tetrachloride	E1 avg	1.9E-08	2.1E-08	2.8E-09	4.6E-10	2.8E-12	7.7E-13	1.6E-09	4.9E-09	2 8E-09	2.4E-10	3.0E-10	9.0E-11	6.0E-11	9 0E-11
Dibenz(a,h)anthracene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	E1 avg	2.8E-11	3.1E-11	5.1E-04	1.4E-05	3.8E-11	1.0E-11	2.2E-08	5.3E-04	4.6E-04	4 0E-05	5.0E-05	1.5E-05	1.0E-05	1 5E-05
Heptachlor	E1 avg	2 2E-11	2.4E-11	5 9E-08	1.8E-09	4.8E-13	1.3E-13	2.8E-10	6.2E-08	5.3E-08	4.6E-09	5.8E-09	1.7E-09	1.2E-09	1.7E-09
Hexachlorobenzene	E1 avg	2 7E-08	2.9E-08	3 6E-07	1.0E-07	2 6E-10	7.1E-11	1.5E-07	6.1E-07	2.8E-07	2.5E-08	3.1E-08	9.2E-09	6.2E-09	9 2E-09
Hexachlorobutadiene	E1 avg	2 9E-07	3.2E-07	2 7E-07	9.2E-08	2.5E-10	6.8E-11	1.4E-07	5.1E-07	2.1E-07	1 9E-08	2.3E-08	7.0E-09	4.6E-09	7 0E-09
Hexachlorocyclopentadiene	E1 avg	1.4E-10	1.5E-10	4 8E-10	1.6E-10	4 1E-13	1.1E-13	2.4E-10	8.8E-10	3.8E-10	3 3E-11	4.1E-11	1.2E-11	8.2E-12	1.2E-11
Hexachlorophene	E1 avg	1.2E-07	1.3E-07	9.2E-04	2.3E-05	4.9E-08	1.3E-08	2.8E-05	9.7E-04	8.2E-04	7.1E-05	8.9E-05	2.7E-05	1.8E-05	2.7E-05
Indeno(1,2,3-cd)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Antimony	E1 avg	6 1E-09	1.1E-09	7 2E-08	1.2E-08	1.3E-10	3.4E-11	6.8E-10	8.5E-08	2.0E-08	1 8E-09	2.2E-09	6.6E-10	4.4E-10	6 6E-10
Arsenic	E1 avg	3.2E-07	5 7E-08	1 8E-06	2.3E-07	1.3E-07	3.4E-08	7.5E-08	2.2E-06	1.4E-07	1.3E-08	1.6E-08	4.7E-09	3.2E-09	4 7E-09
Barium	E1 avg	1.7E-09	3 0E-10	2 2E-09	4.0E-09	2.1E-12	5 8E-13	7.8E-10	7 0E-09	1.4E-08	1.3E-09	1 6E-09	4.7E-10	3.1E-10	4 7E-10
Beryllium	E1 avg	5 0E-11	9.1E-12	6 2E-11	1.9E-11	1 0E-12	2 8E-13	5.6E-13	8 2E-11	1.5E-13	1.3E-14	1 6E-14	4.8E-15	3 2E-15	4 8E-15
Cadmium	E1 avg	2.8E-09	5.0E-10	3 1E-08	5 8E-10	3 4E-09	9 1E-10	3 7E-11	3 6E-08	5 5E-09	4 7E-10	5.9E-10	1 8E-10	1 2E-10	1 8E-10
Chromium (hexavalent)	E1 avg	1 3E-09	2.4E-10	7.9E-09	3.7E-09	5.9E-11	1 6E-11	4.4E-11	1.2E-08	5.7E-09	5 0E-10	6 2E-10	1.9E-10	1 2E-10	1 9E-10
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 avg	3 7E-06	6 6E-07	4 4E-06	6 0E-06	1 6E-06	4 3E-07	6 2E-08	1 2E-05	1 6E-05	1 4E-06	1 7E-06	5 1E-07	3 4E-07	5 1E-07
Nickel	E1 avg	4 8E-10	8.7E-11	1 1E-08	1 9E-08	4 1E-11	1.1E-11	3 0E-11	3 0E-08	5.0E-09	4 4E-10	5 4E-10	1 6E-10	1 1E-10	1 6E-10
Selenium	E1 avg	3 6E-07	6 5E-08	2 2E-06	2 1E-05	9 4E-07	2 5E-07	4 3E-07	2 4E-05	8 9E-05	7 7E-06	9 7E-06	2 9E-06	1 9E-06	2 9E-06
Silver	E1 avg	1.8E-09	3.2E-10	7 3E-08	6 7E-10	1 1E-11	3 1E-12	1 0E-10	7 4E-08	1 4E-06	1 2E-07	1 5E-07	4 5E-08	3 0E-08	4 5E-08
Thallium	E1 avg	6 3E-06	1.1E-06	2 3E-04	3 3E-04	9 2E-05	2 5E-05	4 2E-05	7 2E-04	3 0E-05	2 6E-06	3 3E-06	9 8E-07	6 5E-07	9 8E-07
Zinc	E1 avg	2.1E-10	3.8E-11	7.3E-10	7 9E-11	9.7E-11	2 6E-11	4.5E-11	9 8E-10	5 4E-10	4 7E-11	5 9E-11	1 8E-11	1 2E-11	1 8E-11
DIOXIN TEQ	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
ORGANICS TOTAL (non-dioxin)	E1 avg	4 6E-07	5 0E-07	1 6E-03	4 2E-05	4 9E-08	1 3E-08	2 8E-05	1 7E-03	1 4E-03	1 3E-04	1 6E-04	4 7E-05	3 1E-05	4 7E-05
INORGANICS TOTAL	E1 avg	1 1E-05	1 9E-06	2.4E-04	3 6E-04	9 5E-05	2 6E-05	4 3E-05	7 6E-04	1 4E-04	1 2E-05	1 5E-05	4 4E-06	3 0E-06	4 4E-06
SUBAREA TOTAL	E1 avg	1 1E-05	2 4E-06	1 9E-03	4 0E-04	9 5E-05	2 6E-05	7 1E-05	2 5E-03	1 6E-03	1 4E-04	1 7E-04	5 2E-05	3 4E-05	5 2E-05

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TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

Chemical	Subarea	NONCARCINOGENIC HAZARD QUOTIENTS TOTAL DAIRY PRODUCT INGESTION HQ	Exposed Produce Ingestion HQ	Protected Produce Ingestion HQ	Leafy Produce Ingestion HQ	Root Produce Ingestion HQ	Exposed Fruit Ingestion HQ	Protected Fruit Ingestion HQ	TOTAL FRUIT & PRODUCE INGESTION HQ	River Water Ingestion HQ	River Water Dermal Contact HQ	Lake Water Ingestion HQ	Lake Water Dermal Contact HQ	TOTAL HI
2,3,7,8-TCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,7,8-TCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Tetrachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Hexachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Heptachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(a)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(b)fluoranthene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Bis(2-ethylhexyl)phthalate	E1 avg	2.2E-04	4.0E-06	1.4E-12	8.8E-05	4 9E-12	3.4E-06	3.3E-12	9 6E-05	3.6E-15	2.8E-11	NA	NA	5.1E-04
Carbon tetrachloride	E1 avg	3.5E-09	1.8E-06	1.5E-06	3.9E-07	4.2E-07	1.5E-06	3.6E-06	9.3E-06	1.0E-12	2.3E-11	NA	NA	9.3E-06
Dibenz(a,h)anthracene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Di(n)octyl phthalate	E1 avg	5 9E-04	1.9E-08	1.4E-13	4.1E-07	3.5E-09	1.6E-08	3.4E-13	4.5E-07	1.9E-16	5.2E-12	NA	NA	1.1E-03
Heptachlor	E1 avg	6 8E-08	1.4E-10	1.2E-12	3.0E-09	7.1E-11	1.2E-10	2.9E-12	3.3E-09	1.5E-16	2.4E-13	NA	NA	1.3E-07
Hexachlorobenzene	E1 avg	3.6E-07	9 3E-09	7 6E-09	1.1E-08	4.2E-07	7.9E-09	1.8E-08	4.8E-07	4.9E-13	8.1E-10	NA	NA	1.5E-06
Hexachlorobutadiene	E1 avg	2.7E-07	1.6E-07	1.4E-07	4.1E-08	5.1E-07	1.4E-07	3.3E-07	1.3E-06	2.3E-12	7.7E-10	NA	NA	2.7E-06
Hexachlorocyclopentadiene	E1 avg	4.8E-10	3.0E-11	2 5E-11	2.0E-11	7.0E-10	2.6E-11	6.0E-11	8.6E-10	9.4E-16	7.4E-13	NA	NA	2.5E-09
Hexachlorophene	E1 avg	1.0E-03	2.3E-07	1.3E-09	1.3E-07	1.3E-06	2.0E-07	3.0E-09	1.9E-06	1.3E-12	1.3E-08	NA	NA	2.0E-03
Indeno(1,2,3-cd)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Antimony	E1 avg	2.6E-08	3 5E-08	1.9E-08	4.0E-08	4.4E-11	3.0E-08	4.5E-08	1.7E-07	3.8E-13	1.4E-13	NA	NA	2.9E-07
Arsenic	E1 avg	1 9E-07	2.5E-07	8 2E-08	2.3E-07	5.8E-11	2.1E-07	2.0E-07	9.7E-07	1.1E-11	4.0E-12	NA	NA	3.7E-06
Barium	E1 avg	1.8E-08	5.3E-09	2 3E-09	7.4E-09	4.0E-12	4.6E-09	5.5E-09	2 5E-08	9.7E-14	3.5E-14	NA	NA	5 3E-08
Beryllium	E1 avg	1.9E-13	9.7E-12	1 3E-12	6.9E-12	2.1E-16	8.3E-12	3 0E-12	2 9E-11	7.7E-16	2 8E-16	NA	NA	1 7E-10
Cadmium	E1 avg	7.0E-09	9.7E-08	4.9E-08	6.9E-08	1.7E-10	8.3E-08	1.2E-07	4 1E-07	2.9E-13	1.1E-13	NA	NA	4 6E-07
Chromium (hexavalent)	E1 avg	7 3E-09	2 7E-10	8.3E-11	1.4E-10	1.0E-14	2.3E-10	2.0E-10	9.3E-10	1.7E-14	6.2E-15	NA	NA	2.2E-08
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Mercury	E1 avg	2 0E-05	1.0E-04	8 6E-05	1.3E-04	3 2E-08	8 7E-05	2 1E-04	6 1E-04	2.4E-10	8 6E-11	NA	NA	6 5E-04
Nickel	E1 avg	6 4E-09	2 1E-09	1 5E-09	5.8E-10	7.3E-14	1.8E-09	3 7E-09	9.7E-09	2 0E-14	7 2E-15	NA	NA	4 6E-08
Selenium	E1 avg	1 1E-04	4 4E-07	2 8E-07	1.4E-07	7 9E-11	3 8E-07	6.7E-07	1 9E-06	9 5E-12	3 5E-12	NA	NA	1 4E-04
Silver	E1 avg	1 8E-06	2 5E-08	1 8E-08	2 1E-08	4 2E-11	2 1E-08	4 3E-08	1 3E-07	1 1E-13	3 9E-14	NA	NA	2 0E-06
Thallium	E1 avg	3 8E-05	6 4E-07	2 6E-08	3 6E-07	1 8E-12	5 4E-07	6 2E-08	1 6E-06	6 1E-11	2 2E-11	NA	NA	7 7E-04
Zinc	E1 avg	6 9E-10	2 3E-08	2.0E-08	8.7E-09	5.8E-12	2.0E-08	4 7E-08	1.2E-07	1.3E-14	4 8E-15	NA	NA	1.2E-07
DIOXIN TEQ	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 avg	1 9E-03	6 2E-06	1 7E-06	8 9E-05	2 7E 06	5.3E-06	4 0E-06	1 1E-04	5 1E-12	1 5E-08	NA	NA	3 7E-03
INORGANICS TOTAL	E1 avg	1 7E-04	1 0E-04	8 6E-05	1 3E-04	3 2E 08	8 8E-05	2 1E-04	6 1E-04	3 2E-10	1 2E-10	NA	NA	1 6E-03
SUBAREA TOTAL	E1 avg	2 0E-03	1 1E-04	8 8E-05	2 2E-04	2 7E-06	9 3E-05	2 1E-04	7 2E-04	3 2E-10	1 5E-08	NA	NA	5 2E-03

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TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

Chemical	Subarea	CARCINOGENIC RISKS													
		Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk
2,3,7,8-TCDD	E1 hi end	1.9E-11	1.0E-11	3.1E-08	3.7E-09	1.6E-10	4.3E-11	7 1E-11	3.5E-08	6.3E-09	6 5E-09	3 6E-09	1.6E-10	2.4E-09	1 1E-08
1,2,3,7,8-PeCDD	E1 hi end	4.7E-11	2.6E-11	2.6E-07	2.3E-08	3.7E-10	1.0E-10	1.7E-10	2.8E-07	5.3E-08	5.5E-08	3.0E-08	1.3E-09	2.0E-08	9 1E-08
1,2,3,4,7,8-HxCDD	E1 hi end	1.1E-11	5.8E-12	3.5E-08	3.0E-09	4 0E-11	1.1E-11	1.8E-11	3.8E-08	7.2E-09	7.4E-09	4.0E-09	1.8E-10	2.8E-09	1.2E-08
1,2,3,6,7,8-HxCDD	E1 hi end	1.9E-11	1.0E-11	9.4E-09	1.2E-09	6.1E-11	1.7E-11	2.8E-11	1.1E-08	1.9E-09	2.0E-09	1.1E-09	4.9E-11	7.4E-10	3 3E-09
1,2,3,7,8,9-HxCDD	E1 hi end	1.2E-11	6.6E-12	1 3E-08	1.4E-09	5.1E-11	1.4E-11	2.3E-11	1.4E-08	2.7E-09	2.7E-09	1.5E-09	6.7E-11	1.0E-09	4.5E-09
1,2,3,4,6,7,8-HpCDD	E1 hi end	1.4E-11	7.5E-12	1.0E-08	8.7E-10	9.3E-12	2.5E-12	4.2E-12	1.1E-08	2.1E-09	2.1E-09	1.2E-09	5.3E-11	8.0E-10	3.6E-09
OCDD	E1 hi end	6.7E-12	3.6E-12	1 8E-07	1.5E-08	6.5E-12	1.8E-12	3 0E-12	2.0E-07	3.8E-08	3.9E-08	2.1E-08	9.6E-10	1.4E-08	6.4E-08
2,3,7,8-TCDF	E1 hi end	1.7E-11	9.4E-12	9.6E-09	1.0E-09	3.1E-11	8.4E-12	1.4E-11	1.1E-08	2.0E-09	2.0E-09	1.1E-09	5.0E-11	7.6E-10	3.4E-09
1,2,3,7,8-PeCDF	E1 hi end	2.8E-11	1 5E-11	2.2E-08	2.1E-09	3 8E-11	1.0E-11	1.7E-11	2.5E-08	4.6E-09	4.8E-09	2.6E-09	1.2E-10	1.8E-09	7.9E-09
2,3,4,7,8-PeCDF	E1 hi end	3.4E-10	1.9E-10	1 3E-06	1.2E-07	2.0E-09	5.5E-10	9.1E-10	1.4E-06	2.7E-07	2.7E-07	1.5E-07	6.7E-09	1.0E-07	4.5E-07
1,2,3,4,7,8-HxCDF	E1 hi end	1.7E-10	9.0E-11	1.5E-07	1.7E-08	7.3E-10	2.0E-10	3.3E-10	1.6E-07	3.0E-08	3.1E-08	1.7E-08	7.6E-10	1.2E-08	5 1E-08
1,2,3,6,7,8-HxCDF	E1 hi end	1.6E-10	8.5E-11	2 7E-07	2.5E-08	5 8E-10	1.6E-10	2.7E-10	2.9E-07	5.5E-08	5.6E-08	3 1E-08	1.4E-09	2.1E-08	9 3E-08
1,2,3,7,8,9-HxCDF	E1 hi end	3.6E-11	2.0E-11	6 0E-08	5.8E-09	1.3E-10	3.7E-11	6.1E-11	6.6E-08	1.2E-08	1.3E-08	7.0E-09	3.1E-10	4.8E-09	2.1E-08
2,3,4,6,7,8-HxCDF	E1 hi end	1.8E-10	9.6E-11	1.8E-07	1.8E-08	5.9E-10	1.6E-10	2.7E-10	2.0E-07	3.6E-08	3.7E-08	2.0E-08	9.2E-10	1.4E-08	6 2E-08
1,2,3,4,6,7,8-HpCDF	E1 hi end	1.1E-10	5 8E-11	1 4E-08	1.7E-09	8 1E-11	2.2E-11	3.7E-11	1.6E-08	2.9E-09	3.0E-09	1.6E-09	7.3E-11	1.1E-09	5 0E-09
1,2,3,4,7,8,9-HpCDF	E1 hi end	1.4E-11	7 4E-12	2 9E-09	4.1E-10	2.5E-11	6.9E-12	1.2E-11	3.3E-09	5.9E-10	6.1E-10	3.3E-10	1.5E-11	2.3E-10	1.0E-09
OCDF	E1 hi end	2.1E-11	1.1E-11	1.5E-08	1.3E-09	7.7E-12	2.1E-12	3.5E-12	1.7E-08	3.1E-09	3.2E-09	1.8E-09	8.0E-11	1.2E-09	5 4E-09
Tetrachlorobiphenyl	E1 hi end	1.0E-12	5 7E-13	3.7E-10	1.2E-10	1.2E-11	3.3E-12	5.4E-12	5.2E-10	7.4E-11	7.6E-11	4.2E-11	1.9E-12	2.8E-11	1.3E-10
Hexachlorobiphenyl	E1 hi end	1.7E-12	9.2E-13	2.4E-10	7.6E-11	7.0E-12	1.9E-12	3.2E-12	3.3E-10	4.7E-11	4.9E-11	2.7E-11	1.2E-12	1.8E-11	8.0E-11
Heptachlorobiphenyl	E1 hi end	1.7E-12	9.0E-13	6.1E-09	5.4E-10	7.1E-12	2.0E-12	3.3E-12	6.6E-09	1.3E-09	1.3E-09	7.1E-10	3.2E-11	4.8E-10	2 1E-09
Benzo(a)pyrene	E1 hi end	2 3E-11	2.5E-11	4.8E-07	1.5E-08	7.8E-13	2.1E-13	3.2E-10	5.0E-07	5.2E-07	3.6E-08	4.5E-08	1.3E-08	1.6E-08	2 2E-08
Benzo(b)fluoranthene	E1 hi end	9.6E-12	1.0E-11	2.9E-08	1.0E-09	4.0E-13	1.1E-13	1.6E-10	3.0E-08	3.0E-08	2.1E-09	2.6E-09	7.7E-10	9.4E-10	1 3E-09
Bis(2-ethylhexyl)phthalate	E1 hi end	1.6E-14	1.7E-14	7.7E-08	2.3E-09	8.2E-17	2.2E-17	3.4E-14	7.9E-08	8.2E-08	5.6E-09	7.1E-09	2.1E-09	2.5E-09	3.4E-09
Carbon tetrachloride	E1 hi end	9.9E-13	1.1E-12	3.7E-13	6.6E-14	3.3E-16	8.9E-17	1 3E-13	5.7E-13	4.3E-13	3.0E-14	3.7E-14	1.1E-14	1.3E-14	1.8E-14
Dibenz(a,h)anthracene	E1 hi end	5.5E-11	6.0E-11	7.5E-08	3.8E-09	7.0E-12	1.9E-12	2.9E-09	8.1E-08	7.9E-08	5.4E-09	6.8E-09	2.0E-09	2.4E-09	3.3E-09
Di(n)octyl phthalate	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlor	E1 hi end	2.9E-14	3.1E-14	1.9E-10	6.4E-12	1.4E-15	3.8E-16	5.7E-13	2.0E-10	2.0E-10	1.4E-11	1.8E-11	5.2E-12	6.3E-12	8 5E-12
Hexachlorobenzene	E1 hi end	2.0E-11	2.1E-11	6.5E-10	2.1E-10	4.2E-13	1.2E-13	1.8E-10	1.0E-09	6.2E-10	4.3E-11	5.4E-11	1.6E-11	1.9E-11	2.6E-11
Hexachlorobutadiene	E1 hi end	2.6E-12	2.8E-12	6.1E-12	2.3E-12	4.9E-15	1.3E-15	2.0E-12	1.0E-11	5.7E-12	3.9E-13	5.0E-13	1.4E-13	1.8E-13	2.4E-13
Hexachlorocyclopentadiene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorophene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	E1 hi end	6.2E-12	6.8E-12	6.9E-09	3.9E-10	7.2E-13	2.0E-13	3.0E-10	7.6E-09	7.3E-09	5.0E-10	6.3E-10	1.8E-10	2.2E-10	3 0E-10
Antimony	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	E1 hi end	9.5E-11	1.7E-11	1.3E-09	2.0E-10	8.3E-11	2.3E-11	3.6E-11	1.7E-09	1.3E-10	9.0E-12	1.1E-11	3.3E-12	4.0E-12	5.4E-12
Barium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Beryllium	E1 hi end	6.2E-13	1.1E-13	1.9E-12	6.5E-13	2.8E-14	7.6E-15	1.1E-14	2.6E-12	5.4E-15	3.7E-16	4.7E-16	1.4E-16	1.7E-16	2.3E-16
Cadmium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chromium (hexavalent)	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Lead	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nickel	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Selenium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Silver	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Thallium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Zinc	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
DIOXIN TEQ	E1 hi end	1.2E-09	6.5E-10	2 5E-06	2.4E-07	4 9E-09	1 3E-09	2 2E-09	2 8E-06	5 2E-07	5 4E-07	3 0E-07	1 3E-08	2 0E-07	8 9E-07
ORGANICS TOTAL (non-dioxin)	E1 hi end	1 2E-10	1 3E-10	6 8E-07	2.3E-08	3 5E-11	9 7E-12	3 9E-09	7 0E-07	7 2E-07	5 1E-08	6 3E-08	1 8E-08	2 3E-08	3 2E-08
INORGANICS TOTAL	E1 hi end	9.5E-11	1 7E-11	1 3E-09	2 0E-10	8 3E-11	2 3E-11	3 6E-11	1 7E-09	1 3E-10	9 0E-12	1 1E-11	3 3E-12	4 0E-12	5 4E-12
SUBAREA TOTAL	E1 hi end	1 4E-09	7.9E-10	3 2E-06	2 6E-07	5 0E-09	1 4E-09	6 1E-09	3 5E-06	1 2E-06	5 9E-07	3 6E-07	3 1E-08	2 2E-07	9 3E-07

External Review Draft Do Not Cite or Quote

TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

Chemical	Subarea	CARCINOGENIC RISKS TOTAL DAIRY PRODUCT INGESTION RISK	Exposed Produce Ingestion Risk	Protected Produce Ingestion Risk	Leafy Produce Ingestion Risk	Root Produce Ingestion Risk	Exposed Fruit Ingestion Risk	Protected Fruit Ingestion Risk	TOTAL FRUIT & PRODUCE INGESTION RISK	River Water Ingestion Risk	River Water Dermal Contact Risk	Lake Water Ingestion Risk	Lake Water Dermal Contact Risk	Infant Breast milk Ingestion Risk	TOTAL CANCER RISK
2,3,7,8-TCDD	E1 hi end	3 0E-08	4.1E-11	1 7E-12	8.1E-10	3 5E-12	3.5E-11	4.0E-12	9.0E-10	9.8E-17	4.2E-13	NA	NA	3.8E-08	6.6E-08
1,2,3,7,8-PeCDD	E1 hi end	2.5E-07	3.5E-10	4.1E-12	7.3E-09	8.8E-12	3.0E-10	1.0E-11	8 0E-09	2 4E-16	8.1E-13	NA	NA	3.1E-07	5 4E-07
1,2,3,4,7,8-HxCDD	E1 hi end	3.4E-08	9.7E-11	2.0E-13	2.0E-09	1.1E-12	8 2E-11	4.8E-13	2.2E-09	1.3E-17	2.2E-13	NA	NA	4 2E-08	7.4E-08
1,2,3,6,7,8-HxCDD	E1 hi end	9.1E-09	3.3E-11	6.7E-13	5.5E-10	2.6E-12	2.8E-11	1.6E-12	6.2E-10	5.0E-17	3 9E-13	NA	NA	1.2E-08	2 0E-08
1,2,3,7,8,9-HxCDD	E1 hi end	1.3E-08	3.4E-11	2 2E-13	6.3E-10	1.7E-12	2.9E-11	5.4E-13	7.0E-10	3 2E-17	5.6E-13	NA	NA	1.6E-08	2 8E-08
1,2,3,4,6,7,8-HpCDD	E1 hi end	9.8E-09	1.6E-10	1.5E-13	3.3E-09	1.1E-12	1.3E-10	3.6E-13	3.6E-09	7.2E-18	1.9E-13	NA	NA	1.4E-08	2.4E-08
OCDD	E1 hi end	1.8E-07	1.9E-09	1.6E-13	4.3E-08	7.4E-13	1.7E-09	3.9E-13	4.6E-08	1.1E-17	8.7E-14	NA	NA	2.4E-07	4 2E-07
2,3,7,8-TCDF	E1 hi end	9.3E-09	5.8E-11	1.7E-12	1.2E-09	3.4E-12	4 9E-11	4.2E-12	1.3E-09	9 5E-17	3.8E-13	NA	NA	1.2E-08	2 1E-08
1,2,3,7,8-PeCDF	E1 hi end	2.2E-08	1.7E-10	2 0E-12	3.6E-09	4 7E-12	1.5E-10	4.8E-12	4.0E-09	1.3E-16	6.2E-13	NA	NA	2.9E-08	5.0E-08
2,3,4,7,8-PeCDF	E1 hi end	1.3E-06	2.3E-09	2.0E-11	4.9E-08	5.5E-11	2.0E-09	4.9E-11	5.4E-08	1.4E-15	8.5E-12	NA	NA	1.6E-06	2 7E-06
1,2,3,4,7,8-HxCDF	E1 hi end	1.4E-07	3 7E-10	5.9E-12	6.7E-09	2.3E-11	3.2E-10	1.4E-11	7.4E-09	4.4E-16	3.9E-12	NA	NA	1.8E-07	3 1E-07
1,2,3,6,7,8-HxCDF	E1 hi end	2.6E-07	7.6E-10	5.5E-12	1.5E-08	2.1E-11	6.4E-10	1.3E-11	1.7E-08	4 2E-16	3.6E-12	NA	NA	3.2E-07	5.7E-07
1,2,3,7,8,9-HxCDF	E1 hi end	5 8E-08	1.7E-10	1 3E-12	3.5E-09	4.9E-12	1 5E-10	3.1E-12	3.8E-09	9.7E-17	8.5E-13	NA	NA	7.4E-08	1.3E-07
2,3,4,6,7,8-HxCDF	E1 hi end	1 7E-07	5.8E-10	6.3E-12	1.1E-08	2.4E-11	4.9E-10	1.5E-11	1.2E-08	4.7E-16	4.1E-12	NA	NA	2.2E-07	3 8E-07
1,2,3,4,6,7,8-HpCDF	E1 hi end	1 4E-08	2.1E-10	1.7E-12	3.6E-09	1.0E-11	1 8E-10	4.1E-12	4.0E-09	1.0E-16	1.9E-12	NA	NA	1.9E-08	3.4E-08
1,2,3,4,7,8,9-HpCDF	E1 hi end	2 8E-09	1 8E-11	2.2E-13	2.8E-10	1.3E-12	1.6E-11	5.3E-13	3.1E-10	1.3E-17	2.4E-13	NA	NA	3.7E-09	6 5E-09
OCDF	E1 hi end	1.5E-08	4 3E-10	1.0E-13	9.1E-09	1 2E-12	3.6E-10	2.4E-13	9.9E-09	2.9E-18	1.8E-13	NA	NA	2.4E-08	4.1E-08
Tetrachlorobiphenyl	E1 hi end	3.5E-10	5 6E-13	2 4E-13	5.5E-12	4.3E-12	4.7E-13	5.9E-13	1.2E-11	1.0E-17	2.8E-14	NA	NA	5.0E-10	8 8E-10
Hexachlorobiphenyl	E1 hi end	2.2E-10	5.4E-13	7.2E-14	9.9E-12	6.7E-13	4.5E-13	1.8E-13	1.2E-11	8.5E-18	6.6E-14	NA	NA	3.2E-10	5 6E-10
Heptachlorobiphenyl	E1 hi end	5 9E-09	1 5E-11	3.6E-14	3.2E-10	4.0E-12	1.2E-11	8.7E-14	3.5E-10	1.0E-17	1.4E-13	NA	NA	7.4E-09	1.3E-08
Benzo(a)pyrene	E1 hi end	6 5E-07	1.6E-09	3.8E-12	3.4E-08	1.1E-12	1.4E-09	9.3E-12	3.7E-08	1.6E-16	4.7E-13	NA	NA	3.4E-06	1.2E-06
Benzo(b)fluoranthene	E1 hi end	3 8E-08	7 6E-11	1.4E-12	1 6E-09	3.9E-12	6.4E-11	3.5E-12	1.8E-09	6.0E-17	2.1E-13	NA	NA	2.5E-07	7.0E-08
Bis(2-ethylhexyl)phthalate	E1 hi end	1.0E-07	1.6E-09	5.4E-16	3.5E-08	2.0E-15	1.4E-09	1.3E-15	3.8E-08	5.8E-19	4.5E-15	NA	NA	9.8E-08	2.2E-07
Carbon tetrachloride	E1 hi end	5 4E-13	2.3E-10	2.0E-10	5.1E-11	5.5E-11	2.0E-10	4.8E-10	1.2E-09	5.2E-17	1.2E-15	NA	NA	1.5E-12	1 2E-09
Dibenz(a,h)anthracene	E1 hi end	9.9E-08	1.3E-10	4.3E-12	7.3E-11	1.7E-11	1.1E-10	1.0E-11	3.4E-10	2.5E-16	1.6E-12	NA	NA	2.0E-06	1.8E-07
Di(n)octyl phthalate	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Heptachlor	E1 hi end	2.6E-10	4.4E-13	3.9E-15	9.5E-12	2.3E-13	3.7E-13	9.5E-15	1.1E-11	1.9E-19	3.0E-16	NA	NA	1.9E-09	4.7E-10
Hexachlorobenzene	E1 hi end	7.8E-10	1.7E-11	1.4E-11	1.9E-11	7.8E-10	1.4E-11	3.4E-11	8.8E-10	3.6E-16	6.0E-13	NA	NA	4.8E-09	2 7E-09
Hexachlorobutadiene	E1 hi end	7.2E-12	3.6E-12	3.0E-12	9.0E-13	1.1E-11	3.0E-12	7.3E-12	2.9E-11	2.1E-17	6.9E-15	NA	NA	7.6E-12	5 2E-11
Hexachlorocyclopentadiene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Hexachlorophene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT	NT
Indeno(1,2,3-cd)pyrene	E1 hi end	9.1E-09	1.3E-11	5.1E-13	7.3E-12	1.9E-12	1.1E-11	1.2E-12	3.5E-11	2.7E-17	1.6E-13	NA	NA	1.7E-07	1 7E-08
Antimony	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Arsenic	E1 hi end	1.6E-10	1.9E-10	6.1E-11	1.7E-10	4.4E-14	1.6E-10	1.5E-10	7.2E-10	3.3E-15	1.2E-15	NA	NA	NA	2.7E-09
Barium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Beryllium	E1 hi end	6.8E-15	3.0E-13	3.9E-14	2.1E-13	6.4E-18	2.5E-13	9.4E-14	8.9E-13	9.5E-18	3.4E-18	NA	NA	NA	4.2E-12
Cadmium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Chromium (hexavalent)	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Lead	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Mercury	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Nickel	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Selenium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Silver	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Thallium	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Zinc	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
DIOXIN TEQ	E1 hi end	2.5E-06	7 8E-09	5 2E-11	1.6E-07	1.7E-10	6 6E-09	1.3E-10	1 8E-07	3 6E-15	2 7E-11	NA	NA	3 1E-06	5 4E-06
ORGANICS TOTAL (non-dioxin)	E1 hi end	9.0E-07	3 7E-09	2 2E-10	7 1E-08	8.8E-10	3 1E-09	5 4E-10	7 9E-08	9 6E-16	3 3E-12	NA	NA	5 9E-06	1 7E-06
INORGANICS TOTAL	E1 hi end	1 6E-10	1 9E-10	6 1E-11	1.7E-10	4 4E-14	1 6E-10	1 5E-10	7 3E-10	3 3E-15	1 2E-15	NA	NA	NA	2 7E-09
SUBAREA TOTAL	E1 hi end	3 4E-06	1.2E-08	3.4E-10	2.3E-07	1 0E-09	9 9E-09	8 2E-10	2 6E-07	7 9E-15	3 0E-11	NA	NA	9 1E-06	7 1E-06

TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

NONCARCINOGENIC HAZARD QUOTIENTS

Chemical	Subarea	Soil Ingestion HQ	Soil Dermal Contact HQ	Beef Ingestion HQ	Pork Ingestion HQ	Chicken Ingestion HQ	Other Poultry Ingestion HQ	Egg Ingestion HQ	TOTAL MEAT & EGG INGESTION HQ	Milk Ingestion HQ	Cheese Ingestion HQ	Milk Desserts Ingestion HQ	Yogurt Ingestion HQ	Cream Ingestion HQ	Butter Ingestion HQ
2,3,7,8-TCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,7,8-TCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8-PeCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,7,8-PeCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,7,8,9-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
OCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachlorobiphenyl	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobiphenyl	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Heptachlorobiphenyl	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-ethylhexyl)phthalate	E1 hi end	9.9E-11	1 1E-10	4.8E-04	1.4E-05	5 1E-13	1.4E-13	2.1E-10	4.9E-04	5.1E-04	3.5E-05	4 4E-05	1.3E-05	1.6E-05	2.1E-05
Carbon tetrachloride	E1 hi end	1.9E-08	2.1E-08	7.0E-09	1.3E-09	6.3E-12	1.7E-12	2.6E-09	1.1E-08	8.3E-09	5.7E-10	7.2E-10	2.1E-10	2.5E-10	3 4E-10
Dibenz(a,h)anthracene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	E1 hi end	2.8E-11	3 1E-11	1.3E-03	3.9E-05	8 4E-11	2 3E-11	3.5E-08	1.3E-03	1.4E-03	9.5E-05	1.2E-04	3.5E-05	4.2E-05	5 7E-05
Heptachlor	E1 hi end	2.2E-11	2.4E-11	1.5E-07	5.0E-09	1.1E-12	2.9E-13	4.4E-10	1.5E-07	1.6E-07	1.1E-08	1.4E-08	4.0E-09	4.9E-09	6 6E-09
Hexachlorobenzene	E1 hi end	2.7E-08	2 9E-08	8 9E-07	2.8E-07	5.8E-10	1.6E-10	2.4E-07	1.4E-06	8.5E-07	5.8E-08	7.4E-08	2.2E-08	2.6E-08	3 5E-08
Hexachlorobutadiene	E1 hi end	2.9E-07	3.2E-07	6.8E-07	2.6E-07	5.5E-10	1.5E-10	2.3E-07	1.2E-06	6.4E-07	4.4E-08	5.6E-08	1.6E-08	2.0E-08	2 7E-08
Hexachlorocyclopentadiene	E1 hi end	1.4E-10	1.5E-10	1 2E-09	4.5E-10	9.1E-13	2.5E-13	3.8E-10	2.0E-09	1.1E-09	7.8E-11	9.8E-11	2.9E-11	3 5E-11	4.7E-11
Hexachlorophene	E1 hi end	1.2E-07	1.3E-07	2.3E-03	6.4E-05	1.1E-07	2.9E-08	4.4E-05	2.4E-03	2.5E-03	1.7E-04	2.1E-04	6.2E-05	7.5E-05	1 0E-04
Indeno(1,2,3-cd)pyrene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Antimony	E1 hi end	6.1E-09	1.1E-09	1 8E-07	3.4E-08	2.8E-10	7.6E-11	1.1E-09	2.2E-07	6.1E-08	4.2E-09	5.3E-09	1.6E-09	1.9E-09	2 5E-09
Arsenic	E1 hi end	3.2E-07	5.7E-08	4.4E-06	6.5E-07	2 8E-07	7.6E-08	1.2E-07	5.5E-06	4.3E-07	3 0E-08	3.8E-08	1.1E-08	1.3E-08	1 8E-08
Barium	E1 hi end	1.7E-09	3.0E-10	5.5E-09	1.1E-08	4.7E-12	1.3E-12	1.2E-09	1.8E-08	4.3E-08	3 0E-09	3 8E-09	1.1E-09	1 3E-09	1 8E-09
Beryllium	E1 hi end	5.0E-11	9.1E-12	1.5E-10	5.3E-11	2.3E-12	6 2E-13	8.8E-13	2.1E-10	4.4E-13	3.0E-14	3 8E-14	1.1E-14	1 4E-14	1 8E-14
Cadmium	E1 hi end	2.8E-09	5.0E-10	7 7E-08	1.6E-09	7.5E-09	2.0E-09	5 8E-11	8 8E-08	1.6E-08	1.1E-09	1 4E-09	4 1E-10	5 0E-10	6 8E-10
Chromium (hexavalent)	E1 hi end	1.3E-09	2.4E-10	2.0E-08	1.0E-08	1.3E-10	3.6E-11	7.0E-11	3 1E-08	1.7E-08	1.2E-09	1.5E-09	4.3E-10	5.3E-10	7 1E-10
Lead	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	E1 hi end	3 7E-06	6.6E-07	1 1E-05	1.7E-05	3 5E-06	9 7E-07	9 8E-08	3 2E-05	4 7E-05	3 3E-06	4 1E-06	1.2E-06	1 5E-06	2 0E-06
Nickel	E1 hi end	4 8E-10	8.7E-11	2.7E-08	5.3E-08	9 0E-11	2 5E-11	4.8E-11	8 0E-08	1 5E-08	1 0E-09	1.3E-09	3 8E-10	4 6E-10	6 3E-10
Selenium	E1 hi end	3 6E-07	6 5E-08	5 4E-06	5 8E-05	2 1E-06	5 7E-07	6 9E-07	6 7E-05	2 7E-04	1 8E-05	2 3E-05	6 6E-06	8 2E-06	1 1E-05
Silver	E1 hi end	1.8E-09	3 2E-10	1 8E-07	1.9E-09	2 5E-11	6 8E-12	1 6E-10	1 9E-07	4 2E-06	2 9E-07	3 6E-07	1 1E-07	1 3E-07	1 7E-07
Thallium	E1 hi end	6.3E-06	1.1E-06	5.8E-04	9 2E-04	2 0E-04	5 5E-05	6 7E-05	1 8E-03	9 0E-05	6 2E-06	7 8E-06	2 3E-06	2 8E-06	3 7E-06
Zinc	E1 hi end	2.1E-10	3.8E-11	1 8E-09	2.2E-10	2 1E-10	5 9E-11	7 1E-11	2 4E-09	1 6E-09	1 1E-10	1 4E-10	4 1E-11	5 0E-11	6 7E-11
DIOXIN TEQ	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
ORGANICS TOTAL (non-dioxin)	E1 hi end	4.6E-07	5.0E-07	4.1E-03	1 2E-04	1 1E-07	3 0E-08	4 5E-05	4 2E-03	4 3E-03	3 0E-04	3 8E-04	1 1E-04	1 3E-04	1 8E-04
INORGANICS TOTAL	E1 hi end	1.1E-05	1 9E-06	6 0E-04	9 9E-04	2 1E-04	5 7E-05	6 8E-05	1 9E-03	4 1E-04	2 8E-05	3 6E-05	1 0E-05	1 3E-05	1 7E-05
SUBAREA TOTAL	E1 hi end	1.1E-05	2.4E-06	4.7E-03	1.1E-03	2 1E-04	5 7E-05	1 1E-04	6 2E-03	4 7E-03	3 3E-04	4 1E-04	1 2E-04	1 5E-04	2 0E-04

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TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

Chemical	Subarea	NONCARCINOGENIC HAZARD QUOTIENTS TOTAL DAIRY PRODUCT INGESTION HQ	Exposed Produce Ingestion HQ	Protected Produce Ingestion HQ	Leafy Produce Ingestion HQ	Root Produce Ingestion HQ	Exposed Fruit Ingestion HQ	Protected Fruit Ingestion HQ	TOTAL FRUIT & PRODUCE INGESTION HQ	River Water Ingestion HQ	River Water Dermal Contact HQ	Lake Water Ingestion HQ	Lake Water Dermal Contact HQ	TOTAL HI
2,3,7,8-TCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDD	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,7,8-TCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,7,8-PeCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,6,7,8-HxCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDF	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Tetrachlorobiphenyl	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Hexachlorobiphenyl	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Heptachlorobiphenyl	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(a)pyrene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(b)fluoranthene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Bis(2-ethylhexyl)phthalate	E1 hi end	6.4E-04	1 0E-05	3.4E-12	2.2E-04	1.2E-11	8.5E-06	8.2E-12	2.4E-04	3.6E-15	2.8E-11	NA	NA	1.4E-03
Carbon tetrachloride	E1 hi end	1 0E-08	4.5E-06	3.8E-06	9.7E-07	1.1E-06	3.8E-06	9.2E-06	2.3E-05	1.0E-12	2.3E-11	NA	NA	2.3E-05
Dibenz(a,h)anthracene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Di(n)octyl phthalate	E1 hi end	1.7E-03	4.7E-08	3.6E-13	1.0E-06	8.8E-09	4.0E-08	8.6E-13	1.1E-06	1.9E-16	5.2E-12	NA	NA	3.1E-03
Heptachlor	E1 hi end	2.0E-07	3.4E-10	3.1E-12	7.4E-09	1.8E-10	2.9E-10	7.4E-12	8.2E-09	1.5E-16	2.4E-13	NA	NA	3.6E-07
Hexachlorobenzene	E1 hi end	1.1E-06	2.3E-08	1.9E-08	2.6E-08	1.1E-06	2.0E-08	4.6E-08	1.2E-06	4.9E-13	8.1E-10	NA	NA	3.7E-06
Hexachlorobutadiene	E1 hi end	8 0E-07	4 0E-07	3 4E-07	1.0E-07	1.3E-06	3.4E-07	8.2E-07	3.3E-06	2.3E-12	7.7E-10	NA	NA	5.9E-06
Hexachlorocyclopentadiene	E1 hi end	1.4E-09	7.5E-11	6.3E-11	5.1E-11	1.7E-09	6.4E-11	1.5E-10	2.2E-09	9.4E-16	7.4E-13	NA	NA	5.9E-09
Hexachlorophene	E1 hi end	3.1E-03	5.8E-07	3.1E-09	3.3E-07	3.2E-06	4 9E-07	7.6E-09	4.7E-06	1.3E-12	1.3E-08	NA	NA	5.5E-03
Indeno(1,2,3-cd)pyrene	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Antimony	E1 hi end	7.7E-08	8.7E-08	4.6E-08	9.9E-08	1.1E-10	7.4E-08	1.1E-07	4.2E-07	3 8E-13	1.4E-13	NA	NA	7.2E-07
Arsenic	E1 hi end	5 5E-07	6.2E-07	2 0E-07	5.7E-07	1.5E-10	5.3E-07	4.9E-07	2.4E-06	1.1E-11	4.0E-12	NA	NA	8 8E-06
Barium	E1 hi end	5.4E-08	1.3E-08	5 7E-09	1.8E-08	1.0E-11	1.1E-08	1.4E-08	6.3E-08	9.7E-14	3.5E-14	NA	NA	1.4E-07
Beryllium	E1 hi end	5.5E-13	2.4E-11	3.1E-12	1.7E-11	5.2E-16	2.1E-11	7.6E-12	7.3E-11	7.7E-16	2.8E-16	NA	NA	3 4E-10
Cadmium	E1 hi end	2.1E-08	2.4E-07	1.2E-07	1.7E-07	4 3E-10	2.1E-07	2.9E-07	1.0E-06	2 9E-13	1.1E-13	NA	NA	1.1E-06
Chromium (hexavalent)	E1 hi end	2.1E-08	6.9E-10	2.1E-10	3.4E-10	2.6E-14	5.8E-10	5.0E-10	2.3E-09	1.7E-14	6.2E-15	NA	NA	5.6E-08
Lead	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Mercury	E1 hi end	5 9E-05	2.5E-04	2.1E-04	3.2E-04	8 0E-08	2.2E-04	5.2E-04	1.5E-03	2 4E-10	8 6E-11	NA	NA	1 6E-03
Nickel	E1 hi end	1.9E-08	5 3E-09	3.8E-09	1.4E-09	1 8E-13	4 5E-09	9.3E-09	2 4E-08	2 0E-14	7 2E-15	NA	NA	1.2E-07
Selenium	E1 hi end	3 3E-04	1 1E-06	6 9E-07	3.5E-07	2 0E-10	9 4E-07	1 7E-06	4 8E-06	9 5E-12	3 5E-12	NA	NA	4 1E-04
Silver	E1 hi end	5 2E-06	6 1E-08	4 4E-08	5.1E-08	1 1E-10	5 2E-08	1 1E-07	3.2E-07	1 1E-13	3 9E-14	NA	NA	5 7E-06
Thallium	E1 hi end	1 1E-04	1 6E-06	6 4E-08	8 9E-07	4.6E-12	1 3E-06	1 6E-07	4 0E-06	6 1E-11	2 2E-11	NA	NA	1 9E-03
Zinc	E1 hi end	2.0E-09	5.9E-08	4 9E-08	2.2E-08	1.5E-11	5 0E-08	1 2E-07	3 0E-07	1 3E-14	4 8E-15	NA	NA	3.0E-07
DIOXIN TEQ	E1 hi end	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 hi end	5 4E-03	1.6E-05	4 1E-06	2 2E-04	6 7E-06	1 3E-05	1 0E-05	2 7E-04	5 1E-12	1 5E-08	NA	NA	1 0E-02
INORGANICS TOTAL	E1 hi end	5 1E-04	2.6E-04	2 1E-04	3.2E-04	8 1E-08	2 2E-04	5 2E-04	1 5E-03	3 2E-10	1 2E-10	NA	NA	4 0E-03
SUBAREA TOTAL	E1 hi end	6 0E-03	2.7E-04	2 2E-04	5.4E-04	6 7E-06	2 3E-04	5 3E-04	1 8E-03	3 2E-10	1 5E-08	NA	NA	1 4E-02

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TABLE 1 Avg & High-end Cancer Risks & Noncancer HQs, Subsistence Farmer Adult

		CARCINOGENIC RISKS													
Chemical	Subarea	Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk

NOTES:
NA = Not applicable
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index
TEQ = TCDD equivalents

TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	1.4E-16	8 3E-18	1.9E-14	4.2E-15	2.1E-16	3 4E-17	1 1E-16	2.1E-14	6 4E-15	5.9E-15	3 7E-16	NA	4 4E-15	3 0E-17
1,2,3,7,8-PeCDD	E1 avg	7 1E-16	4.1E-17	3.2E-13	5 3E-14	1.0E-15	1.6E-16	5.4E-16	3.5E-13	1.1E-13	9.9E-14	6.3E-15	NA	7.4E-14	5.2E-16
1,2,3,4,7,8-HxCDD	E1 avg	7.9E-16	4.6E-17	2.2E-13	3 4E-14	5 5E-16	8.8E-17	2.9E-16	2 4E-13	7 3E-14	6.7E-14	4.2E-15	NA	5.0E-14	7.2E-16
1,2,3,6,7,8-HxCDD	E1 avg	1 4E-15	8.2E-17	5 9E-14	1 3E-14	8.4E-16	1.3E-16	4.5E-16	6 4E-14	2.0E-14	1 8E-14	1.1E-15	NA	1.3E-14	2.5E-16
1,2,3,7,8,9-HxCDD	E1 avg	9 0E-16	5 3E-17	8.0E-14	1 6E-14	6.9E-16	1.1E-16	3.7E-16	8 8E-14	2 7E-14	2.5E-14	1.6E-15	NA	1.8E-14	2 5E-16
1,2,3,4,6,7,8-HpCDD	E1 avg	1.0E-14	6.0E-16	6.3E-13	9.8E-14	1.3E-15	2.0E-16	6.8E-16	6.9E-13	2.1E-13	1.9E-13	1.2E-14	NA	1.4E-13	1.2E-14
OCDD	E1 avg	5.0E-14	2.9E-15	1.1E-10	1.6E-11	8.9E-15	1.4E-15	4.8E-15	1.2E-10	3.8E-11	3.5E-11	2.2E-12	NA	2.6E-11	1.4E-12
2,3,7,8-TCDF	E1 avg	1.3E-15	7.5E-17	6.0E-14	1.1E-14	4.2E-16	6.8E-17	2.2E-16	6.5E-14	2.0E-14	1.8E-14	1.2E-15	NA	1.4E-14	4 3E-16
1,2,3,7,8-PeCDF	E1 avg	4.1E-15	2 4E-16	2.8E-13	4.7E-14	1 0E-15	1 7E-16	5.6E-16	3.1E-13	9.4E-14	8.6E-14	5.5E-15	NA	6.4E-14	2.6E-15
2,3,4,7,8-PeCDF	E1 avg	5.1E-15	3 0E-16	1.6E-12	2.7E-13	5.5E-15	8.8E-16	2.9E-15	1.8E-12	5.4E-13	5.0E-13	3.1E-14	NA	3.7E-13	3.5E-15
1,2,3,4,7,8-HxCDF	E1 avg	1 2E-14	7 2E-16	9.1E-13	1.9E-13	9.9E-15	1.6E-15	5.3E-15	9.9E-13	3.0E-13	2.8E-13	1.8E-14	NA	2.1E-13	2 8E-15
1,2,3,6,7,8-HxCDF	E1 avg	1 2E-14	6.7E-16	1.6E-12	2.8E-13	7.9E-15	1.3E-15	4.2E-15	1.8E-12	5.5E-13	5.1E-13	3.2E-14	NA	3.8E-13	5.6E-15
1,2,3,7,8,9-HxCDF	E1 avg	2.7E-15	1 6E-16	3.7E-13	6.5E-14	1.8E-15	3.0E-16	9.8E-16	4.1E-13	1.3E-13	1.2E-13	7.3E-15	NA	8.6E-14	1 3E-15
2,3,4,6,7,8-HxCDF	E1 avg	1.3E-14	7 6E-16	1.1E-12	2.1E-13	8 0E-15	1.3E-15	4.3E-15	1.2E-12	3.7E-13	3.4E-13	2.1E-14	NA	2.5E-13	4 3E-15
1,2,3,4,6,7,8-HpCDF	E1 avg	7 9E-14	4 6E-15	8 8E-13	1.9E-13	1 1E-14	1 8E-15	5.9E-15	9.6E-13	2 9E-13	2.7E-13	1.7E-14	NA	2.0E-13	1.5E-14
1,2,3,4,7,8,9-HpCDF	E1 avg	1.0E-14	5 9E-16	1 8E-13	4.6E-14	3 5E-15	5.6E-16	1.8E-15	2.0E-13	6.0E-14	5.5E-14	3.5E-15	NA	4.1E-14	1.4E-15
OCDF	E1 avg	1 5E-13	9.0E-15	9 5E-12	1.4E-12	1 1E-14	1.7E-15	5.6E-15	1.0E-11	3.2E-12	2.9E-12	1.9E-13	NA	2.2E-12	3.2E-13
Tetrachlorobiphenyl	E1 avg	1 5E-13	8 8E-15	4 5E-12	2.7E-12	3.2E-13	5.1E-14	1.7E-13	4.8E-12	1.5E-12	1.3E-12	8.5E-14	NA	1.0E-12	8 0E-15
Hexachlorobiphenyl	E1 avg	2 5E-13	1.4E-14	2.9E-12	1.7E-12	1 9E-13	3.0E-14	9.9E-14	3.0E-12	9.3E-13	8.6E-13	5.4E-14	NA	6.4E-13	7.7E-15
Heptachlorobiphenyl	E1 avg	2 4E-13	1.4E-14	7.4E-11	1.2E-11	1.9E-13	3.1E-14	1.0E-13	8.1E-11	2.5E-11	2.3E-11	1.4E-12	NA	1.7E-11	2.1E-13
Benzo(a)pyrene	E1 avg	3 5E-12	4.1E-13	6.2E-09	3.4E-10	2.2E-14	3.5E-15	1.1E-11	3.5E-08	7.2E-10	1.5E-09	6.3E-10	NA	1.8E-10	2 5E-11
Benzo(b)fluoranthene	E1 avg	1.5E-11	1.7E-12	3.6E-09	2.4E-10	1.1E-13	1.8E-14	5.4E-11	2.1E-08	4.2E-10	9.0E-10	3.7E-10	NA	1.1E-10	1 2E-11
Bis(2-ethylhexyl)phthalate	E1 avg	1.3E-12	1.5E-13	5.1E-07	2.8E-08	1.2E-15	1.9E-16	5.8E-13	2.9E-06	5.9E-08	1.3E-07	5.2E-08	NA	1.5E-08	1.3E-08
Carbon tetrachloride	E1 avg	8.5E-12	9 9E-13	2.6E-13	8.7E-14	5.1E-16	8.3E-17	2.5E-13	1.6E-12	3.4E-14	7.1E-14	2.9E-14	NA	8.4E-15	2.0E-10
Dibenz(a,h)anthracene	E1 avg	8.4E-12	9.8E-13	9.5E-10	8.9E-11	2.0E-13	3.2E-14	9.5E-11	5.3E-09	1.1E-10	2.3E-10	9.6E-11	NA	2.7E-11	2 0E-12
Di(n)octyl phthalate	E1 avg	3 6E-13	4.2E-14	1.4E-06	7.6E-08	2.0E-13	3.2E-14	9.5E-11	7.8E-06	1.6E-07	3.4E-07	1 4E-07	NA	4.0E-08	6 0E-11
Heptachlor	E1 avg	7.2E-15	8.4E-16	4 0E-12	2.4E-13	6.3E-17	1.0E-17	3.0E-14	2.3E-11	4.6E-13	9.8E-13	4 0E-13	NA	1.2E-13	1.1E-14
Hexachlorobenzene	E1 avg	1 4E-11	1.6E-12	3.8E-11	2.2E-11	5.4E-14	8.7E-15	2.6E-11	1.9E-10	3.9E-12	8.4E-12	3.4E-12	NA	9.9E-13	1.2E-12
Hexachlorobutadiene	E1 avg	3.8E-11	4.4E-12	7.3E-12	5.0E-12	1.3E-14	2.1E-15	6.3E-12	3.6E-11	7.4E-13	1.6E-12	6 5E-13	NA	1.9E-13	5.1E-12
Hexachlorocyclopentadiene	E1 avg	6 1E-13	7.1E-14	4.5E-13	3.0E-13	7.5E-16	1.2E-16	3.6E-13	2.2E-12	4.6E-14	9.7E-14	4.0E-14	NA	1.1E-14	3 3E-14
Hexachlorophene	E1 avg	2 3E-11	2.7E-12	3.7E-08	1.9E-09	3.8E-12	6.1E-13	1.8E-09	2.1E-07	4.3E-09	9.1E-09	3.7E-09	NA	1.1E-09	1.1E-11
Indeno(1,2,3-cd)pyrene	E1 avg	9 5E-12	1.1E-12	8 8E-10	9.1E-11	2.0E-13	3.3E-14	9.8E-11	4.9E-09	1.0E-10	2.1E-10	8.8E-11	NA	2.5E-11	2.0E-12
Antimony	E1 avg	1.6E-12	3.0E-14	3.8E-12	1.3E-12	1.3E-14	2.1E-15	5.9E-14	6.9E-12	1.4E-13	3.0E-13	1 2E-13	NA	3.5E-14	2 2E-12
Arsenic	E1 avg	6 1E-11	1.2E-12	7.0E-11	1.9E-11	9.7E-12	1.6E-12	4.9E-12	3.7E-11	7.6E-13	1.6E-12	6.6E-13	NA	1.9E-13	1.2E-11
Barium	E1 avg	7.5E-11	1.4E-12	2.0E-11	7.7E-11	3.9E-14	6.2E-15	1.2E-11	8 6E-10	1 8E-11	3.7E-11	1.5E-11	NA	4.4E-12	5.9E-11
Beryllium	E1 avg	1 6E-13	3.1E-15	4.1E-14	2.6E-14	1.3E-15	2.1E-16	6.1E-16	6.3E-16	1.3E-17	2.7E-17	1.1E-17	NA	3.2E-18	7 7E-15
Cadmium	E1 avg	8.9E-13	1 7E-14	2 0E-12	7.9E-14	4 4E-13	7.0E-14	4.0E-15	2.3E-12	4 7E-14	1.0E-13	4 1E-14	NA	1.2E-14	7.7E-12
Chromium (hexavalent)	E1 avg	4 2E-12	8 2E-14	5.3E-12	5.1E-12	7.7E-14	1.2E-14	4.8E-14	2 4E-11	5 0E-13	1.1E-12	4.3E-13	NA	1.2E-13	2 2E-13
Lead	E1 avg	2 7E-10	5 2E-12	1.9E-11	3.8E-11	1.6E-09	2 6E-10	6.3E-10	2 6E-10	5 4E-12	1.1E-11	4.7E-12	NA	1 3E-12	1.8E-11
Mercury	E1 avg	7.0E-10	1.4E-11	1 8E-10	4.9E-10	1.2E-10	2.0E-11	4 0E-12	4 0E-09	8 2E-11	1 8E-10	7 2E-11	NA	2 1E-11	4 8E-09
Nickel	E1 avg	6 2E-12	1.2E-13	2.9E-11	1.0E-10	2 1E-13	3 4E-14	1.3E-13	8 5E-11	1 7E-12	3 7E-12	1 5E-12	NA	4 4E-13	6 7E-12
Selenium	E1 avg	1.1E-09	2.2E-11	1 4E-09	2 8E-08	1.2E-09	2 0E-10	4.7E-10	3 8E-07	7 7E-09	1 6E-08	6 8E-09	NA	1 9E-09	3 5E-10
Silver	E1 avg	5.6E-12	1.1E-13	4 9E-11	9.1E-13	1 5E-14	2.4E-15	1 1E-13	5 9E-09	1.2E-10	2 6E-10	1 1E-10	NA	3 0E-11	1 9E-11
Thallium	E1 avg	2 8E-10	5.5E-12	2 2E-09	6 2E-09	1 7E-09	2 7E-10	6 4E-10	1 8E-09	3 6E-11	7 7E-11	3 2E-11	NA	9 1E-12	7 1E-12
Zinc	E1 avg	4 0E-11	7.7E-13	2 9E-11	6 4E-12	7.5E-12	1.2E-12	2.9E-12	1 4E-10	2 8E-12	6 0E-12	2 5E-12	NA	7.0E-13	1 1E-09

External Review Dra[illegible] Not Cite or Quote

TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d	Infant Breast milk Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	1.2E-18	6.2E-16	2.7E-18	7.3E-17	8.5E-18	4.6E-22	7.9E-19	NA	NA	NA
1,2,3,7,8-PeCDD	E1 avg	6.1E-18	1.1E-14	1.3E-17	1.3E-15	4.2E-17	2.2E-21	3.0E-18	NA	NA	NA
1,2,3,4,7,8-HxCDD	E1 avg	1.5E-18	1.6E-14	8.0E-18	1.7E-15	1.0E-17	5.9E-22	4.1E-18	NA	NA	NA
1,2,3,6,7,8-HxCDD	E1 avg	5.0E-18	4.2E-15	2.0E-17	5.9E-16	3.4E-17	2.3E-21	7.3E-18	NA	NA	NA
1,2,3,7,8,9-HxCDD	E1 avg	1.7E-18	4.8E-15	1.3E-17	6.1E-16	1.1E-17	1.5E-21	1.0E-17	NA	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 avg	1.1E-17	2.6E-13	8.4E-17	2.8E-14	7.6E-17	3.3E-21	3 6E-17	NA	NA	NA
OCDD	E1 avg	1.2E-16	3.3E-11	5.6E-16	3.5E-12	8.3E-16	5.3E-20	1.6E-16	NA	NA	NA
2,3,7,8-TCDF	E1 avg	1.3E-17	9.2E-15	2.6E-17	1.0E-15	8.9E-17	4.4E-21	7.1E-18	NA	NA	NA
1,2,3,7,8-PeCDF	E1 avg	2.9E-17	5.6E-14	7.2E-17	6.2E-15	2.0E-16	1.2E-20	2.3E-17	NA	NA	NA
2,3,4,7,8-PeCDF	E1 avg	3.0E-17	7.6E-14	8.3E-17	8.4E-15	2.1E-16	1.3E-20	3 2E-17	NA	NA	NA
1,2,3,4,7,8-HxCDF	E1 avg	4.4E-17	5.1E-14	1.7E-16	6.7E-15	3.0E-16	2.1E-20	7.2E-17	NA	NA	NA
1,2,3,6,7,8-HxCDF	E1 avg	4.1E-17	1.2E-13	1.6E-16	1.4E-14	2.8E-16	1.9E-20	6.7E-17	NA	NA	NA
1,2,3,7,8,9-HxCDF	E1 avg	9.5E-18	2 7E-14	3.7E-17	3.1E-15	6.5E-17	4.5E-21	1.6E-17	NA	NA	NA
2,3,4,6,7,8-HxCDF	E1 avg	4.6E-17	8.5E-14	1.8E-16	1.0E-14	3.2E-16	2 2E-20	7.6E-17	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 avg	1.3E-16	2.8E-13	7.7E-16	3.7E-14	8.7E-16	4.8E-20	3.5E-16	NA	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 avg	1.6E-17	2.1E-14	9.9E-17	3.3E-15	1.1E-16	6.1E-21	4.4E-17	NA	NA	NA
OCDF	E1 avg	7.4E-17	7.0E-12	9.1E-16	7.6E-13	5.1E-16	1.3E-20	3.3E-16	NA	NA	NA
Tetrachlorobiphenyl	E1 avg	3.5E-15	8.2E-14	6 4E-14	1.9E-14	2.4E-14	9.5E-19	9.9E-16	NA	NA	NA
Hexachlorobiphenyl	E1 avg	1.0E-15	1 5E-13	1 0E-14	1.9E-14	7.2E-15	7.7E-19	2.4E-15	NA	NA	NA
Heptachlorobiphenyl	E1 avg	5.1E-16	4.8E-12	5.9E-14	5.1E-13	3.6E-15	9.0E-19	5.2E-15	NA	NA	NA
Benzo(a)pyrene	E1 avg	5 8E-14	5.3E-10	1.7E-14	5.9E-11	4.0E-13	1.5E-17	1.8E-14	NA	NA	NA
Benzo(b)fluoranthene	E1 avg	2.2E-13	2 5E-10	6.0E-13	2.8E-11	1.5E-12	5.7E-17	7.8E-14	NA	NA	NA
Bis(2-ethylhexyl)phthalate	E1 avg	4 3E-15	2 9E-07	1.6E-14	3.1E-08	3.0E-14	2.9E-17	9.0E-14	NA	NA	NA
Carbon tetrachloride	E1 avg	1 7E-10	4.5E-11	4.9E-11	4.8E-10	1.2E-09	2.8E-16	2.6E-15	NA	NA	NA
Dibenz(a,h)anthracene	E1 avg	6.5E-14	1.1E-12	2.7E-13	4.7E-12	4.5E-13	2.4E-17	6.0E-14	NA	NA	NA
Di(n)octyl phthalate	E1 avg	4.5E-16	1.4E-09	1.2E-11	1.4E-10	3.1E-15	1 5E-18	1.6E-14	NA	NA	NA
Heptachlor	E1 avg	9.7E-17	2.4E-13	5.8E-15	2.6E-14	6.7E-16	2.9E-20	1.9E-17	NA	NA	NA
Hexachlorobenzene	E1 avg	9.6E-13	1.4E-12	5.6E-11	2.8E-12	6.6E-12	1.6E-16	1.0E-13	NA	NA	NA
Hexachlorobutadiene	E1 avg	4.3E-12	1.3E-12	1.7E-11	1.2E-11	3.0E-11	1.9E-16	2.5E-14	NA	NA	NA
Hexachlorocyclopentadiene	E1 avg	2.8E-14	2.3E-14	8.0E-13	8.1E-14	1.9E-13	2.6E-18	8.2E-16	NA	NA	NA
Hexachlorophene	E1 avg	6 0E-14	6.6E-12	6.3E-11	2.7E-11	4.1E-13	1.6E-16	6.4E-13	NA	NA	NA
Indeno(1,2,3-cd)pyrene	E1 avg	7.8E-14	1.1E-12	3 0E-13	4.8E-12	5.4E-13	2.6E-17	6.3E-14	NA	NA	NA
Antimony	E1 avg	1.2E-12	2.6E-12	2.9E-15	5.3E-12	8.2E-12	6.1E-17	8.8E-18	NA	NA	NA
Arsenic	E1 avg	3.9E-12	1.1E-11	2.9E-15	2.9E-11	2.7E-11	1.3E-15	1.9E-16	NA	NA	NA
Barium	E1 avg	2.5E-11	8.5E-11	4.7E-14	1.4E-10	1.7E-10	2.7E-15	3 9E-16	NA	NA	NA
Beryllium	E1 avg	1 0E-15	5.7E-15	1.7E-19	1.9E-14	6.9E-15	1 5E-18	2.2E-19	NA	NA	NA
Cadmium	E1 avg	3.8E-12	5.6E-12	1 4E-14	1.9E-11	2.7E-11	5.8E-17	8.4E-18	NA	NA	NA
Chromium (hexavalent)	E1 avg	6.5E-14	1.1E-13	8.5E-18	5.2E-13	4.5E-13	3.4E-17	4 9E-18	NA	NA	NA
Lead	E1 avg	8.0E-12	1.6E-11	1.1E-14	4.3E-11	5.5E-11	2.1E-15	3.0E-16	NA	NA	NA
Mercury	E1 avg	4.1E-09	6.3E-09	1 6E-12	1.2E-08	2 8E-08	2 8E-14	4.1E-15	NA	NA	NA
Nickel	E1 avg	4 9E-12	1.9E-12	2 4E-16	1.6E-11	3 4E-11	1 6E-16	2.3E-17	NA	NA	NA
Selenium	E1 avg	2 2E-10	1.1E-10	6 5E-14	8.5E-10	1.5E-09	1 9E-14	2.7E-15	NA	NA	NA
Silver	E1 avg	1 4E-11	1.7E-11	3 5E-14	4.7E-11	9.7E-11	2 2E-16	3 1E-17	NA	NA	NA
Thallium	E1 avg	2 9E-13	4.1E-12	2 1E-17	1.7E-11	2 0E-12	1 7E-15	2 5E-16	NA	NA	NA
Zinc	E1 avg	9.3E-10	4.3E-10	2.9E-13	2.7E-09	6.4E-09	1 6E-15	2 3E-16	NA	NA	NA

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TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 avg	1.7E-15	9 7E-17	2 2E-13	4 8E-14	2.5E-15	4 0E-16	1.3E-15	2.4E-13	7.5E-14	6 9E-14	4.4E-15	NA	5.1E-14	3 6E-16
1,2,3,7,8-PeCDD	E1 avg	8.3E-15	4 8E-16	3.7E-12	6.1E-13	1.2E-14	1.9E-15	6.4E-15	4 1E-12	1 3E-12	1.2E-12	7.3E-14	NA	8 6E-13	6 1E-15
1,2,3,4,7,8-HxCDD	E1 avg	9 2E-15	5.4E-16	2 5E-12	4.0E-13	6.4E-15	1.0E-15	3.4E-15	2.8E-12	8 5E-13	7.8E-13	4.9E-14	NA	5.8E-13	8 4E-15
1,2,3,6,7,8-HxCDD	E1 avg	1.6E-14	9.5E-16	6.8E-13	1.6E-13	9.8E-15	1.6E-15	5.2E-15	7.5E-13	2 3E-13	2.1E-13	1.3E-14	NA	1.6E-13	2 9E-15
1,2,3,7,8,9-HxCDD	E1 avg	1.1E-14	6.1E-16	9.3E-13	1.8E-13	8.1E-15	1.3E-15	4.3E-15	1.0E-12	3.1E-13	2.9E-13	1.8E-14	NA	2.1E-13	2.9E-15
1,2,3,4,6,7,8-HpCDD	E1 avg	1.2E-13	7.0E-15	7.3E-12	1.1E-12	1.5E-14	2.4E-15	7.9E-15	8.0E-12	2.5E-12	2 3E-12	1.4E-13	NA	1 7E-12	1.4E-13
OCDD	E1 avg	5.8E-13	3 4E-14	1.3E-09	1.9E-10	1.0E-13	1.7E-14	5.5E-14	1.5E-09	4.5E-10	4.1E-10	2.6E-11	NA	3.0E-10	1.7E-11
2,3,7,8-TCDF	E1 avg	1.5E-14	8 7E-16	7.0E-13	1.3E-13	4.9E-15	7.9E-16	2.6E-15	7.6E-13	2.3E-13	2.2E-13	1.4E-14	NA	1 6E-13	5 0E-15
1,2,3,7,8-PeCDF	E1 avg	4.8E-14	2 8E-15	3.3E-12	5.5E-13	1 2E-14	2.0E-15	6.5E-15	3.6E-12	1.1E-12	1.0E-12	6.4E-14	NA	7.5E-13	3 0E-14
2,3,4,7,8-PeCDF	E1 avg	6.0E-14	3 5E-15	1 9E-11	3.1E-12	6.4E-14	1.0E-14	3.4E-14	2.1E-11	6 3E-12	5.8E-12	3.7E-13	NA	4.3E-12	4 1E-14
1,2,3,4,7,8-HxCDF	E1 avg	1.4E-13	8 4E-15	1.1E-11	2.2E-12	1.2E-13	1.9E-14	6.2E-14	1.2E-11	3 5E-12	3.3E-12	2.1E-13	NA	2.4E-12	3 2E-14
1,2,3,6,7,8-HxCDF	E1 avg	1 4E-13	7 9E-15	1.9E-11	3.3E-12	9.3E-14	1.5E-14	4.9E-14	2.1E-11	6.5E-12	5 9E 12	3.8E-13	NA	4.4E-12	6 6E-14
1,2,3,7,8,9-HxCDF	E1 avg	3.1E-14	1 8E-15	4.4E-12	7.6E-13	2 1E-14	3.5E-15	1.1E-14	4 8E-12	1.5E-12	1.4E-12	8.6E-14	NA	1.0E-12	1 5E-14
2,3,4,6,7,8-HxCDF	E1 avg	1.5E-13	8.9E-15	1 3E-11	2.4E-12	9.3E-14	1 5E-14	5.0E-14	1.4E-11	4.3E-12	3.9E-12	2.5E-13	NA	2.9E-12	5 0E-14
1,2,3,4,6,7,8-HpCDF	E1 avg	9 3E-13	5.4E-14	1.0E-11	2.2E-12	1 3E-13	2 1E-14	6.9E-14	1.1E-11	3.4E-12	3.2E-12	2.0E-13	NA	2.3E-12	1.8E-13
1,2,3,4,7,8,9-HpCDF	E1 avg	1 2E-13	6 9E-15	2.1E-12	5.4E-13	4 0E-14	6.5E-15	2.1E-14	2.3E-12	7.0E-13	6.4E-13	4.1E-14	NA	4.8E-13	1 6E-14
OCDF	E1 avg	1 8E-12	1 0E-13	1 1E-10	1.7E-11	1 2E-13	2.0E-14	6.5E-14	1.2E-10	3.7E-11	3.4E-11	2.2E-12	NA	2.5E-11	3.7E-12
Tetrachlorobiphenyl	E1 avg	1.8E-12	1 0E-13	5 3E-11	3.2E-11	3.7E-12	6.0E-13	2.0E-12	5.6E-11	1.7E-11	1.6E-11	9.9E-13	NA	1 2E-11	9 4E-14
Hexachlorobiphenyl	E1 avg	2 9E-12	1 7E-13	3 3E-11	2.0E-11	2 2E-12	3.5E-13	1.2E-12	3.5E-11	1 1E-11	1.0E-11	6.3E-13	NA	7 4E-12	9 0E-14
Heptachlorobiphenyl	E1 avg	2.8E-12	1 6E-13	8 6E-10	1.4E-10	2 2E-12	3.6E-13	1.2E-12	9 4E-10	2 9E-10	2.7E-10	1.7E-11	NA	2 0E-10	2 5E-12
Benzo(a)pyrene	E1 avg	4.1E-11	4 8E-12	7.2E-08	4.0E-09	2 6E-13	4.1E-14	1.2E-10	4.1E-07	8 4E-09	1.8E-08	7.3E-09	NA	2.1E-09	2.9E-10
Benzo(b)fluoranthene	E1 avg	1.7E-10	2.0E-11	4 2E-08	2.8E-09	1.3E-12	2.1E-13	6.3E-10	2 4E-07	4.9E-09	1.0E-08	4.3E-09	NA	1.2E-09	1 3E-10
Bis(2-ethylhexyl)phthalate	E1 avg	1.5E-11	1.7E-12	5 9E-06	3.3E-07	1.4E-14	2.3E-15	6.8E-12	3.4E-05	6 9E-07	1.5E-06	6.0E-07	NA	1.7E-07	1.5E-07
Carbon tetrachloride	E1 avg	9 9E-11	1 2E-11	3.1E-12	1.0E-12	6.0E-15	9.6E-16	2.9E-12	1.9E-11	3.9E-13	8.3E-13	3.4E-13	NA	9.8E-14	2 3E-09
Dibenz(a,h)anthracene	E1 avg	9.8E-11	1 1E-11	1.1E-08	1.0E-09	2.3E-12	3.7E-13	1.1E-09	6.2E-08	1.3E-09	2.7E-09	1.1E-09	NA	3.2E-10	2.3E-11
Di(n)octyl phthalate	E1 avg	4.2E-12	4.9E-13	1.6E-05	8.8E-07	2.3E-12	3.7E-13	1.1E-09	9.1E-05	1.9E-06	4.0E-06	1.6E-06	NA	4.7E-07	7 0E-10
Heptachlor	E1 avg	8.4E-14	9.7E-15	4.6E-11	2.8E-12	7.3E-16	1.2E-16	3.5E-13	2.6E-10	5.4E-12	1.1E-11	4.7E-12	NA	1.3E-12	1.3E-13
Hexachlorobenzene	E1 avg	1.6E-10	1.9E-11	4.4E-10	2.6E-10	6.3E-13	1.0E-13	3.1E-10	2.2E-09	4.6E-11	9.8E-11	4.0E-11	NA	1 1E-11	1.4E-11
Hexachlorobutadiene	E1 avg	4.4E-10	5.1E-11	8.5E-11	5.8E-11	1.5E-13	2.4E-14	7.3E-11	4.2E-10	8.7E-12	1.8E-11	7.6E-12	NA	2.2E-12	5 9E-11
Hexachlorocyclopentadiene	E1 avg	7.2E-12	8 3E-13	5.3E-12	3.5E-12	8.7E-15	1.4E-15	4.2E-12	2.6E-11	5.3E-13	1.1E-12	4.7E-13	NA	1.3E-13	3 9E-13
Hexachlorophene	E1 avg	2.7E-10	3.1E-11	4.3E-07	2.2E-08	4.4E-11	7.1E-12	2.1E-08	2.4E-06	5.0E-08	1.1E-07	4.4E-08	NA	1.2E-08	1 3E-10
Indeno(1,2,3-cd)pyrene	E1 avg	1.1E-10	1.3E-11	1.0E-08	1.1E-09	2.4E-12	3.8E-13	1.1E-09	5.8E-08	1.2E-09	2.5E-09	1.0E-09	NA	2.9E-10	2 3E-11
Antimony	E1 avg	1.8E-11	3.6E-13	4.5E-11	1.6E-11	1.5E-13	2.5E-14	6.9E-13	8.1E-11	1.7E-12	3.5E-12	1.4E-12	NA	4.1E-13	2 6E-11
Arsenic	E1 avg	7.1E-10	1.4E-11	8.2E-10	2.2E-10	1.1E-10	1.8E-11	5.7E-11	4.3E-10	8.8E-12	1.9E-11	7.7E-12	NA	2 2E-12	1 4E-10
Barium	E1 avg	8.7E-10	1.7E-11	2.4E-10	8.9E-10	4.5E-13	7.3E-14	1.4E-10	1.0E-08	2.0E-10	4 3E-10	1.8E-10	NA	5.1E-11	6 9E-10
Beryllium	E1 avg	1.9E-12	3.6E-14	4.8E-13	3.0E-13	1.5E-14	2.5E-15	7 1E-15	7.3E-15	1 5E-16	3.2E-16	1.3E-16	NA	3.7E-17	9 0E-14
Cadmium	E1 avg	1.0E-11	2.0E-13	2.4E-11	9.2E-13	5.1E-12	8.2E-13	4.7E-14	2 7E-11	5 5E-13	1 2E-12	4 8E-13	NA	1.4E-13	9 0E-11
Chromium (hexavalent)	E1 avg	4.9E-11	9.6E-13	6.2E-11	5.9E-11	9.0E-13	1.4E-13	5.6E-13	2.8E-10	5.8E-12	1.2E-11	5.1E-12	NA	1 4E-12	2 5E-12
Lead	E1 avg	3.1E-09	6.0E-11	2.2E-10	4.5E-10	1.9E-08	3.1E-09	7.3E-09	3 1E-09	6 2E-11	1 3E-10	5 5E-11	NA	1 6E-11	2.1E-10
Mercury	E1 avg	8.2E-09	1.6E-10	2.0E-09	5 7E-09	1.4E-09	2 3E-10	4.7E-11	4 7E-08	9 6E-10	2 0E-09	8.4E-10	NA	2 4E-10	5 6E-08
Nickel	E1 avg	7.2E-11	1 4E-12	3.3E-10	1.2E-09	2 5E-12	4.0E-13	1 5E-12	9.9E-10	2 0E-11	4 3E-11	1 8E-11	NA	5 1E-12	7 9E-11
Selenium	E1 avg	1 3E-08	2 6E 10	1.7E-08	3.3E-07	1.4E-08	2 3E-09	5.5E-09	4 4E-06	9.0E-08	1 9E-07	7 9E-08	NA	2 3E-08	4 1E-09
Silver	E1 avg	6 5E-11	1 3E-12	5.7E-10	1 1E-11	1 7E-13	2.7E-14	1 3E-12	6 9E-08	1 4E-09	3 0E-09	1 2E-09	NA	3 5E-10	2 3E-10
Thallium	E1 avg	3.3E-09	6 4E-11	2 5E-08	7.3E-08	1 9E-08	3.1E-09	7.5E-09	2 1E-08	4 3E-10	9 0E-10	3 7E-10	NA	1 1E-10	8 2E-11
Zinc	E1 avg	4.7E-10	9.0E-12	3.4E-10	7.5E-11	8.8E-11	1.4E-11	3 4E-11	1 6E-09	3 3E-11	7.0E-11	2 9E-11	NA	8 2E-12	1 3E-08

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TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d
2,3,7,8-TCDD	E1 avg	1.4E-17	7.2E-15	3.1E-17	8.6E-16	9.9E-17	5.4E-21	9.2E-18	NA	NA
1,2,3,7,8-PeCDD	E1 avg	7.1E-17	1.3E-13	1.6E-16	1.5E-14	4.9E-16	2.6E-20	3.5E-17	NA	NA
1,2,3,4,7,8-HxCDD	E1 avg	1.7E-17	1.8E-13	9.4E-17	2.0E-14	1 2E-16	6.9E-21	4.8E-17	NA	NA
1,2,3,6,7,8-HxCDD	E1 avg	5.8E-17	5.0E-14	2.3E-16	6.9E-15	4 0E-16	2.7E-20	8.5E-17	NA	NA
1,2,3,7,8,9-HxCDD	E1 avg	1.9E-17	5.6E-14	1.5E-16	7.1E-15	1.3E-16	1.7E-20	1.2E-16	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 avg	1.3E-16	3.0E-12	9.8E-16	3.3E-13	8.9E-16	3.9E-20	4.1E-16	NA	NA
OCDD	E1 avg	1.4E-15	3.8E-10	6.6E-15	4.1E-11	9.7E-15	6.1E-19	1.9E-15	NA	NA
2,3,7,8-TCDF	E1 avg	1.5E-16	1.1E-13	3.0E-16	1.2E-14	1.0E-15	5.2E-20	8.3E-17	NA	NA
1,2,3,7,8-PeCDF	E1 avg	3.4E-16	6.5E-13	8.4E-16	7.2E-14	2.3E-15	1.4E-19	2.7E-16	NA	NA
2,3,4,7,8-PeCDF	E1 avg	3.5E-16	8.8E-13	9.7E-16	9.8E-14	2.4E-15	1.5E-19	3.7E-16	NA	NA
1,2,3,4,7,8-HxCDF	E1 avg	5.1E-16	6.0E-13	2.0E-15	7.8E-14	3.5E-15	2.4E-19	8.4E-16	NA	NA
1,2,3,6,7,8-HxCDF	E1 avg	4.8E-16	1.4E-12	1.9E-15	1.6E-13	3.3E-15	2.3E-19	7.9E-16	NA	NA
1,2,3,7,8,9-HxCDF	E1 avg	1.1E-16	3.1E-13	4.4E-16	3.6E-14	7.6E-16	5.3E-20	1.8E-16	NA	NA
2,3,4,6,7,8-HxCDF	E1 avg	5.4E-16	9.9E-13	2.1E-15	1.2E-13	3 7E-15	2 6E-19	8.9E-16	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 avg	1.5E-15	3 2E-12	9 0E-15	4.3E-13	1.0E-14	5.6E-19	4.0E-15	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 avg	1.9E-16	2.5E-13	1 2E-15	3.8E-14	1.3E-15	7.1E-20	5.2E-16	NA	NA
OCDF	E1 avg	8.6E-16	8 2E-11	1.1E-14	8.9E-12	5 9E-15	1.6E-19	3.8E-15	NA	NA
Tetrachlorobiphenyl	E1 avg	4.1E-14	9.5E-13	7.5E-13	2.3E-13	2.8E-13	1.1E-17	1.2E-14	NA	NA
Hexachlorobiphenyl	E1 avg	1.2E-14	1.7E-12	1.2E-13	2.2E-13	8 4E-14	9.0E-18	2.8E-14	NA	NA
Heptachlorobiphenyl	E1 avg	6.0E-15	5.5E-11	6 9E-13	5.9E-12	4 2E-14	1.1E-17	6.1E-14	NA	NA
Benzo(a)pyrene	E1 avg	6.8E-13	6.2E-09	2.0E-13	6.9E-10	4.7E-12	1.8E-16	2.1E-13	NA	NA
Benzo(b)fluoranthene	E1 avg	2.6E-12	3.0E-09	7.0E-12	3.2E-10	1.8E-11	6.7E-16	9.1E-13	NA	NA
Bis(2-ethylhexyl)phthalate	E1 avg	5.0E-14	3.4E-06	1.9E-13	3.6E-07	3.5E-13	3.4E-16	1.0E-12	NA	NA
Carbon tetrachloride	E1 avg	2.0E-09	5.2E-10	5.7E-10	5.6E-09	1.4E-08	3.3E-15	3.0E-14	NA	NA
Dibenz(a,h)anthracene	E1 avg	7.6E-13	1.3E-11	3.2E-12	5.5E-11	5 2E-12	2.8E-16	7.0E-13	NA	NA
Di(n)octyl phthalate	E1 avg	5.3E-15	1.6E-08	1.3E-10	1.7E-09	3.6E-14	1.8E-17	1.9E-13	NA	NA
Heptachlor	E1 avg	1.1E-15	2.8E-12	6 8E-14	3.1E-13	7 8E-15	3.4E-19	2.2E-16	NA	NA
Hexachlorobenzene	E1 avg	1.1E-11	1.6E-11	6.5E-10	3.3E-11	7.8E-11	1.8E-15	1.2E-12	NA	NA
Hexachlorobutadiene	E1 avg	5.0E-11	1.6E-11	2 0E-10	1.4E-10	3.5E-10	2.2E-15	2.9E-13	NA	NA
Hexachlorocyclopentadiene	E1 avg	3.2E-13	2 7E-13	9 3E-12	9.4E-13	2.2E-12	3.1E-17	9.6E-15	NA	NA
Hexachlorophene	E1 avg	6.9E-13	7.7E-11	7.4E-10	3.1E-10	4.8E-12	1 8E-15	7.4E-12	NA	NA
Indeno(1,2,3-cd)pyrene	E1 avg	9.1E-13	1.3E-11	3.5E-12	5.6E-11	6 3E-12	3.0E-16	7.3E-13	NA	NA
Antimony	E1 avg	1.4E-11	3.0E-11	3.4E-14	6.2E-11	9.5E-11	7.1E-16	1.0E-16	NA	NA
Arsenic	E1 avg	4.5E-11	1.3E-10	3.3E-14	3.3E-10	3.1E-10	1.5E-14	2 2E-15	NA	NA
Barium	E1 avg	2.9E-10	9.9E-10	5.4E-13	1.7E-09	2.0E-09	3.2E-14	4.6E-15	NA	NA
Beryllium	E1 avg	1.2E-14	6.6E-14	2 0E-16	2.2E-13	8.1E-14	1.8E-17	2.6E-16	NA	NA
Cadmium	E1 avg	4 5E-11	6.6E-11	1 6E-13	2.2E-10	3.1E-10	6.8E-16	9.8E-17	NA	NA
Chromium (hexavalent)	E1 avg	7.6E-13	1 3E-12	1.0E-16	6.1E-12	5 3E-12	4.0E-16	5.8E-17	NA	NA
Lead	E1 avg	9.3E-11	1 8E-10	1.3E-13	5.0E-10	6 4E-10	2.4E-14	3 5E-15	NA	NA
Mercury	E1 avg	4.7E-08	7.3E-08	1 8E-11	1.4E-07	3 3E-07	3.3E-13	4 8E-14	NA	NA
Nickel	E1 avg	5.7E-11	2.2E-11	2 8E-15	1.9E-10	3 9E-10	1 9E-15	2 7E-16	NA	NA
Selenium	E1 avg	2.6E-09	1 3E-09	7 6E-13	9.9E-09	1.8E-08	2 2E-13	3 2E-14	NA	NA
Silver	E1 avg	1 6E-10	2 0E-10	4 0E-13	5.5E-10	1 1E-09	2.5E-15	3 6E-16	NA	NA
Thallium	E1 avg	3 3E-12	4.8E-11	2 5E-16	2.0E-10	2 3E-11	2 0E-14	2 9E-15	NA	NA
Zinc	E1 avg	1.1E-08	5.0E-09	3.3E-12	3.1E-08	7 5E-08	1.8E-14	2.7E-15	NA	NA

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TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 hi emiss	2.9E-16	1.7E-17	8 8E-14	2 2E-14	9.4E-16	1.5E-16	4.9E-16	8.4E-14	3.5E-14	2 7E-14	1 9E-15	NA	2.6E-14	1 6E-16
1,2,3,7,8-PeCDD	E1 hi emiss	9.9E-16	5.8E-17	1.0E-12	2.0E-13	3.1E-15	5.0E-16	1 6E-15	9.8E-13	4.1E-13	3.2E-13	2.3E-14	NA	3.1E-13	1 9E-15
1,2,3,4,7,8-HxCDD	E1 hi emiss	1.1E-15	6.4E-17	6.9E-13	1.3E-13	1.7E-15	2.7E-16	8.8E-16	6.6E-13	2.8E-13	2.1E-13	1.5E-14	NA	2.1E-13	2 6E-15
1,2,3,6,7,8-HxCDD	E1 hi emiss	1.8E-15	1.1E-16	1.8E-13	4.7E-14	2.4E-15	3.9E-16	1.3E-15	1.7E-13	7.1E-14	5 4E-14	3.9E-15	NA	5.3E-14	8 3E-16
1,2,3,7,8,9-HxCDD	E1 hi emiss	1.3E-15	7.5E-17	2.6E-13	6.0E-14	2.2E-15	3.5E-16	1.1E-15	2.5E-13	1.1E-13	8.1E-14	5.7E-15	NA	7.8E-14	9.1E-16
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	1.4E-14	8.2E-16	2.0E-12	3.6E-13	3.8E-15	6.1E-16	2.0E-15	1.9E-12	7.9E-13	6 1E-13	4.3E-14	NA	5.9E-13	4 1E-14
OCDD	E1 hi emiss	8.0E-14	4.6E-15	4 1E-10	7.0E-11	3.1E-14	5.0E-15	1.6E-14	4.0E-10	1.7E-10	1.3E-10	9.1E-12	NA	1.2E-10	5 9E-12
2,3,7,8-TCDF	E1 hi emiss	1.7E-15	9 8E-17	1.8E-13	4.0E-14	1.2E-15	2.0E-16	6.4E-16	1.7E-13	7.2E-14	5.6E-14	4.0E-15	NA	5.4E-14	1 4E-15
1,2,3,7,8-PeCDF	E1 hi emiss	5.2E-15	3 0E-16	8.1E-13	1.6E-13	2.9E-15	4.7E-16	1.5E-15	7.7E-13	3.3E-13	2.5E-13	1.8E-14	NA	2.4E-13	8.3E-15
2,3,4,7,8-PeCDF	E1 hi emiss	6.6E-15	3.9E-16	4.8E-12	9.3E-13	1.5E-14	2.5E-15	8 2E-15	4.6E-12	1.9E-12	1.5E-12	1.0E-13	NA	1.4E-12	1.2E-14
1,2,3,4,7,8-HxCDF	E1 hi emiss	1.6E-14	9.3E-16	2.7E-12	6.6E-13	2 8E-14	4.6E-15	1.5E-14	2.6E-12	1.1E-12	8.3E-13	5.9E-14	NA	8.1E-13	9 1E-15
1,2,3,6,7,8-HxCDF	E1 hi emiss	1.5E-14	8 7E-16	4.9E-12	9.9E-13	2.2E-14	3.6E-15	1.2E-14	4.6E-12	2.0E-12	1.5E-12	1.1E-13	NA	1.5E-12	1 9E-14
1,2,3,7,8,9-HxCDF	E1 hi emiss	3.5E-15	2.0E-16	1.1E-12	2.3E-13	5.3E-15	8.6E-16	2.8E-15	1.1E-12	4.5E-13	3.5E-13	2.5E-14	NA	3.4E-13	4 3E-15
2,3,4,6,7,8-HxCDF	E1 hi emiss	1.7E-14	1 0E-15	3 3E-12	7.2E-13	2.3E-14	3.7E-15	1.2E-14	3.1E-12	1.3E-12	1.0E-12	7.2E-14	NA	9.8E-13	1.4E-14
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	1.1E-13	6 5E-15	2 8E-12	7.2E-13	3.4E-14	5.5E-15	1.8E-14	2.7E-12	1.1E-12	8.7E-13	6.2E-14	NA	8.4E-13	5 5E-14
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	1.5E-14	8 8E-16	6 1E-13	1.8E-13	1.1E-14	1.8E-15	5.9E-15	5.8E-13	2.4E-13	1.9E-13	1.3E-14	NA	1.8E-13	5 1E-15
OCDF	E1 hi emiss	3 0E-13	1.7E-14	4 2E-11	7.4E-12	4.4E-14	7.1E-15	2.3E-14	4.0E-11	1.7E-11	1.3E-11	9.2E-13	NA	1.3E-11	1 5E-12
Tetrachlorobiphenyl	E1 hi emiss	3.0E-13	1 8E-14	2.1E-11	1.5E-11	1.4E-12	2.2E-13	7.3E-13	1.9E-11	8.0E-12	6.2E-12	4.4E-13	NA	6.0E-12	4 1E-14
Hexachlorobiphenyl	E1 hi emiss	4.9E-13	2 9E-14	1 3E-11	9.1E-12	8.1E-13	1.3E-13	4.3E-13	1.2E-11	5.1E-12	3.9E-12	2.8E-13	NA	3.8E-12	4.0E-14
Heptachlorobiphenyl	E1 hi emiss	4.8E-13	2 8E-14	3.4E-10	6.4E-11	8.3E-13	1 3E-13	4.4E-13	3.2E-10	1.4E-10	1.0E-10	7.4E-12	NA	1.0E-10	1.1E-12
Benzo(a)pyrene	E1 hi emiss	7.1E-12	8 2E-13	2.8E-08	1.8E-09	9.6E-14	1.6E-14	4.6E-11	1.4E-07	3.9E-09	7.0E-09	3.2E-09	NA	1.1E-09	1.3E-10
Benzo(b)fluoranthene	E1 hi emiss	2.9E-11	3 4E-12	1.7E-08	1.3E-09	4.9E-13	7.9E-14	2.3E-10	8.3E-08	2.3E-09	4.1E-09	1.9E-09	NA	6.3E-10	5 9E-11
Bis(2-ethylhexyl)phthalate	E1 hi emiss	1.8E-12	2.1E-13	1.6E-06	1.1E-07	3.7E-15	6.0E-16	1.8E-12	8.1E-06	2.3E-07	4.1E-07	1.9E-07	NA	6.2E-08	4 6E-08
Carbon tetrachloride	E1 hi emiss	1.5E-11	1.7E-12	1.0E-12	4.1E-13	2.0E-15	3.2E-16	9.4E-13	5.7E-12	1.6E-13	2.8E-13	1.3E-13	NA	4.4E-14	8.8E-10
Dibenz(a,h)anthracene	E1 hi emiss	1.7E-11	2 0E-12	4.4E-09	4.8E-10	8.6E-13	1.4E-13	4.1E-10	2.1E-08	6.0E-10	1.1E-09	4.9E-10	NA	1.6E-10	1 0E-11
Di(n)octyl phthalate	E1 hi emiss	7.3E-13	8.4E-14	6.3E-06	4.1E-07	8.6E-13	1.4E-13	4.1E-10	3.1E-05	8.8E-07	1.6E-06	7.2E-07	NA	2.4E-07	3.0E-10
Heptachlor	E1 hi emiss	1.4E-14	1.7E-15	1.8E-11	1.3E-12	2.7E-16	4.4E-17	1.3E-13	9.0E-11	2.5E-12	4.5E-12	2 1E-12	NA	6 9E-13	5 6E-14
Hexachlorobenzene	E1 hi emiss	2.7E-11	3.2E-12	1.7E-10	1.2E-10	2.4E-13	3.8E-14	1.1E-10	7.7E-10	2.2E-11	3.8E-11	1.8E-11	NA	5.9E-12	6.0E-12
Hexachlorobutadiene	E1 hi emiss	3.8E-11	4.4E-12	1.7E-11	1.3E-11	2.8E-14	4.6E-15	1.4E-11	7.3E-11	2.0E-12	3.6E-12	1.7E-12	NA	5.6E-13	1.3E-11
Hexachlorocyclopentadiene	E1 hi emiss	1.2E-12	1.4E-13	2.1E-12	1.6E-12	3.3E-15	5.3E-16	1.6E-12	8.9E-12	2.5E-13	4.5E-13	2.1E-13	NA	6.9E-14	1 7E-13
Hexachlorophene	E1 hi emiss	2.3E-11	2.7E-12	8.4E-08	5.0E-09	8.2E-12	1.3E-12	4.0E-09	4.2E-07	1.2E-08	2.1E-08	9.6E-09	NA	3.2E-09	2 8E-11
Indeno(1,2,3-cd)pyrene	E1 hi emiss	1.9E-11	2.2E-12	4 0E-09	4.9E-10	8.9E-13	1.4E-13	4.3E-10	2.0E-08	5.6E-10	9.8E-10	4.5E-10	NA	1.5E-10	1 0E-11
Antimony	E1 hi emiss	1.6E-12	3.0E-14	8 8E-12	3.6E-12	2.9E-14	4.6E-15	1.3E-13	1.4E-11	3.9E-13	6.9E-13	3.2E-13	NA	1.1E-13	5 7E-12
Arsenic	E1 hi emiss	6.1E-11	1.2E-12	1.6E-10	5.1E-11	2.1E-11	3.5E-12	1.1E-11	7.4E-11	2.1E-12	3.7E-12	1.7E-12	NA	5.7E-13	3 0E-11
Barium	E1 hi emiss	7.5E-11	1.4E-12	4.7E-11	2.1E-10	8.5E-14	1.4E-14	2.6E-11	1.7E-09	4.8E-11	8 6E-11	3.9E-11	NA	1.3E-11	1 5E-10
Beryllium	E1 hi emiss	1.6E-13	3.1E-15	9.4E-14	6.9E-14	2.9E-15	4.7E-16	1.3E-15	1.3E-15	3.5E-17	6.2E-17	2.9E-17	NA	9.6E-16	2 0E-14
Cadmium	E1 hi emiss	8.9E-13	1.7E-14	4.7E-12	2.1E-13	9.6E-13	1.5E-13	8.6E-15	4.6E-12	1.3E-13	2 3E-13	1.1E-13	NA	3.6E-14	2 0E-11
Chromium (hexavalent)	E1 hi emiss	4.2E-12	8.2E-14	1.2E-11	1.4E-11	1.7E-13	2.7E-14	1.0E-13	4 8E-11	1.4E-12	2 4E-12	1.1E-12	NA	3 7E-13	5 6E-13
Lead	E1 hi emiss	2.7E-10	5.2E-12	4.3E-11	1.0E-10	3.6E-09	5.8E-10	1.4E-09	5.2E-10	1.5E-11	2 6E-11	1 2E-11	NA	4 0E-12	4 6E-11
Mercury	E1 hi emiss	7.0E-10	1.4E-11	4 0E-10	1.3E-09	2.7E-10	4.4E-11	8 7E-12	8 1E-09	2.3E-10	4 0E-10	1 9E-10	NA	6 2E-11	1 2E-08
Nickel	E1 hi emiss	6.2E-12	1.2E-13	6 6E-11	2.8E-10	4 6E-13	7.5E-14	2.9E-13	1.7E-10	4 8E-12	8 5E-12	3 9E-12	NA	1 3E-12	1 7E-11
Selenium	E1 hi emiss	1.1E-09	2 2E-11	3 3E-09	7.5E-08	2 7E-09	4.3E-10	1 0E-09	7 5E-07	2.1E-08	3 8E-08	1 7E-08	NA	5 8E-09	9 0E-10
Silver	E1 hi emiss	5.6E-12	1.1E-13	1.1E-10	2.5E-12	3.2E-14	5 2E-15	2.4E-13	1 2E-08	3 3E-10	5 9E-10	2 7E-10	NA	9 1E-11	5 0E-11
Thallium	E1 hi emiss	2.8E-10	5.5E-12	5 0E-09	1.7E-08	3 6E-09	5.9E-10	1 4E-09	3 6E-09	1 0E-10	1 8E-10	8 2E-11	NA	2 7E-11	1 8E-11
Zinc	E1 hi emiss	4.0E-11	7.7E-13	6 7E-11	1.7E-11	1.7E-11	2.7E-12	6 3E-12	2 8E-10	7.7E-12	1 4E-11	6 3E-12	NA	2.1E-12	2 9E-09

TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

LIFETIME AVERAGE DAILY DOSE (LADD) FOR CHEMICALS WITH CARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d	Infant Breast milk Ingestion mg/kg-d
2,3,7,8-TCDD	E1 hi emiss	6.2E-18	3.0E-15	1.3E-17	3.7E-16	4 3E-17	9.2E-22	1.6E-18	NA	NA	NA
1,2,3,7,8-PeCDD	E1 hi emiss	2.2E-17	3.9E-14	4.6E-17	4.4E-15	1.5E-16	3 1E-21	4.2E-18	NA	NA	NA
1,2,3,4,7,8-HxCDD	E1 hi emiss	5.1E-18	5.3E-14	2.8E-17	6.1E-15	3.5E-17	8.2E-22	5.7E-18	NA	NA	NA
1,2,3,6,7,8-HxCDD	E1 hi emiss	1.7E-17	1.4E-14	6.3E-17	2.0E-15	1.1E-16	3.1E-21	9.5E-18	NA	NA	NA
1,2,3,7,8,9-HxCDD	E1 hi emiss	6.0E-18	1.7E-14	4.4E-17	2.2E-15	4.1E-17	2.1E-21	1.5E-17	NA	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	3.8E-17	8.5E-13	2.8E-16	9.6E-14	2 6E-16	4.6E-21	4.8E-17	NA	NA	NA
OCDD	E1 hi emiss	4.8E-16	1.3E-10	2.2E-15	1.4E-11	3.3E-15	8.4E-20	2.6E-16	NA	NA	NA
2,3,7,8-TCDF	E1 hi emiss	4.3E-17	3.0E-14	8.3E-17	3.4E-15	2 9E-16	5.8E-21	9.3E-18	NA	NA	NA
1,2,3,7,8-PeCDF	E1 hi emiss	9 3E-17	1.7E-13	2.3E-16	2.0E-14	6.3E-16	1.5E-20	2.9E-17	NA	NA	NA
2,3,4,7,8-PeCDF	E1 hi emiss	9.9E-17	2 4E-13	2.7E-16	2.7E-14	6.7E-16	1.7E-20	4.1E-17	NA	NA	NA
1,2,3,4,7,8-HxCDF	E1 hi emiss	1.4E-16	1 6E-13	5 5E-16	2.2E-14	9.8E-16	2.7E-20	9.3E-17	NA	NA	NA
1,2,3,6,7,8-HxCDF	E1 hi emiss	1.3E-16	3 7E-13	5.1E-16	4.4E-14	9.1E-16	2.5E-20	8.7E-17	NA	NA	NA
1,2,3,7,8,9-HxCDF	E1 hi emiss	3 2E-17	8 6E-14	1 2E-16	1.0E-14	2.2E-16	5.9E-21	2.1E-17	NA	NA	NA
2,3,4,6,7,8-HxCDF	E1 hi emiss	1 5E-16	2 7E-13	5.9E-16	3.4E-14	1.0E-15	2.9E-20	1.0E-16	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	4 5E-16	9.5E-13	2 7E-15	1.3E-13	3 0E-15	6.7E-20	4.9E-16	NA	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	6 1E-17	7.7E-14	3.6E-16	1.2E-14	4.1E-16	9.0E-21	6.6E-17	NA	NA	NA
OCDF	E1 hi emiss	3 6E-16	3.3E-11	4.3E-15	3.6E-12	2 4E-15	2.6E-20	6.3E-16	NA	NA	NA
Tetrachlorobiphenyl	E1 hi emiss	1.8E-14	4.0E-13	3.2E-13	9.7E-14	1.2E-13	1.9E-18	2.0E-15	NA	NA	NA
Hexachlorobiphenyl	E1 hi emiss	5.3E-15	7.3E-13	4.9E-14	9.3E-14	3.6E-14	1.5E-18	4.8E-15	NA	NA	NA
Heptachlorobiphenyl	E1 hi emiss	2.6E-15	2.3E-11	2.9E-13	2.5E-12	1.8E-14	1.8E-18	1.0E-14	NA	NA	NA
Benzo(a)pyrene	E1 hi emiss	3 0E-13	2.6E-09	8.4E-14	3.0E-10	2.0E-12	3.0E-17	3.6E-14	NA	NA	NA
Benzo(b)fluoranthene	E1 hi emiss	1.1E-12	1.2E-09	3.0E-12	1.4E-10	7.6E-12	1.1E-16	1.6E-13	NA	NA	NA
Bis(2-ethylhexyl)phthalate	E1 hi emiss	1.5E-14	9.9E-07	5.6E-14	1.1E-07	1.0E-13	4.1E-17	1.3E-13	NA	NA	NA
Carbon tetrachloride	E1 hi emiss	7.4E-10	1.9E-10	2.1E-10	2.1E-09	5.1E-09	4.9E-16	4.5E-15	NA	NA	NA
Dibenz(a,h)anthracene	E1 hi emiss	3.3E-13	5 6E-12	1.3E-12	2.4E-11	2.2E-12	4.7E-17	1.2E-13	NA	NA	NA
Di(n)octyl phthalate	E1 hi emiss	2.3E-15	6.6E-09	5.7E-11	7.2E-10	1.6E-14	3.0E-18	3.3E-14	NA	NA	NA
Heptachlor	E1 hi emiss	4.9E-16	1.2E-12	2.9E-14	1.3E-13	3 3E-15	5.9E-20	3.8E-17	NA	NA	NA
Hexachlorobenzene	E1 hi emiss	4.9E-12	6.8E-12	2.7E-10	1.4E-11	3.3E-11	3.2E-16	2.1E-13	NA	NA	NA
Hexachlorobutadiene	E1 hi emiss	1.1E-11	3.3E-12	4.2E-11	3.1E-11	7.4E-11	1.9E-16	2.5E-14	NA	NA	NA
Hexachlorocyclopentadiene	E1 hi emiss	1.4E-13	1.1E-13	3.9E-12	4.0E-13	9.6E-13	5.2E-18	1.6E-15	NA	NA	NA
Hexachlorophene	E1 hi emiss	1.5E-13	1.6E-11	1.6E-10	6.7E-11	1.0E-12	1.6E-16	6.4E-13	NA	NA	NA
Indeno(1,2,3-cd)pyrene	E1 hi emiss	3.9E-13	5 6E-12	1.5E-12	2.4E-11	2.7E-12	5.2E-17	1.3E-13	NA	NA	NA
Antimony	E1 hi emiss	3.0E-12	6.4E-12	7.2E-15	1.3E-11	2.0E-11	6.1E-17	8 8E-18	NA	NA	NA
Arsenic	E1 hi emiss	9.8E-12	2.8E-11	7.0E-15	7.2E-11	6.7E-11	1.3E-15	1.9E-16	NA	NA	NA
Barium	E1 hi emiss	6.4E-11	2.1E-10	1.1E-13	3.6E-10	4.4E-10	2.7E-15	3.9E-16	NA	NA	NA
Beryllium	E1 hi emiss	2.5E-15	1.4E-14	4.2E-19	4.7E-14	1.7E-14	1 5E-18	2.2E-19	NA	NA	NA
Cadmium	E1 hi emiss	9.8E-12	1.4E-11	3.5E-14	4.6E-11	6.7E-11	5.8E-17	8.4E-18	NA	NA	NA
Chromium (hexavalent)	E1 hi emiss	1.7E-13	2 8E-13	2.1E-17	1.3E-12	1.1E-12	3 4E-17	4.9E-18	NA	NA	NA
Lead	E1 hi emiss	2.0E-11	3 8E-11	2 7E-14	1.1E-10	1.4E-10	2 1E-15	3.0E-16	NA	NA	NA
Mercury	E1 hi emiss	1.0E-08	1 5E-08	3 9E-12	2.9E-08	7 0E-08	2 8E-14	4 1E-15	NA	NA	NA
Nickel	E1 hi emiss	1.2E-11	4.6E-12	5 9E-16	4.1E-11	8 4E-11	1.6E-16	2.3E-17	NA	NA	NA
Selenium	E1 hi emiss	5 6E-10	2 8E-10	1 6E-13	2.1E-09	3 8E-09	1.9E-14	2 7E-15	NA	NA	NA
Silver	E1 hi emiss	3.6E-11	4 1E-11	8 5E-14	1.2E-10	2 4E-10	2 2E-16	3 1E-17	NA	NA	NA
Thallium	E1 hi emiss	7.2E-13	1 0E-11	5 2E-17	4 3E-11	4 9E-12	1 7E-15	2 5E-16	NA	NA	NA
Zinc	E1 hi emiss	2.4E-09	1 0E-09	7.1E-13	6 8E-09	1.6E-08	1.6E-15	2.3E-16	NA	NA	NA

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TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Soil Ingestion mg/kg-d	Soil Dermal Contact mg/kg-d	Beef Ingestion mg/kg-d	Pork Ingestion mg/kg-d	Chicken Ingestion mg/kg-d	Other Poultry Ingestion mg/kg-d	Egg Ingestion mg/kg-d	Milk Ingestion mg/kg-d	Cheese Ingestion mg/kg-d	Milk Desserts Ingestion mg/kg-d	Yogurt Ingestion mg/kg-d	Cream Ingestion mg/kg-d	Butter Ingestion mg/kg-d	Exposed Produce Ingestion mg/kg-d
2,3,7,8-TCDD	E1 hi emiss	3.3E-15	1 9E-16	1.0E-12	2 6E-13	1.1E-14	1.8E-15	5.8E-15	9 8E-13	4 1E-13	3 2E-13	2 2E-14	NA	3.1E-13	1 8E-15
1,2,3,7,8-PeCDD	E1 hi emiss	1.2E-14	6.7E-16	1 2E-11	2.3E-12	3.6E-14	5.9E-15	1.9E-14	1.1E-11	4.8E-12	3 7E-12	2.6E-13	NA	3.6E-12	2 2E-14
1,2,3,4,7,8-HxCDD	E1 hi emiss	1.3E-14	7.5E-16	8.1E-12	1.5E-12	2.0E-14	3.2E-15	1.0E-14	7.7E-12	3.3E-12	2 5E-12	1.8E-13	NA	2.4E-12	3 0E-14
1,2,3,6,7,8-HxCDD	E1 hi emiss	2.2E-14	1.3E-15	2.1E-12	5.5E-13	2.8E-14	4.5E-15	1.5E-14	2.0E-12	8.3E-13	6.3E-13	4 5E-14	NA	6.2E-13	9 7E-15
1,2,3,7,8,9-HxCDD	E1 hi emiss	1.5E-14	8.7E-16	3.1E-12	7.0E-13	2.5E-14	4.1E-15	1.3E-14	2.9E-12	1.2E-12	9.4E-13	6.7E-14	NA	9.1E-13	1 1E-14
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	1.6E-13	9.6E-15	2.3E-11	4.2E-12	4.4E-14	7.2E-15	2.3E-14	2.2E-11	9.2E-12	7.1E-12	5.0E-13	NA	6.9E-12	4.8E-13
OCDD	E1 hi emiss	9.3E-13	5.4E-14	4.8E-09	8.2E-10	3.6E-13	5.9E-14	1.9E-13	4.6E-09	2 0E-09	1.5E-09	1.1E-10	NA	1.5E-09	6 9E-11
2,3,7,8-TCDF	E1 hi emiss	2.0E-14	1.1E-15	2.1E-12	4.7E-13	1.4E-14	2.3E-15	7.4E-15	2 0E-12	8.4E-13	6.5E-13	4.6E-14	NA	6.3E-13	1 7E-14
1,2,3,7,8-PeCDF	E1 hi emiss	6.1E-14	3.6E-15	9.4E-12	1.9E-12	3.4E-14	5.4E-15	1.8E-14	9.0E-12	3 8E-12	2.9E-12	2.1E-13	NA	2.8E-12	9.7E-14
2,3,4,7,8-PeCDF	E1 hi emiss	7.7E-14	4.5E-15	5.6E-11	1.1E-11	1.8E-13	2.9E-14	9.5E-14	5.3E-11	2.2E-11	1.7E-11	1.2E-12	NA	1.7E-11	1.3E-13
1,2,3,4,7,8-HxCDF	E1 hi emiss	1.9E-13	1.1E-14	3.1E-11	7.7E-12	3.3E-13	5.3E-14	1.7E-13	3.0E-11	1.3E-11	9.7E-12	6 9E-13	NA	9.4E-12	1 1E-13
1,2,3,6,7,8-HxCDF	E1 hi emiss	1.7E-13	1.0E-14	5.7E-11	1.2E-11	2.6E-13	4.2E-14	1.4E-13	5.4E-11	2.3E-11	1.8E-11	1.2E-12	NA	1.7E-11	2 2E-13
1,2,3,7,8,9-HxCDF	E1 hi emiss	4.1E-14	2.4E-15	1.3E-11	2.7E-12	6.2E-14	1.0E-14	3.3E-14	1.3E-11	5.3E-12	4.1E-12	2.9E-13	NA	4.0E-12	5 0E-14
2,3,4,6,7,8-HxCDF	E1 hi emiss	2.0E-13	1.2E-14	3.8E-11	8.4E-12	2.7E-13	4.3E-14	1.4E-13	3.6E-11	1.5E-11	1.2E-11	8.4E-13	NA	1.1E-11	1.7E-13
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	1.3E-12	7.5E-14	3.3E-11	8.5E-12	4.0E-13	6.4E-14	2.1E-13	3.1E-11	1 3E-11	1.0E-11	7.2E-13	NA	9.8E-12	6 4E-13
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	1.8E-13	1 0E-14	7.1E-12	2.1E-12	1.3E-13	2.1E-14	6.9E-14	6.7E-12	2.8E-12	2.2E-12	1.5E-13	NA	2.1E-12	6 0E-14
OCDF	E1 hi emiss	3.4E-12	2.0E-13	4.9E-10	8.6E-11	5.1E-13	8.3E-14	2.7E-13	4.6E-10	2 0E-10	1.5E-10	1.1E-11	NA	1.5E-10	1 8E-11
Tetrachlorobiphenyl	E1 hi emiss	3.5E-12	2.1E-13	2 4E-10	1.7E-10	1.6E-11	2.6E-12	8 6E-12	2 2E-10	9.4E-11	7.2E-11	5.1E-12	NA	7.0E-11	4 8E-13
Hexachlorobiphenyl	E1 hi emiss	5.7E-12	3.3E-13	1 5E-10	1.1E-10	9.5E-12	1.5E-12	5.0E-12	1.4E-10	6.0E-11	4.6E-11	3.3E-12	NA	4.5E-11	4 6E-13
Heptachlorobiphenyl	E1 hi emiss	5.6E-12	3 3E-13	3.9E-09	7.5E-10	9.7E-12	1.6E-12	5.1E-12	3.8E-09	1.6E-09	1.2E-09	8.7E-11	NA	1.2E-09	1.3E-11
Benzo(a)pyrene	E1 hi emiss	8.3E-11	9.6E-12	3.3E-07	2.1E-08	1.1E-12	1.8E-13	5.4E-10	1.6E-06	4.6E-08	8.2E-08	3.8E-08	NA	1.3E-08	1 5E-09
Benzo(b)fluoranthene	E1 hi emiss	3.4E-10	4.0E-11	1.9E-07	1.5E-08	5.7E-12	9.2E-13	2.7E-09	9.6E-07	2.7E-08	4.8E-08	2 2E-08	NA	7.4E-09	6 9E-10
Bis(2-ethylhexyl)phthalate	E1 hi emiss	2.1E-11	2.4E-12	1.9E-05	1.2E-06	4.3E-14	7.0E-15	2.1E-11	9.5E-05	2.7E-06	4.7E-06	2.2E-06	NA	7.3E-07	5 3E-07
Carbon tetrachloride	E1 hi emiss	1.7E-10	2.0E-11	1.2E-11	4.7E-12	2.3E-14	3.7E-15	1.1E-11	6.7E-11	1.9E-12	3.3E-12	1.5E-12	NA	5.1E-13	1 0E-08
Dibenz(a,h)anthracene	E1 hi emiss	2.0E-10	2.3E-11	5.1E-08	5.6E-09	1.0E-11	1.6E-12	4.8E-09	2.5E-07	7.0E-09	1 2E-08	5.7E-09	NA	1.9E-09	1 2E-10
Di(n)octyl phthalate	E1 hi emiss	8.5E-12	9.9E-13	7.4E-05	4.8E-06	1.0E-11	1.6E-12	4.8E-09	3.6E-04	1.0E-05	1 8E-05	8.4E-06	NA	2.8E-06	3 6E-09
Heptachlor	E1 hi emiss	1.7E-13	1.9E-14	2.1E-10	1.5E-11	3.2E-15	5.2E-16	1.5E-12	1.1E-09	3.0E-11	5 2E-11	2.4E-11	NA	8.1E-12	6 5E-13
Hexachlorobenzene	E1 hi emiss	3.2E-10	3.7E-11	2.0E-09	1.4E-09	2.8E-12	4.5E-13	1.3E-09	9.0E-09	2.5E-10	4.5E-10	2.1E-10	NA	6.9E-11	7.0E-11
Hexachlorobutadiene	E1 hi emiss	4.4E-10	5.1E-11	1.9E-10	1.6E-10	3.3E-13	5.3E-14	1.6E-10	8.5E-10	2.4E-11	4.2E-11	1 9E-11	NA	6 5E-12	1 5E-10
Hexachlorocyclopentadiene	E1 hi emiss	1.4E-11	1.7E-12	2.4E-11	1.9E-11	3.8E-14	6.2E-15	1.8E-11	1.0E-10	2.9E-12	5.2E-12	2.4E-12	NA	8 0E-13	2 0E-12
Hexachlorophene	E1 hi emiss	2.7E-10	3.1E-11	9.8E-07	5.9E-08	9.6E-11	1.6E-11	4 6E-08	4.9E-06	1.4E-07	2.4E-07	1.1E-07	NA	3.7E-08	3 3E-10
Indeno(1,2,3-cd)pyrene	E1 hi emiss	2.2E-10	2.6E-11	4.7E-08	5.7E-09	1.0E-11	1.7E-12	5.0E-09	2.3E-07	6.5E-09	1.1E-08	5.3E-09	NA	1.8E-09	1 2E-10
Antimony	E1 hi emiss	1.8E-11	3.6E-13	1.0E-10	4.2E-11	3.3E-13	5.4E-14	1.5E-12	1.6E-10	4.5E-12	8.1E-12	3.7E-12	NA	1 2E-12	6 6E-11
Arsenic	E1 hi emiss	7.1E-10	1.4E-11	1.9E-09	5.9E-10	2.5E-10	4.0E-11	1.2E-10	8.6E-10	2 4E-11	4.3E-11	2.0E-11	NA	6.6E-12	3 5E-10
Barium	E1 hi emiss	8.7E-10	1.7E-11	5.5E-10	2.4E-09	9.9E-13	1.6E-13	3.0E-10	2.0E-08	5.6E-10	1 0E-09	4 6E-10	NA	1 5E-10	1 8E-09
Beryllium	E1 hi emiss	1.9E-12	3.6E-14	1.1E-12	8.1E-13	3.4E-14	5.5E-15	1.5E-14	1 5E-14	4 1E-16	7.3E-16	3.4E-16	NA	1.1E-16	2 3E-13
Cadmium	E1 hi emiss	1.0E-11	2.0E-13	5.5E-11	2.5E-12	1.1E-11	1.8E-12	1.0E-13	5.4E-11	1.5E-12	2.7E-12	1 2E-12	NA	4 1E-13	2 3E-10
Chromium (hexavalent)	E1 hi emiss	4 9E-11	9.6E-13	1.4E-10	1.6E-10	2.0E-12	3.2E-13	1 2E-12	5 7E-10	1.6E-11	2 8E-11	1.3E-11	NA	4 3E-12	6 5E-12
Lead	E1 hi emiss	3.1E-09	6.0E-11	5 0E-10	1.2E-09	4.2E-08	6.7E-09	1 6E-08	6.1E-09	1 7E-10	3 0E-10	1.4E-10	NA	4.7E-11	5 3E-10
Mercury	E1 hi emiss	8 2E-09	1.6E-10	4 7E-09	1.5E-08	3.2E-09	5.1E-10	1.0E-10	9.4E-08	2 6E-09	4 7E-09	2 2E-09	NA	7 2E-10	1 4E-07
Nickel	E1 hi emiss	7.2E-11	1.4E-12	7.6E-10	3.2E-09	5.4E-12	8 7E-13	3.3E-12	2 0E-09	5 6E-11	9 9E-11	4 6E-11	NA	1 5E-11	2 0E-10
Selenium	E1 hi emiss	1.3E-08	2 6E-10	3.9E-08	8.8E-07	3 1E-08	5 0E-09	1.2E-08	8 8E-06	2 5E-07	4 4E-07	2 0E-07	NA	6 8E-08	1 0E-08
Silver	E1 hi emiss	6.5E-11	1.3E-12	1 3E-09	2.9E-11	3.7E-13	6 0E-14	2 9E-12	1 4E-07	3 9E-09	6 9E-09	3 2E-09	NA	1 1E-09	5 8E-10
Thallium	E1 hi emiss	3.3E-09	6 4E-11	5 8E-08	2.0E-07	4.3E-08	6.9E-09	1 6E-08	4 2E-08	1 2E-09	2 1E-09	9 6E-10	NA	3 2E-10	2 1E-10
Zinc	E1 hi emiss	4.7E-10	9 0E-12	7 8E-10	2 0E-10	1.9E-10	3.1E-11	7.4E-11	3 2E-09	9 0E-11	1 6E-10	7 4E-11	NA	2 5E-11	3 3E-08

TABLE 2 Avg & High-end Cancer & Noncancer Dose, Subsistence Farmer Child

AVERAGE DAILY DOSE (ADD) FOR CHEMICALS WITH NONCARCINOGENIC HEALTH EFFECTS

Chemical	Subarea	Protected Produce Ingestion mg/kg-d	Leafy Produce Ingestion mg/kg-d	Root Produce Ingestion mg/kg-d	Exposed Fruit Ingestion mg/kg-d	Protected Fruit Ingestion mg/kg-d	River Water Ingestion mg/kg-d	River Water Dermal Contact mg/kg-d	Lake Water Ingestion mg/kg-d	Lake Water Dermal Contact mg/kg-d
2,3,7,8-TCDD	E1 hi emiss	7.3E-17	3.6E-14	1 6E-16	4 3E-15	5 0E-16	1.1E-20	1.8E-17	NA	NA
1,2,3,7,8-PeCDD	E1 hi emiss	2.5E-16	4.5E-13	5 4E-16	5.1E-14	1.7E-15	3.6E-20	4.9E-17	NA	NA
1,2,3,4,7,8-HxCDD	E1 hi emiss	6.0E-17	6.2E-13	3 2E-16	7.1E-14	4.1E-16	9.6E-21	6.7E-17	NA	NA
1,2,3,6,7,8-HxCDD	E1 hi emiss	1.9E-16	1.6E-13	7.4E-16	2.3E-14	1 3E-15	3.6E-20	1.1E-16	NA	NA
1,2,3,7,8,9-HxCDD	E1 hi emiss	7.0E-17	2 0E-13	5.2E-16	2.5E-14	4.8E-16	2.5E-20	1.7E-16	NA	NA
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	4.4E-16	1.0E-11	3 3E-15	1.1E-12	3.0E-15	5.3E-20	5.6E-16	NA	NA
OCDD	E1 hi emiss	5.7E-15	1.5E-09	2.6E-14	1 6E-10	3 9E-14	9.8E-19	3.0E-15	NA	NA
2,3,7,8-TCDF	E1 hi emiss	5.0E-16	3.5E-13	9 7E-16	4.0E-14	3 4E-15	6.8E-20	1.1E-16	NA	NA
1,2,3,7,8-PeCDF	E1 hi emiss	1.1E-15	2.0E-12	2 6E-15	2 3E-13	7.4E-15	1 8E-19	3.4E-16	NA	NA
2,3,4,7,8-PeCDF	E1 hi emiss	1.2E-15	2 8E-12	3 1E-15	3 2E-13	7.9E-15	2.0E-19	4.8E-16	NA	NA
1,2,3,4,7,8-HxCDF	E1 hi emiss	1.7E-15	1.9E-12	6 5E-15	2.5E-13	1 1E-14	3.1E-19	1.1E-15	NA	NA
1,2,3,6,7,8-HxCDF	E1 hi emiss	1.6E-15	4.3E-12	6 0E-15	5.1E-13	1.1E-14	2.9E-19	1.0E-15	NA	NA
1,2,3,7,8,9-HxCDF	E1 hi emiss	3.7E-16	1.0E-12	1 4E-15	1.2E-13	2.5E-15	6.9E-20	2.4E-16	NA	NA
2,3,4,6,7,8-HxCDF	E1 hi emiss	1.8E-15	3.2E-12	6 9E-15	3 9E-13	1 2E-14	3 3E-19	1.2E-15	NA	NA
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	5.2E-15	1.1E-11	3 1E-14	1.5E-12	3 6E-14	7.8E-19	5.7E-15	NA	NA
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	7.1E-16	9 0E-13	4 2E-15	1.4E-13	4 8E-15	1.1E-19	7.7E-16	NA	NA
OCDF	E1 hi emiss	4 2E-15	3.8E-10	5 0E-14	4.3E-11	2 8E-14	3.0E-19	7.4E-15	NA	NA
Tetrachlorobiphenyl	E1 hi emiss	2.1E-13	4 7E-12	3.7E-12	1.1E-12	1 4E-12	2.2E-17	2.3E-14	NA	NA
Hexachlorobiphenyl	E1 hi emiss	6.2E-14	8 5E-12	5 7E-13	1 1E-12	4 2E-13	1.8E-17	5.6E-14	NA	NA
Heptachlorobiphenyl	E1 hi emiss	3.0E-14	2.7E-10	3.4E-12	3 0E-11	2.1E-13	2.1E-17	1.2E-13	NA	NA
Benzo(a)pyrene	E1 hi emiss	3.5E-12	3 0E-08	9.8E-13	3 5E-09	2 4E-11	3.5E-16	4.2E-13	NA	NA
Benzo(b)fluoranthene	E1 hi emiss	1.3E-11	1 5E-08	3.5E-11	1.6E-09	8 8E-11	1.3E-15	1.8E-12	NA	NA
Bis(2-ethylhexyl)phthalate	E1 hi emiss	1.8E-13	1 2E-05	6.5E-13	1 3E-06	1 2E-12	4.7E-16	1.5E-12	NA	NA
Carbon tetrachloride	E1 hi emiss	8.7E-09	2.2E-09	2.4E-09	2.4E-08	5 9E-08	5.7E-15	5.3E-14	NA	NA
Dibenz(a,h)anthracene	E1 hi emiss	3.8E-12	6.5E-11	1.6E-11	2.8E-10	2.6E-11	5.5E-16	1.4E-12	NA	NA
Di(n)octyl phthalate	E1 hi emiss	2.7E-14	7.7E-08	6.7E-10	8.4E-09	1.8E-13	3.6E-17	3.8E-13	NA	NA
Heptachlor	E1 hi emiss	5.7E-15	1 4E-11	3.4E-13	1.5E-12	3.9E-14	6.8E-19	4.4E-16	NA	NA
Hexachlorobenzene	E1 hi emiss	5.7E-11	7.9E-11	3.2E-09	1.7E-10	3.9E-10	3.7E-15	2.4E-12	NA	NA
Hexachlorobutadiene	E1 hi emiss	1.3E-10	3.8E-11	4.8E-10	3.6E-10	8.7E-10	2.2E-15	2.9E-13	NA	NA
Hexachlorocyclopentadiene	E1 hi emiss	1.6E-12	1.3E-12	4.6E-11	4.7E-12	1.1E-11	6.1E-17	1.9E-14	NA	NA
Hexachlorophene	E1 hi emiss	1.8E-12	1.9E-10	1.8E-09	7.8E-10	1.2E-11	1.8E-15	7.4E-12	NA	NA
Indeno(1,2,3-cd)pyrene	E1 hi emiss	4.6E-12	6.6E-11	1.7E-11	2.8E-10	3.1E-11	6.1E-16	1.5E-12	NA	NA
Antimony	E1 hi emiss	3.5E-11	7.4E-11	8 4E-14	1.6E-10	2.4E-10	7.1E-16	1.0E-16	NA	NA
Arsenic	E1 hi emiss	1.1E-10	3.2E-10	8.2E-14	8.4E-10	7 8E-10	1.5E-14	2.2E-15	NA	NA
Barium	E1 hi emiss	7.5E-10	2.4E-09	1.3E-12	4.2E-09	5.1E-09	3.2E-14	4.6E-15	NA	NA
Beryllium	E1 hi emiss	3.0E-14	1.6E-13	4.9E-18	5.4E-13	2 0E-13	1 8E-17	2.6E-18	NA	NA
Cadmium	E1 hi emiss	1.1E-10	1.6E-10	4 0E-13	5.4E-10	7.8E-10	6.8E-16	9.8E-17	NA	NA
Chromium (hexavalent)	E1 hi emiss	1.9E-12	3.2E-12	2 5E-16	1.5E-11	1.3E-11	4.0E-16	5.8E-17	NA	NA
Lead	E1 hi emiss	2.4E-10	4.5E-10	3.1E-13	1.3E-09	1 6E-09	2.4E-14	3 5E-15	NA	NA
Mercury	E1 hi emiss	1.2E-07	1.8E-07	4 5E-11	3.4E-07	8.2E-07	3 3E-13	4.8E-14	NA	NA
Nickel	E1 hi emiss	1 4E-10	5.4E-11	6 9E-15	4 7E-10	9 8E-10	1.9E-15	2 7E-16	NA	NA
Selenium	E1 hi emiss	6 5E-09	3 3E-09	1 9E-12	2 5E-08	4 4E-08	2 2E-13	3.2E-14	NA	NA
Silver	E1 hi emiss	4 2E-10	4 8E-10	9 9E-13	1.4E-09	2 8E-09	2 5E-15	3 6E-16	NA	NA
Thallium	E1 hi emiss	8 4E-12	1 2E-10	6 1E-16	5 0E-10	5 8E-11	2 0E-14	2 9E-15	NA	NA
Zinc	E1 hi emiss	2 7E-08	1 2E-08	8 2E-12	7 9E-08	1 9E-07	1 8E-14	2.7E-15	NA	NA

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TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

CARCINOGENIC RISKS

Chemical	Subarea	Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk
2,3,7,8-TCDD	E1 avg	2.1E-11	1.2E-12	2 9E-09	6 2E-10	3 2E-11	5.2E-12	1.7E-11	3.5E-09	3 1E-09	9.6E-10	8.9E-10	5.6E-11	NA	6 6E-10
1,2,3,7,8-PeCDD	E1 avg	5.3E-11	3.1E-12	2.4E-08	3.9E-09	7.6E-11	1.2E-11	4.1E-11	2 8E-08	2.6E-08	8.1E-09	7.4E-09	4.7E-10	NA	5 5E-09
1,2,3,4,7,8-HxCDD	E1 avg	1.2E-11	6.9E-13	3.2E-09	5.2E-10	8 2E-12	1.3E-12	4.4E-12	3.8E-09	3 6E-09	1.1E-09	1.0E-09	6.4E-11	NA	7 4E-10
1,2,3,6,7,8-HxCDD	E1 avg	2.1E-11	1.2E-12	8 8E-10	2.0E-10	1.3E-11	2.0E-12	6.7E-12	1.1E-09	9 6E-10	2.9E-10	2.7E-10	1.7E-11	NA	2 0E-10
1,2,3,7,8,9-HxCDD	E1 avg	1.4E-11	7.9E-13	1.2E-09	2.3E-10	1 0E-11	1.7E-12	5.5E-12	1.5E-09	1.3E-09	4.0E-10	3.7E-10	2.4E-11	NA	2.8E-10
1,2,3,4,6,7,8-HpCDD	E1 avg	1.5E-11	9 0E-13	9.4E-10	1.5E-10	1.9E-12	3.1E-13	1.0E-12	1.1E-09	1.0E-09	3.2E-10	2.9E-10	1 8E-11	NA	2 2E-10
OCDD	E1 avg	7.5E-12	4.4E-13	1.7E-08	2.5E-09	1.3E-12	2.2E-13	7.1E-13	1.9E-08	1.9E-08	5.7E-09	5.3E-09	3.3E-10	NA	3 9E-09
2,3,7,8-TCDF	E1 avg	1.9E-11	1.1E-12	9.0E-10	1.7E-10	6.3E-12	1.0E-12	3.4E-12	1.1E-09	9 8E-10	3.0E-10	2 8E-10	1.8E-11	NA	2.1E-10
1,2,3,7,8-PeCDF	E1 avg	3.1E-11	1 8E-12	2.1E-09	3 5E-10	7.8E-12	1.3E-12	4.2E-12	2.5E-09	2.3E-09	7.0E-10	6 5E-10	4.1E-11	NA	4.8E-10
2,3,4,7,8-PeCDF	E1 avg	3.8E-10	2.2E-11	1 2E-07	2.0E-08	4.1E-10	6 6E-11	2.2E-10	1.4E-07	1.3E-07	4.0E-08	3.7E-08	2.4E-09	NA	2 8E-08
1,2,3,4,7,8-HxCDF	E1 avg	1.9E-10	1.1E-11	1.4E-08	2.8E-09	1.5E-10	2.4E-11	8.0E-11	1.7E-08	1.5E-08	4.6E-09	4.2E-09	2.7E-10	NA	3 1E-09
1,2,3,6,7,8-HxCDF	E1 avg	1.7E-10	1 0E-11	2.5E-08	4.3E-09	1.2E-10	1.9E-11	6.4E-11	2.9E-08	2 7E-08	8.3E-09	7.6E-09	4.8E-10	NA	5.7E-09
1,2,3,7,8,9-HxCDF	E1 avg	4.0E-11	2.3E-12	5.6E-09	9.8E-10	2 8E-11	4.4E-12	1.5E-11	6.6E-09	6.1E-09	1.9E-09	1.7E-09	1.1E-10	NA	1.3E-09
2,3,4,6,7,8-HxCDF	E1 avg	2.0E-10	1.1E-11	1.6E-08	3.1E-09	1.2E-10	1.9E-11	6.4E-11	2.0E-08	1.8E-08	5.5E-09	5.1E-09	3.2E-10	NA	3 8E-09
1,2,3,4,6,7,8-HpCDF	E1 avg	1.2E-10	6.9E-12	1.3E-09	2.9E-10	1.7E-11	2.7E-12	8.9E-12	1.6E-09	1.4E-09	4.4E-10	4.1E-10	2.6E-11	NA	3.0E-10
1,2,3,4,7,8,9-HpCDF	E1 avg	1 5E-11	8.9E-13	2.7E-10	6.9E-11	5.2E-12	8.3E-13	2.8E-12	3.5E-10	2.9E-10	9.0E-11	8.3E-11	5.3E-12	NA	6.2E-11
OCDF	E1 avg	2.3E-11	1.3E-12	1.4E-09	2.1E-10	1 6E-12	2.5E-13	8.4E-13	1.6E-09	1.6E-09	4.8E-10	4.4E-10	2.8E-11	NA	3.3E-10
Tetrachlorobiphenyl	E1 avg	1.2E-12	6.8E-14	3.5E-11	2.1E-11	2.4E-12	3.9E-13	1.3E-12	6.0E-11	3.7E-11	1.1E-11	1.0E-11	6.6E-13	NA	7.7E-12
Hexachlorobiphenyl	E1 avg	1 9E-12	1.1E-13	2.2E-11	1.3E-11	1.4E-12	2.3E-13	7.6E-13	3.7E-11	2.3E-11	7.2E-12	6.6E-12	4.2E-13	NA	4 9E-12
Heptachlorobiphenyl	E1 avg	1.9E-12	1.1E-13	5.7E-10	9.2E-11	1 5E-12	2.4E-13	7.8E-13	6 6E-10	6.2E-10	1.9E-10	1.6E-10	1.1E-11	NA	1.3E-10
Benzo(a)pyrene	E1 avg	2.6E-11	3.0E-12	4.5E-08	2.5E-09	1 6E-13	2.6E-14	7.8E-11	4.8E-08	2.6E-07	5.2E-09	1.1E-08	4.6E-09	NA	1 3E-09
Benzo(b)fluoranthene	E1 avg	1 1E-11	1.2E-12	2 7E-09	1.8E-10	8 1E-14	1 3E-14	4.0E-11	2.9E-09	1.5E-08	3.1E-10	6.6E-10	2.7E-10	NA	7 7E-11
Bis(2-ethylhexyl)phthalate	E1 avg	1.8E-14	2.1E-15	7.1E-09	3.9E-10	1.7E-17	2.7E-18	8.2E-15	7.5E-09	4.1E-08	8.3E-10	1.8E-09	7.3E-10	NA	2.1E-10
Carbon tetrachloride	E1 avg	1 1E-12	1.3E-13	3.4E-14	1.1E-14	6.7E-17	1.1E-17	3.2E-14	7.8E-14	2.1E-13	4.4E-15	9.3E-15	3.8E-15	NA	1.1E-15
Dibenz(a,h)anthracene	E1 avg	6.1E-11	7.1E-12	6.9E-09	6.5E-10	1.4E-12	2.3E-13	6.9E-10	8.3E-09	3.9E-08	8.0E-10	1.7E-09	7.0E-10	NA	2.0E-10
Di(n)octyl phthalate	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Heptachlor	E1 avg	3.2E-14	3.8E-15	1 8E-11	1.1E-12	2 8E-16	4.5E-17	1.4E-13	1.9E-11	1.0E-10	2.1E-12	4.4E-12	1.8E-12	NA	5 2E-13
Hexachlorobenzene	E1 avg	2.2E-11	2.6E-12	6.1E-11	3.5E-11	8.7E-14	1.4E-14	4.2E-11	1.4E-10	3.1E-10	6.3E-12	1.3E-11	5.5E-12	NA	1 6E-12
Hexachlorobutadiene	E1 avg	2.9E-12	3.4E-13	5.7E-13	3.9E-13	1.0E-15	1.6E-16	4.9E-13	1.4E-12	2.8E-12	5.8E-14	1.2E-13	5.1E-14	NA	1.4E-14
Hexachlorocyclopentadiene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Hexachlorophene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Indeno(1,2,3-cd)pyrene	E1 avg	6.9E-12	8.1E-13	6.4E-10	6.6E-11	1.5E-13	2.4E-14	7.2E-11	7.8E-10	3.6E-09	7.4E-11	1.6E-10	6.4E-11	NA	1.8E-11
Antimony	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Arsenic	E1 avg	1.1E-10	2.1E-12	1.2E-10	3.3E-11	1.7E-11	2.7E-12	8.6E-12	1.8E-10	6.5E-11	1.3E-12	2.8E-12	1.2E-12	NA	3.3E-13
Barium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Beryllium	E1 avg	6.9E-13	1.3E-14	1.8E-13	1.1E-13	5.7E-15	9.2E-16	2.6E-15	3.0E-13	2.7E-15	5.5E-17	1.2E-16	4.8E-17	NA	1.4E-17
Cadmium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Chromium (hexavalent)	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Mercury	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Nickel	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Selenium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Silver	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Thallium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Zinc	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
DIOXIN TEQ	E1 avg	1.3E-09	7 8E-11	2 4E-07	4.0E-08	1 0E-09	1.6E-10	5 4E-10	2 8E-07	2 6E-07	8 0E-08	7 3E-08	4 6E-09	NA	5 4E-08
ORGANICS TOTAL (non-dioxin)	E1 avg	1.4E-10	1.6E-11	6 3E-08	3 9E-09	7 2E-12	1 2E-12	9 3E-10	6 8E-08	3 6E-07	7 5E-09	1 6E-08	6 4E-09	NA	2 0E-09
INORGANICS TOTAL	E1 avg	1.1E-10	2 1E-12	1 2E-10	3 3E-11	1 7E-11	2 7E-12	8 6E-12	1 8E-10	6 5E-11	1 3E-12	2 8E-12	1 2E-12	NA	3 3E-13
SUBAREA TOTAL	E1 avg	1 6E-09	9 5E-11	3 0E-07	4 4E-08	1 0E-09	1 7E-10	1 5E-09	3 5E-07	6 1E-07	8 7E-08	8 9E-08	1 1E-08	NA	5 6E-08

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TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

Chemical	Subarea	CARCINOGENIC RISKS TOTAL DAIRY PRODUCT INGESTION RISK	Exposed Produce Ingestion Risk	Protected Produce Ingestion Risk	Leafy Produce Ingestion Risk	Root Produce Ingestion Risk	Exposed Fruit Ingestion Risk	Protected Fruit Ingestion Risk	TOTAL FRUIT & PRODUCE INGESTION RISK	River Water Ingestion Risk	River Water Dermal Contact Risk	Lake Water Ingestion Risk	Lake Water Dermal Contact Risk	Infant Breast milk Ingestion Risk	TOTAL CANCER RISK
2,3,7,8-TCDD	E1 avg	5.7E-09	4 6E-12	1.8E-13	9.3E-11	4.0E-13	1.1E-11	1.3E-12	1.1E-10	6.9E-17	1.2E-13	NA	NA	NA	9 4E-09
1,2,3,7,8-PeCDD	E1 avg	4.8E-08	3.9E-11	4.6E-13	8.4E-10	1.0E-12	9.4E-11	3.2E-12	9 6E-10	1.7E-16	2 2E-13	NA	NA	NA	7 7E-08
1,2,3,4,7,8-HxCDD	E1 avg	6.5E-09	1.1E-11	2.2E-14	2.3E-10	1.2E-13	2.6E-11	1.5E-13	2.7E-10	8.9E-18	6 1E-14	NA	NA	NA	1.1E-08
1,2,3,6,7,8-HxCDD	E1 avg	1.7E-09	3.7E-12	7.4E-14	6.4E-11	2.9E-13	8.9E-12	5.1E-13	7.7E-11	3.5E-17	1 1E-13	NA	NA	NA	2 9E-09
1,2,3,7,8,9-HxCDD	E1 avg	2.4E-09	3.8E-12	2.5E-14	7.3E-11	1.9E-13	9.1E-12	1.7E-13	8 6E-11	2.2E-17	1.6E-13	NA	NA	NA	3 9E-09
1,2,3,4,6,7,8-HpCDD	E1 avg	1.9E-09	1.8E-11	1.6E-14	3.8E-10	1.3E-13	4.2E-11	1.1E-13	4.4E-10	5.0E-18	5.3E-14	NA	NA	NA	3 4E-09
OCDD	E1 avg	3.4E-08	2.2E-10	1.8E-14	4.9E-09	8.4E-14	5.2E-10	1.2E-13	5.6E-09	7.9E-18	2.4E-14	NA	NA	NA	5 9E-08
2,3,7,8-TCDF	E1 avg	1.8E-09	6.5E-12	1.9E-13	1.4E-10	3.9E-13	1 6E-11	1.3E-12	1.6E-10	6.6E-17	1.1E-13	NA	NA	NA	3.0E-09
1,2,3,7,8-PeCDF	E1 avg	4.2E-09	1 9E-11	2.2E-13	4.2E-10	5 4E-13	4.6E-11	1.5E-12	4.9E-10	9.0E-17	1.7E-13	NA	NA	NA	7.1E-09
2,3,4,7,8-PeCDF	E1 avg	2.4E-07	2.6E-10	2.3E-12	5.7E-09	6.2E-12	6.3E-10	1.6E-11	6.6E-09	9.9E-16	2.4E-12	NA	NA	NA	3.9E-07
1,2,3,4,7,8-HxCDF	E1 avg	2.7E-08	4.1E-11	6.6E-13	7.7E-10	2.6E-12	1.0E-10	4.5E-12	9 2E-10	3.1E-16	1.1E-12	NA	NA	NA	4 5E-08
1,2,3,6,7,8-HxCDF	E1 avg	4.9E-08	8.5E-11	6.1E-13	1.8E-09	2 4E-12	2.0E-10	4.2E-12	2.1E-09	2.9E-16	1.0E-12	NA	NA	NA	8 1E-08
1,2,3,7,8,9-HxCDF	E1 avg	1.1E-08	1.9E-11	1.4E-13	4.0E-10	5 6E-13	4.6E-11	9.8E-13	4.7E-10	6.8E-17	2.4E-13	NA	NA	NA	1 8E-08
2,3,4,6,7,8-HxCDF	E1 avg	3.3E-08	6 4E-11	6.9E-13	1.3E-09	2 7E-12	1.5E-10	4.8E-12	1.5E-09	3.3E-16	1.1E-12	NA	NA	NA	5 4E-08
1,2,3,4,6,7,8-HpCDF	E1 avg	2.6E-09	2 3E-11	1 9E-13	4.1E-10	1.2E-12	5 5E-11	1.3E-12	5.0E-10	7.2E-17	5.2E-13	NA	NA	NA	4 9E-09
1,2,3,4,7,8,9-HpCDF	E1 avg	5 3E-10	2 0E-12	2 4E-14	3.2E-11	1 5E-13	4 9E-12	1.7E-13	3.9E-11	9.2E-18	6.7E-14	NA	NA	NA	9 4E-10
OCDF	E1 avg	2.8E-09	4.7E-11	1.1E-14	1.0E-09	1 4E-13	1.1E-10	7.6E-14	1.2E-09	2.0E-18	4.9E-14	NA	NA	NA	5.7E-09
Tetrachlorobiphenyl	E1 avg	6.7E-11	6.2E-14	2 7E-14	6.3E-13	4.9E-13	1.5E-13	1.9E-13	1.5E-12	7.3E-18	7.6E-15	NA	NA	NA	1 3E-10
Hexachlorobiphenyl	E1 avg	4.2E-11	6.0E-14	8.0E-15	1.1E-12	7.7E-14	1.4E-13	5.6E-14	1.5E-12	5.9E-18	1.8E-14	NA	NA	NA	8 3E-11
Heptachlorobiphenyl	E1 avg	1.1E-09	1 6E-12	4.0E-15	3.7E-11	4.5E-13	3.9E-12	2.7E-14	4.3E-11	7.0E-18	4.0E-14	NA	NA	NA	1.8E-09
Benzo(a)pyrene	E1 avg	2 8E-07	1 8E-10	4 3E-13	3 9E-09	1.2E-13	4.3E-10	3.0E-12	4 5E-09	1.1E-16	1.3E-13	NA	NA	NA	3 3E-07
Benzo(b)fluoranthene	E1 avg	1.6E-08	8 4E-12	1 6E-13	1.9E-10	4 4E-13	2.0E-11	1.1E-12	2.2E-10	4 2E-17	5.7E-14	NA	NA	NA	1 9E-08
Bis(2-ethylhexyl)phthalate	E1 avg	4.4E-08	1.8E-10	6.0E-17	4.0E-09	2.2E-16	4.3E-10	4.2E-16	4 6E-09	4.0E-19	1 3E-15	NA	NA	NA	5 6E-08
Carbon tetrachloride	E1 avg	2.3E-13	2.6E-11	2 2E-11	5.8E-12	6.3E-12	6.2E-11	1.5E-10	2.7E-10	3.6E-17	3.4E-16	NA	NA	NA	2 7E-10
Dibenz(a,h)anthracene	E1 avg	4.2E-08	1.4E-11	4.7E-13	8.3E-12	2.0E-12	3.5E-11	3.3E-12	6.3E-11	1.7E-16	4.4E-13	NA	NA	NA	5.1E-08
Di(n)octyl phthalate	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Heptachlor	E1 avg	1.1E-10	4.9E-14	4.4E-16	1.1E-12	2.6E-14	1.2E-13	3.0E-15	1.3E-12	1.3E-19	8 4E-17	NA	NA	NA	1 3E-10
Hexachlorobenzene	E1 avg	3.3E-10	1.9E-12	1.5E-12	2.2E-12	8.9E-11	4.5E-12	1.1E-11	1.1E-10	2.5E-16	1.7E-13	NA	NA	NA	6 1E-10
Hexachlorobutadiene	E1 avg	3.1E-12	4 0E-13	3.4E-13	1.0E-13	1.3E-12	9.5E-13	2.3E-12	5.4E-12	1.4E-17	1.9E-15	NA	NA	NA	1 3E-11
Hexachlorocyclopentadiene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Hexachlorophene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Indeno(1,2,3-cd)pyrene	E1 avg	3.9E-09	1.4E-12	5 7E-14	8.4E-13	2.2E-13	3.5E-12	3.9E-13	6.4E-12	1.9E-17	4.6E-14	NA	NA	NA	4 7E-09
Antimony	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Arsenic	E1 avg	7.0E-11	2.1E-11	6.8E-12	2.0E-11	5.0E-15	5.0E-11	4.7E-11	1 4E-10	2.3E-15	3.3E-16	NA	NA	NA	5.1E-10
Barium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Beryllium	E1 avg	2.9E-15	3.3E-14	4 3E-15	2.4E-14	7.3E-19	8.0E-14	3.0E-14	1.7E-13	6 7E-18	9.6E-19	NA	NA	NA	1 2E-12
Cadmium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Chromium (hexavalent)	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Mercury	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Nickel	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Selenium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Silver	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Thallium	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Zinc	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
DIOXIN TEQ	E1 avg	4.7E-07	8.6E-10	5 8E-12	1.9E-08	1 9E-11	2 1E-09	4 0E-11	2 2E-08	2 5E-15	7 5E-12	NA	NA	NA	7 7E-07
ORGANICS TOTAL (non-dioxin)	E1 avg	3 9E-07	4 1E-10	2 5E-11	8 1E-09	1 0E-10	9 9E-10	1 7E-10	9 8E-09	6 7E-16	9 0E-13	NA	NA	NA	4 6E-07
INORGANICS TOTAL	E1 avg	7 0E-11	2 1E-11	6 8E-12	2 0E-11	5 0E-15	5 0E-11	4 7E-11	1 4E-10	2 3E-15	3 4E-16	NA	NA	NA	5 1E-10
SUBAREA TOTAL	E1 avg	8 6E-07	1.3E-09	3 7E-11	2.7E-08	1 2E-10	3 1E-09	2 6E-10	3 1E-08	5 5E-15	8 4E-12	NA	NA	NA	1 2E-06

TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

NONCARCINOGENIC HAZARD QUOTIENTS

Chemical	Subarea	Soil Ingestion HQ	Soil Dermal Contact HQ	Beef Ingestion HQ	Pork Ingestion HQ	Chicken Ingestion HQ	Other Poultry Ingestion HQ	Egg Ingestion HQ	TOTAL MEAT & EGG INGESTION HQ	Milk Ingestion HQ	Cheese Ingestion HQ	Milk Desserts Ingestion HQ	Yogurt Ingestion HQ	Cream Ingestion HQ	Butter Ingestion HQ
2,3,7,8-TCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8-PeCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,6,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8,9-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
OCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
2,3,7,8-TCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
2,3,4,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8,9-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
2,3,4,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
OCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Tetrachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Hexachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Heptachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Benzo(a)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Benzo(b)fluoranthene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Bis(2-ethylhexyl)phthalate	E1 avg	7.4E-10	8.6E-11	3.0E-04	1.6E-05	7.0E-13	1.1E-13	3.4E-10	3.1E-04	1.7E-03	3.5E-05	7.3E-05	3.0E-05	NA	8.6E-06
Carbon tetrachloride	E1 avg	1.4E-07	1.6E-08	4.4E-09	1.4E-09	8.5E-12	1.4E-12	4.1E-09	1.0E-08	2.7E-08	5.6E-10	1.2E-09	4.9E-10	NA	1.4E-10
Dibenz(a,h)anthracene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Di(n)octyl phthalate	E1 avg	2.1E-10	2.5E-11	8.0E-04	4.4E-05	1.1E-10	1.8E-11	5.6E-08	8.4E-04	4.6E-03	9.3E-05	2.0E-04	8.2E-05	NA	2.3E-05
Heptachlor	E1 avg	1.7E-10	1.9E-11	9.3E-08	5.6E-09	1.5E-12	2.4E-13	7.1E-10	9.9E-08	5.3E-07	1.1E-08	2.3E-08	9.4E-09	NA	2.7E-09
Hexachlorobenzene	E1 avg	2.0E-07	2.3E-08	5.5E-07	3.2E-07	7.9E-10	1.3E-10	3.8E-07	1.3E-06	2.8E-06	5.7E-08	1.2E-07	5.0E-08	NA	1.4E-08
Hexachlorobutadiene	E1 avg	2.2E-06	2.5E-07	4.2E-07	2.9E-07	7.5E-10	1.2E-10	3.7E-07	1.1E-06	2.1E-06	4.3E-08	9.2E-08	3.8E-08	NA	1.1E-08
Hexachlorocyclopentadiene	E1 avg	1.0E-09	1.2E-10	7.5E-10	5.1E-10	1.2E-12	2.0E-13	6.0E-10	1.9E-09	3.7E-09	7.6E-11	1.6E-10	6.7E-11	NA	1.9E-11
Hexachlorophene	E1 avg	8.9E-07	1.0E-07	1.4E-03	7.3E-05	1.5E-07	2.4E-08	7.1E-05	1.6E-03	8.1E-03	1.7E-04	3.5E-04	1.5E-04	NA	4.1E-05
Indeno(1,2,3-cd)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Antimony	E1 avg	4.6E-08	8.9E-10	1.1E-07	3.9E-08	3.8E-10	6.2E-11	1.7E-09	1.5E-07	2.0E-07	4.1E-09	8.8E-09	3.6E-09	NA	1.0E-09
Arsenic	E1 avg	2.4E-06	4.6E-08	2.7E-06	7.3E-07	3.8E-07	6.1E-08	1.9E-07	4.1E-06	1.4E-06	2.9E-08	6.2E-08	2.6E-08	NA	7.4E-09
Barium	E1 avg	1.2E-08	2.4E-10	3.4E-09	1.3E-08	6.4E-12	1.0E-12	2.0E-09	1.8E-08	1.4E-07	2.9E-09	6.2E-09	2.6E-09	NA	7.3E-10
Beryllium	E1 avg	3.8E-10	7.3E-12	9.6E-11	6.0E-11	3.1E-12	5.0E-13	1.4E-12	1.6E-10	1.5E-12	3.0E-14	6.3E-14	2.6E-14	NA	7.5E-15
Cadmium	E1 avg	2.1E-08	4.0E-10	4.8E-08	1.8E-09	1.0E-08	1.6E-09	9.3E-11	6.1E-08	5.4E-08	1.1E-09	2.4E-09	9.7E-10	NA	2.8E-10
Chromium (hexavalent)	E1 avg	9.9E-09	1.9E-10	1.2E-08	1.2E-08	1.8E-10	2.9E-11	1.1E-10	2.4E-08	5.7E-08	1.2E-09	2.5E-09	1.0E-09	NA	2.9E-10
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Mercury	E1 avg	2.7E-05	5.3E-07	6.8E-06	1.9E-05	4.8E-06	7.8E-07	1.6E-07	3.2E-05	1.6E-04	3.2E-06	6.8E-06	2.8E-06	NA	8.0E-07
Nickel	E1 avg	3.6E-09	7.0E-11	1.7E-08	6.0E-08	1.2E-10	2.0E-11	7.7E-11	7.6E-08	5.0E-08	1.0E-09	2.2E-09	8.9E-10	NA	2.5E-10
Selenium	E1 avg	2.7E-06	5.2E-08	3.4E-06	6.5E-05	2.8E-06	4.6E-07	1.1E-06	7.3E-05	8.8E-04	1.8E-05	3.8E-05	1.6E-05	NA	4.5E-06
Silver	E1 avg	1.3E-08	2.5E-10	1.1E-07	2.1E-09	3.4E-11	5.5E-12	2.6E-10	1.2E-07	1.4E-05	2.8E-07	6.0E-07	2.5E-07	NA	7.1E-08
Thallium	E1 avg	4.7E-05	9.1E-07	3.6E-04	1.0E-03	2.8E-04	4.5E-05	1.1E-04	1.8E-03	3.0E-04	6.1E-06	1.3E-05	5.3E-06	NA	1.5E-06
Zinc	E1 avg	1.6E-09	3.0E-11	1.1E-09	2.5E-10	2.9E-10	4.7E-11	1.1E-10	1.8E-09	5.4E-09	1.1E-10	2.3E-10	9.6E-11	NA	2.7E-11
DIOXIN TEQ	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 avg	3.4E-06	4.0E-07	2.5E-03	1.3E-04	1.5E-07	2.4E-08	7.2E-05	2.7E-03	1.4E-02	2.9E-04	6.2E-04	2.6E-04	NA	7.3E-05
INORGANICS TOTAL	E1 avg	7.9E-05	1.5E-06	3.7E-04	1.1E-03	2.8E-04	4.6E-05	1.1E-04	1.9E-03	1.3E-03	2.8E-05	5.9E-05	2.4E-05	NA	6.9E-06
SUBAREA TOTAL	E1 avg	8.3E-05	1.9E-06	2.9E-03	1.3E-03	2.9E-04	4.6E-05	1.8E-04	4.7E-03	1.6E-02	3.2E-04	6.8E-04	2.8E-04	NA	8.0E-05

TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

Chemical	Subarea	NONCARCINOGENIC HAZARD QUOTIENTS TOTAL DAIRY PRODUCT INGESTION HQ	Exposed Produce Ingestion HQ	Protected Produce Ingestion HQ	Leafy Produce Ingestion HQ	Root Produce Ingestion HQ	Exposed Fruit Ingestion HQ	Protected Fruit Ingestion HQ	TOTAL FRUIT & PRODUCE INGESTION HQ	River Water Ingestion HQ	River Water Dermal Contact HQ	Lake Water Ingestion HQ	Lake Water Dermal Contact HQ	TOTAL HI
2,3,7,8-TCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDD	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,7,8-TCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,7,8-PeCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,6,7,8-HxCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDF	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Tetrachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Hexachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Heptachlorobiphenyl	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(a)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(b)fluoranthene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Bis(2-ethylhexyl)phthalate	E1 avg	1 8E-03	7.4E-06	2.5E-12	1.7E-04	9 4E-12	1 8E-05	1.7E-11	1.9E-04	1 7E-14	5.2E-11	NA	NA	2.3E-03
Carbon tetrachloride	E1 avg	3.0E-08	3.3E-06	2.8E-06	7.5E-07	8.1E-07	7.9E-06	1.9E-05	3.5E-05	4 6E-12	4.3E-11	NA	NA	3.5E-05
Dibenz(a,h)anthracene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Di(n)octyl phthalate	E1 avg	5.0E-03	3.5E-08	2.6E-13	7.9E-07	6.7E-09	8.4E-08	1.8E-12	9.1E-07	8.9E-16	9.6E-12	NA	NA	5.8E-03
Heptachlor	E1 avg	5.7E-07	2.5E-10	2.3E-12	5.7E-09	1.4E-10	6.1E-10	1.6E-11	6.7E-09	6.8E-16	4.4E-13	NA	NA	6.8E-07
Hexachlorobenzene	E1 avg	3 1E-06	1.7E-08	1 4E-08	2.0E-08	8.1E-07	4.1E-08	9.7E-08	1.0E-06	2.3E-12	1.5E-09	NA	NA	5 5E-06
Hexachlorobutadiene	E1 avg	2.3E-06	3.0E-07	2 5E-07	7.8E-08	9.8E-07	7.1E-07	1.7E-06	4.1E-06	1.1E-11	1.4E-09	NA	NA	9 9E-06
Hexachlorocyclopentadiene	E1 avg	4 0E-09	5.6E-11	4.6E-11	3.9E-11	1.3E-09	1.3E-10	3.2E-10	1.9E-09	4.4E-15	1.4E-12	NA	NA	9.0E-09
Hexachlorophene	E1 avg	8.8E-03	4.3E-07	2.3E-09	2.6E-07	2.5E-06	1.0E-06	1.6E-08	4.2E-06	6.0E-12	2.5E-08	NA	NA	1.0E-02
Indeno(1,2,3-cd)pyrene	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Antimony	E1 avg	2.2E-07	6 5E-08	3 4E-08	7.5E-08	8 5E-11	1.6E-07	2 4E-07	5.7E-07	1.8E-12	2.6E-13	NA	NA	9 9E-07
Arsenic	E1 avg	1.6E-06	4 6E-07	1.5E-07	4.4E-07	1.1E-10	1.1E-06	1.0E-06	3.2E-06	5.2E-11	7.4E-12	NA	NA	1 1E-05
Barium	E1 avg	1 6E-07	9 9E-09	4.2E-09	1.4E-08	7 8E-12	2 4E-08	2.9E-08	8.1E-08	4.5E-13	6.5E-14	NA	NA	2 7E-07
Beryllium	E1 avg	1 6E-12	1 8E-11	2 3E-12	1.3E-11	4.0E-16	4.3E-11	1.6E-11	9 3E-11	3.6E-15	5 2E-16	NA	NA	6 4E-10
Cadmium	E1 avg	5.9E-08	1.8E-07	9 0E-08	1.3E-07	3 3E-10	4.3E-07	6 2E-07	1.5E-06	1 4E-12	2.0E-13	NA	NA	1 6E-06
Chromium (hexavalent)	E1 avg	6.1E-08	5.1E-10	1.5E-10	2.6E-10	2.0E-14	1.2E-09	1.1E-09	3.2E-09	8 0E-14	1.2E-14	NA	NA	9 9E-08
Lead	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Mercury	E1 avg	1.7E-04	1 9E-04	1.6E-04	2.4E-04	6.1E-08	4.5E-04	1 1E-03	2.1E-03	1 1E-09	1 6E-10	NA	NA	2 4E-03
Nickel	E1 avg	5.4E-08	3.9E-09	2.8E-09	1.1E-09	1 4E-13	9.5E-09	2 0E-08	3.7E-08	9 3E-14	1 3E-14	NA	NA	1 7E-07
Selenium	E1 avg	9 6E-04	8 2E-07	5 1E-07	2.7E-07	1 5E-10	2 0E-06	3.5E-06	7 1E-06	4 5E-11	6 4E-12	NA	NA	1 0E-03
Silver	E1 avg	1.5E-05	4.5E-08	3 3E-08	3 9E-08	8 1E-11	1.1E-07	2 3E-07	4 5E-07	5 1E-13	7 3E-14	NA	NA	1 6E-05
Thallium	E1 avg	3.2E-04	1 2E-06	4 8E-08	6 8E-07	3 5E-12	2 8E-06	3 3E-07	5 1E-06	2 9E-10	4 1E-11	NA	NA	2 2E-03
Zinc	E1 avg	5 8E-09	4 3E-08	3 6E-08	1.7E-08	1 1E-11	1 0E-07	2 5E-07	4 5E-07	6 1E-14	8 8E-15	NA	NA	4 6E-07
DIOXIN TEQ	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 avg	1 6E-02	1 2E-05	3 1E-06	1 7E-04	5 1E-06	2 8E-05	2 1E-05	2 4E-04	2 4E-11	2 8E-08	NA	NA	1 9E-02
INORGANICS TOTAL	E1 avg	1 5E-03	1 9E-04	1 6E-04	2 5E-04	6 2E-08	4 6E-04	1 1E-03	2 2E-03	1 5E-09	2 1E-10	NA	NA	5 6E-03
SUBAREA TOTAL	E1 avg	1.7E-02	2.0E-04	1 6E-04	4 2E-04	5 1E-06	4 9E-04	1 1E-03	2 4E-03	1 5E-09	2 8E-08	NA	NA	2 4E-02

TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

CARCINOGENIC RISKS

Chemical	Subarea	Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk
2,3,7,8-TCDD	E1 hi emiss	4.3E-11	2 5E-12	1.3E-08	3.4E-09	1.4E-10	2.3E-11	7.4E-11	1.7E-08	1 3E-08	5 3E-09	4 1E-09	2.9E-10	NA	3 9E-09
1,2,3,7,8-PeCDD	E1 hi emiss	7.4E-11	4.3E-12	7.7E-08	1 5E-08	2.3E-10	3.8E-11	1.2E-10	9.2E-08	7.4E-08	3.1E-08	2.4E-08	1.7E-09	NA	2.3E-08
1,2,3,4,7,8-HxCDD	E1 hi emiss	1.7E-11	9.7E-13	1 0E-08	1.9E-09	2.5E-11	4.1E-12	1.3E-11	1.2E-08	9.9E-09	4.2E-09	3.2E-09	2.3E-10	NA	3 1E-09
1,2,3,6,7,8-HxCDD	E1 hi emiss	2.8E-11	1 6E-12	2 6E-09	7.1E-10	3.6E-11	5.8E-12	1.9E-11	3.4E-09	2 5E-09	1.1E-09	8 2E-10	5.8E-11	NA	7 9E-10
1,2,3,7,8,9-HxCDD	E1 hi emiss	1.9E-11	1.1E-12	3.9E-09	9.0E-10	3.2E-11	5.2E-12	1.7E-11	4.9E-09	3.7E-09	1.6E-09	1.2E-09	8.6E-11	NA	1.2E-09
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	2.1E-11	1 2E-12	2.9E-09	5.4E-10	5.7E-12	9.2E-13	3.0E-12	3.5E-09	2.8E-09	1.2E-09	9.1E-10	6.5E-11	NA	8 8E-10
OCDD	E1 hi emiss	1.2E-11	7.0E-13	6.2E-08	1.1E-08	4.7E-12	7.5E-13	2.5E-12	7.3E-08	6.0E-08	2.5E-08	1.9E-08	1.4E-09	NA	1 9E-08
2,3,7,8-TCDF	E1 hi emiss	2.5E-11	1 5E-12	2.7E-09	6.0E-10	1.8E-11	2.9E-12	9.5E-12	3.3E-09	2.6E-09	1.1E-09	8.3E-10	5.9E-11	NA	8 1E-10
1,2,3,7,8-PeCDF	E1 hi emiss	3.9E-11	2 3E-12	6 1E-09	1.2E-09	2.2E-11	3.5E-12	1.1E-11	7.3E-09	5.8E-09	2.4E-09	1.9E-09	1.3E-10	NA	1 8E-09
2,3,4,7,8-PeCDF	E1 hi emiss	5.0E-10	2.9E-11	3.6E-07	7.0E-08	1.2E-09	1.9E-10	6.1E-10	4.3E-07	3.4E-07	1.4E-07	1.1E-07	7.9E-09	NA	1.1E-07
1,2,3,4,7,8-HxCDF	E1 hi emiss	2.4E-10	1.4E-11	4 0E-08	9.9E-09	4.2E-10	6.8E-11	2.2E-10	5 1E-08	3.8E-08	1.6E-08	1.2E-08	8.8E-10	NA	1 2E-08
1,2,3,6,7,8-HxCDF	E1 hi emiss	2.2E-10	1 3E-11	7.3E-08	1.5E-08	3.4E-10	5.4E-11	1.8E-10	8.8E-08	7.0E-08	2.9E-08	2.3E-08	1.6E-09	NA	2.2E-08
1,2,3,7,8,9-HxCDF	E1 hi emiss	5.3E-11	3 1E-12	1.7E-08	3.5E-09	7.9E-11	1.3E-11	4.2E-11	2.1E-08	1.6E-08	6.8E-09	5.2E-09	3.7E-10	NA	5.1E-09
2,3,4,6,7,8-HxCDF	E1 hi emiss	2.6E-10	1 5E-11	4 9E-08	1.1E-08	3.4E-10	5.6E-11	1.8E-10	6.1E-08	4.7E-08	2.0E-08	1.5E-08	1.1E-09	NA	1 5E-08
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	1.7E-10	9 7E-12	4.2E-09	1.1E-09	5.1E-11	8.3E-12	2.7E-11	5.4E-09	4.0E-09	1.7E-09	1.3E-09	9.2E-11	NA	1.3E-09
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	2.3E-11	1.3E-12	9 1E-10	2.8E-10	1 7E-11	2.7E-12	8.8E-12	1.2E-09	8.7E-10	3.7E-10	2.8E-10	2.0E-11	NA	2 7E-10
OCDF	E1 hi emiss	4 4E-11	2 6E-12	6.2E-09	1.1E-09	6 6E-12	1.1E-12	3.5E-12	7.4E-09	6.0E-09	2.5E-09	1.9E-09	1.4E-10	NA	1 9E-09
Tetrachlorobiphenyl	E1 hi emiss	2.3E-12	1 4E-13	1.6E-10	1.1E-10	1.1E-11	1.7E-12	5.6E-12	2.9E-10	1.5E-10	6.2E-11	4.8E-11	3.4E-12	NA	4 6E-11
Hexachlorobiphenyl	E1 hi emiss	3.8E-12	2 2E-13	1.0E-10	7.0E-11	6.3E-12	1.0E-12	3.3E-12	1.8E-10	9.3E-11	3.9E-11	3.0E-11	2.2E-12	NA	2.9E-11
Heptachlorobiphenyl	E1 hi emiss	3.7E-12	2 2E-13	2 6E-09	4.9E-10	6 4E-12	1.0E-12	3.4E-12	3.1E-09	2.5E-09	1.0E-09	8.1E-10	5.7E-11	NA	7 8E-10
Benzo(a)pyrene	E1 hi emiss	5.2E-11	6.0E-12	2.1E-07	1.3E-08	7.0E-13	1.1E-13	3.4E-10	2.2E-07	1.0E-08	2.9E-08	5.1E-08	2.4E-08	NA	7.9E-09
Benzo(b)fluoranthene	E1 hi emiss	2.1E-11	2 5E-12	1.2E-08	9.5E-10	3.6E-13	5.8E-14	1.7E-10	1.3E-08	6.0E-08	1.7E-09	3.0E-09	1.4E-09	NA	4 6E-10
Bis(2-ethylhexyl)phthalate	E1 hi emiss	2.5E-14	2.9E-15	2 3E-08	1.5E-09	5 2E-17	8.4E-18	2.5E-14	2.4E-08	1.1E-07	3.2E-09	5.7E-09	2.6E-09	NA	8.7E-10
Carbon tetrachloride	E1 hi emiss	1 9E-12	2 2E-13	1.4E-13	5.3E-14	2.5E-16	4.1E-17	1.2E-13	3.1E-13	7.4E-13	2.1E-14	3.7E-14	1.7E-14	NA	5.7E-15
Dibenz(a,h)anthracene	E1 hi emiss	1.2E-10	1.4E-11	3.2E-08	3.5E-09	6.3E-12	1.0E-12	3.0E-09	3.8E-08	1.6E-07	4.4E-09	7.8E-09	3.6E-09	NA	1.2E-09
Di(n)octyl phthalate	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Heptachlor	E1 hi emiss	6.5E-14	7.5E-15	8 2E-11	5.9E-12	1.2E-15	2.0E-16	5.9E-13	8.8E-11	4.1E-10	1.1E-11	2.0E-11	9.3E-12	NA	3 1E-12
Hexachlorobenzene	E1 hi emiss	4.4E-11	5.1E-12	2 8E-10	1.9E-10	3.8E-13	6.2E-14	1.8E-10	6.5E-10	1.2E-09	3.5E-11	6.1E-11	2.8E-11	NA	9.5E-12
Hexachlorobutadiene	E1 hi emiss	2.9E-12	3.4E-13	1.3E-12	1.1E-12	2.2E-15	3.6E-16	1.1E-12	3.4E-12	5.7E-12	1.6E-13	2.8E-13	1.3E-13	NA	4 3E-14
Hexachlorocyclopentadiene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Hexachlorophene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Indeno(1,2,3-cd)pyrene	E1 hi emiss	1.4E-11	1 6E-12	3.0E-09	3.6E-10	6.5E-13	1.0E-13	3.1E-10	3.6E-09	1.4E-08	4.1E-10	7.2E-10	3.3E-10	NA	1.1E-10
Antimony	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Arsenic	E1 hi emiss	1.1E-10	2.1E-12	2.8E-10	8.9E-11	3.7E-11	6.0E-12	1.9E-11	4.3E-10	1.3E-10	3.6E-12	6.5E-12	3.0E-12	NA	9 9E-13
Barium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Beryllium	E1 hi emiss	6.9E-13	1 3E-14	4.1E-13	3.0E-13	1 3E-14	2.0E-15	5.7E-15	7.2E-13	5.4E-15	1.5E-16	2.7E-16	1.2E-16	NA	4 1E-17
Cadmium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Chromium (hexavalent)	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Lead	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Mercury	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Nickel	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Selenium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Silver	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Thallium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Zinc	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
DIOXIN TEQ	E1 hi emiss	1.8E-09	1 0E-10	7 3E-07	1.5E-07	2.9E-09	4 8E-10	1 5E-09	8 8E-07	7 0E-07	2 9E-07	2 3E-07	1 6E-08	NA	2 2E-07
ORGANICS TOTAL (non-dioxin)	E1 hi emiss	2.7E-10	3 1E-11	2 8E-07	2.1E-08	3.2E-11	5 1E-12	4.0E-09	3 0E-07	1 4E-06	4 0E-08	6 9E-08	3 2E-08	NA	1 1E-08
INORGANICS TOTAL	E1 hi emiss	1.1E-10	2 1E-12	2 8E-10	8.9E-11	3 7E-11	6 0E-12	1 9E-11	4 3E-10	1 3E-10	3 6E-12	6 5E-12	3 0E-12	NA	9 9E-13
SUBAREA TOTAL	E1 hi emiss	2 2E-09	1 4E-10	1 0E-06	1 7E-07	3 0E-09	4.9E-10	5 6E-09	1 2E-06	2 1E-06	3 3E-07	2 9E-07	4 8E-08	NA	2 3E-07

External Review Draft Not Cite or Quote

TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

Chemical	Subarea	CARCINOGENIC RISKS TOTAL DAIRY PRODUCT INGESTION RISK	Exposed Produce Ingestion Risk	Protected Produce Ingestion Risk	Leafy Produce Ingestion Risk	Root Produce Ingestion Risk	Exposed Fruit Ingestion Risk	Protected Fruit Ingestion Risk	TOTAL FRUIT & PRODUCE INGESTION RISK	River Water Ingestion Risk	River Water Dermal Contact Risk	Lake Water Ingestion Risk	Lake Water Dermal Contact Risk	Infant Breast milk Ingestion Risk	TOTAL CANCER RISK
2,3,7,8-TCDD	E1 hi emiss	2.6E-08	2.3E-11	9.4E-13	4.6E-10	2.0E-12	5.5E-11	6.4E-12	5.5E-10	1 4E-16	2.4E-13	NA	NA	NA	4.4E-08
1,2,3,7,8-PeCDD	E1 hi emiss	1.5E-07	1.4E-10	1.6E-12	2.9E-09	3.5E-12	3.3E-10	1.1E-11	3.4E-09	2.3E-16	3.1E-13	NA	NA	NA	2.5E-07
1,2,3,4,7,8-HxCDD	E1 hi emiss	2.1E-08	3.8E-11	7.7E-14	8.0E-10	4 2E-13	9.1E-11	5.3E-13	9.3E-10	1.2E-17	8 6E-14	NA	NA	NA	3 4E-08
1,2,3,6,7,8-HxCDD	E1 hi emiss	5.2E-09	1.2E-11	2.5E-13	2.1E-10	9.5E-13	2.9E-11	1.7E-12	2.5E-10	4 6E-17	1.4E-13	NA	NA	NA	8.9E-09
1,2,3,7,8,9-HxCDD	E1 hi emiss	7.8E-09	1.4E-11	9.0E-14	2.5E-10	6.6E-13	3.2E-11	6.1E-13	3.0E-10	3.2E-17	2.2E-13	NA	NA	NA	1.3E-08
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	5.9E-09	6.1E-11	5.7E-14	1.3E-09	4.2E-13	1.4E-10	3.9E-13	1.5E-09	6.8E-18	7.3E-14	NA	NA	NA	1.1E-08
OCDD	E1 hi emiss	1.2E-07	8.8E-10	7.3E-14	1.9E-08	3.3E-13	2.1E-09	5 0E-13	2.2E-08	1.3E-17	3.8E-14	NA	NA	NA	2 2E-07
2,3,7,8-TCDF	E1 hi emiss	5.4E-09	2.2E-11	6.4E-13	4.4E-10	1 2E-12	5.1E-11	4.4E-12	5.2E-10	8.7E-17	1.4E-13	NA	NA	NA	9.3E-09
1,2,3,7,8-PeCDF	E1 hi emiss	1.2E-08	6 2E-11	7.0E-13	1.3E-09	1.7E-12	1.5E-10	4.8E-12	1.5E-09	1 1E-16	2.2E-13	NA	NA	NA	2.1E-08
2,3,4,7,8-PeCDF	E1 hi emiss	7.1E-07	8 6E-10	7.4E-12	1.8E-08	2.0E-11	2 0E-09	5.1E-11	2.1E-08	1.3E-15	3.1E-12	NA	NA	NA	1.2E-06
1,2,3,4,7,8-HxCDF	E1 hi emiss	8.0E-08	1.4E-10	2.2E-12	2.4E-09	8 3E-12	3.2E-10	1.5E-11	2.9E-09	4.0E-16	1.4E-12	NA	NA	NA	1.3E-07
1,2,3,6,7,8-HxCDF	E1 hi emiss	1.4E-07	2 8E-10	2.0E-12	5.5E-09	7.7E-12	6.6E-10	1.4E-11	6.5E-09	3 7E-16	1.3E-12	NA	NA	NA	2 4E-07
1,2,3,7,8,9-HxCDF	E1 hi emiss	3.4E-08	6 4E-11	4.7E-13	1.3E-09	1 8E-12	1.5E-10	3.2E-12	1.5E-09	8.9E-17	3.1E-13	NA	NA	NA	5.6E-08
2,3,4,6,7,8-HxCDF	E1 hi emiss	9.8E-08	2.1E-10	2.3E-12	4.1E-09	8.9E-12	5.1E-10	1.6E-11	4.8E-09	4.3E-16	1.5E-12	NA	NA	NA	1.6E-07
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	8.4E-09	8 2E-11	6.7E-13	1.4E-09	4.0E-12	1.9E-10	4.6E-12	1.7E-09	1.0E-16	7.3E-13	NA	NA	NA	1.6E-08
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	1.8E-09	7.7E-12	9.1E-14	1 2E-10	5 4E-13	1.8E-11	6.2E-13	1.4E-10	1.4E-17	9.8E-14	NA	NA	NA	3.2E-09
OCDF	E1 hi emiss	1 2E-08	2.3E-10	5 4E-14	4.9E-09	6 5E-13	5.5E-10	3.7E-13	5.7E-09	3.8E-18	9.5E-14	NA	NA	NA	2 6E-08
Tetrachlorobiphenyl	E1 hi emiss	3 1E-10	3.2E-13	1.4E-13	3.1E-12	2.4E-12	7.5E-13	9.4E-13	7.7E-12	1.5E-17	1.5E-14	NA	NA	NA	6.1E-10
Hexachlorobiphenyl	E1 hi emiss	1 9E-10	3.0E-13	4.1E-14	5.6E-12	3.8E-13	7.2E-13	2.8E-13	7.3E-12	1.2E-17	3.7E-14	NA	NA	NA	3.9E-10
Heptachlorobiphenyl	E1 hi emiss	5.2E-09	8.3E-12	2 0E-14	1.8E-10	2 2E-12	2.0E-11	1.4E-13	2.1E-10	1.4E-17	8.0E-14	NA	NA	NA	8.5E-09
Benzo(a)pyrene	E1 hi emiss	1.1E-06	9.2E-10	2.2E-12	1.9E-08	6.1E-13	2 2E-09	1.5E-11	2.2E-08	2.2E-16	2.6E-13	NA	NA	NA	1 4E-06
Benzo(b)fluoranthene	E1 hi emiss	6.7E-08	4.3E-11	8.1E-13	9.1E-10	2 2E-12	1.0E-10	5.5E-12	1.1E-09	8.4E-17	1.1E-13	NA	NA	NA	8 1E-08
Bis(2-ethylhexyl)phthalate	E1 hi emiss	1.3E-07	6 4E-10	2.1E-16	1 4E-08	7.8E-16	1.5E-09	1.5E-15	1.6E-08	5.7E-19	1.8E-15	NA	NA	NA	1 7E-07
Carbon tetrachloride	E1 hi emiss	8.2E-13	1.1E-10	9 6E-11	2 5E-11	2 7E-11	2.7E-10	6.6E-10	1.2E-09	6 3E-17	5.9E-16	NA	NA	NA	1 2E-09
Dibenz(a,h)anthracene	E1 hi emiss	1.7E-07	7.4E-11	2.4E-12	4.1E-11	9.7E-12	1.7E-10	1.6E-11	3.2E-10	3.4E-16	8.7E-13	NA	NA	NA	2 1E-07
Di(n)octyl phthalate	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Heptachlor	E1 hi emiss	4.5E-10	2 5E-13	2.2E-15	5.4E-12	1.3E-13	5.9E-13	1.5E-14	6.4E-12	2.6E-19	1.7E-16	NA	NA	NA	5 4E-10
Hexachlorobenzene	E1 hi emiss	1.4E-09	9.7E-12	7.8E-12	1.1E-11	4.4E-10	2.3E-11	5.3E-11	5.4E-10	5.1E-16	3.3E-13	NA	NA	NA	2 6E-09
Hexachlorobutadiene	E1 hi emiss	6.3E-12	1.0E-12	8.5E-13	2.5E-13	3.2E-12	2.4E-12	5.8E-12	1.4E-11	1.4E-17	1.9E-15	NA	NA	NA	2.7E-11
Hexachlorocyclopentadiene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Hexachlorophene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Indeno(1,2,3-cd)pyrene	E1 hi emiss	1.6E-08	7.4E-12	2.9E-13	4.1E-12	1.1E-12	1.8E-11	2.0E-12	3.2E-11	3.8E-17	9.1E-14	NA	NA	NA	2 0E-08
Antimony	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Arsenic	E1 hi emiss	1.4E-10	5.3E-11	1.7E-11	4.8E-11	1.2E-14	1.3E-10	1 2E-10	3.6E-10	2.3E-15	3.3E-16	NA	NA	NA	1 0E-09
Barium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Beryllium	E1 hi emiss	6.0E-15	8.5E-14	1.1E-14	6.0E-14	1.8E-18	2.0E-13	7.4E-14	4.3E-13	6.7E-18	9.6E-19	NA	NA	NA	1 9E-12
Cadmium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Chromium (hexavalent)	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Lead	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Mercury	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Nickel	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Selenium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Silver	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Thallium	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
Zinc	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NA	NT
DIOXIN TEQ	E1 hi emiss	1.5E-06	3.1E-09	2 0E-11	6 5E-08	6 3E-11	7 4E-09	1 3E-10	7 5E-08	3 4E-15	9 9E-12	NA	NA	NA	2 4E-06
ORGANICS TOTAL (non-dioxin)	E1 hi emiss	1 5E-06	1.8E-09	1 1E-10	3 4E-08	4 9E-10	4 3E-09	7.6E-10	4 1E-08	1 3E-15	1 8E-12	NA	NA	NA	1 9E-06
INORGANICS TOTAL	E1 hi emiss	1 4E-10	5 3E-11	1 7E-11	4 8E-11	1 2E-14	1 3E-10	1 2E-10	3 6E-10	2 3E-15	3 4E-16	NA	NA	NA	1 0E-09
SUBAREA TOTAL	E1 hi emiss	3 0E-06	5 0E-09	1 5E-10	9 9E-08	5 5E-10	1 2E-08	1 0E-09	1 2E-07	7 0E-15	1 2E-11	NA	NA	NA	4 3E-06

External Review Draft, Do Not Cite or Quote

TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

NONCARCINOGENIC HAZARD QUOTIENTS

Chemical	Subarea	Soil Ingestion HQ	Soil Dermal Contact HQ	Beef Ingestion HQ	Pork Ingestion HQ	Chicken Ingestion HQ	Other Poultry Ingestion HQ	Egg Ingestion HQ	TOTAL MEAT & EGG INGESTION HQ	Milk Ingestion HQ	Cheese Ingestion HQ	Milk Desserts Ingestion HQ	Yogurt Ingestion HQ	Cream Ingestion HQ	Butter Ingestion HQ
2,3,7,8-TCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8-PeCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,7,8-HxCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,6,7,8-HxCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8,9-HxCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
OCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
2,3,7,8-TCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8-PeCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
2,3,4,7,8-PeCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,7,8-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,6,7,8-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,7,8,9-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
2,3,4,6,7,8-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
OCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Tetrachlorobiphenyl	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Hexachlorobiphenyl	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Heptachlorobiphenyl	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Benzo(a)pyrene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Benzo(b)fluoranthene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Bis(2-ethylhexyl)phthalate	E1 hi emiss	1.0E-09	1.2E-10	9 6E-04	6.2E-05	2.2E-12	3.5E-13	1.0E-09	1.0E-03	4.8E-03	1.3E-04	2.4E-04	1.1E-04	NA	3 6E-05
Carbon tetrachloride	E1 hi emiss	2 5E-07	2.9E-08	1.7E-08	6.8E-09	3.3E-11	5.3E-12	1.6E-08	4.0E-08	9.5E-08	2.7E-09	4.7E-09	2.2E-09	NA	7.3E-10
Dibenz(a,h)anthracene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Di(n)octyl phthalate	E1 hi emiss	4.2E-10	4.9E-11	3.7E-03	2.4E-04	5.0E-10	8.1E-11	2.4E-07	3.9E-03	1.8E-02	5.1E-04	9.1E-04	4.2E-04	NA	1.4E-04
Heptachlor	E1 hi emiss	3.3E-10	3.9E-11	4.3E-07	3.0E-08	6.4E-12	1.0E-12	3.1E-09	4.6E-07	2.1E-06	5.9E-08	1.0E-07	4.8E-08	NA	1.6E-08
Hexachlorobenzene	E1 hi emiss	4.0E-07	4.7E-08	2.5E-06	1.7E-06	3.5E-09	5.6E-10	1.7E-06	5.9E-06	1.1E-05	3.2E-07	5.6E-07	2.6E-07	NA	8 6E-08
Hexachlorobutadiene	E1 hi emiss	2.2E-06	2.5E-07	9.7E-07	7.9E-07	1.7E-09	2.7E-10	7.9E-07	2.6E-06	4.2E-06	1.2E-07	2.1E-07	9.7E-08	NA	3.2E-08
Hexachlorocyclopentadiene	E1 hi emiss	2.0E-09	2 4E-10	3.5E-09	2.7E-09	5.5E-12	8.8E-13	2.6E-09	8.8E-09	1.5E-08	4.2E-10	7.4E-10	3.4E-10	NA	1.1E-10
Hexachlorophene	E1 hi emiss	8.9E-07	1.0E-07	3.3E-03	2.0E-04	3.2E-07	5.2E-08	1.5E-04	3.6E-03	1.6E-02	4.6E-04	8.1E-04	3.7E-04	NA	1 2E-04
Indeno(1,2,3-cd)pyrene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Antimony	E1 hi emiss	4.6E-08	8.9E-10	2 6E-07	1.0E-07	8.4E-10	1.4E-10	3.7E-09	3.7E-07	4.0E-07	1.1E-08	2.0E-08	9 3E-09	NA	3 1E-09
Arsenic	E1 hi emiss	2.4E-06	4.6E-08	6 3E-06	2.0E-06	8.3E-07	1.3E-07	4.1E-07	9.6E-06	2.9E-06	8.1E-08	1.4E-07	6.6E-08	NA	2 2E-08
Barium	E1 hi emiss	1.2E-08	2.4E-10	7.8E-09	3.4E-08	1.4E-11	2.3E-12	4.3E-09	4.7E-08	2.9E-07	8 0E-09	1 4E-08	6 6E-09	NA	2 2E-09
Beryllium	E1 hi emiss	3.8E-10	7.3E-12	2 2E-10	1.6E-10	6.8E-12	1.1E-12	3.1E-12	3.9E-10	2.9E-12	8.2E-14	1 5E-13	6 7E-14	NA	2.2E-14
Cadmium	E1 hi emiss	2.1E-08	4.0E-10	1.1E-07	5.0E-09	2.2E-08	3.6E-09	2.0E-10	1.4E-07	1.1E-07	3 0E-09	5.4E-09	2.5E-09	NA	8 3E-10
Chromium (hexavalent)	E1 hi emiss	9.9E-09	1.9E-10	2.8E-08	3.2E-08	3.9E-10	6.4E-11	2.4E-10	6.1E-08	1.1E-07	3.2E-09	5 6E-09	2.6E-09	NA	8 7E-10
Lead	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
Mercury	E1 hi emiss	2.7E-05	5.3E-07	1 6E-05	5.1E-05	1.1E-05	1.7E-06	3.4E-07	7.9E-05	3 1E-04	8.8E-06	1 6E-05	7.2E-06	NA	2 4E-06
Nickel	E1 hi emiss	3.6E-09	7.0E-11	3 8E-08	1.6E-07	2.7E-10	4 4E-11	1.7E-10	2.0E-07	9 9E-08	2 8E-09	5 0E-09	2.3E-09	NA	7 6E-10
Selenium	E1 hi emiss	2.7E-06	5 2E-08	7 7E-06	1.8E-04	6 2E-06	1 0E-06	2.4E-06	1 9E-04	1 8E-03	5 0E-05	8 8E-05	4 1E-05	NA	1 4E-05
Silver	E1 hi emiss	1.3E-08	2 5E-10	2 6E-07	5.7E-09	7 5E-11	1 2E-11	5 7E-10	2 7E-07	2 8E-05	7 8E-07	1 4E-06	6 4E-07	NA	2 1E-07
Thallium	E1 hi emiss	4.7E-05	9 1E-07	8 3E-04	2.8E-03	6 1E-04	9 8E-05	2 3E-04	4 6E-03	5 9E-04	1 7E-05	3 0E-05	1 4E-05	NA	4 6E-06
Zinc	E1 hi emiss	1.6E-09	3.0E-11	2 6E-09	6.7E-10	6 4E-10	1 0E-10	2.5E-10	4.3E-09	1 1E-08	3 0E-10	5 3E-10	2 5E-10	NA	8 2E-11
DIOXIN TEQ	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 hi emiss	3 7E-06	4.3E-07	7.9E-03	5 0E-04	3 3E-07	5 3E-08	1 6E-04	8 6E-03	3 9E-02	1 1E-03	2 0E-03	9 0E-04	NA	3 0E-04
INORGANICS TOTAL	E1 hi emiss	7 9E-05	1 5E-06	8 6E-04	3 0E-03	6 2E-04	1 0E-04	2 4E-04	4 8E-03	2 7E-03	7 6E-05	1 3E-04	6 2E-05	NA	2 1E-05
SUBAREA TOTAL	E1 hi emiss	8.3E-05	2.0E-06	8 8E-03	3.5E-03	6.3E-04	1 0E-04	3 9E-04	1 3E-02	4 2E-02	1 2E-03	2 1E-03	9 6E-04	NA	3 2E-04

TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

Chemical	Subarea	NONCARCINOGENIC HAZARD QUOTIENTS TOTAL DAIRY PRODUCT INGESTION HQ	Exposed Produce Ingestion HQ	Protected Produce Ingestion HQ	Leafy Produce Ingestion HQ	Root Produce Ingestion HQ	Exposed Fruit Ingestion HQ	Protected Fruit Ingestion HQ	TOTAL FRUIT & PRODUCE INGESTION HQ	River Water Ingestion HQ	River Water Dermal Contact HQ	Lake Water Ingestion HQ	Lake Water Dermal Contact HQ	TOTAL HI
2,3,7,8-TCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDD	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,7,8-TCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8-PeCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,7,8-PeCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,6,7,8-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,7,8,9-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
2,3,4,6,7,8-HxCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,6,7,8-HpCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
1,2,3,4,7,8,9-HpCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
OCDF	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Tetrachlorobiphenyl	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Hexachlorobiphenyl	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Heptachlorobiphenyl	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(a)pyrene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Benzo(b)fluoranthene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Bis(2-ethylhexyl)phthalate	E1 hi emiss	5 3E-03	2 7E-05	8 9E-12	5 8E-04	3 3E-11	6.3E-05	6.1E-11	6.7E-04	2.4E-14	7.4E-11	NA	NA	7.0E-03
Carbon tetrachloride	E1 hi emiss	1 1E-07	1 5E-05	1.2E-05	3.2E-06	3.5E-06	3.5E-05	8.4E-05	1.5E-04	8.1E-12	7.6E-11	NA	NA	1.5E-04
Dibenz(a,h)anthracene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Di(n)octyl phthalate	E1 hi emiss	2.0E-02	1 8E-07	1.3E-12	3.9E-06	3.3E-08	4.2E-07	9.1E-12	4.5E-06	1 8E-15	1.9E-11	NA	NA	2.4E-02
Heptachlor	E1 hi emiss	2.3E-06	1.3E-09	1.1E-11	2.8E-08	6 7E-10	3.1E-09	7.6E-11	3.3E-08	1.4E-15	8.8E-13	NA	NA	2.8E-06
Hexachlorobenzene	E1 hi emiss	1.2E-05	8.8E-08	7.1E-08	9.9E-08	4.0E-06	2.1E-07	4.8E-07	5.0E-06	4.6E-12	3.0E-09	NA	NA	2.4E-05
Hexachlorobutadiene	E1 hi emiss	4.7E-06	7.6E-07	6.4E-07	1.9E-07	2.4E-06	1.8E-06	4.3E-06	1.0E-05	1.1E-11	1.4E-09	NA	NA	2.0E-05
Hexachlorocyclopentadiene	E1 hi emiss	1.7E-08	2.8E-10	2.4E-10	1.9E-10	6.6E-09	6.7E-10	1 6E-09	9.6E-09	8.7E-15	2.7E-12	NA	NA	3.7E-08
Hexachlorophene	E1 hi emiss	1.8E-02	1.1E-06	5.9E-09	6.3E-07	6.1E-06	2.6E-06	4.0E-08	1.0E-05	6 0E-12	2.5E-08	NA	NA	2.2E-02
Indeno(1,2,3-cd)pyrene	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Antimony	E1 hi emiss	4.5E-07	1.7E-07	8.7E-08	1.9E-07	2.1E-10	3.9E-07	5 9E-07	1 4E-06	1.8E-12	2.6E-13	NA	NA	2 3E-06
Arsenic	E1 hi emiss	3.2E-06	1.2E-06	3.8E-07	1.1E-06	2 7E-10	2.8E-06	2.6E-06	8 0E-06	5 2E-11	7.4E-12	NA	NA	2.3E-05
Barium	E1 hi emiss	3.2E-07	2 5E-08	1.1E-08	3.5E-08	1 9E-11	6.0E-08	7.3E-08	2.0E-07	4.5E-13	6.5E-14	NA	NA	5 8E-07
Beryllium	E1 hi emiss	3.2E-12	4.6E-11	5.9E-12	3.2E-11	9.8E-16	1.1E-10	4 0E-11	2.3E-10	3 6E-15	5 2E-16	NA	NA	1 0E-09
Cadmium	E1 hi emiss	1 2E-07	4 6E-07	2 3E-07	3 2E-07	8 1E-10	1.1E-06	1 6E-06	3 6E-06	1.4E-12	2.0E-13	NA	NA	3.9E-06
Chromium (hexavalent)	E1 hi emiss	1.3E-07	1.3E-09	3 9E-10	6.4E-10	4.9E-14	3.1E-09	2.6E-09	8 0E-09	8.0E-14	1.2E-14	NA	NA	2 0E-07
Lead	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
Mercury	E1 hi emiss	3.5E-04	4.8E-04	4 0E-04	6.0E-04	1 5E-07	1.1E-03	2 7E-03	5 3E-03	1 1E-09	1 6E-10	NA	NA	5 8E-03
Nickel	E1 hi emiss	1.1E-07	1.0E-08	7.2E-09	2.7E-09	3 5E-13	2.4E-08	4 9E-08	9 3E-08	9 3E-14	1 3E-14	NA	NA	4 1E-07
Selenium	E1 hi emiss	2 0E-03	2.1E-06	1 3E-06	6 5E-07	3 7E-10	4 9E-06	8 9E-06	1 8E-05	4 5E-11	6 4E-12	NA	NA	2 2E-03
Silver	E1 hi emiss	3.1E-05	1.2E-07	8 3E-08	9.6E-08	2 0E-10	2 7E-07	5 7E-07	1 1E-06	5 1E-13	7 3E-14	NA	NA	3 2E-05
Thallium	E1 hi emiss	6.6E-04	3.0E-06	1 2E-07	1.7E-06	8 7E-12	7 1E-06	8 2E-07	1 3E-05	2 9E-10	4 1E-11	NA	NA	5 3E-03
Zinc	E1 hi emiss	1.2E-08	1.1E-07	9 2E-08	4.1E-08	2 7E-11	2 6E-07	6 2E-07	1 1E-06	6 1E-14	8 8E-15	NA	NA	1 1E-06
DIOXIN TEQ	E1 hi emiss	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NA	NA	NT
ORGANICS TOTAL (non-dioxin)	E1 hi emiss	4 3E-02	4 4E-05	1 3E-05	5 9E-04	1 6E-05	1 0E-04	8 9E-05	8 5E-04	3 0E-11	2 9E-08	NA	NA	5 3E-02
INORGANICS TOTAL	E1 hi emiss	3 0E-03	4 9E-04	4 0E-04	6 0E-04	1 5E-07	1 2E-03	2 7E-03	5 4E-03	1 5E-09	2 1E-10	NA	NA	1 3E-02
SUBAREA TOTAL	E1 hi emiss	4 6E-02	5.3E-04	4 2E-04	1 2E-03	1 6E-05	1 3E-03	2 8E-03	6 2E-03	1 5E-09	3 0E-08	NA	NA	6 6E-02

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TABLE 2 Avg & High-end Cancer Risk & Noncancer HQ, Subsistence Farmer Child

		CARCINOGENIC RISKS													
Chemical	Subarea	Soil Ingestion Risk	Soil Dermal Contact Risk	Beef Ingestion Risk	Pork Ingestion Risk	Chicken Ingestion Risk	Other Poultry Ingestion Risk	Egg Ingestion Risk	TOTAL MEAT & EGG INGESTION RISK	Milk Ingestion Risk	Cheese Ingestion Risk	Milk Desserts Ingestion Risk	Yogurt Ingestion Risk	Cream Ingestion Risk	Butter Ingestion Risk

NOTES:
NA = Not applicable
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index
TEQ = TCDD equivalents

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TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Acenaphthene	NA	0.0525	1.5E-02	6.7E-06	E1 avg	1 9E-06	2.3E-10	1 7E-10	1.0E-10	3 0E-10	5 3E-10	2.0E-09	1.2E-09	5.3E-10
Acenaphthylene	NF	NF	NF	6.7E-06	E1 avg	1 9E-06	2.3E-10	1 7E-10	1 0E-10	3.0E-10	5 3E-10	2 0E-09	1 2E-09	5 3E-10
Acetaldehyde	7.7E-03	0.00225	6 4E-04	3.0E-04	E1 avg	8.7E-05	1.0E-08	7 7E-09	4 6E-09	1.4E-08	2 4E-08	8 9E-08	5 4E-08	2 4E-08
Acetone	NA	0.0875	2.5E-02	2.9E-03	E1 avg	8.4E-04	9.9E-08	7 4E-08	4 5E-08	1.3E-07	2 3E-07	8.6E-07	5.2E-07	2.3E-07
Acetophenone	NA	0 0875	2.5E-02	2 9E-04	E1 avg	8 5E-05	1.0E-08	7 5E-09	4 5E-09	1 3E-08	2 3E-08	8.7E-08	5 3E-08	2.3E-08
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E1 avg	5.9E-05	6.9E-09	5 1E-09	3.1E-09	9.2E-09	1.6E-08	6.0E-08	3 6E-08	1 6E-08
Anthracene	NA	0.2625	7.5E-02	1 1E-05	E1 avg	3.2E-06	3 7E-10	2 8E-10	1 7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Benzene	2.9E-02	0 0015	4.3E-04	2.6E-05	E1 avg	7.6E-06	8.9E-10	6.7E-10	4.0E-10	1.2E-09	2.1E-09	7.8E-09	4 7E-09	2 1E-09
Benzoic acid	NA	3.5	1.0E+00	1 1E-05	E1 avg	3.3E-06	3.8E-10	2 9E-10	1.7E-10	5 1E-10	9.0E-10	3.4E-09	2 0E-09	9 0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E1 avg	9.3E-06	1.1E-09	8 1E-10	4.9E-10	1.5E-09	2 5E-09	9.5E-09	5 7E-09	2 5E-09
Benzo(a)anthracene	NA	NA	NA	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Benzo(a)pyrene	NA	NA	NA	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8 7E-10	3.3E-09	2 0E-09	8.7E-10
Benzo(b)fluoranthene	NA	NA	NA	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Benzo(g,h,i)perylene	NA	NA	NA	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Benzo(k)fluoranthene	NA	NA	NA	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2.0E-09	8 7E-10
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1.0E-10	3.0E-10	5.3E-10	2.0E-09	1 2E-09	5 3E-10
Bis(2-chloroethyl)ether	1 1E+00	NA	NA	1.3E-05	E1 avg	3.9E-06	4.5E-10	3.4E-10	2.0E-10	6.0E-10	1.1E-09	3.9E-09	2 4E-09	1 1E-09
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1.0E-10	3.0E-10	5 3E-10	2.0E-09	1 2E-09	5 3E-10
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	5.2E-05	E1 avg	1 5E-05	1.8E-09	1 3E-09	8.0E-10	2.4E-09	4.2E-09	1.6E-08	9 4E-09	4 2E-09
Bromodichloromethane	NA	0 0175	5 0E-03	1.5E-04	E1 avg	4.4E-05	5.2E-09	3.9E-09	2.4E-09	6.9E-09	1.2E-08	4.5E-08	2 7E-08	1.2E-08
Bromoform	3.9E-03	0.0175	5 0E-03	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Bromomethane	NA	0.00125	3.6E-04	9.8E-04	E1 avg	2.8E-04	3.3E-08	2.5E-08	1.5E-08	4.4E-08	7.8E-08	2.9E-07	1 8E-07	7 8E-08
Bromodiphenyl ether, p-	NA	NA	NA	6 7E-06	E1 avg	1.9E-06	2.3E-10	1 7E-10	1.0E-10	3.0E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	7.4E-05	E1 avg	2.1E-05	2.5E-09	1 9E-09	1.1E-09	3.4E-09	5.9E-09	2 2E-08	1 3E-08	5 9E-09
Butylbenzylphthalate	NA	0.175	5 0E-02	1.1E-05	E1 avg	3 2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Carbon disulfide	NA	0.0025	7 1E-04	9.5E-05	E1 avg	2.7E-05	3.2E-09	2 4E-09	1.5E-09	4.3E-09	7.5E-09	2.8E-08	1 7E-08	7 5E-09
Carbon tetrachloride	5.3E-02	0.0005	1 4E-04	2.8E-04	E1 avg	8.0E-05	9.4E-09	7.0E-09	4.2E-09	1.2E-08	2.2E-08	8.2E-08	4 9E-08	2 2E-08
Chlordane	1.3E+00	0.000053	1.5E-05	1.1E-06	E1 avg	3.2E-07	3.7E-11	2.8E-11	1.7E-11	5.0E-11	8.7E-11	3.3E-10	2 0E-10	8 7E-11
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1 0E-10	3.0E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1.0E-10	3.0E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
Chlorobenzene	NA	0.005	1 4E-03	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E1 avg	1.1E-05	1.3E-09	9.4E-10	5.7E-10	1.7E-09	2.9E-09	1.1E-08	6 6E-09	2 9E-09
Chloroethane (Ethyl chloride)	NA	2.5	7 1E-01	9.8E-04	E1 avg	2.8E-04	3.3E-08	2 5E-08	1.5E-08	4.4E-08	7.8E-08	2 9E-07	1 8E-07	7 8E-08
Chloroform	8.1E-02	0.00875	2.5E-03	4.1E-04	E1 avg	1.2E-04	1.4E-08	1 0E-08	6.3E-09	1.8E-08	3 2E-08	1 2E-07	7 3E-08	3 2E-08
Chloromethane	6.3E-03	NA	NA	4.9E-04	E1 avg	1.4E-04	1.7E-08	1 2E-08	7.5E-09	2.2E-08	3.9E-08	1 5E-07	8 8E-08	3.9E-08
Chloronaphthalene, beta	NA	0.07	2 0E-02	6.7E-06	E1 avg	1.9E-06	2.3E-10	1 7E-10	1.0E-10	3.0E-10	5.3E-10	2 0E-09	1 2E-09	5 3E-10
Chlorophenol, 2-	NA	0.004375	1.3E-03	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	2.3E-10	1 7E-10	1.0E-10	3 0E-10	5.3E-10	2 0E-09	1 2E-09	5 3E-10
Chrysene	NA	NA	NA	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3 3E-09	2 0E-09	8 7E-10
Cresol, m-	NA	0 04375	1.3E-02	1.1E-05	E1 avg	3 2E-06	3.7E-10	2 8E-10	1.7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	1.1E-05	E1 avg	3 2E-06	3.7E-10	2 8E-10	1.7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Cresol, p-	NA	0 004375	1 3E-03	1.1E-05	E1 avg	3 2E-06	3.7E-10	2 8E-10	1 7E-10	5 0E-10	8.7E-10	3 3E-09	2 0E-09	8.7E-10
Crotonaldehyde	NA	NA	NA	1 4E-04	E1 avg	4 0E-05	4.7E-09	3 5E-09	2 1E-09	6 3E-09	1.1E-08	4 1E-08	2 5E-08	1 1E-08
Cumene	NA	0.00225	6 4E-04	1 1E-05	E1 avg	3 2E-06	3.7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
DDE, 4,4'-	NA	NA	NA	1.1E-06	E1 avg	3 2E-07	3 7E-11	2 8E-11	1 7E-11	5 0E-11	8 7E-11	3 3E-10	2 0E-10	8 7E-11
Dibenz(a,h)anthracene	NA	NA	NA	1.1E-05	E1 avg	3 2E-06	3 7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Dibromochloromethane	NA	0 0175	5 0E-03	2.6E-05	E1 avg	7 6E-06	9 0E-10	6 7E-10	4 0E-10	1 2E-09	2 1E-09	7 8E-09	4 7E-09	2 1E-09
Dichlorobenzene, 1,3-	NA	NA	NA	1 1E-05	E1 avg	3 2E-06	3 7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	1.1E-05	E1 avg	3 2E-06	3 7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	1.1E-05	E1 avg	3 2E-06	3.7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	E1 avg	9 7E-06	1 1E-09	8 5E-10	5 1E-10	1 5E-09	2 6E-09	9 9E-09	6 0E-09	2 6E-09
Dichlorobiphenyl	NA	NA	NA	8 2E-08	E1 avg	2 4E-08	2.8E-12	2 1E-12	1 3E-12	3 7E-12	6 5E-12	2 4E-11	1 5E-11	6 5E-12

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TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Acenaphthene	NA	0 0525	1.5E-02	6.7E-06	E1 avg	NT	NT	NT	NT	3 5E-08	1.3E-07	8.0E-08	3 5E-08
Acenaphthylene	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Acetaldehyde	7.7E-03	0.00225	6.4E-04	3.0E-04	E1 avg	7.9E-11	5.9E-11	3.6E-11	1.1E-10	3.7E-05	1.4E-04	8.4E-05	3 7E-05
Acetone	NA	0.0875	2.5E-02	2.9E-03	E1 avg	NT	NT	NT	NT	9 2E-06	3.4E-05	2.1E-05	9.2E-06
Acetophenone	NA	0.0875	2.5E-02	2.9E-04	E1 avg	NT	NT	NT	NT	9 3E-07	3 5E-06	2.1E-06	9.3E-07
Acrylonitrile	2.4E-01	0.0005	1.4E-04	2.0E-04	E1 avg	1.6E-09	1.2E-09	7.4E-10	2 2E-09	1.1E-04	4.2E-04	2.5E-04	1.1E-04
Anthracene	NA	0.2625	7.5E-02	1.1E-05	E1 avg	NT	NT	NT	NT	1 2E-08	4.4E-08	2.6E-08	1 2E-08
Benzene	2.9E-02	0.0015	4.3E-04	2.6E-05	E1 avg	2.6E-11	1.9E-11	1.2E-11	3.5E-11	4.9E-06	1.8E-05	1.1E-05	4.9E-06
Benzoic acid	NA	3.5	1.0E+00	1.1E-05	E1 avg	NT	NT	NT	NT	9.0E-10	3.4E-09	2.0E-09	9.0E-10
Benzotrichloride	NA	NA	NA	3.2E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(g,h,i)perylene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethoxy) methane	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-chloroethyl)ether	1.1E+00	NA	NA	1.3E-05	E1 avg	5.0E-10	3.7E-10	2.2E-10	6.6E-10	NT	NT	NT	NT
Bis(2-chloroisopropyl)ether	NA	0.035	1.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Bis(2-ethylhexyl)phthalate	NA	0 0175	5 0E-03	5.2E-05	E1 avg	NT	NT	NT	NT	8.3E-07	3.1E-06	1.9E-06	8.3E-07
Bromodichloromethane	NA	0.0175	5 0E-03	1.5E-04	E1 avg	NT	NT	NT	NT	2 4E-06	9.1E-06	5.5E-06	2 4E-06
Bromoform	3.9E-03	0.0175	5.0E-03	1.1E-05	E1 avg	1.4E-12	1.1E-12	6.5E-13	1.9E-12	1.7E-07	6.5E-07	3.9E-07	1.7E-07
Bromomethane	NA	0.00125	3.6E-04	9.8E-04	E1 avg	NT	NT	NT	NT	2.2E-04	8.1E-04	4.9E-04	2.2E-04
Bromodiphenyl ether, p-	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Butanone, 2- (Methyl ethyl ketone)	NA	0.25	7.1E-02	7.4E-05	E1 avg	NT	NT	NT	NT	8.2E-08	3.1E-07	1.9E-07	8.2E-08
Butylbenzylphthalate	NA	0.175	5.0E-02	1.1E-05	E1 avg	NT	NT	NT	NT	1.7E-08	6.5E-08	3.9E-08	1.7E-08
Carbon disulfide	NA	0.0025	7.1E-04	9 5E-05	E1 avg	NT	NT	NT	NT	1.1E-05	3.9E-05	2.4E-05	1 1E-05
Carbon tetrachloride	5.3E-02	0.0005	1.4E-04	2.8E-04	E1 avg	4.9E-10	3.7E-10	2.2E-10	6.6E-10	1.5E-04	5.7E-04	3.5E-04	1.5E-04
Chlordane	1.3E+00	0.000053	1.5E-05	1.1E-06	E1 avg	4.8E-11	3.6E-11	2.2E-11	6.5E-11	5.8E-06	2.2E-05	1.3E-05	5.8E-06
Chloro-3-methylphenol, 4-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chloroaniline, p- (4-Chloroaniline)	NA	0.0035	1.0E-03	6.7E-06	E1 avg	NT	NT	NT	NT	5 3E-07	2.0E-06	1.2E-06	5.3E-07
Chlorobenzene	NA	0.005	1.4E-03	1.1E-05	E1 avg	NT	NT	NT	NT	6.1E-07	2.3E-06	1.4E-06	6.1E-07
Chlorobenzilate	2.7E-01	0.0175	5.0E-03	3.7E-05	E1 avg	3.4E-10	2.6E-10	1.5E-10	4.6E-10	5.8E-07	2.2E-06	1.3E-06	5.8E-07
Chloroethane (Ethyl chloride)	NA	2.5	7.1E-01	9.8E-04	E1 avg	NT	NT	NT	NT	1.1E-07	4.1E-07	2.5E-07	1.1E-07
Chloroform	8.1E-02	0.00875	2.5E-03	4.1E-04	E1 avg	1.1E-09	8.3E-10	5.0E-10	1.5E-09	1.3E-05	4.8E-05	2.9E-05	1.3E-05
Chloromethane	6.3E-03	NA	NA	4.9E-04	E1 avg	1.1E-10	7.9E-11	4.7E-11	1.4E-10	NT	NT	NT	NT
Chloronaphthalene, beta	NA	0.07	2.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	2.7E-08	9.9E-08	6.0E-08	2 7E-08
Chlorophenol, 2-	NA	0.004375	1.3E-03	1.1E-05	E1 avg	NT	NT	NT	NT	7.0E-07	2.6E-06	1.6E-06	7.0E-07
Chlorodiphenyl ether, 4-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cresol, m-	NA	0.04375	1 3E-02	1.1E-05	E1 avg	NT	NT	NT	NT	7.0E-08	2.6E-07	1.6E-07	7 0E-08
Cresol, o- (2-Methylphenol)	NA	0.04375	1 3E-02	1.1E-05	E1 avg	NT	NT	NT	NT	7.0E-08	2 6E-07	1 6E-07	7 0E-08
Cresol, p-	NA	0.004375	1.3E-03	1.1E-05	E1 avg	NT	NT	NT	NT	7 0E-07	2.6E-06	1.6E-06	7 0E-07
Crotonaldehyde	NA	NA	NA	1.4E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Cumene	NA	0.00225	6 4E-04	1.1E-05	E1 avg	NT	NT	NT	NT	1 4E-06	5.1E-06	3.1E-06	1 4E-06
DDE, 4,4'-	NA	NA	NA	1.1E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibenz(a,h)anthracene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	NA	0 0175	5 0E-03	2 6E-05	E1 avg	NT	NT	NT	NT	4 2E-07	1 6E-06	9 4E-07	4 2E-07
Dichlorobenzene, 1,3-	NA	NA	NA	1 1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobenzene, 1,4-	NA	0.2	5 7E-02	1.1E-05	E1 avg	NT	NT	NT	NT	1 5E-08	5 7E-08	3 5E-08	1.5E-08
Dichlorobenzene, 1,2-	NA	0.05	1 4E-02	1.1E-05	E1 avg	NT	NT	NT	NT	6 1E-08	2 3E-07	1 4E-07	6.1E-08
Dichlorobenzidine, 3,3'-	NA	NA	NA	3 3E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dichlorobiphenyl	NA	NA	NA	8 2E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Dichlorodifluoromethane	NA	0.05	1 4E-02	4.9E-04	E1 avg	1.4E-04	1.7E-08	1 2E-08	7 5E-09	2 2E-08	3 9E-08	1.5E-07	8 8E-08	3 9E-08
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	2 5E-05	E1 avg	7.3E-06	8 5E-10	6 4E-10	3 8E-10	1 1E-09	2.0E-09	7.4E-09	4 5E-09	2 0E-09
Dichloroethane, 1,2-	9.1E-02	NA	NA	2.5E-05	E1 avg	7.3E-06	8 5E-10	6 4E-10	3 8E-10	1 1E-09	2 0E-09	7.4E-09	4 5E-09	2 0E-09
Dichloroethene, 1,1- (Vinylidine chloride)	1 2E+00	0.007875	2.3E-03	2 5E-05	E1 avg	7.3E-06	8 5E-10	6 4E-10	3 8E-10	1.1E-09	2 0E-09	7.4E-09	4 5E-09	2 0E-09
Dichloroethene (trans), 1,2-	NA	0.0175	5 0E-03	2.5E-05	E1 avg	7.3E-06	8.5E-10	6 4E-10	3.8E-10	1.1E-09	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	2.5E-05	E1 avg	7 3E-06	8.5E-10	6.4E-10	3.8E-10	1.1E-09	2.0E-09	7.4E-09	4 5E-09	2 0E-09
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	2.5E-05	E1 avg	7.3E-06	8.5E-10	6.4E-10	3.8E-10	1.1E-09	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	2.5E-05	E1 avg	7.3E-06	8.5E-10	6.4E-10	3.8E-10	1 1E-09	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Diethylphthalate	NA	0.7	2.0E-01	3.6E-05	E1 avg	1.0E-05	1.2E-09	9.1E-10	5 5E-10	1 6E-09	2.9E-09	1.1E-08	6.4E-09	2.9E-09
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E1 avg	3.3E-05	3.9E-09	2.9E-09	1.8E-09	5 2E-09	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Dimethylphthalate	NA	NA	NA	1.1E-05	E1 avg	3 2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2.0E-09	8.7E-10
Di-n-butylphthalate	NA	0.0875	2.5E-02	2.0E-05	E1 avg	5.9E-06	6.9E-10	5.2E-10	3 1E-10	9 2E-10	1.6E-09	6.0E-09	3.7E-09	1.6E-09
Dinitrotoluene, 2,6-	NA	0.000875	2 5E-04	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1 7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Dinitrophenol, 2,4-	NA	0 00175	5 0E-04	1.1E-05	E1 avg	3 2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Dinitrotoluene, 2,4-	NA	0 00175	5 0E-04	1.1E-05	E1 avg	3 2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E1 avg	1 4E-04	1.7E-08	1.3E-08	7.6E-09	2.2E-08	3.9E-08	1.5E-07	8.9E-08	3 9E-08
Di(n)octyl phthalate	NA	0.0175	5 0E-03	1.1E-05	E1 avg	3 2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8 7E-10	3.3E-09	2 0E-09	8 7E-10
D, 2,4-	NA	0 00875	2 5E-03	3.9E-05	E1 avg	1 1E-05	1.3E-09	9.9E-10	6.0E-10	1.8E-09	3 1E-09	1.2E-08	7.0E-09	3 1E-09
Ethyl methacrylate	NA	0 07875	2.3E-02	4.9E-04	E1 avg	1.4E-04	1 7E-08	1.2E-08	7.5E-09	2.2E-08	3 9E-08	1.5E-07	8 8E-08	3 9E-08
Ethylbenzene	NA	0.25	7 1E-02	7.5E-04	E1 avg	2.2E-04	2.6E-08	1.9E-08	1.2E-08	3.4E-08	6.0E-08	2.2E-07	1 4E-07	6.0E-08
Ethylene dibromide	7 6E-01	0 00005	1 4E-05	1.2E-04	E1 avg	3.3E-05	3.9E-09	2.9E-09	1.8E-09	5.2E-09	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Ethylene oxide	3 5E-01	NA	NA	3.1E-05	E1 avg	8.8E-06	1.0E-09	7.8E-10	4.7E-10	1.4E-09	2.4E-09	9.1E-09	5 5E-09	2.4E-09
Ethylene thiourea	NA	0.00007	2 0E-05	1.5E-10	E1 avg	4 2E-11	5.0E-15	3.7E-15	2.2E-15	6.6E-15	1.2E-14	4.3E-14	2 6E-14	1.2E-14
Fluoranthene	NA	0.035	1 0E-02	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Fluorene	NA	0.035	1.0E-02	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1.0E-10	3.0E-10	5.3E-10	2.0E-09	1 2E-09	5 3E-10
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E1 avg	1.8E-04	2.1E-08	1.5E-08	9.3E-09	2.8E-08	4.8E-08	1.8E-07	1.1E-07	4.8E-08
Furfural	NA	0.0125	3.6E-03	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3 3E-09	2 0E-09	8.7E-10
Heptachlor	4 5E+00	0.000438	1.3E-04	1.1E-06	E1 avg	3.2E-07	3.7E-11	2.8E-11	1.7E-11	5.0E-11	8.7E-11	3.3E-10	2 0E-10	8.7E-11
Heptachlorobiphenyl	NA	NA	NA	2 8E-08	E1 avg	8.1E-09	9.5E-13	7.1E-13	4.3E-13	1.3E-12	2.2E-12	8.3E-12	5 0E-12	2.2E-12
Hexachlorobenzene	1.6E+00	0.0007	2 0E-04	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Hexachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	8.1E-09	9.5E-13	7.1E-13	4.3E-13	1.3E-12	2.2E-12	8 3E-12	5 0E-12	2.2E-12
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E1 avg	2.9E-05	3.4E-09	2.6E-09	1.6E-09	4.6E-09	8 0E-09	3.0E-08	1 8E-08	8.0E-09
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7 5E-05	5 5E-05	E1 avg	1.6E-05	1.9E-09	1 4E-09	8.4E-10	2 5E-09	4 4E-09	1.6E-08	9 8E-09	4.4E-09
Hexachlorocyclopentadiene	NA	0.000018	5 0E-06	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8.7E-10
Hexachloroethane	1.4E-02	0 000875	2 5E-04	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8.7E-10
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E1 avg	9.3E-06	1.1E-09	8.1E-10	4 9E-10	1 5E-09	2 5E-09	9 5E-09	5 7E-09	2 5E-09
Hexanone, 2-	NF	NF	NF	6.4E-05	E1 avg	1.9E-05	2.2E-09	1 6E-09	9 9E-10	2 9E-09	5 1E-09	1 9E-08	1 2E-08	5.1E-09
Indeno(1,2,3-cd)pyrene	NA	NA	NA	1.1E-05	E1 avg	3.2E-06	3 7E-10	2.8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Isophorone	NA	0.175	5.0E-02	6.7E-06	E1 avg	1 9E-06	2.3E-10	1 7E-10	1.0E-10	3 0E-10	5 3E-10	2 0E-09	1 2E-09	5 3E-10
Maleic hydrazide	NA	0.4375	1 3E-01	1.2E-04	E1 avg	3 3E-05	3.9E-09	2 9E-09	1 8E-09	5 2E-09	9.1E-09	3 4E-08	2 1E-08	9 1E-09
Methoxychlor	NA	0.004375	1 3E-03	1.1E-06	E1 avg	3 2E-07	3 7E-11	2.8E-11	1 7E-11	5 0E-11	8 7E-11	3 3E-10	2 0E-10	8 7E-11
Methyl-t-butyl ether	NA	0.75	2 1E-01	2 5E-05	E1 avg	7.3E-06	8.5E-10	6 4E-10	3 8E-10	1 1E-09	2 0E-09	7 4E-09	4 5E-09	2 0E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5 7E-03	2.5E-05	E1 avg	7 3E-06	8 5E-10	6 4E-10	3 8E-10	1 1E-09	2 0E-09	7 4E-09	4 5E-09	2 0E-09
Methylene chloride	1.6E-03	0.75	2.1E-01	6 2E-04	E1 avg	1 8E-04	2 1E-08	1 6E-08	9 5E-09	2 8E-08	4 9E-08	1 8E-07	1 1E-07	4 9E-08
Methylnaphthalene, 2-	NF	NF	NF	4 2E-05	E1 avg	1 2E-05	1 4E-09	1 1E-09	6 4E-10	1 9E-09	3 3E-09	1 2E-08	7 5E-09	3 3E-09
Monochlorobiphenyl	NA	NA	NA	3 0E-08	E1 avg	8 7E-09	1.0E-12	7 6E-13	4 6E-13	1 4E-12	2 4E-12	8 9E-12	5 4E-12	2.4E-12
Naphthalene	NA	0.035	1 0E-02	1.1E-05	E1 avg	3 2E-06	3 7E-10	2 8E-10	1 7E-10	5 0E-10	8 7E-10	3 3E-09	2 0E-09	8 7E-10
Nitroaniline, 2-	NA	0 00005	1 4E-05	6 7E-06	E1 avg	1 9E-06	2 3E-10	1 7E-10	1 0E-10	3 0E-10	5 3E-10	2 0E-09	1 2E-09	5 3E-10
Nitroaniline, 3-	NF	NF	NF	6 7E-06	E1 avg	1 9E-06	2.3E-10	1.7E-10	1 0E-10	3 0E-10	5 3E-10	2 0E-09	1 2E-09	5 3E-10

External Review Draft Do Not Cite or Quote

TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Dichlorodifluoromethane	NA	0.05	1.4E-02	4.9E-04	E1 avg	NT	NT	NT	NT	2.7E-06	1.0E-05	6.2E-06	2.7E-06
Dichloroethane, 1,1- (Ethylidene dichloride)	NA	0.125	3.6E-02	2.5E-05	E1 avg	NT	NT	NT	NT	5.6E-08	2.1E-07	1.3E-07	5.6E-08
Dichloroethane, 1,2-	9.1E-02	NA	NA	2.5E-05	E1 avg	7.7E-11	5.8E-11	3.5E-11	1.0E-10	NT	NT	NT	NT
Dichloroethene, 1,1- (Vinylidine chloride)	1.2E+00	0.007875	2.3E-03	2.5E-05	E1 avg	1.0E-09	7.6E-10	4.6E-10	1.4E-09	8.8E-07	3.3E-06	2.0E-06	8.8E-07
Dichloroethene (trans), 1,2-	NA	0.0175	5.0E-03	2.5E-05	E1 avg	NT	NT	NT	NT	4.0E-07	1.5E-06	9.0E-07	4.0E-07
Dichlorophenol, 2,4-	NA	0.002625	7.5E-04	1.1E-05	E1 avg	NT	NT	NT	NT	1.2E-06	4.4E-06	2.6E-06	1.2E-06
Dichloropropane, 1,2- (Propylene dichloride)	NA	0.001	2.9E-04	2.5E-05	E1 avg	NT	NT	NT	NT	6.9E-06	2.6E-05	1.6E-05	6.9E-06
Dichloropropene (cis), 1,3-	1.3E-01	0.005	1.4E-03	2.5E-05	E1 avg	1.1E-10	8.2E-11	5.0E-11	1.5E-10	1.4E-06	5.2E-06	3.1E-06	1.4E-06
Dichloropropene (trans), 1,3-	1.3E-01	0.005	1.4E-03	2.5E-05	E1 avg	1.1E-10	8.2E-11	5.0E-11	1.5E-10	1.4E-06	5.2E-06	3.1E-06	1.4E-06
Diethylphthalate	NA	0.7	2.0E-01	3.6E-05	E1 avg	NT	NT	NT	NT	1.4E-08	5.3E-08	3.2E-08	1.4E-08
Dimethoxybenzidine, 3,3'-	NA	NA	NA	1.2E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dimethylphenol, 2,4-	NA	0.0175	5.0E-03	1.1E-05	E1 avg	NT	NT	NT	NT	1.7E-07	6.5E-07	3.9E-07	1.7E-07
Dimethylphthalate	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di-n-butylphthalate	NA	0.0875	2.5E-02	2.0E-05	E1 avg	NT	NT	NT	NT	6.5E-08	2.4E-07	1.5E-07	6.5E-08
Dinitrotoluene, 2,6-	NA	0.000875	2.5E-04	1.1E-05	E1 avg	NT	NT	NT	NT	3.5E-06	1.3E-05	7.9E-06	3.5E-06
Dinitro-2-methylphenol, 4,6-	NF	NF	NF	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Dinitrophenol, 2,4-	NA	0.00175	5.0E-04	1.1E-05	E1 avg	NT	NT	NT	NT	1.7E-06	6.5E-06	3.9E-06	1.7E-06
Dinitrotoluene, 2,4-	NA	0.00175	5.0E-04	1.1E-05	E1 avg	NT	NT	NT	NT	1.7E-06	6.5E-06	3.9E-06	1.7E-06
Dioxane, 1,4-	NA	NA	NA	4.9E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Di(n)octyl phthalate	NA	0.0175	5.0E-03	1.1E-05	E1 avg	NT	NT	NT	NT	1.7E-07	6.5E-07	3.9E-07	1.7E-07
D, 2,4-	NA	0.00875	2.5E-03	3.9E-05	E1 avg	NT	NT	NT	NT	1.2E-06	4.6E-06	2.8E-06	1.2E-06
Ethyl methacrylate	NA	0.07875	2.3E-02	4.9E-04	E1 avg	NT	NT	NT	NT	1.7E-06	6.5E-06	3.9E-06	1.7E-06
Ethylbenzene	NA	0.25	7.1E-02	7.5E-04	E1 avg	NT	NT	NT	NT	8.4E-07	3.1E-06	1.9E-06	8.4E-07
Ethylene dibromide	7.6E-01	0.00005	1.4E-05	1.2E-04	E1 avg	3.0E-09	2.2E-09	1.3E-09	4.0E-09	8.4E-04	2.4E-03	1.4E-03	8.4E-04
Ethylene oxide	3.5E-01	NA	NA	3.1E-05	E1 avg	3.6E-10	2.7E-10	1.6E-10	4.8E-10	NT	NT	NT	NT
Ethylene thiourea	NA	0.00007	2.0E-05	1.5E-10	E1 avg	NT	NT	NT	NT	5.8E-10	2.2E-09	1.3E-09	5.8E-10
Fluoranthene	NA	0.035	1.0E-02	1.1E-05	E1 avg	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Fluorene	NA	0.035	1.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	5.3E-08	2.0E-07	1.2E-07	5.3E-08
Formaldehyde	4.5E-02	0.175	5.0E-02	6.1E-04	E1 avg	9.3E-10	6.9E-10	4.2E-10	1.2E-09	9.6E-07	3.6E-06	2.2E-06	9.6E-07
Furfural	NA	0.0125	3.6E-03	1.1E-05	E1 avg	NT	NT	NT	NT	2.4E-07	9.1E-07	5.5E-07	2.4E-07
Heptachlor	4.5E+00	0.000438	1.3E-04	1.1E-06	E1 avg	1.7E-10	1.3E-10	7.6E-11	2.2E-10	7.0E-07	2.6E-06	1.6E-06	7.0E-07
Heptachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobenzene	1.6E+00	0.0007	2.0E-04	1.1E-05	E1 avg	6.0E-10	4.5E-10	2.7E-10	8.0E-10	4.4E-06	1.6E-05	9.9E-06	4.4E-06
Hexachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Hexachlorobutadiene	7.8E-02	0.000175	5.0E-05	1.0E-04	E1 avg	2.7E-10	2.0E-10	1.2E-10	3.6E-10	1.6E-04	6.0E-04	3.6E-04	1.6E-04
Hexachlorocyclohexane, gamma (Lindane)	NA	0.000263	7.5E-05	5.5E-05	E1 avg	NT	NT	NT	NT	5.8E-05	2.2E-04	1.3E-04	5.8E-05
Hexachlorocyclopentadiene	NA	0.000018	5.0E-06	1.1E-05	E1 avg	NT	NT	NT	NT	1.7E-04	6.5E-04	3.9E-04	1.7E-04
Hexachloroethane	1.4E-02	0.000875	2.5E-04	1.1E-05	E1 avg	5.2E-12	3.9E-12	2.4E-12	7.0E-12	3.5E-06	1.3E-05	7.9E-06	3.5E-06
Hexachlorophene	NA	0.000263	7.5E-05	3.2E-05	E1 avg	NT	NT	NT	NT	3.4E-05	1.3E-04	7.7E-05	3.4E-05
Hexanone, 2-	NF	NF	NF	6.4E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	NA	NA	NA	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Isophorone	NA	0.175	5.0E-02	6.7E-06	E1 avg	NT	NT	NT	NT	1.1E-08	4.0E-08	2.4E-08	1.1E-08
Maleic hydrazide	NA	0.4375	1.3E-01	1.2E-04	E1 avg	NT	NT	NT	NT	7.3E-08	2.7E-07	1.6E-07	7.3E-08
Methoxychlor	NA	0.004375	1.3E-03	1.1E-06	E1 avg	NT	NT	NT	NT	7.0E-08	2.6E-07	1.6E-07	7.0E-08
Methyl-t-butyl ether	NA	0.75	2.1E-01	2.5E-05	E1 avg	NT	NT	NT	NT	9.3E-09	3.5E-08	2.1E-08	9.3E-09
Methyl-2-Pentanone, 4- (MIBK)	NA	0.02	5.7E-03	2.5E-05	E1 avg	NT	NT	NT	NT	3.5E-07	1.3E-06	7.8E-07	3.5E-07
Methylene chloride	1.6E-03	0.75	2.1E-01	6.2E-04	E1 avg	3.5E-11	2.6E-11	1.6E-11	4.6E-11	2.3E-07	8.6E-07	5.2E-07	2.3E-07
Methylnaphthalene, 2-	NF	NF	NF	4.2E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Monochlorobiphenyl	NA	NA	NA	3.0E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	NA	0.035	1.0E-02	1.1E-05	E1 avg	NT	NT	NT	NT	8.7E-08	3.3E-07	2.0E-07	8.7E-08
Nitroaniline, 2-	NA	0.00005	1.4E-05	6.7E-06	E1 avg	NT	NT	NT	NT	3.7E-05	1.4E-04	8.4E-05	3.7E-05
Nitroaniline, 3-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1 0E-10	3.0E-10	5.3E-10	2.0E-09	1 2E-09	5 3E-10
Nitrobenzene	NA	0.0005	1.4E-04	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1.7E-10	5 0E-10	8.7E-10	3 3E-09	2.0E-09	8 7E-10
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1.0E-10	3.0E-10	5 3E-10	2.0E-09	1 2E-09	5.3E-10
Nitrophenol, 4-	NF	NF	NF	1.1E-05	E1 avg	3 2E-06	3.7E-10	2 8E-10	1.7E-10	5.0E-10	8 7E-10	3.3E-09	2 0E-09	8.7E-10
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1 2E-04	E1 avg	3.5E-05	4.1E-09	3.1E-09	1.9E-09	5.5E-09	9 6E-09	3 6E-08	2.2E-08	9 6E-09
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1.0E-10	3 0E-10	5.3E-10	2.0E-09	1 2E-09	5.3E-10
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	2.3E-10	1.7E-10	1.0E-10	3.0E-10	5.3E-10	2.0E-09	1.2E-09	5.3E-10
Nonachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	8.1E-09	9.5E-13	7.1E-13	4 3E-13	1.3E-12	2.2E-12	8.3E-12	5 0E-12	2.2E-12
Octachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	8.1E-09	9.5E-13	7.1E-13	4 3E-13	1.3E-12	2.2E-12	8.3E-12	5 0E-12	2 2E-12
Pentachlorobenzene	NA	NA	NA	4.8E-05	E1 avg	1.4E-05	1.6E-09	1.2E-09	7.3E-10	2.2E-09	3.8E-09	1.4E-08	8 5E-09	3 8E-09
Pentachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	8.1E-09	9.5E-13	7 1E-13	4.3E-13	1 3E-12	2.2E-12	8.3E-12	5.0E-12	2.2E-12
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E1 avg	9.8E-06	1.1E-09	8.6E-10	5.2E-10	1.5E-09	2.7E-09	1.0E-08	6 0E-09	2.7E-09
Pentachlorophenol	NA	0.02625	7 5E-03	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2.0E-09	8.7E-10
Phenanthrene	NA	NA	NA	6.7E-06	E1 avg	1.9E-06	2.3E-10	1 7E-10	1.0E-10	3.0E-10	5.3E-10	2.0E-09	1.2E-09	5 3E-10
Phenol	NA	0.525	1 5E-01	1.1E-05	E1 avg	3.2E-06	3.7E-10	2 8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2.0E-09	8.7E-10
Pyrene	NA	0.02625	7.5E-03	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1 7E-10	5 0E-10	8.7E-10	3.3E-09	2 0E-09	8 7E-10
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1 2E-04	E1 avg	3.3E-05	3.9E-09	2 9E-09	1.8E-09	5.2E-09	9.1E-09	3.4E-08	2.1E-08	9.1E-09
Styrene	NA	0.25	7 1E-02	4.0E-05	E1 avg	1.2E-05	1.4E-09	1.0E-09	6.2E-10	1.8E-09	3.2E-09	1.2E-08	7.3E-09	3.2E-09
Tetrachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	8.1E-09	9.5E-13	7.1E-13	4.3E-13	1.3E-12	2.2E-12	8.3E-12	5 0E-12	2.2E-12
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7 5E-03	1.1E-05	E1 avg	3 2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Tetrachloroethane, 1,1,2,2-	2 0E-01	NA	NA	1.1E-05	E1 avg	3 2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Tetrachloroethene	2 0E-03	0 00875	2 5E-03	8 0E-05	E1 avg	2.3E-05	2.7E-09	2.0E-09	1.2E-09	3.6E-09	6.4E-09	2.4E-08	1.4E-08	6 4E-09
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E1 avg	2.0E-06	2.3E-10	1.7E-10	1.0E-10	3.1E-10	5.4E-10	2.0E-09	1.2E-09	5 4E-10
Toluene	NA	0 1	2 9E-02	1.0E-03	E1 avg	3.0E-04	3.5E-08	2.6E-08	1.6E-08	4.7E-08	8.2E-08	3.1E-07	1.8E-07	8.2E-08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E1 avg	9.8E-05	1.1E-08	8.4E-09	5.1E-09	1.5E-08	2.6E-08	9.8E-08	5.9E-08	2.6E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Trichlorobiphenyl	NA	NA	NA	5.8E-08	E1 avg	1.7E-08	2.0E-12	1.5E-12	8.9E-13	2.6E-12	4.6E-12	1.7E-11	1.0E-11	4 6E-12
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7 1E-02	2.5E-05	E1 avg	7.3E-06	8.5E-10	6.4E-10	3.8E-10	1.1E-09	2.0E-09	7.4E-09	4.5E-09	2.0E-09
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1 0E-03	2.5E-05	E1 avg	7.3E-06	8.5E-10	6.4E-10	3.8E-10	1.1E-09	2.0E-09	7.4E-09	4 5E-09	2.0E-09
Trichloroethene	6.0E-03	NA	NA	3.1E-05	E1 avg	9.0E-06	1.1E-09	7.9E-10	4.8E-10	1.4E-09	2.5E-09	9.2E-09	5 5E-09	2 5E-09
Trichlorofluoromethane	NA	0.175	5 0E-02	4.9E-04	E1 avg	1.4E-04	1.7E-08	1.2E-08	7.5E-09	2 2E-08	3.9E-08	1.5E-07	8 8E-08	3.9E-08
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
Trichlorophenol, 2,4,6-	1 0E-02	NA	NA	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2.0E-09	8.7E-10
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E1 avg	1.9E-05	2.2E-09	1.6E-09	9.9E-10	2 9E-09	5.1E-09	1.9E-08	1.2E-08	5.1E-09
Vinyl chloride	3.0E-01	NA	NA	4.9E-04	E1 avg	1.4E-04	1.7E-08	1.2E-08	7.5E-09	2.2E-08	3 9E-08	1.5E-07	8 8E-08	3 9E-08
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1.75	5 0E-01	5.6E-04	E1 avg	1.6E-04	1 9E-08	1.4E-08	8.7E-09	2.6E-08	4.5E-08	1.7E-07	1 0E-07	4 5E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	1.1E-05	E1 avg	3.2E-06	3.7E-10	2.8E-10	1.7E-10	5.0E-10	8.7E-10	3.3E-09	2 0E-09	8.7E-10
2,3,7,8-TCDD	1 5E+05	NA	NA	2.2E-11	E1 avg	6.3E-12	7.4E-16	5 5E-16	3.3E-16	9 8E-16	1 7E-15	6 4E-15	3 9E-15	1 7E-15
1,2,3,7,8-PCDD	7.5E+04	NA	NA	9.5E-11	E1 avg	2 7E-11	3.2E-15	2 4E-15	1 5E-15	4.3E-15	7.5E-15	2 8E-14	1 7E-14	7 5E-15
1,2,3,4,7,8-HxCDD	1 5E+04	NA	NA	1 2E-10	E1 avg	3 6E-11	4 3E-15	3 2E-15	1 9E-15	5 7E-15	9.9E-15	3.7E-14	2 2E-14	9 9E-15
1,2,3,6,7,8-HxCDD	1 5E+04	NA	NA	2 2E-10	E1 avg	6 3E-11	7.4E-15	5 5E-15	3 3E-15	9 9E-15	1.7E-14	6 5E-14	3 9E-14	1.7E-14
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.5E-10	E1 avg	4 5E-11	5 3E-15	3 9E-15	2 4E-15	7 0E-15	1 2E-14	4 6E-14	2 8E-14	1 2E-14
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1.7E-09	E1 avg	4 9E-10	5 7E-14	4 3E-14	2 6E-14	7 7E-14	1 3E-13	5 0E-13	3 0E-13	1 3E-13
OCDD	1 5E+02	NA	NA	9.8E-09	E1 avg	2 8E-09	3 3E-13	2 5E-13	1 5E-13	4 4E-13	7 8E-13	2 9E-12	1 8E-12	7 8E-13
2,3,7,8-TCDF	1.5E+04	NA	NA	1.1E-10	E1 avg	3 3E-11	3 9E-15	2 9E-15	1 8E-15	5 2E-15	9 1E-15	3 4E-14	2 1E-14	9 1E-15
1,2,3,7,8-PCDF	7 5E+03	NA	NA	4 3E-10	E1 avg	1 3E-10	1 5E-14	1 1E-14	6 7E-15	2 0E-14	3 5E-14	1 3E-13	7 8E-14	3 5E-14
2,3,4,7,8-PCDF	7.5E+04	NA	NA	6.0E-10	E1 avg	1 8E-10	2.1E-14	1 5E-14	9 3E-15	2 7E-14	4 8E-14	1 8E-13	1 1E-13	4 8E-14
1,2,3,4,7,8-HxCDF	1 5E+04	NA	NA	1 9E-09	E1 avg	5 4E-10	6 3E-14	4 7E-14	2 8E-14	8 4E-14	1 5E-13	5 5E-13	3 3E-13	1 5E-13
1,2,3,6,7,8-HxCDF	1 5E+04	NA	NA	1 7E-09	E1 avg	5 0E-10	5 8E-14	4 3E-14	2 6E-14	7 8E-14	1 4E-13	5 1E-13	3.1E-13	1 4E-13
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	2.0E-09	E1 avg	5 7E-10	6 7E-14	5 0E-14	3 0E-14	8 9E-14	1 6E-13	5 8E-13	3 5E-13	1 6E-13

External Review Draft Do Not Cite or Quote

TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk	Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
Nitroaniline, 4-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrobenzene	NA	0.0005	1.4E-04	1.1E-05	E1 avg	NT	NT	NT	NT	6.1E-06	2.3E-05	1.4E-05	6.1E-06
Nitrophenol, 2-	NF	NF	NF	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nitrophenol, 4-	NF	NF	NF	1.1E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitroso-di-n-butylamine	5.4E+00	NA	NA	1.2E-04	E1 avg	2.2E-08	1.7E-08	1.0E-08	3.0E-08	NT	NT	NT	NT
N-Nitroso-di-n-propylamine	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
N-Nitrosodiphenylamine (Diphenylamine)	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Nonachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Octachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobenzene	NA	NA	NA	4.8E-05	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Pentachloronitrobenzene	NA	0.002625	7.5E-04	3.4E-05	E1 avg	NT	NT	NT	NT	3.6E-06	1.3E-05	8.1E-06	3.6E-06
Pentachlorophenol	NA	0.02625	7.5E-03	1.1E-05	E1 avg	NT	NT	NT	NT	1.2E-07	4.4E-07	2.6E-07	1.2E-07
Phenanthrene	NA	NA	NA	6.7E-06	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Phenol	NA	0.525	1.5E-01	1.1E-05	E1 avg	NT	NT	NT	NT	5.8E-09	2.2E-08	1.3E-08	5.8E-09
Pyrene	NA	0.02625	7.5E-03	1 1E-05	E1 avg	NT	NT	NT	NT	1.2E-07	4.4E-07	2.6E-07	1.2E-07
Safrole (5-(2-Propenyl)-1,3-benzodioxole)	NF	NF	NF	1.2E-04	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	NA	0.25	7.1E-02	4.0E-05	E1 avg	NT	NT	NT	NT	4.5E-08	1.7E-07	1.0E-07	4.5E-08
Tetrachlorobiphenyl	NA	NA	NA	2.8E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethane, 1,1,1,2-	2 6E-02	0 02625	7.5E-03	1.1E-05	E1 avg	9.7E-12	7.2E-12	4.4E-12	1 3E-11	1.2E-07	4.4E-07	2.6E-07	1.2E-07
Tetrachloroethane, 1,1,2,2-	2.0E-01	NA	NA	1 1E-05	E1 avg	7.6E-11	5.7E-11	3.4E-11	1.0E-10	NT	NT	NT	NT
Tetrachloroethene	2 0E-03	0 00875	2.5E-03	8.0E-05	E1 avg	5.5E-12	4.1E-12	2.5E-12	7.4E-12	2.5E-06	9.5E-06	5.8E-06	2 5E-06
Tetrachlorophenol, 2,3,4,6-	NA	0.02625	7.5E-03	6.8E-06	E1 avg	NT	NT	NT	NT	7.2E-08	2.7E-07	1.6E-07	7 2E-08
Toluene	NA	0.1	2.9E-02	1.0E-03	E1 avg	NT	NT	NT	NT	2.9E-06	1.1E-05	6.5E-06	2.9E-06
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NA	7.5	2.1E+00	3.3E-04	E1 avg	NT	NT	NT	NT	1.2E-08	4.6E-08	2.8E-08	1.2E-08
Trichlorobenzene, 1,2,4-	NA	0.05	1.4E-02	1.1E-05	E1 avg	NT	NT	NT	NT	6.1E-08	2.3E-07	1.4E-07	6.1E-08
Trichlorobiphenyl	NA	NA	NA	5.8E-08	E1 avg	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethane, 1,1,1- (Methyl chloroform)	NA	0.25	7.1E-02	2.5E-05	E1 avg	NT	NT	NT	NT	2.8E-08	1.0E-07	6.3E-08	2 8E-08
Trichloroethane, 1,1,2-	5.7E-02	0.0035	1.0E-03	2.5E-05	E1 avg	4.9E-11	3.6E-11	2.2E-11	6 5E-11	2.0E-06	7.4E-06	4.5E-06	2.0E-06
Trichloroethene	6.0E-03	NA	NA	3.1E-05	E1 avg	6.3E-12	4.7E-12	2.8E-12	8.3E-12	NT	NT	NT	NT
Trichlorofluoromethane	NA	0.175	5.0E-02	4.9E-04	E1 avg	NT	NT	NT	NT	7.8E-07	2.9E-06	1.8E-06	7.8E-07
Trichlorophenol, 2,4,5-	NA	0.0875	2.5E-02	1.1E-05	E1 avg	NT	NT	NT	NT	3.5E-08	1.3E-07	7.9E-08	3.5E-08
Trichlorophenol, 2,4,6-	1.0E-02	NA	NA	1.1E-05	E1 avg	3.7E-12	2.8E-12	1.7E-12	5.0E-12	NT	NT	NT	NT
Vinyl acetate	NA	0.05	1.4E-02	6.4E-05	E1 avg	NT	NT	NT	NT	3.6E-07	1.3E-06	8.1E-07	3.6E-07
Vinyl chloride	3.0E-01	NA	NA	4.9E-04	E1 avg	5.0E-09	3.7E-09	2.3E-09	6.7E-09	NT	NT	NT	NT
Xylene, m/p- (m/p-Dimethyl benzene)	NA	1 75	5.0E-01	5.6E-04	E1 avg	NT	NT	NT	NT	9.0E-08	3.3E-07	2.0E-07	9.0E-08
Xylene, o- (o-Dimethyl benzene)	NA	1.75	5.0E-01	1.1E-05	E1 avg	NT	NT	NT	NT	1.7E-09	6.5E-09	3.9E-09	1.7E-09
2,3,7,8-TCDD	1 5E+05	NA	NA	2 2E-11	E1 avg	1.1E-10	8 2E-11	5.0E-11	1 5E-10	NT	NT	NT	NT
1,2,3,7,8-PCDD	7 5E+04	NA	NA	9.5E-11	E1 avg	2.4E-10	1.8E-10	1 1E-10	3 2E-10	NT	NT	NT	NT
1,2,3,4,7,8-HxCDD	1.5E+04	NA	NA	1.2E-10	E1 avg	6.4E-11	4.8E-11	2.9E-11	8 5E-11	NT	NT	NT	NT
1,2,3,6,7,8-HxCDD	1.5E+04	NA	NA	2.2E-10	E1 avg	1.1E-10	8 3E-11	5.0E-11	1 5E-10	NT	NT	NT	NT
1,2,3,7,8,9-HxCDD	1.5E+04	NA	NA	1.5E-10	E1 avg	7.9E-11	5 9E-11	3 6E-11	1 1E-10	NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDD	1 5E+03	NA	NA	1 7E-09	E1 avg	8 6E-11	6 4E-11	3 9E-11	1 1E-10	NT	NT	NT	NT
OCDD	1 5E+02	NA	NA	9 8E-09	E1 avg	5 0E-11	3.7E-11	2 3E-11	6 7E-11	NT	NT	NT	NT
2,3,7,8-TCDF	1.5E+04	NA	NA	1 1E-10	E1 avg	5.9E-11	4 4E-11	2 6E-11	7 8E-11	NT	NT	NT	NT
1,2,3,7,8-PCDF	7.5E+03	NA	NA	4 3E-10	E1 avg	1.1E-10	8 3E-11	5 0E-11	1 5E-10	NT	NT	NT	NT
2,3,4,7,8-PCDF	7.5E+04	NA	NA	6 0E-10	E1 avg	1.5E 09	1 2E-09	7 0E-10	2 1E-09	NT	NT	NT	NT
1,2,3,4,7,8-HxCDF	1.5E+04	NA	NA	1 9E-09	E1 avg	9 5E-10	7.1E-10	4 3E-10	1 3E-09	NT	NT	NT	NT
1,2,3,6,7,8-HxCDF	1.5E+04	NA	NA	1 7E-09	E1 avg	8 7E-10	6.5E-10	3 9E-10	1 2E-09	NT	NT	NT	NT
2,3,4,6,7,8-HxCDF	1 5E+04	NA	NA	2.0E-09	E1 avg	1.0E-09	7 5E-10	4 5E-10	1 3E-09	NT	NT	NT	NT

TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Off-site Vapor Conc (ug/m3)	Cancer Adult Dose (mg/kg-d)	Cancer Child Dose (mg/kg-d)	Cancer School-age Dose (mg/kg-d)	Cancer Farmer Dose (mg/kg-d)	Noncancer Adult Dose (mg/kg-d)	Noncancer Child Dose (mg/kg-d)	Noncancer School-age Dose (mg/kg-d)	Noncancer Farmer Dose (mg/kg-d)
1,2,3,7,8,9-HxCDF	1 5E+04	NA	NA	3.9E-10	E1 avg	1.1E-10	1.3E-14	9.8E-15	5 9E-15	1.7E-14	3.1E-14	1 1E-13	6 9E-14	3.1E-14
1,2,3,4,6,7,8-HpCDF	1 5E+03	NA	NA	1.3E-08	E1 avg	3 8E-09	4.4E-13	3 3E-13	2.0E-13	5.9E-13	1.0E-12	3 8E-12	2 3E-12	1 0E-12
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.8E-09	E1 avg	5 2E-10	6 1E-14	4 6E-14	2 8E-14	8.2E-14	1.4E-13	5.3E-13	3 2E-13	1.4E-13
OCDF	1.5E+02	NA	NA	3.6E-08	E1 avg	1.0E-08	1.2E-12	9 2E-13	5 6E-13	1.6E-12	2.9E-12	1.1E-11	6 5E-12	2.9E-12
Dioxin TEQ				7.01E-08		2.0E-08	2.4E-12	1.8E-12	1.1E-12	3.2E-12	5 6E-12	2.1E-11	1.3E-11	5.6E-12
Aluminum	NA	NA	NA	2.4E-04	E1 avg	7.0E-05	8.2E-09	6.1E-09	3.7E-09	1.1E-08	1.9E-08	7.1E-08	4 3E-08	1 9E-08
Antimony	NA	0.00035	1 0E-04	4.2E-06	E1 avg	1 2E-06	1.4E-10	1.1E-10	6.5E-11	1 9E-10	3 3E-10	1.2E-09	7.5E-10	3 3E-10
Arsenic	50	0.000263	7.5E-05	3 7E-05	E1 avg	1.1E-05	1.3E-09	9.4E-10	5.7E-10	1.7E-09	2 9E-09	1.1E-08	6 6E-09	2 9E-09
Barium	NA	0.000125	3.6E-05	1.5E-04	E1 avg	4 4E-05	5.1E-09	3.8E-09	2.3E-09	6.8E-09	1.2E-08	4.5E-08	2.7E-08	1.2E-08
Beryllium	8.4	0.004375	1 3E-03	3 3E-08	E1 avg	9.6E-09	1.1E-12	8.4E-13	5.1E-13	1 5E-12	2.6E-12	9.8E-12	5.9E-12	2.6E-12
Cadmium	6.1	0 000438	1 3E-04	1.6E-05	E1 avg	4 6E-06	5.4E-10	4.1E-10	2.5E-10	7.3E-10	1.3E-09	4.7E-09	2.9E-09	1.3E-09
Chromium (hexavalent)	41	0.004375	1 3E-03	7.1E-07	E1 avg	2.1E-07	2.4E-11	1.8E-11	1.1E-11	3.2E-11	5.6E-11	2.1E-10	1.3E-10	5.6E-11
Chromium (trivalent)	NA	0 875	2 5E-01	7.1E-07	E1 avg	2.1E-07	2.4E-11	1.8E-11	1.1E-11	3.2E-11	5.6E-11	2.1E-10	1.3E-10	5.6E-11
Copper	NA	NA	NA	9.4E-05	E1 avg	2.7E-05	3.2E-09	2.4E-09	1.4E-09	4.3E-09	7.5E-09	2.8E-08	1 7E-08	7 5E-09
Lead	NA	NA	NA	4.3E-05	E1 avg	1 2E-05	1.5E-09	1.1E-09	6.6E-10	2.0E-09	3.4E-09	1.3E-08	7 7E-09	3.4E-09
Mercury (and MeHg)	NA	0.000075	2 1E-05	1.4E-03	E1 avg	4 1E-04	4.8E-08	3.6E-08	2.2E-08	6.4E-08	1.1E-07	4.2E-07	2 5E-07	1 1E-07
Nickel	0.84	0.0175	5 0E-03	5.0E-06	E1 avg	1.5E-06	1 7E-10	1.3E-10	7.7E-11	2.3E-10	4.0E-10	1.5E-09	9.0E-10	4 0E-10
Selenium	NA	0 004375	1 3E-03	4.7E-04	E1 avg	1.4E-04	1.6E-08	1.2E-08	7.2E-09	2.1E-08	3.7E-08	1.4E-07	8.4E-08	3.7E-08
Silver	NA	0 004375	1.3E-03	1.5E-05	E1 avg	4.4E-06	5.1E-10	3.8E-10	2.3E-10	6.8E-10	1.2E-09	4.5E-09	2.7E-09	1.2E-09
Thallium	NA	0.000061	1.8E-05	3.4E-05	E1 avg	9 9E-06	1.2E-09	8.6E-10	5 2E-10	1.5E-09	2.7E-09	1.0E-08	6 1E-09	2.7E-09
Zinc	NA	0 2625	7.5E-02	1.2E-04	E1 avg	3.5E-05	4.1E-09	3.1E-09	1.8E-09	5.4E-09	9.5E-09	3.6E-08	2.2E-08	9.5E-09
Hydrogen chloride	NA	0 00175	5.0E-04	3.2E-02	E1 avg	9.3E-03	1.1E-06	8.1E-07	4.9E-07	1.5E-06	2.5E-06	9.5E-06	5 7E-06	2 5E-06
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E1 avg	7.0E-01	8 2E-05	6.2E-05	3.7E-05	1.1E-04	1.9E-04	7.2E-04	4 3E-04	1.9E-04
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E1 avg	2.6E-02	3.1E-06	2.3E-06	1.4E-06	4.1E-06	7.2E-06	2.7E-05	1.6E-05	7.2E-06
Particulate matter	NA	NA	NA	7.2E-02	E1 avg	2.1E-02	2.5E-06	1.8E-06	1.1E-06	3.3E-06	5.7E-06	2 1E-05	1 3E-05	5.7E-06
Respirable particulates	NF	NF	NF	7.2E-02	E1 avg	2.1E-02	2.5E-06	1.8E-06	1.1E-06	3.3E-06	5.7E-06	2.1E-05	1 3E-05	5.7E-06

NOTES:
NA = Not applicable
NF = Not found
NT = No toxicity information
HQ = Hazard quotient
HI = Hazard index

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TABLE 3 High-End Avg Inhalation Risks and Noncancer HQs in Subarea E1

CHEMICAL	Inhalation Slope Factor (mg/kg-d)^-1	RAC (mg/m3)	Inhalation RfD (mg/kg-d)	High-end Emission Rate (g/sec)	Subarea	Adult Cancer Risk	Child Cancer Risk	School-age Cancer Risk	Farmer Cancer Risk		Adult Noncancer HQ	Child Noncancer HQ	School-age Noncancer HQ	Farmer Noncancer HQ
1,2,3,7,8,9-HxCDF	1.5E+04	NA	NA	3.9E-10	E1 avg	2.0E-10	1.5E-10	8 9E-11	2.6E-10		NT	NT	NT	NT
1,2,3,4,6,7,8-HpCDF	1.5E+03	NA	NA	1.3E-08	E1 avg	6.6E-10	4 9E-10	3 0E-10	8.8E-10		NT	NT	NT	NT
1,2,3,4,7,8,9-HpCDF	1.5E+03	NA	NA	1.8E-09	E1 avg	9.2E-11	6.9E-11	4.1E-11	1 2E-10		NT	NT	NT	NT
OCDF	1.5E+02	NA	NA	3.6E-08	E1 avg	1.8E-10	1.4E-10	8.3E-11	2 5E-10		NT	NT	NT	NT
Dioxin TEQ				7.01E-08		6.4E-09	4.8E-09	2.9E-09	8.5E-09		NT	NT	NT	NT
Aluminum	NA	NA	NA	2.4E-04	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Antimony	NA	0.00035	1 0E-04	4.2E-06	E1 avg	NT	NT	NT	NT		3 3E-06	1.2E-05	7 5E-06	3.3E-06
Arsenic	50	0.000263	7.5E-05	3.7E-05	E1 avg	6.3E-08	4.7E-08	2.8E-08	8.4E-08		3.9E-05	1.5E-04	8.8E-05	3.9E-05
Barium	NA	0.000125	3.6E-05	1.5E-04	E1 avg	NT	NT	NT	NT		3 3E-04	1.2E-03	7.5E-04	3.3E-04
Beryllium	8.4	0.004375	1 3E-03	3.3E-08	E1 avg	9 4E-12	7.1E-12	4.3E-12	1.3E-11		2.1E-09	7.8E-09	4.7E-09	2.1E-09
Cadmium	6.1	0 000438	1 3E-04	1.6E-05	E1 avg	3.3E-09	2.5E-09	1.5E-09	4.4E-09		1.0E-05	3.8E-05	2.3E-05	1.0E-05
Chromium (hexavalent)	41	0.004375	1 3E-03	7.1E-07	E1 avg	9.9E-10	7.4E-10	4.5E-10	1.3E-09		4.5E-08	1.7E-07	1.0E-07	4 5E-08
Chromium (trivalent)	NA	0.875	2.5E-01	7.1E-07	E1 avg	NT	NT	NT	NT		2.3E-10	8.4E-10	5.1E-10	2.3E-10
Copper	NA	NA	NA	9.4E-05	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Lead	NA	NA	NA	4 3E-05	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Mercury (and MeHg)	NA	0.000075	2.1E-05	1.4E-03	E1 avg	NT	NT	NT	NT		5.2E-03	1.9E-02	1.2E-02	5.2E-03
Nickel	0.84	0.0175	5.0E-03	5.0E-06	E1 avg	1.4E-10	1.1E-10	6.5E-11	1.9E-10		7.9E-08	3.0E-07	1.8E-07	7.9E-08
Selenium	NA	0 004375	1.3E-03	4.7E-04	E1 avg	NT	NT	NT	NT		3.0E-05	1.1E-04	6.7E-05	3 0E-05
Silver	NA	0.004375	1 3E-03	1.5E-05	E1 avg	NT	NT	NT	NT		9.5E-07	3.6E-06	2.2E-06	9.5E-07
Thallium	NA	0.000061	1.8E-05	3.4E-05	E1 avg	NT	NT	NT	NT		1.5E-04	5.8E-04	3.5E-04	1.5E-04
Zinc	NA	0.2625	7.5E-02	1.2E-04	E1 avg	NT	NT	NT	NT		1.3E-07	4.7E-07	2.9E-07	1.3E-07
Hydrogen chloride	NA	0.00175	5.0E-04	3.2E-02	E1 avg	NT	NT	NT	NT		5.1E-03	1.9E-02	1.1E-02	5.1E-03
Total nitrogen oxides (NOx)	NA	NA	NA	2.4E+00	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Total sulfur oxides (SOx)	NA	NA	NA	9.1E-02	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Particulate matter	NA	NA	NA	7.2E-02	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
Respirable particulates	NF	NF	NF	7.2E-02	E1 avg	NT	NT	NT	NT		NT	NT	NT	NT
					Total Risk	1.1E-07	8.4E-08	5.1E-08	1.5E-07					
										Total HI	1.3E-02	4.7E-02	2.8E-02	1.3E-02

NOTES:
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APPENDIX V-18

Estimation of Cancer Risks and Hazard Quotients for Subsistence Fisher and Local Deer Hunter

TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	E1 avg	2.1E-16	NA	3 2E-11	NA	1.6E-15	NA	NT	NA	6 9E-16	1.0E-10	5 4E-15	NT
1,2,3,7,8-PeCDD	E1 avg	1.0E-15	NA	7.6E-11	NA	7.9E-15	NA	NT	NA	1.2E-14	8 9E-10	9 2E-14	NT
1,2,3,4,7,8-HxCDD	E1 avg	1.7E-15	NA	2 5E-11	NA	1.3E-14	NA	NT	NA	8.0E-15	1 2E-10	6 2E-14	NT
1,2,3,6,7,8-HxCDD	E1 avg	2.1E-15	NA	3.2E-11	NA	1.6E-14	NA	NT	NA	2.1E-15	3.2E-11	1.7E-14	NT
1,2,3,7,8,9-HxCDD	E1 avg	1.4E-15	NA	2.0E-11	NA	1.1E-14	NA	NT	NA	2.9E-15	4.4E-11	2.3E-14	NT
1,2,3,4,6,7,8-HpCDD	E1 avg	3.1E-15	NA	4.6E-12	NA	2.4E-14	NA	NT	NA	2.3E-14	3 5E-11	1.8E-13	NT
OCDD	E1 avg	2.4E-16	NA	3.6E-14	NA	1.9E-15	NA	NT	NA	4.2E-12	6.3E-10	3.3E-11	NT
2,3,7,8-TCDF	E1 avg	1.6E-15	NA	2.4E-11	NA	1.2E-14	NA	NT	NA	2.2E-15	3.3E-11	1.7E-14	NT
1,2,3,7,8-PeCDF	E1 avg	7.8E-15	NA	5 8E-11	NA	6.0E-14	NA	NT	NA	1.0E-14	7.7E-11	8.0E-14	NT
2,3,4,7,8-PeCDF	E1 avg	1.1E-14	NA	8 6E-10	NA	8.9E-14	NA	NT	NA	5.9E-14	4.4E-09	4 6E-13	NT
1,2,3,4,7,8-HxCDF	E1 avg	1.9E-14	NA	2.8E-10	NA	1.5E-13	NA	NT	NA	3.3E-14	5.0E-10	2.6E-13	NT
1,2,3,6,7,8-HxCDF	E1 avg	1 8E-14	NA	2.6E-10	NA	1.4E-13	NA	NT	NA	6.1E-14	9.1E-10	4.7E-13	NT
1,2,3,7,8,9-HxCDF	E1 avg	4 1E-15	NA	6 1E-11	NA	3.2E-14	NA	NT	NA	1.4E-14	2.1E-10	1.1E-13	NT
2,3,4,6,7,8-HxCDF	E1 avg	2.0E-14	NA	3.0E-10	NA	1.5E-13	NA	NT	NA	4.0E-14	6.0E-10	3.1E-13	NT
1,2,3,4,6,7,8-HpCDF	E1 avg	2 2E-14	NA	3 3E-11	NA	1.7E-13	NA	NT	NA	3.2E-14	4.8E-11	2.5E-13	NT
1,2,3,4,7,8,9-HpCDF	E1 avg	2.8E-15	NA	4.2E-12	NA	2.2E-14	NA	NT	NA	6.5E-15	9.7E-12	5.0E-14	NT
OCDF	E1 avg	9 8E-16	NA	1.5E-13	NA	7.6E-15	NA	NT	NA	3.5E-13	5.3E-11	2.7E-12	NT
Tetrachlorobiphenyl	E1 avg	1.4E-13	NA	1.1E-12	NA	1.1E-12	NA	NT	NA	1.4E-13	1.1E-12	1 1E-12	NT
Hexachlorobiphenyl	E1 avg	1 2E-11	NA	9.5E-11	NA	9.6E-11	NA	NT	NA	8.8E-14	6.8E-13	6.9E-13	NT
Heptachlorobiphenyl	E1 avg	4 8E-12	NA	3.7E-11	NA	3.8E-11	NA	NT	NA	2.7E-12	2.1E-11	2.1E-11	NT
Benzo(a)pyrene	E1 avg	2 3E-11	NA	1.7E-10	NA	1.8E-10	NA	NT	NA	1.8E-10	1.3E-09	1.4E-09	NT
Benzo(b)fluoranthene	E1 avg	9.9E-11	NA	7.2E-11	NA	7.7E-10	NA	NT	NA	1.0E-10	7.5E-11	7.9E-10	NT
Bis(2-ethylhexyl)phthalate	E1 avg	1.6E-11	NA	2 2E-13	NA	1.2E-10	NA	6 1E-09	NA	1.4E-08	2.0E-10	1 1E-07	5 6E-06
Carbon tetrachloride	E1 avg	2.3E-13	NA	3.0E-14	NA	1.8E-12	NA	2.5E-09	NA	6.2E-15	8.0E-16	4.8E-14	6 8E-11
Dibenz(a,h)anthracene	E1 avg	8.6E-10	NA	6.3E-09	NA	6.7E-09	NA	NT	NA	2.8E-11	2.0E-10	2.2E-10	NT
Di(n)octyl phthalate	E1 avg	2.6E-12	NA	NT	NA	2.0E-11	NA	1.0E-09	NA	3.9E-08	NT	3 0E-07	1.5E-05
Heptachlor	E1 avg	3 9E-13	NA	1.8E-12	NA	3.1E-12	NA	6.1E-09	NA	1.1E-13	5.0E-13	8 7E-13	1.7E-09
Hexachlorobenzene	E1 avg	2.3E-09	NA	3.7E-09	NA	1.8E-08	NA	2.3E-05	NA	5.1E-13	8.1E-13	4 0E-12	4 9E-09
Hexachlorobutadiene	E1 avg	1.6E-10	NA	1 2E-11	NA	1.2E-09	NA	6.2E-06	NA	7.6E-14	5.9E-15	5 9E-13	3.0E-09
Hexachlorocyclopentadiene	E1 avg	1.8E-13	NA	NT	NA	1.4E-12	NA	2.0E-10	NA	4.8E-15	NT	3 7E-14	5.4E-12
Hexachlorophene	E1 avg	2.1E-11	NA	NT	NA	1.6E-10	NA	5.5E-07	NA	1.1E-09	NT	8 7E-09	2.9E-05
Indeno(1,2,3-cd)pyrene	E1 avg	1 1E-09	NA	7.9E-10	NA	8.5E-09	NA	NT	NA	2.5E-11	1.9E-11	2 0E-10	NT
Antimony	E1 avg	1 6E-15	NA	NT	NA	1.3E-14	NA	3.2E-11	NA	1.2E-13	NT	9 2E-13	2 3E-09
Arsenic	E1 avg	1 6E-12	NA	2.8E-12	NA	1.2E-11	NA	4.1E-08	NA	1.9E-12	3.4E-12	1 5E-11	5.0E-08
Barium	E1 avg	2.9E-13	NA	NT	NA	2.3E-12	NA	3.3E-11	NA	6 2E-13	NT	4 8E-12	6.9E-11
Beryllium	E1 avg	8.4E-16	NA	3.6E-15	NA	6.5E-15	NA	1.3E-12	NA	9.1E-16	3.9E-15	7 1E-15	1 4E-12
Cadmium	E1 avg	3.5E-12	NA	NT	NA	2.7E-11	NA	5.4E-08	NA	6 4E-14	NT	5 0E-13	1 0E-09
Chromium (hexavalent)	E1 avg	1.5E-14	NA	NT	NA	1 2E-13	NA	2.3E-11	NA	1.1E-13	NT	8 6E-13	1.7E-10
Lead	E1 avg	9 0E-12	NA	NT	NA	7.0E-11	NA	NT	NA	4 0E-13	NT	3 1E-12	NT
Mercury	E1 avg	2.9E-09	NA	NT	NA	2.2E-08	NA	7 5E-05	NA	5 1E-12	NT	4 0E-11	1 3E-07
Mercury (methyl BCF)	E1 avg	1.6E-08	NA	NT	NA	1.3E-07	NA	4 3E-04	NA	5 1E-12	NT	4 0E-11	1.3E-07
Nickel	E1 avg	2.6E-13	NA	NT	NA	2.0E-12	NA	1 0E-10	NA	7 9E-13	NT	6 2E-12	3 1E-10
Selenium	E1 avg	4 0E-11	NA	NT	NA	3.1E-10	NA	6 3E-08	NA	3 7E-11	NT	2 9E-10	5 7E-08
Silver	E1 avg	2.9E-15	NA	NT	NA	2 3E-14	NA	4 6E-12	NA	1 5E-12	NT	1 2E-11	2 3E-09
Thallium	E1 avg	5.5E-12	NA	NT	NA	4 3E-11	NA	6 2E-07	NA	4 1E-11	NT	3 2E-10	4 6E-06
Zinc	E1 avg	1.8E-11	NA	NT	NA	1 4E-10	NA	4 8E-10	NA	8 3E-13	NT	6 4E-12	2 1E-11
DIOXIN TEQ	E1 avg			2.1E-09	NA			NT	NA		8 7E-09		NT
ORGANICS TOTAL (non-dioxin)	E1 avg			1 1E-08	NA			2 9E-05	NA		1 8E-09		5 0E-05
INORGANICS TOTAL	E1 avg			2 8E-12	NA			5 0E-04	NA		3 4E-12		4 9E-06
SUBAREA TOTAL	E1 avg			1 3E-08	NA			5 3E-04	NA		1 1E-08		5 5E-05

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TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	E2 avg	8.1E-17	NA	1.2E-11	NA	6.3E-16	NA	NT	NA	3.3E-16	5.0E-11	2.6E-15	NT
1,2,3,7,8-PeCDD	E2 avg	3.6E-16	NA	2 7E-11	NA	2.8E-15	NA	NT	NA	5 7E-15	4.3E-10	4 4E-14	NT
1,2,3,4,7,8-HxCDD	E2 avg	5.5E-16	NA	8.3E-12	NA	4.3E-15	NA	NT	NA	3 8E-15	5.7E-11	3 0E-14	NT
1,2,3,6,7,8-HxCDD	E2 avg	6.7E-16	NA	1.0E-11	NA	5.2E-15	NA	NT	NA	9 7E-16	1.5E-11	7.6E-15	NT
1,2,3,7,8,9-HxCDD	E2 avg	4.3E-16	NA	6.4E-12	NA	3.3E-15	NA	NT	NA	1.4E-15	2.1E-11	1 1E-14	NT
1,2,3,4,6,7,8-HpCDD	E2 avg	9.7E-16	NA	1.5E-12	NA	7.6E-15	NA	NT	NA	1.1E-14	1.7E-11	8.6E-14	NT
OCDD	E2 avg	7.4E-17	NA	1.1E-14	NA	5.7E-16	NA	NT	NA	2 0E-12	3.0E-10	1.6E-11	NT
2,3,7,8-TCDF	E2 avg	6.2E-16	NA	9.3E-12	NA	4.8E-15	NA	NT	NA	1 0E-15	1.6E-11	8 2E-15	NT
1,2,3,7,8-PeCDF	E2 avg	2.9E-15	NA	2.2E-11	NA	2.2E-14	NA	NT	NA	4.9E-15	3.7E-11	3.8E-14	NT
2,3,4,7,8-PeCDF	E2 avg	4.1E-15	NA	3.1E-10	NA	3.2E-14	NA	NT	NA	2 8E-14	2.1E-09	2.2E-13	NT
1,2,3,4,7,8-HxCDF	E2 avg	6.1E-15	NA	9.1E-11	NA	4.7E-14	NA	NT	NA	1 5E-14	2.3E-10	1.2E-13	NT
1,2,3,6,7,8-HxCDF	E2 avg	5.7E-15	NA	8 5E-11	NA	4.4E-14	NA	NT	NA	2.9E-14	4.3E-10	2.2E-13	NT
1,2,3,7,8,9-HxCDF	E2 avg	1.4E-15	NA	2.0E-11	NA	1.1E-14	NA	NT	NA	6.6E-15	9 8E-11	5.1E-14	NT
2,3,4,6,7,8-HxCDF	E2 avg	6.5E-15	NA	9.7E-11	NA	5.0E-14	NA	NT	NA	1.9E-14	2.8E-10	1.5E-13	NT
1,2,3,4,6,7,8-HpCDF	E2 avg	7 0E-15	NA	1 1E-11	NA	5.5E-14	NA	NT	NA	1.5E-14	2.2E-11	1.1E-13	NT
1,2,3,4,7,8,9-HpCDF	E2 avg	8 9E-16	NA	1 3E-12	NA	6.9E-15	NA	NT	NA	2 9E-15	4.4E-12	2.3E-14	NT
OCDF	E2 avg	3.0E-16	NA	4.6E-14	NA	2.4E-15	NA	NT	NA	1.7E-13	2.5E-11	1.3E-12	NT
Tetrachlorobiphenyl	E2 avg	5.7E-14	NA	4.4E-13	NA	4.4E-13	NA	NT	NA	6.5E-14	5.0E-13	5.1E-13	NT
Hexachlorobiphenyl	E2 avg	5 0E-12	NA	3 9E-11	NA	3.9E-11	NA	NT	NA	4.3E-14	3.3E-13	3.3E-13	NT
Heptachlorobiphenyl	E2 avg	2 0E-12	NA	1 5E-11	NA	1.5E-11	NA	NT	NA	1.3E-12	1.0E-11	1 0E-11	NT
Benzo(a)pyrene	E2 avg	8 8E-12	NA	6.4E-11	NA	6 8E-11	NA	NT	NA	8.4E-11	6.1E-10	6.5E-10	NT
Benzo(b)fluoranthene	E2 avg	4.0E-11	NA	2.9E-11	NA	3.1E-10	NA	NT	NA	4.9E-11	3.6E-11	3.8E-10	NT
Bis(2-ethylhexyl)phthalate	E2 avg	6 3E-12	NA	8 8E-14	NA	4.9E-11	NA	2.4E-09	NA	7.0E-09	9.8E-11	5 4E-08	2.7E-06
Carbon tetrachloride	E2 avg	9 3E-14	NA	1.2E-14	NA	7.2E-13	NA	1.0E-09	NA	3.0E-15	3.9E-16	2 3E-14	3.3E-11
Dibenz(a,h)anthracene	E2 avg	4.3E-10	NA	3.1E-09	NA	3.3E-09	NA	NT	NA	8.7E-12	6.4E-11	6.8E-11	NT
Di(n)octyl phthalate	E2 avg	1.1E-12	NA	NT	NA	8.3E-12	NA	4.1E-10	NA	1.9E-08	NT	1.5E-07	7.3E-06
Heptachlor	E2 avg	1.6E-13	NA	7.2E-13	NA	1.3E-12	NA	2.5E-09	NA	5.4E-14	2.4E-13	4.2E-13	8.4E-10
Hexachlorobenzene	E2 avg	9.5E-10	NA	1.5E-09	NA	7.4E-09	NA	9.2E-06	NA	2.5E-13	3.9E-13	1 9E-12	2.4E-09
Hexachlorobutadiene	E2 avg	6.5E-11	NA	5.1E-12	NA	5.1E-10	NA	2.5E-06	NA	3.7E-14	2.9E-15	2.8E-13	1.4E-09
Hexachlorocyclopentadiene	E2 avg	7.5E-14	NA	NT	NA	5.9E-13	NA	8.4E-11	NA	2.3E-15	NT	1 8E-14	2 6E-12
Hexachlorophene	E2 avg	7.3E-12	NA	NT	NA	5.7E-11	NA	1.9E-07	NA	3 5E-10	NT	2 8E-09	9.2E-06
Indeno(1,2,3-cd)pyrene	E2 avg	5.3E-10	NA	3.9E-10	NA	4.2E-09	NA	NT	NA	8 0E-12	5.9E-12	6 2E-11	NT
Antimony	E2 avg	5.3E-16	NA	NT	NA	4.1E-15	NA	1.0E-11	NA	3 7E-14	NT	2 9E-13	7.3E-10
Arsenic	E2 avg	4.9E-13	NA	8.6E-13	NA	3.8E-12	NA	1.3E-08	NA	6 1E-13	1.1E-12	4 8E-12	1.6E-08
Barium	E2 avg	9.4E-14	NA	NT	NA	7.3E-13	NA	1.0E-11	NA	2 0E-13	NT	1.5E-12	2 2E-11
Beryllium	E2 avg	2.6E-16	NA	1.1E-15	NA	2.0E-15	NA	4.1E-13	NA	2 9E-16	1 2E-15	2 3E-15	4.5E-13
Cadmium	E2 avg	1.2E-12	NA	NT	NA	9.7E-12	NA	1.9E-08	NA	2 1E-14	NT	1 6E-13	3.2E-10
Chromium (hexavalent)	E2 avg	4.6E-15	NA	NT	NA	3.6E-14	NA	7.2E-12	NA	3 5E-14	NT	2 7E-13	5.5E-11
Lead	E2 avg	2.8E-12	NA	NT	NA	2.2E-11	NA	NT	NA	1 3E-13	NT	9 8E-13	NT
Mercury	E2 avg	1.2E-09	NA	NT	NA	9.1E-09	NA	3 0E-05	NA	2 5E-12	NT	1 9E-11	6 4E-08
Mercury (methyl BCF)	E2 avg	6.7E-09	NA	NT	NA	5.2E-08	NA	1 7E-04	NA	2 5E-12	NT	1 9E-11	6 4E-08
Nickel	E2 avg	8.2E-14	NA	NT	NA	6 4E-13	NA	3 2E-11	NA	2 5E-13	NT	2 0E-12	9 8E-11
Selenium	E2 avg	1.3E-11	NA	NT	NA	9 8E-11	NA	2 0E-08	NA	1 2E-11	NT	9 1E-11	1 8E-08
Silver	E2 avg	9.4E-16	NA	NT	NA	7.3E-15	NA	1 5E-12	NA	4 7E-13	NT	3 7E-12	7.3E-10
Thallium	E2 avg	1.7E-12	NA	NT	NA	1.3E-11	NA	1 9E-07	NA	1 3E-11	NT	1 0E-10	1 4E-06
Zinc	E2 avg	5.9E-12	NA	NT	NA	4.6E-11	NA	1.5E-10	NA	2 6E-13	NT	2 0E-12	6 7E-12
DIOXIN TEQ	E2 avg			7.1E-10	NA			NT	NA		4 2E-09		NT
ORGANICS TOTAL (non-dioxin)	E2 avg			5 2E-09	NA			1 2E-05	NA		8 3E-10		1 9E-05
INORGANICS TOTAL	E2 avg			8.7E-13	NA			2 0E-04	NA		1 1E-12		1 6E-06
SUBAREA TOTAL	E2 avg			5 9E-09	NA			2 2E-04	NA		5 0E-09		2 1E-05

TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	E3 avg	2.4E-17	NA	3.6E-12	NA	1.9E-16	NA	NT	NA	1.4E-16	2.1E-11	1 1E-15	NT
1,2,3,7,8-PeCDD	E3 avg	1.1E-16	NA	8.2E-12	NA	8.5E-16	NA	NT	NA	2.4E-15	1 8E-10	1 9E-14	NT
1,2,3,4,7,8-HxCDD	E3 avg	1.7E-16	NA	2.5E-12	NA	1.3E-15	NA	NT	NA	1.6E-15	2 5E-11	1.3E-14	NT
1,2,3,6,7,8-HxCDD	E3 avg	2.0E-16	NA	3.1E-12	NA	1.6E-15	NA	NT	NA	4.2E-16	6 3E-12	3.2E-15	NT
1,2,3,7,8,9-HxCDD	E3 avg	1.3E-16	NA	1.9E-12	NA	1.0E-15	NA	NT	NA	5.9E-16	8 8E-12	4.6E-15	NT
1,2,3,4,6,7,8-HpCDD	E3 avg	2.9E-16	NA	4.4E-13	NA	2.3E-15	NA	NT	NA	4.8E-15	7.1E-12	3.7E-14	NT
OCDD	E3 avg	2.2E-17	NA	3.4E-15	NA	1.7E-16	NA	NT	NA	8.7E-13	1.3E-10	6 6E-12	NT
2,3,7,8-TCDF	E3 avg	1.9E-16	NA	2.8E-12	NA	1.5E-15	NA	NT	NA	4.5E-16	6.7E-12	3 5E-15	NT
1,2,3,7,8-PeCDF	E3 avg	8.7E-16	NA	6.5E-12	NA	6.7E-15	NA	NT	NA	2.1E-15	1.6E-11	1.6E-14	NT
2,3,4,7,8-PeCDF	E3 avg	1.2E-15	NA	9.3E-11	NA	9.7E-15	NA	NT	NA	1.2E-14	9.1E-10	9.5E-14	NT
1,2,3,4,7,8-HxCDF	E3 avg	1.8E-15	NA	2.8E-11	NA	1.4E-14	NA	NT	NA	6.6E-15	9 9E-11	5 1E-14	NT
1,2,3,6,7,8-HxCDF	E3 avg	1.7E-15	NA	2.6E-11	NA	1.3E-14	NA	NT	NA	1.2E-14	1.9E-10	9 6E-14	NT
1,2,3,7,8,9-HxCDF	E3 avg	4.1E-16	NA	6.2E-12	NA	3.2E-15	NA	NT	NA	2.8E-15	4.2E-11	2.2E-14	NT
2,3,4,6,7,8-HxCDF	E3 avg	2.0E-15	NA	2.9E-11	NA	1.5E-14	NA	NT	NA	8.1E-15	1 2E-10	6 3E-14	NT
1,2,3,4,6,7,8-HpCDF	E3 avg	2.1E-15	NA	3.2E-12	NA	1.7E-14	NA	NT	NA	6.3E-15	9.5E-12	4.9E-14	NT
1,2,3,4,7,8,9-HpCDF	E3 avg	2.7E-16	NA	4.1E-13	NA	2.1E-15	NA	NT	NA	1.2E-15	1.9E-12	9 7E-15	NT
OCDF	E3 avg	9 2E-17	NA	1.4E-14	NA	7.2E-16	NA	NT	NA	7.2E-14	1.1E-11	5 6E-13	NT
Tetrachlorobiphenyl	E3 avg	1.7E-14	NA	1.3E-13	NA	1.3E-13	NA	NT	NA	2.8E-14	2.2E-13	2 2E-13	NT
Hexachlorobiphenyl	E3 avg	1.5E-12	NA	1 2E-11	NA	1.2E-11	NA	NT	NA	1.8E-14	1.4E-13	1.4E-13	NT
Heptachlorobiphenyl	E3 avg	5 9E-13	NA	4.5E-12	NA	4.6E-12	NA	NT	NA	5.6E-13	4.3E-12	4.4E-12	NT
Benzo(a)pyrene	E3 avg	2.8E-12	NA	2.0E-11	NA	2.2E-11	NA	NT	NA	3.6E-11	2.6E-10	2.8E-10	NT
Benzo(b)fluoranthene	E3 avg	1.2E-11	NA	8.8E-12	NA	9.4E-11	NA	NT	NA	2.1E-11	1.5E-11	1.6E-10	NT
Bis(2-ethylhexyl)phthalate	E3 avg	2.1E-12	NA	2.9E-14	NA	1.6E-11	NA	8.2E-10	NA	3.0E-09	4.2E-11	2.3E-08	1.2E-06
Carbon tetrachloride	E3 avg	2.8E-14	NA	3.6E-15	NA	2 2E-13	NA	3.1E-10	NA	1.3E-15	1.7E-16	9 9E-15	1.4E-11
Dibenz(a,h)anthracene	E3 avg	1.3E-10	NA	9.7E-10	NA	1.0E-09	NA	NT	NA	3.7E-12	2.7E-11	2.9E-11	NT
Di(n)octyl phthalate	E3 avg	3.2E-13	NA	NT	NA	2.5E-12	NA	1.2E-10	NA	8.1E-09	NT	6 3E-08	3.1E-06
Heptachlor	E3 avg	4.8E-14	NA	2.2E-13	NA	3.8E-13	NA	7.5E-10	NA	2.3E-14	1.0E-13	1 8E-13	3.6E-10
Hexachlorobenzene	E3 avg	2.9E-10	NA	4.6E-10	NA	2.2E-09	NA	2.8E-06	NA	1.1E-13	1.7E-13	8.2E-13	1.0E-09
Hexachlorobutadiene	E3 avg	2.0E-11	NA	1.5E-12	NA	1.5E-10	NA	7.6E-07	NA	1.6E-14	1.2E-15	1 2E-13	6.1E-10
Hexachlorocyclopentadiene	E3 avg	2.3E-14	NA	NT	NA	1.8E-13	NA	2.5E-11	NA	1.0E-15	NT	7.7E-15	1.1E-12
Hexachlorophene	E3 avg	2.3E-12	NA	NT	NA	1.8E-11	NA	6.1E-08	NA	1.5E-10	NT	1 2E-09	3.9E-06
Indeno(1,2,3-cd)pyrene	E3 avg	1.7E-10	NA	1.2E-10	NA	1.3E-09	NA	NT	NA	3 4E-12	2.5E-12	2 6E-11	NT
Antimony	E3 avg	1.7E-16	NA	NT	NA	1.3E-15	NA	3.3E-12	NA	1.7E-14	NT	1 3E-13	3.3E-10
Arsenic	E3 avg	1.6E-13	NA	2.8E-13	NA	1.2E-12	NA	4.1E-09	NA	2.8E-13	4.9E-13	2 2E-12	7.3E-09
Barium	E3 avg	3.0E-14	NA	NT	NA	2.3E-13	NA	3.3E-12	NA	9.0E-14	NT	7 0E-13	1.0E-11
Beryllium	E3 avg	8.3E-17	NA	3.6E-16	NA	6.5E-16	NA	1 3E-13	NA	1 3E-16	5.7E-16	1 0E-15	2.1E-13
Cadmium	E3 avg	4.2E-13	NA	NT	NA	3.3E-12	NA	6.5E-09	NA	9 4E-15	NT	7 3E-14	1 5E-10
Chromium (hexavalent)	E3 avg	1 5E-15	NA	NT	NA	1.1E-14	NA	2 3E-12	NA	1 6E-14	NT	1 3E-13	2.5E-11
Lead	E3 avg	8.9E-13	NA	NT	NA	7.0E-12	NA	NT	NA	5 7E-14	NT	4 5E-13	NT
Mercury	E3 avg	3.5E-10	NA	NT	NA	2 7E-09	NA	9 1E-06	NA	1 1E-12	NT	8 2E-12	2.7E-08
Mercury (methyl BCF)	E3 avg	2.0E-09	NA	NT	NA	1 6E-08	NA	5 2E-05	NA	1 1E-12	NT	8 2E-12	2 7E-08
Nickel	E3 avg	2 6E-14	NA	NT	NA	2 0E-13	NA	1 0E-11	NA	1 2E-13	NT	9 0E-13	4 5E-11
Selenium	E3 avg	4 0E-12	NA	NT	NA	3.1E-11	NA	6 2E-09	NA	5 4E-12	NT	4 2E-11	8 3E-09
Silver	E3 avg	3 0E-16	NA	NT	NA	2 4E-15	NA	4 7E-13	NA	2 1E-13	NT	1 7E-12	3 3E-10
Thallium	E3 avg	5 5E-13	NA	NT	NA	4 3E-12	NA	6 1E-08	NA	5 9E-12	NT	4 6E-11	6 6E-07
Zinc	E3 avg	1.9E-12	NA	NT	NA	1 5E-11	NA	4 9E-11	NA	1 2E-13	NT	9 2E-13	3 1E-12
DIOXIN TEQ	E3 avg			2 1E-10	NA			NT	NA		1 8E-09		NT
ORGANICS TOTAL (non-dioxin)	E3 avg			1 6E-09	NA			3 6E-06	NA		3 5E-10		8 2E-06
INORGANICS TOTAL	E3 avg			2 8E-13	NA			6 1E-05	NA		4 9E-13		7 3E-07
SUBAREA TOTAL	E3 avg			1 8E-09	NA			6 5E-05	NA		2 1E-09		8 9E-06

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TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.3E-16	5.0E-11	2.6E-15	NT
1,2,3,7,8-PeCDD	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.7E-15	4.3E-10	4.4E-14	NT
1,2,3,4,7,8-HxCDD	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.9E-15	5.8E-11	3.0E-14	NT
1,2,3,6,7,8-HxCDD	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.0E-15	1.5E-11	8.0E-15	NT
1,2,3,7,8,9-HxCDD	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-15	2.1E-11	1.1E-14	NT
1,2,3,4,6,7,8-HpCDD	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-14	1.7E-11	8.7E-14	NT
OCDD	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.0E-12	3.0E-10	1.6E-11	NT
2,3,7,8-TCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-15	1.6E-11	8.2E-15	NT
1,2,3,7,8-PeCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.0E-15	3.7E-11	3.9E-14	NT
2,3,4,7,8-PeCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-14	2.1E-09	2.2E-13	NT
1,2,3,4,7,8-HxCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.6E-14	2.4E-10	1.2E-13	NT
1,2,3,6,7,8-HxCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-14	4.4E-10	2.3E-13	NT
1,2,3,7,8,9-HxCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.7E-15	1.0E-10	5.2E-14	NT
2,3,4,6,7,8-HxCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-14	2.9E-10	1.5E-13	NT
1,2,3,4,6,7,8-HpCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-14	2.3E-11	1.2E-13	NT
1,2,3,4,7,8,9-HpCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.1E-15	4.7E-12	2.4E-14	NT
OCDF	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.7E-13	2.5E-11	1.3E-12	NT
Tetrachlorobiphenyl	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.6E-14	5.1E-13	5.2E-13	NT
Hexachlorobiphenyl	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.3E-14	3.3E-13	3.3E-13	NT
Heptachlorobiphenyl	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-12	1.0E-11	1.0E-11	NT
Benzo(a)pyrene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.5E-11	6.2E-10	6.6E-10	NT
Benzo(b)fluoranthene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.9E-11	3.6E-11	3.8E-10	NT
Bis(2-ethylhexyl)phthalate	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.0E-09	9.8E-11	5.4E-08	2.7E-06
Carbon tetrachloride	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.0E-15	3.9E-16	2.3E-14	3.3E-11
Dibenz(a,h)anthracene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-11	1.0E-10	1.1E-10	NT
Di(n)octyl phthalate	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-08	NT	1.5E-07	7.3E-06
Heptachlor	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.4E-14	2.4E-13	4.2E-13	8.4E-10
Hexachlorobenzene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.5E-13	3.9E-13	1.9E-12	2.4E-09
Hexachlorobutadiene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.7E-14	2.9E-15	2.8E-13	1.4E-09
Hexachlorocyclopentadiene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.3E-15	NT	1.8E-14	2.6E-12
Hexachlorophene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.6E-10	NT	4.4E-09	1.5E-05
Indeno(1,2,3-cd)pyrene	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-11	9.3E-12	9.9E-11	NT
Antimony	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.9E-14	NT	4.6E-13	1.1E-09
Arsenic	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.6E-13	1.7E-12	7.5E-12	2.5E-08
Barium	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.1E-13	NT	2.4E-12	3.4E-11
Beryllium	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.5E-16	2.0E-15	3.5E-15	7.1E-13
Cadmium	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.2E-14	NT	2.5E-13	5.0E-10
Chromium (hexavalent)	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.5E-14	NT	4.3E-13	8.6E-11
Lead	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.0E-13	NT	1.5E-12	NT
Mercury	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.5E-12	NT	1.9E-11	6.4E-08
Mercury (methyl BCF)	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.5E-12	NT	1.9E-11	6.4E-08
Nickel	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.9E-13	NT	3.1E-12	1.5E-10
Selenium	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.8E-11	NT	1.4E-10	2.9E-08
Silver	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.4E-13	NT	5.8E-12	1.2E-09
Thallium	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.0E-11	NT	1.6E-10	2.3E-06
Zinc	N1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.2E-13	NT	3.2E-12	1.1E-11
DIOXIN TEQ	N1 avg			NA	NA			NA	NA		4.2E-09		NT
ORGANICS TOTAL (non-dioxin)	N1 avg			NA	NA			NA	NA		8.8E-10		2.5E-05
INORGANICS TOTAL	N1 avg			NA	NA			NA	NA		1.7E-12		2.5E-06
SUBAREA TOTAL	N1 avg			NA	NA			NA	NA		5.1E-09		2.7E-05

TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	N2 avg	1.3E-16	NA	1.9E-11	NA	9 8E-16	NA	NT	NA	1.3E-16	2.0E-11	1 0E-15	NT
1,2,3,7,8-PeCDD	N2 avg	6.0E-16	NA	4 5E-11	NA	4.7E-15	NA	NT	NA	2.2E-15	1.7E-10	1 7E-14	NT
1,2,3,4,7,8-HxCDD	N2 avg	3.3E-16	NA	4.9E-12	NA	2.5E-15	NA	NT	NA	1.5E-15	2.3E-11	1 2E-14	NT
1,2,3,6,7,8-HxCDD	N2 avg	5.6E-16	NA	8.4E-12	NA	4 3E-15	NA	NT	NA	3.9E-16	5 9E-12	3 1E-15	NT
1,2,3,7,8,9-HxCDD	N2 avg	3.6E-16	NA	5.4E-12	NA	2.8E-15	NA	NT	NA	5.5E-16	8.2E-12	4 3E-15	NT
1,2,3,4,6,7,8-HpCDD	N2 avg	5 3E-16	NA	7.9E-13	NA	4.1E-15	NA	NT	NA	4.4E-15	6.6E-12	3 4E-14	NT
OCDD	N2 avg	5 0E-17	NA	7.5E-15	NA	3.9E-16	NA	NT	NA	8.0E-13	1.2E-10	6.2E-12	NT
2,3,7,8-TCDF	N2 avg	1.1E-15	NA	1 7E-11	NA	8 6E-15	NA	NT	NA	4.1E-16	6.2E-12	3.2E-15	NT
1,2,3,7,8-PeCDF	N2 avg	3.7E-15	NA	2.8E-11	NA	2.9E-14	NA	NT	NA	1.9E-15	1.5E-11	1.5E-14	NT
2,3,4,7,8-PeCDF	N2 avg	4.7E-15	NA	3 5E-10	NA	3.6E-14	NA	NT	NA	1.1E-14	8.4E-10	8.7E-14	NT
1,2,3,4,7,8-HxCDF	N2 avg	5 0E-15	NA	7 5E-11	NA	3 9E-14	NA	NT	NA	6.2E-15	9.2E-11	4.8E-14	NT
1,2,3,6,7,8-HxCDF	N2 avg	4.7E-15	NA	7.0E-11	NA	3 6E-14	NA	NT	NA	1.1E-14	1.7E-10	8.9E-14	NT
1,2,3,7,8,9-HxCDF	N2 avg	1.1E-15	NA	1 6E-11	NA	8.5E-15	NA	NT	NA	2.6E-15	3.9E-11	2.0E-14	NT
2,3,4,6,7,8-HxCDF	N2 avg	5.3E-15	NA	7.9E-11	NA	4.1E-14	NA	NT	NA	7.5E-15	1.1E-10	5.8E-14	NT
1,2,3,4,6,7,8-HpCDF	N2 avg	4.1E-15	NA	6 1E-12	NA	3.2E-14	NA	NT	NA	5.9E-15	8.9E-12	4 6E-14	NT
1,2,3,4,7,8,9-HpCDF	N2 avg	5.2E-16	NA	7 8E-13	NA	4.0E-15	NA	NT	NA	1 2E-15	1.8E-12	9.2E-15	NT
OCDF	N2 avg	1.6E-16	NA	2 4E-14	NA	1 2E-15	NA	NT	NA	6.6E-14	1.0E-11	5.2E-13	NT
Tetrachlorobiphenyl	N2 avg	3 7E-13	NA	2.8E-12	NA	2.9E-12	NA	NT	NA	2.6E-14	2.0E-13	2.0E-13	NT
Hexachlorobiphenyl	N2 avg	6.7E-12	NA	5.2E-11	NA	5.2E-11	NA	NT	NA	1.7E-14	1.3E-13	1 3E-13	NT
Heptachlorobiphenyl	N2 avg	4.4E-12	NA	3 4E-11	NA	3 4E-11	NA	NT	NA	5.1E-13	4.0E-12	4 0E-12	NT
Benzo(a)pyrene	N2 avg	8.4E-12	NA	6.2E-11	NA	6.6E-11	NA	NT	NA	3.3E-11	2.4E-10	2 6E-10	NT
Benzo(b)fluoranthene	N2 avg	1.5E-10	NA	1.1E-10	NA	1.2E-09	NA	NT	NA	1.9E-11	1.4E-11	1.5E-10	NT
Bis(2-ethylhexyl)phthalate	N2 avg	1 8E-12	NA	2.5E-14	NA	1.4E-11	NA	6.9E-10	NA	2.7E-09	3.8E-11	2.1E-08	1.1E-06
Carbon tetrachloride	N2 avg	7.0E-13	NA	9.1E-14	NA	5.4E-12	NA	7.7E-09	NA	1.2E-15	1.5E-16	9.1E-15	1.3E-11
Dibenz(a,h)anthracene	N2 avg	8.4E-10	NA	6.2E-09	NA	6.6E-09	NA	NT	NA	4.4E-12	3.2E-11	3.4E-11	NT
Di(n)octyl phthalate	N2 avg	7.6E-12	NA	NT	NA	5.9E-11	NA	2.9E-09	NA	7.4E-09	NT	5.8E-08	2.9E-06
Heptachlor	N2 avg	1.1E-12	NA	5.1E-12	NA	8.9E-12	NA	1.8E-08	NA	2.1E-14	9.6E-14	1 7E-13	3 3E-10
Hexachlorobenzene	N2 avg	7.0E-09	NA	1.1E-08	NA	5.5E-08	NA	6.8E-05	NA	9.6E-14	1.5E-13	7.5E-13	9.4E-10
Hexachlorobutadiene	N2 avg	4.8E-10	NA	3.8E-11	NA	3.8E-09	NA	1.9E-05	NA	1.4E-14	1.1E-15	1.1E-13	5.6E-10
Hexachlorocyclopentadiene	N2 avg	5.6E-13	NA	NT	NA	4.4E-12	NA	6.2E-10	NA	9.1E-16	NT	7.1E-15	1.0E-12
Hexachlorophene	N2 avg	3.8E-11	NA	NT	NA	3.0E-10	NA	9.9E-07	NA	1.8E-10	NT	1 4E-09	4.6E-06
Indeno(1,2,3-cd)pyrene	N2 avg	1.1E-09	NA	8.1E-10	NA	8.7E-09	NA	NT	NA	4.0E-12	2.9E-12	3.1E-11	NT
Antimony	N2 avg	4 6E-15	NA	NT	NA	3.6E-14	NA	9.0E-11	NA	1.9E-14	NT	1 5E-13	3 6E-10
Arsenic	N2 avg	4 6E-12	NA	8.1E-12	NA	3.6E-11	NA	1.2E-07	NA	3.1E-13	5.4E-13	2.4E-12	7.9E-09
Barium	N2 avg	8.4E-13	NA	NT	NA	6.5E-12	NA	9.3E-11	NA	9.9E-14	NT	7 7E-13	1.1E-11
Beryllium	N2 avg	2.4E-15	NA	1.0E-14	NA	1.9E-14	NA	3.8E-12	NA	1.4E-16	6.2E-16	1 1E-15	2 3E-13
Cadmium	N2 avg	7 5E-12	NA	NT	NA	5.8E-11	NA	1.2E-07	NA	1 0E-14	NT	8 0E-14	1.6E-10
Chromium (hexavalent)	N2 avg	4.3E-14	NA	NT	NA	3.3E-13	NA	6 6E-11	NA	1 8E-14	NT	1 4E-13	2.7E-11
Lead	N2 avg	2.6E-11	NA	NT	NA	2 0E-10	NA	NT	NA	6 3E-14	NT	4 9E-13	NT
Mercury	N2 avg	8.8E-09	NA	NT	NA	6 9E-08	NA	2 3E-04	NA	9 7E-13	NT	7 5E-12	2 5E-08
Mercury (methyl BCF)	N2 avg	5.1E-08	NA	NT	NA	3 9E-07	NA	1 3E-03	NA	9 7E-13	NT	7 5E-12	2 5E-08
Nickel	N2 avg	7.7E-13	NA	NT	NA	6 0E-12	NA	3 0E-10	NA	1.3E-13	NT	9 8E-13	4 9E-11
Selenium	N2 avg	1.2E-10	NA	NT	NA	9 2E-10	NA	1 8E-07	NA	5 9E-12	NT	4 6E-11	9 1E-09
Silver	N2 avg	8 2E-15	NA	NT	NA	6 4E-14	NA	1 3E-11	NA	2 4E-13	NT	1 8E-12	3 7E-10
Thallium	N2 avg	1 6E-11	NA	NT	NA	1 2E-10	NA	1 7E-06	NA	6 5E-12	NT	5 1E-11	7 2E-07
Zinc	N2 avg	5.1E-11	NA	NT	NA	4.0E-10	NA	1 3E-09	NA	1 3E-13	NT	1 0E-12	3.4E-12
DIOXIN TEQ	N2 avg			7.2E-10	NA			NT	NA		1 6E-09		NT
ORGANICS TOTAL (non-dioxin)	N2 avg			1 8E-08	NA			8 8E-05	NA		3 3E-10		8 5E-06
INORGANICS TOTAL	N2 avg			8 1E-12	NA			1 5E-03	NA		5 4E-13		7 9E-07
SUBAREA TOTAL	N2 avg			1.9E-08	NA			1 6E-03	NA		2 0E-09		9 3E-06

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TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.7E-17	8.6E-12	4 4E-16	NT
1,2,3,7,8-PeCDD	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.8E-16	7.3E-11	7.6E-15	NT
1,2,3,4,7,8-HxCDD	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.6E-16	9 9E-12	5.1E-15	NT
1,2,3,6,7,8-HxCDD	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.7E-16	2.6E-12	1.3E-15	NT
1,2,3,7,8,9-HxCDD	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.4E-16	3.6E-12	1 9E-15	NT
1,2,3,4,6,7,8-HpCDD	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1 9E-15	2.9E-12	1 5E-14	NT
OCDD	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.5E-13	5.2E-11	2.7E-12	NT
2,3,7,8-TCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1 8E-16	2.7E-12	1.4E-15	NT
1,2,3,7,8-PeCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.5E-16	6.4E-12	6.6E-15	NT
2,3,4,7,8-PeCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	4 9E-15	3.7E-10	3.8E-14	NT
1,2,3,4,7,8-HxCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-15	4.1E-11	2.1E-14	NT
1,2,3,6,7,8-HxCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.0E-15	7.5E-11	3 9E-14	NT
1,2,3,7,8,9-HxCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-15	1.7E-11	8.8E-15	NT
2,3,4,6,7,8-HxCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.3E-15	4.9E-11	2.6E-14	NT
1,2,3,4,6,7,8-HpCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.6E-15	3.9E-12	2.0E-14	NT
1,2,3,4,7,8,9-HpCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.2E-16	7.8E-13	4.1E-15	NT
OCDF	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-14	4.3E-12	2.3E-13	NT
Tetrachlorobiphenyl	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-14	8.7E-14	8.8E-14	NT
Hexachlorobiphenyl	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.3E-15	5.6E-14	5.7E-14	NT
Heptachlorobiphenyl	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.2E-13	1.7E-12	1.7E-12	NT
Benzo(a)pyrene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-11	1.1E-10	1 1E-10	NT
Benzo(b)fluoranthene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.5E-12	6.2E-12	6.6E-11	NT
Bis(2-ethylhexyl)phthalate	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-09	1.7E-11	9.3E-09	4.7E-07
Carbon tetrachloride	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.1E-16	8.6E-17	4.0E-15	5.7E-12
Dibenz(a,h)anthracene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.0E-12	1.5E-11	1 6E-11	NT
Di(n)octyl phthalate	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.2E-09	NT	2.5E-08	1.3E-06
Heptachlor	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.3E-15	4.2E-14	7 2E-14	1.4E-10
Hexachlorobenzene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.2E-14	6.7E-14	3.3E-13	4.1E-10
Hexachlorobutadiene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.3E-15	4.9E-16	4.9E-14	2.4E-10
Hexachlorocyclopentadiene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	4 0E-16	NT	3.1E-15	4.4E-13
Hexachlorophene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.2E-11	NT	6 4E-10	2.1E-06
Indeno(1,2,3-cd)pyrene	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-12	1.4E-12	1.4E-11	NT
Antimony	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.8E-15	NT	7.6E-14	1.9E-10
Arsenic	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.6E-13	2.8E-13	1.2E-12	4.1E-09
Barium	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.1E-14	NT	4 0E-13	5.7E-12
Beryllium	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	7 5E-17	3.2E-16	5 9E-16	1.2E-13
Cadmium	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	5 3E-15	NT	4.1E-14	8.3E-11
Chromium (hexavalent)	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.2E-15	NT	7 2E-14	1.4E-11
Lead	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.3E-14	NT	2 6E-13	NT
Mercury	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	4 2E-13	NT	3.3E-12	1.1E-08
Mercury (methyl BCF)	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	4 2E-13	NT	3 3E-12	1 1E-08
Nickel	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	6 6E-14	NT	5 1E-13	2 5E-11
Selenium	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	3 0E-12	NT	2 4E-11	4 7E-09
Silver	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	1 2E-13	NT	9 6E-13	1 9E-10
Thallium	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	3 4E-12	NT	2 6E-11	3 8E-07
Zinc	N3 avg	NA	NA	NA	NA	NA	NA	NA	NA	6 9E-14	NT	5.4E-13	1 8E-12
DIOXIN TEQ	N3 avg			NA	NA			NA	NA		7 2E-10		NT
ORGANICS TOTAL (non-dioxin)	N3 avg			NA	NA			NA	NA		1 5E-10		3 9E-06
INORGANICS TOTAL	N3 avg			NA	NA			NA	NA		2 8E-13		4 1E-07
SUBAREA TOTAL	N3 avg			NA	NA			NA	NA		8 7E-10		4 3E-06

TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	S1 avg	2.7E-16	NA	4 0E-11	NA	2.1E-15	NA	NT	NA	3 3E-16	5.0E-11	2.6E-15	NT
1,2,3,7,8-PeCDD	S1 avg	1.3E-15	NA	9 7E-11	NA	1 0E-14	NA	NT	NA	5 7E-15	4.3E-10	4 4E-14	NT
1,2,3,4,7,8-HxCDD	S1 avg	2.1E-15	NA	3 2E-11	NA	1 7E-14	NA	NT	NA	3 8E-15	5.7E-11	3 0E-14	NT
1,2,3,6,7,8-HxCDD	S1 avg	2.7E-15	NA	4 0E-11	NA	2.1E-14	NA	NT	NA	9.9E-16	1.5E-11	7 7E-15	NT
1,2,3,7,8,9-HxCDD	S1 avg	1.7E-15	NA	2 6E-11	NA	1.3E-14	NA	NT	NA	1.4E-15	2.1E-11	1.1E-14	NT
1,2,3,4,6,7,8-HpCDD	S1 avg	3.9E-15	NA	5 8E-12	NA	3.0E-14	NA	NT	NA	1.1E-14	1.7E-11	8.7E-14	NT
OCDD	S1 avg	3.0E-16	NA	4 5E-14	NA	2.3E-15	NA	NT	NA	2 0E-12	3.0E-10	1.6E-11	NT
2,3,7,8-TCDF	S1 avg	2 0E-15	NA	3 0E-11	NA	1 6E-14	NA	NT	NA	1.1E-15	1.6E-11	8 2E-15	NT
1,2,3,7,8-PeCDF	S1 avg	9.9E-15	NA	7.4E-11	NA	7.7E-14	NA	NT	NA	4 9E-15	3.7E-11	3.8E-14	NT
2,3,4,7,8-PeCDF	S1 avg	1.5E-14	NA	1 1E-09	NA	1.1E-13	NA	NT	NA	2.8E-14	2.1E-09	2.2E-13	NT
1,2,3,4,7,8-HxCDF	S1 avg	2.4E-14	NA	3 5E-10	NA	1.8E-13	NA	NT	NA	1.6E-14	2.3E-10	1.2E-13	NT
1,2,3,6,7,8-HxCDF	S1 avg	2.2E-14	NA	3 3E-10	NA	1 7E-13	NA	NT	NA	2.9E-14	4.3E-10	2.2E-13	NT
1,2,3,7,8,9-HxCDF	S1 avg	5.2E-15	NA	7 7E-11	NA	4.0E-14	NA	NT	NA	6.6E-15	9.9E-11	5.1E-14	NT
2,3,4,6,7,8-HxCDF	S1 avg	2.5E-14	NA	3 8E-10	NA	1.9E-13	NA	NT	NA	1.9E-14	2.9E-10	1.5E-13	NT
1,2,3,4,6,7,8-HpCDF	S1 avg	2 8E-14	NA	4 2E-11	NA	2 2E-13	NA	NT	NA	1.5E-14	2.2E-11	1.2E-13	NT
1,2,3,4,7,8,9-HpCDF	S1 avg	3.5E-15	NA	5 3E-12	NA	2 8E-14	NA	NT	NA	3.0E-15	4.4E-12	2 3E-14	NT
OCDF	S1 avg	1 2E-15	NA	1 8E-13	NA	9.6E-15	NA	NT	NA	1 7E-13	2.5E-11	1.3E-12	NT
Tetrachlorobiphenyl	S1 avg	1.8E-13	NA	1.4E-12	NA	1.4E-12	NA	NT	NA	6.6E-14	5.1E-13	5.1E-13	NT
Hexachlorobiphenyl	S1 avg	1.6E-11	NA	1.2E-10	NA	1.2E-10	NA	NT	NA	4.3E-14	3.3E-13	3.3E-13	NT
Heptachlorobiphenyl	S1 avg	6 2E-12	NA	4 8E-11	NA	4.8E-11	NA	NT	NA	1.3E-12	1.0E-11	1.0E-11	NT
Benzo(a)pyrene	S1 avg	2 9E-11	NA	2.1E-10	NA	2.3E-10	NA	NT	NA	8 4E-11	6.1E-10	6 5E-10	NT
Benzo(b)fluoranthene	S1 avg	1 3E-10	NA	9.3E-11	NA	9.9E-10	NA	NT	NA	4.9E-11	3.6E-11	3.8E-10	NT
Bis(2-ethylhexyl)phthalate	S1 avg	1.9E-11	NA	2.7E-13	NA	1.5E-10	NA	7.5E-09	NA	7.0E-09	9.8E-11	5.4E-08	2.7E-06
Carbon tetrachloride	S1 avg	2.9E-13	NA	3.8E-14	NA	2.3E-12	NA	3.2E-09	NA	3.0E-15	3.9E-16	2 3E-14	3.3E-11
Dibenz(a,h)anthracene	S1 avg	1.2E-09	NA	8 5E-09	NA	9.1E-09	NA	NT	NA	1.0E-11	7.3E-11	7.8E-11	NT
Di(n)octyl phthalate	S1 avg	3 3E-12	NA	NT	NA	2.6E-11	NA	1.3E-09	NA	1.9E-08	NT	1.5E-07	7.3E-06
Heptachlor	S1 avg	5.1E-13	NA	2.3E-12	NA	3.9E-12	NA	7.9E-09	NA	5.4E-14	2.4E-13	4 2E-13	8.4E-10
Hexachlorobenzene	S1 avg	3.0E-09	NA	4 8E-09	NA	2.3E-08	NA	2.9E-05	NA	2.5E-13	3.9E-13	1 9E-12	2.4E-09
Hexachlorobutadiene	S1 avg	2.0E-10	NA	1.6E-11	NA	1.6E-09	NA	8.0E-06	NA	3.7E-14	2.9E-15	2 8E-13	1 4E-09
Hexachlorocyclopentadiene	S1 avg	2 4E-13	NA	NT	NA	1.8E-12	NA	2.6E-10	NA	2.3E-15	NT	1 8E-14	2.6E-12
Hexachlorophene	S1 avg	2 6E-11	NA	NT	NA	2.0E-10	NA	6.7E-07	NA	4.1E-10	NT	3 2E-09	1.1E-05
Indeno(1,2,3-cd)pyrene	S1 avg	1 5E-09	NA	1 1E-09	NA	1.2E-08	NA	NT	NA	9.2E-12	6.7E-12	7 1E-11	NT
Antimony	S1 avg	2 1E-15	NA	NT	NA	1.6E-14	NA	4.0E-11	NA	4.5E-14	NT	3 5E-13	8.7E-10
Arsenic	S1 avg	2 0E-12	NA	3.5E-12	NA	1.5E-11	NA	5.2E-08	NA	7.3E-13	1.3E-12	5.7E-12	1 9E-08
Barium	S1 avg	3 7E-13	NA	NT	NA	2 9E-12	NA	4.1E-11	NA	2 4E-13	NT	1 8E-12	2 6E-11
Beryllium	S1 avg	1 1E-15	NA	4.5E-15	NA	8 2E-15	NA	1.6E-12	NA	3 5E-16	1.5E-15	2.7E-15	5 4E-13
Cadmium	S1 avg	4.4E-12	NA	NT	NA	3 4E-11	NA	6.8E-08	NA	2.4E-14	NT	1 9E-13	3 8E-10
Chromium (hexavalent)	S1 avg	1.9E-14	NA	NT	NA	1.5E-13	NA	2.9E-11	NA	4 2E-14	NT	3 3E-13	6.6E-11
Lead	S1 avg	1 1E-11	NA	NT	NA	8.9E-11	NA	NT	NA	1 5E-13	NT	1 2E-12	NT
Mercury	S1 avg	3.7E-09	NA	NT	NA	2.9E-08	NA	9.6E-05	NA	2 5E-12	NT	1 9E-11	6 4E-08
Mercury (methyl BCF)	S1 avg	2 1E-08	NA	NT	NA	1 6E-07	NA	5 5E-04	NA	2 5E-12	NT	1 9E-11	6 4E-08
Nickel	S1 avg	3 3E-13	NA	NT	NA	2 6E-12	NA	1 3E-10	NA	3 0E-13	NT	2 3E-12	1 2E-10
Selenium	S1 avg	5 1E-11	NA	NT	NA	3 9E-10	NA	7 9E-08	NA	1 4E-11	NT	1 1E-10	2 2E-08
Silver	S1 avg	3 7E-15	NA	NT	NA	2 9E-14	NA	5 7E-12	NA	5 7E-13	NT	4 4E-12	8 8E-10
Thallium	S1 avg	7 0E-12	NA	NT	NA	5 4E-11	NA	7 8E-07	NA	1 6E-11	NT	1 2E-10	1 7E-06
Zinc	S1 avg	2.3E-11	NA	NT	NA	1.8E-10	NA	6 0E-10	NA	3 2E-13	NT	2 5E-12	8 2E-12
DIOXIN TEQ	S1 avg			2 6E-09	NA			NT	NA		4 2E-09		NT
ORGANICS TOTAL (non-dioxin)	S1 avg			1 5E-08	NA			3 8E-05	NA		8 4E-10		2 1E-05
INORGANICS TOTAL	S1 avg			3 5E-12	NA			6 5E-04	NA		1 3E-12		1 9E-06
SUBAREA TOTAL	S1 avg			1 8E-08	NA			6 8E-04	NA		5 0E-09		2 2E-05

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TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-16	2.3E-11	1.2E-15	NT
1,2,3,7,8-PeCDD	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-15	2.0E-10	2.1E-14	NT
1,2,3,4,7,8-HxCDD	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.8E-15	2.7E-11	1.4E-14	NT
1,2,3,6,7,8-HxCDD	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.4E-16	6.6E-12	3.4E-15	NT
1,2,3,7,8,9-HxCDD	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.3E-16	9.5E-12	4.9E-15	NT
1,2,3,4,6,7,8-HpCDD	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.2E-15	7.8E-12	4.1E-14	NT
OCDD	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.6E-13	1.4E-10	7.4E-12	NT
2,3,7,8-TCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.9E-16	7.4E-12	3.8E-15	NT
1,2,3,7,8-PeCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.3E-15	1.7E-11	1.8E-14	NT
2,3,4,7,8-PeCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-14	1.0E-09	1.0E-13	NT
1,2,3,4,7,8-HxCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.1E-15	1.1E-10	5.5E-14	NT
1,2,3,6,7,8-HxCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-14	2.0E-10	1.0E-13	NT
1,2,3,7,8,9-HxCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.1E-15	4.6E-11	2.4E-14	NT
2,3,4,6,7,8-HxCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.8E-15	1.3E-10	6.8E-14	NT
1,2,3,4,6,7,8-HpCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.7E-15	1.0E-11	5.2E-14	NT
1,2,3,4,7,8,9-HpCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-15	2.0E-12	1.0E-14	NT
OCDF	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.9E-14	1.2E-11	6.2E-13	NT
Tetrachlorobiphenyl	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.1E-14	2.4E-13	2.4E-13	NT
Hexachlorobiphenyl	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.0E-14	1.5E-13	1.6E-13	NT
Heptachlorobiphenyl	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.2E-13	4.8E-12	4.8E-12	NT
Benzo(a)pyrene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.9E-11	2.9E-10	3.1E-10	NT
Benzo(b)fluoranthene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.3E-11	1.7E-11	1.8E-10	NT
Bis(2-ethylhexyl)phthalate	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.3E-09	4.6E-11	2.6E-08	1.3E-06
Carbon tetrachloride	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-15	1.8E-16	1.1E-14	1.6E-11
Dibenz(a,h)anthracene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-12	2.0E-11	2.1E-11	NT
Di(n)octyl phthalate	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.9E-09	NT	6.9E-08	3.5E-06
Heptachlor	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.5E-14	1.1E-13	2.0E-13	4.0E-10
Hexachlorobenzene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-13	1.8E-13	9.0E-13	1.1E-09
Hexachlorobutadiene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.7E-14	1.3E-15	1.3E-13	6.7E-10
Hexachlorocyclopentadiene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-15	NT	8.5E-15	1.2E-12
Hexachlorophene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-10	NT	8.5E-10	2.8E-06
Indeno(1,2,3-cd)pyrene	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.5E-12	1.8E-12	1.9E-11	NT
Antimony	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-14	NT	9.0E-14	2.3E-10
Arsenic	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-13	3.3E-13	1.5E-12	4.9E-09
Barium	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.1E-14	NT	4.8E-13	6.8E-12
Beryllium	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.0E-17	3.9E-16	7.0E-16	1.4E-13
Cadmium	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.4E-15	NT	5.0E-14	9.9E-11
Chromium (hexavalent)	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-14	NT	8.5E-14	1.7E-11
Lead	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.9E-14	NT	3.0E-13	NT
Mercury	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-12	NT	9.0E-12	3.0E-08
Mercury (methyl BCF)	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-12	NT	9.0E-12	3.0E-08
Nickel	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.8E-14	NT	6.1E-13	3.0E-11
Selenium	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.6E-12	NT	2.8E-11	5.7E-09
Silver	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-13	NT	1.1E-12	2.3E-10
Thallium	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.0E-12	NT	3.1E-11	4.5E-07
Zinc	S2 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.0E-14	NT	6.2E-13	2.1E-12
DIOXIN TEQ	S2 avg			NA	NA			NA	NA		1.9E-09		NT
ORGANICS TOTAL (non-dioxin)	S2 avg			NA	NA			NA	NA		3.8E-10		7.6E-06
INORGANICS TOTAL	S2 avg			NA	NA			NA	NA		3.3E-13		5.2E-07
SUBAREA TOTAL	S2 avg			NA	NA			NA	NA		2.3E-09		8.1E-06

TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	S3 avg	NA	7.2E-17	NA	1.1E-11	NA	5.6E-16	NA	NT	6 8E-17	1 0E-11	5 3E-16	NT
1,2,3,7,8-PeCDD	S3 avg	NA	2.9E-16	NA	2.2E-11	NA	2.3E-15	NA	NT	1.2E-15	8 8E-11	9.1E-15	NT
1,2,3,4,7,8-HxCDD	S3 avg	NA	1.2E-16	NA	1 8E-12	NA	9.2E-16	NA	NT	7.9E-16	1.2E-11	6 1E-15	NT
1,2,3,6,7,8-HxCDD	S3 avg	NA	2.0E-16	NA	2.9E-12	NA	1.5E-15	NA	NT	2.0E-16	2.9E-12	1.5E-15	NT
1,2,3,7,8,9-HxCDD	S3 avg	NA	1.2E-16	NA	1.8E-12	NA	9.4E-16	NA	NT	2.8E-16	4.2E-12	2 2E-15	NT
1,2,3,4,6,7,8-HpCDD	S3 avg	NA	1.7E-16	NA	2.6E-13	NA	1.4E-15	NA	NT	2.3E-15	3.4E-12	1.8E-14	NT
OCDD	S3 avg	NA	1.6E-17	NA	2.4E-15	NA	1.3E-16	NA	NT	4 2E-13	6.3E-11	3 3E-12	NT
2,3,7,8-TCDF	S3 avg	NA	6.8E-16	NA	1.0E-11	NA	5.3E-15	NA	NT	2 2E-16	3.3E-12	1.7E-15	NT
1,2,3,7,8-PeCDF	S3 avg	NA	2.0E-15	NA	1.5E-11	NA	1.5E-14	NA	NT	1.0E-15	7.6E-12	7.9E-15	NT
2,3,4,7,8-PeCDF	S3 avg	NA	2.2E-15	NA	1.7E-10	NA	1.7E-14	NA	NT	5.9E-15	4 4E-10	4.6E-14	NT
1,2,3,4,7,8-HxCDF	S3 avg	NA	1 8E-15	NA	2.7E-11	NA	1.4E-14	NA	NT	3.1E-15	4.7E-11	2.4E-14	NT
1,2,3,6,7,8-HxCDF	S3 avg	NA	1.7E-15	NA	2.5E-11	NA	1.3E-14	NA	NT	5.9E-15	8.9E-11	4 6E-14	NT
1,2,3,7,8,9-HxCDF	S3 avg	NA	4.2E-16	NA	6.3E-12	NA	3.3E-15	NA	NT	1.3E-15	2.0E-11	1.0E-14	NT
2,3,4,6,7,8-HxCDF	S3 avg	NA	1 9E-15	NA	2.9E-11	NA	1.5E-14	NA	NT	3.9E-15	5.8E-11	3 0E-14	NT
1,2,3,4,6,7,8-HpCDF	S3 avg	NA	1.4E-15	NA	2 1E-12	NA	1.1E-14	NA	NT	3.0E-15	4.5E-12	2.3E-14	NT
1,2,3,4,7,8,9-HpCDF	S3 avg	NA	1.7E-16	NA	2 6E-13	NA	1.4E-15	NA	NT	5.7E-16	8.6E-13	4 5E-15	NT
OCDF	S3 avg	NA	5 0E-17	NA	7.5E-15	NA	3.9E-16	NA	NT	3.5E-14	5.2E-12	2.7E-13	NT
Tetrachlorobiphenyl	S3 avg	NA	5 5E-13	NA	4.2E-12	NA	4.3E-12	NA	NT	1.3E-14	1.0E-13	1.0E-13	NT
Hexachlorobiphenyl	S3 avg	NA	4.2E-12	NA	3.3E-11	NA	3.3E-11	NA	NT	8.8E-15	6.8E-14	6 9E-14	NT
Heptachlorobiphenyl	S3 avg	NA	3 0E-12	NA	2.3E-11	NA	2.4E-11	NA	NT	2.7E-13	2.1E-12	2.1E-12	NT
Benzo(a)pyrene	S3 avg	NA	5 3E-12	NA	3.9E-11	NA	4.1E-11	NA	NT	1.7E-11	1.3E-10	1.3E-10	NT
Benzo(b)fluoranthene	S3 avg	NA	1 3E-10	NA	9.5E-11	NA	1.0E-09	NA	NT	1.0E-11	7.5E-12	7.9E-11	NT
Bis(2-ethylhexyl)phthalate	S3 avg	NA	1 9E-12	NA	2 6E-14	NA	1.5E-11	NA	7.3E-10	1.4E-09	2.0E-11	1.1E-08	5 6E-07
Carbon tetrachloride	S3 avg	NA	1 5E-12	NA	2.0E-13	NA	1.2E-11	NA	1.7E-08	8.2E-16	8.0E-17	4 8E-15	6.8E-12
Dibenz(a,h)anthracene	S3 avg	NA	4 2E-10	NA	3.0E-09	NA	3.2E-09	NA	NT	1.2E-12	9.1E-12	9.7E-12	NT
Di(n)octyl phthalate	S3 avg	NA	1.5E-11	NA	NT	NA	1.2E-10	NA	5.8E-09	3.9E-09	NT	3.0E-08	1.5E-06
Heptachlor	S3 avg	NA	2.1E-12	NA	9.5E-12	NA	1.6E-11	NA	3.3E-08	1.1E-14	5.0E-14	8.7E-14	1.7E-10
Hexachlorobenzene	S3 avg	NA	1.4E-08	NA	2.3E-08	NA	1.1E-07	NA	1.4E-04	5.1E-14	8.1E-14	3.9E-13	4.9E-10
Hexachlorobutadiene	S3 avg	NA	1.0E-09	NA	7.9E-11	NA	7.9E-09	NA	3.9E-05	7.6E-15	5.9E-16	5 9E-14	3.0E-10
Hexachlorocyclopentadiene	S3 avg	NA	1.2E-12	NA	NT	NA	9.2E-12	NA	1.3E-09	4.8E-16	NT	3 7E-15	5.3E-13
Hexachlorophene	S3 avg	NA	5.1E-11	NA	NT	NA	3.9E-10	NA	1.3E-06	5 0E-11	NT	3 9E-10	1.3E-06
Indeno(1,2,3-cd)pyrene	S3 avg	NA	5.3E-10	NA	3.9E-10	NA	4.2E-09	NA	NT	1 1E-12	8.3E-13	8.9E-12	NT
Antimony	S3 avg	NA	6 1E-15	NA	NT	NA	4.7E-14	NA	1 2E-10	5 6E-15	NT	4.3E-14	1.1E-10
Arsenic	S3 avg	NA	5.5E-12	NA	9.6E-12	NA	4.3E-11	NA	1.4E-07	9 1E-14	1.6E-13	7.1E-13	2.4E-09
Barium	S3 avg	NA	1.1E-12	NA	NT	NA	8.3E-12	NA	1.2E-10	2 9E-14	NT	2 3E-13	3.3E-12
Beryllium	S3 avg	NA	2.7E-15	NA	1.2E-14	NA	2.1E-14	NA	4.2E-12	4 3E-17	1.8E-16	3 3E-16	6.7E-14
Cadmium	S3 avg	NA	1.5E-11	NA	NT	NA	1.2E-10	NA	2 3E-07	3.0E-15	NT	2 4E-14	4.7E-11
Chromium (hexavalent)	S3 avg	NA	4.7E-14	NA	NT	NA	3.6E-13	NA	7.3E-11	5 2E-15	NT	4 1E-14	8 1E-12
Lead	S3 avg	NA	2.8E-11	NA	NT	NA	2.2E-10	NA	NT	1.9E-14	NT	1 4E-13	NT
Mercury	S3 avg	NA	1.9E-08	NA	NT	NA	1.5E-07	NA	4.9E-04	5.1E-13	NT	4 0E-12	1 3E-08
Mercury (methyl BCF)	S3 avg	NA	1.1E-07	NA	NT	NA	8 5E-07	NA	2 8E-03	5.1E-13	NT	4 0E-12	1 3E-08
Nickel	S3 avg	NA	9.3E-13	NA	NT	NA	7 2E-12	NA	3 6E-10	3 7E-14	NT	2 9E-13	1 5E-11
Selenium	S3 avg	NA	1.4E-10	NA	NT	NA	1 1E-09	NA	2 1E-07	1 7E-12	NT	1 4E-11	2 7E-09
Silver	S3 avg	NA	1.1E-14	NA	NT	NA	8 4E-14	NA	1 7E-11	7 0E-14	NT	5 4E-13	1 1E-10
Thallium	S3 avg	NA	1 6E-11	NA	NT	NA	1 3E-10	NA	1 8E-06	1 9E-12	NT	1 5E-11	2 1E-07
Zinc	S3 avg	NA	6.8E-11	NA	NT	NA	5 3E-10	NA	1 8E-09	3 8E-14	NT	3 0E-13	1 0E-12
DIOXIN TEQ	S3 avg			NA	3.2E-10			NA	NA		8 6E-10		NT
ORGANICS TOTAL (non-dioxin)	S3 avg			NA	2 7E-08			NA	1 8E-04		1 7E-10		3 4E-06
INORGANICS TOTAL	S3 avg			NA	9 6E-12			NA	3 3E-03		1 6E-13		2 5E-07
SUBAREA TOTAL	S3 avg			NA	2 7E-08			NA	3 5E-03		1 0E-09		3 6E-06

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TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4 7E-16	7.1E-11	3 7E-15	NT
1,2,3,7,8-PeCDD	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	8.1E-15	6.1E-10	6.3E-14	NT
1,2,3,4,7,8-HxCDD	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.5E-15	8.2E-11	4.3E-14	NT
1,2,3,6,7,8-HxCDD	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1 4E-15	2.1E-11	1.1E-14	NT
1,2,3,7,8,9-HxCDD	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.0E-15	3.0E-11	1 5E-14	NT
1,2,3,4,6,7,8-HpCDD	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1 6E-14	2.4E-11	1.2E-13	NT
OCDD	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2 9E-12	4.4E-10	2.3E-11	NT
2,3,7,8-TCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-15	2.3E-11	1.2E-14	NT
1,2,3,7,8-PeCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.1E-15	5 3E-11	5.5E-14	NT
2,3,4,7,8-PeCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.1E-14	3.0E-09	3.2E-13	NT
1,2,3,4,7,8-HxCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.2E-14	3.3E-10	1.7E-13	NT
1,2,3,6,7,8-HxCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.1E-14	6.2E-10	3.2E-13	NT
1,2,3,7,8,9-HxCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.4E-15	1.4E-10	7.3E-14	NT
2,3,4,6,7,8-HxCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2 7E-14	4.1E-10	2.1E-13	NT
1,2,3,4,6,7,8-HpCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.1E-14	3.2E-11	1.7E-13	NT
1,2,3,4,7,8,9-HpCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.2E-15	6.4E-12	3.3E-14	NT
OCDF	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.4E-13	3.6E-11	1.9E-12	NT
Tetrachlorobiphenyl	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.4E-14	7.2E-13	7.3E-13	NT
Hexachlorobiphenyl	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.1E-14	4.7E-13	4.7E-13	NT
Heptachlorobiphenyl	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-12	1.4E-11	1.5E-11	NT
Benzo(a)pyrene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-10	8.8E-10	9.4E-10	NT
Benzo(b)fluoranthene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.0E-11	5.1E-11	5.5E-10	NT
Bis(2-ethylhexyl)phthalate	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.0E-08	1.4E-10	7 8E-08	3.9E-06
Carbon tetrachloride	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.2E-15	5.5E-16	3.3E-14	4.7E-11
Dibenz(a,h)anthracene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-11	1.1E-10	1.1E-10	NT
Di(n)octyl phthalate	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-08	NT	2.1E-07	1.0E-05
Heptachlor	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	7.7E-14	3.5E-13	6 0E-13	1 2E-09
Hexachlorobenzene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.5E-13	5.6E-13	2.7E-12	3.4E-09
Hexachlorobutadiene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.2E-14	4.1E-15	4.1E-13	2.0E-09
Hexachlorocyclopentadiene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3.3E-15	NT	2.6E-14	3 7E-12
Hexachlorophene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.8E-10	NT	4.5E-09	1.5E-05
Indeno(1,2,3-cd)pyrene	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-11	9.6E-12	1.0E-10	NT
Antimony	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	6.1E-14	NT	4 7E-13	1.2E-09
Arsenic	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	9.9E-13	1.7E-12	7.7E-12	2.6E-08
Barium	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3 2E-13	NT	2 5E-12	3.6E-11
Beryllium	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4.7E-16	2.0E-15	3 7E-15	7.3E-13
Cadmium	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3 3E-14	NT	2.6E-13	5.2E-10
Chromium (hexavalent)	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	5.7E-14	NT	4 5E-13	8.9E-11
Lead	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2 0E-13	NT	1 6E-12	NT
Mercury	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3 5E-12	NT	2 7E-11	9 1E-08
Mercury (methyl BCF)	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	3 5E-12	NT	2 7E-11	9.1E-08
Nickel	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4 1E-13	NT	3 2E-12	1.6E-10
Selenium	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	1 9E-11	NT	1 5E-10	3 0E-08
Silver	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	7 7E-13	NT	6 0E-12	1.2E-09
Thallium	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	2 1E-11	NT	1 6E-10	2 4E-06
Zinc	W1 avg	NA	NA	NA	NA	NA	NA	NA	NA	4 3E-13	NT	3 3E-12	1.1E-11
DIOXIN TEQ	W1 avg			NA	NA			NA	NA		6 0E-09		NT
ORGANICS TOTAL (non-dioxin)	W1 avg			NA	NA			NA	NA		1 2E-09		2 9E-05
INORGANICS TOTAL	W1 avg			NA	NA			NA	NA		1 7E-12		2 6E-06
SUBAREA TOTAL	W1 avg			NA	NA			NA	NA		7 2E-09		3 2E-05

TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	W2 avg	3.1E-16	NA	4.6E-11	NA	2.4E-15	NA	NT	NA	2 3E-16	3.4E-11	1.8E-15	NT
1,2,3,7,8-PeCDD	W2 avg	1.4E-15	NA	1.1E-10	NA	1.1E-14	NA	NT	NA	3.9E-15	2.9E-10	3.0E-14	NT
1,2,3,4,7,8-HxCDD	W2 avg	2.4E-15	NA	3.5E-11	NA	1.8E-14	NA	NT	NA	2 6E-15	3.9E-11	2.0E-14	NT
1,2,3,6,7,8-HxCDD	W2 avg	2.9E-15	NA	4 4E-11	NA	2.3E-14	NA	NT	NA	6 5E-16	9 8E-12	5.1E-15	NT
1,2,3,7,8,9-HxCDD	W2 avg	1.9E-15	NA	2.8E-11	NA	1.5E-14	NA	NT	NA	9.3E-16	1.4E-11	7 2E-15	NT
1,2,3,4,6,7,8-HpCDD	W2 avg	4.3E-15	NA	6.4E-12	NA	3.3E-14	NA	NT	NA	7.6E-15	1.1E-11	5 9E-14	NT
OCDD	W2 avg	3.3E-16	NA	4.9E-14	NA	2.5E-15	NA	NT	NA	1.4E-12	2.1E-10	1.1E-11	NT
2,3,7,8-TCDF	W2 avg	2.3E-15	NA	3.5E-11	NA	1.8E-14	NA	NT	NA	7.2E-16	1.1E-11	5 6E-15	NT
1,2,3,7,8-PeCDF	W2 avg	1.1E-14	NA	8.4E-11	NA	8.7E-14	NA	NT	NA	3 4E-15	2.5E-11	2.6E-14	NT
2,3,4,7,8-PeCDF	W2 avg	1.8E-14	NA	1.2E-09	NA	1.3E-13	NA	NT	NA	1.9E-14	1.5E-09	1.5E-13	NT
1,2,3,4,7,8-HxCDF	W2 avg	2.6E-14	NA	3.9E-10	NA	2.0E-13	NA	NT	NA	1.0E-14	1.6E-10	8 1E-14	NT
1,2,3,6,7,8-HxCDF	W2 avg	2.4E-14	NA	3.7E-10	NA	1.9E-13	NA	NT	NA	2.0E-14	2.9E-10	1.5E-13	NT
1,2,3,7,8,9-HxCDF	W2 avg	5.7E-15	NA	8.6E-11	NA	4.4E-14	NA	NT	NA	4.5E-15	6.7E-11	3 5E-14	NT
2,3,4,6,7,8-HxCDF	W2 avg	2 8E-14	NA	4.1E-10	NA	2.1E-13	NA	NT	NA	1.3E-14	1.9E-10	1.0E-13	NT
1,2,3,4,6,7,8-HpCDF	W2 avg	3 0E-14	NA	4 6E-11	NA	2.4E-13	NA	NT	NA	9.9E-15	1.5E-11	7.7E-14	NT
1,2,3,4,7,8,9-HpCDF	W2 avg	3 9E-15	NA	5.8E-12	NA	3.0E-14	NA	NT	NA	1.9E-15	2.9E-12	1.5E-14	NT
OCDF	W2 avg	1 3E-15	NA	2.0E-13	NA	1.0E-14	NA	NT	NA	1.2E-13	1.7E-11	9 0E-13	NT
Tetrachlorobiphenyl	W2 avg	2 1E-13	NA	1.6E-12	NA	1.6E-12	NA	NT	NA	4.5E-14	3.4E-13	3 5E-13	NT
Hexachlorobiphenyl	W2 avg	1 8E-11	NA	1.4E-10	NA	1.4E-10	NA	NT	NA	2.9E-14	2.2E-13	2.3E-13	NT
Heptachlorobiphenyl	W2 avg	7.1E-12	NA	5.5E-11	NA	5.6E-11	NA	NT	NA	9.0E-13	6.9E-12	7.0E-12	NT
Benzo(a)pyrene	W2 avg	3.3E-11	NA	2.4E-10	NA	2.6E-10	NA	NT	NA	5.7E-11	4.2E-10	4.5E-10	NT
Benzo(b)fluoranthene	W2 avg	1.5E-10	NA	1.1E-10	NA	1.1E-09	NA	NT	NA	3.4E-11	2.5E-11	2.6E-10	NT
Bis(2-ethylhexyl)phthalate	W2 avg	2 2E-11	NA	3.0E-13	NA	1.7E-10	NA	8.4E-09	NA	4 8E-09	6.7E-11	3 7E-08	1.9E-06
Carbon tetrachloride	W2 avg	3.4E-13	NA	4.4E-14	NA	2.6E-12	NA	3.7E-09	NA	2.0E-15	2.6E-16	1.6E-14	2.3E-11
Dibenz(a,h)anthracene	W2 avg	1 3E-09	NA	9.7E-09	NA	1.0E-08	NA	NT	NA	4.6E-12	3.4E-11	3 6E-11	NT
Di(n)octyl phthalate	W2 avg	3.6E-12	NA	NT	NA	3.0E-11	NA	1.5E-09	NA	1.3E-08	NT	1.0E-07	5 0E-06
Heptachlor	W2 avg	5.8E-13	NA	2 6E-12	NA	4.5E-12	NA	9.1E-09	NA	3.7E-14	1.7E-13	2.9E-13	5 8E-10
Hexachlorobenzene	W2 avg	3 5E-09	NA	5.5E-09	NA	2.7E-08	NA	3.4E-05	NA	1.7E-13	2.7E-13	1.3E-12	1 6E-09
Hexachlorobutadiene	W2 avg	2.4E-10	NA	1 8E-11	NA	1.8E-09	NA	9 2E-06	NA	2.5E-14	2.0E-15	2 0E-13	9 8E-10
Hexachlorocyclopentadiene	W2 avg	2.7E-13	NA	NT	NA	2.1E-12	NA	3 0E-10	NA	1.6E-15	NT	1 2E-14	1 8E-12
Hexachlorophene	W2 avg	2.9E-11	NA	NT	NA	2.2E-10	NA	7.5E-07	NA	1.9E-10	NT	1 5E-09	4 9E-06
Indeno(1,2,3-cd)pyrene	W2 avg	1.7E-09	NA	1.2E-09	NA	1.3E-08	NA	NT	NA	4.3E-12	3.1E-12	3 3E-11	NT
Antimony	W2 avg	2 3E-15	NA	NT	NA	1.8E-14	NA	4.4E-11	NA	2.0E-14	NT	1.6E-13	3 9E-10
Arsenic	W2 avg	2.2E-12	NA	3.8E-12	NA	1.7E-11	NA	5.6E-08	NA	3.3E-13	5.7E-13	2 5E-12	8 5E-09
Barium	W2 avg	4.1E-13	NA	NT	NA	3.2E-12	NA	4.5E-11	NA	1.1E-13	NT	8 2E-13	1.2E-11
Beryllium	W2 avg	1.2E-15	NA	5.0E-15	NA	9.0E-15	NA	1.8E-12	NA	1.5E-16	6.7E-16	1 2E-15	2 4E-13
Cadmium	W2 avg	4 8E-12	NA	NT	NA	3.7E-11	NA	7 5E-08	NA	1.1E-14	NT	8.5E-14	1 7E-10
Chromium (hexavalent)	W2 avg	2.0E-14	NA	NT	NA	1.6E-13	NA	3.2E-11	NA	1 9E-14	NT	1 5E-13	2 9E-11
Lead	W2 avg	1.2E-11	NA	NT	NA	9.7E-11	NA	NT	NA	6 7E-14	NT	5 2E-13	NT
Mercury	W2 avg	4.3E-09	NA	NT	NA	3.3E-08	NA	1.1E-04	NA	1.7E-12	NT	1 3E-11	4.4E-08
Mercury (methyl BCF)	W2 avg	2.4E-08	NA	NT	NA	1.9E-07	NA	6.3E-04	NA	1 7E-12	NT	1 3E-11	4 4E-08
Nickel	W2 avg	3.6E-13	NA	NT	NA	2 8E-12	NA	1 4E-10	NA	1 3E-13	NT	1 0E-12	5 2E-11
Selenium	W2 avg	5.5E-11	NA	NT	NA	4 3E-10	NA	8 6E-08	NA	6 3E-12	NT	4 9E-11	9 7E-09
Silver	W2 avg	4.0E-15	NA	NT	NA	3 1E-14	NA	6 3E-12	NA	2 5E-13	NT	2 0E-12	3 9E-10
Thallium	W2 avg	7.6E-12	NA	NT	NA	5 9E-11	NA	8 5E-07	NA	7 0E-12	NT	5 4E-11	7 7E-07
Zinc	W2 avg	2.5E-11	NA	NT	NA	2.0E-10	NA	6 6E-10	NA	1 4E-13	NT	1 1E-12	3 6E-12
DIOXIN TEQ	W2 avg			2.9E-09	NA			NT	NA		2 8E-09		NT
ORGANICS TOTAL (non-dioxin)	W2 avg			1.7E-08	NA			4 3E-05	NA		5 6E-10		1 2E-05
INORGANICS TOTAL	W2 avg			3 8E-12	NA			7 4E-04	NA		5 7E-13		8 8E-07
SUBAREA TOTAL	W2 avg			2.0E-08	NA			7 9E-04	NA		3 4E-09		1 3E-05

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TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	W3 avg	3.2E-16	NA	4.9E-11	NA	2.5E-15	NA	NT	NA	1.0E-16	1.6E-11	8.0E-16	NT
1,2,3,7,8-PeCDD	W3 avg	1.5E-15	NA	1.1E-10	NA	1.2E-14	NA	NT	NA	1.8E-15	1 3E-10	1 4E-14	NT
1,2,3,4,7,8-HxCDD	W3 avg	2.5E-15	NA	3 7E-11	NA	1.9E-14	NA	NT	NA	1.2E-15	1.8E-11	9.3E-15	NT
1,2,3,6,7,8-HxCDD	W3 avg	3.1E-15	NA	4.6E-11	NA	2.4E-14	NA	NT	NA	3.0E-16	4.5E-12	2.3E-15	NT
1,2,3,7,8,9-HxCDD	W3 avg	2.0E-15	NA	2.9E-11	NA	1.5E-14	NA	NT	NA	4.3E-16	6.4E-12	3.3E-15	NT
1,2,3,4,6,7,8-HpCDD	W3 avg	4.5E-15	NA	6 7E-12	NA	3.5E-14	NA	NT	NA	3.5E-15	5.2E-12	2.7E-14	NT
OCDD	W3 avg	3.4E-16	NA	5.1E-14	NA	2.7E-15	NA	NT	NA	6.4E-13	9.6E-11	5.0E-12	NT
2,3,7,8-TCDF	W3 avg	2.4E-15	NA	3 7E-11	NA	1.9E-14	NA	NT	NA	3 3E-16	4.9E-12	2.6E-15	NT
1,2,3,7,8-PeCDF	W3 avg	1.2E-14	NA	8.8E-11	NA	9.2E-14	NA	NT	NA	1.5E-15	1.2E-11	1.2E-14	NT
2,3,4,7,8-PeCDF	W3 avg	1.7E-14	NA	1.3E-09	NA	1.3E-13	NA	NT	NA	8.9E-15	6.7E-10	6 9E-14	NT
1,2,3,4,7,8-HxCDF	W3 avg	2.7E-14	NA	4 1E-10	NA	2.1E-13	NA	NT	NA	4.8E-15	7.1E-11	3.7E-14	NT
1,2,3,6,7,8-HxCDF	W3 avg	2 6E-14	NA	3 8E-10	NA	2.0E-13	NA	NT	NA	9.0E-15	1.3E-10	7.0E-14	NT
1,2,3,7,8,9-HxCDF	W3 avg	6.0E-15	NA	9 0E-11	NA	4.7E-14	NA	NT	NA	2.0E-15	3.1E-11	1.6E-14	NT
2,3,4,6,7,8-HxCDF	W3 avg	2.9E-14	NA	4 3E-10	NA	2.2E-13	NA	NT	NA	5 9E-15	8.8E-11	4 6E-14	NT
1,2,3,4,6,7,8-HpCDF	W3 avg	3 2E-14	NA	4 8E-11	NA	2.5E-13	NA	NT	NA	4.5E-15	6.8E-12	3.5E-14	NT
1,2,3,4,7,8,9-HpCDF	W3 avg	4 1E-15	NA	6.1E-12	NA	3 2E-14	NA	NT	NA	8.9E-16	1 3E-12	6.9E-15	NT
OCDF	W3 avg	1 4E-15	NA	2 1E-13	NA	1 1E-14	NA	NT	NA	5.3E-14	7.9E-12	4.1E-13	NT
Tetrachlorobiphenyl	W3 avg	2 2E-13	NA	1 7E-12	NA	1.7E-12	NA	NT	NA	2.0E-14	1.6E-13	1.6E-13	NT
Hexachlorobiphenyl	W3 avg	1 9E-11	NA	1 5E-10	NA	1.5E-10	NA	NT	NA	1.3E-14	1.0E-13	1.0E-13	NT
Heptachlorobiphenyl	W3 avg	7.6E-12	NA	5 8E-11	NA	5.9E-11	NA	NT	NA	4.1E-13	3.2E-12	3.2E-12	NT
Benzo(a)pyrene	W3 avg	3.5E-11	NA	2 6E-10	NA	2.7E-10	NA	NT	NA	2.6E-11	1.9E-10	2.0E-10	NT
Benzo(b)fluoranthene	W3 avg	1.6E-10	NA	1.1E-10	NA	1.2E-09	NA	NT	NA	1.5E-11	1.1E-11	1.2E-10	NT
Bis(2-ethylhexyl)phthalate	W3 avg	2.4E-11	NA	3 3E-13	NA	1.9E-10	NA	9.3E-09	NA	2.2E-09	3.1E-11	1.7E-08	8.5E-07
Carbon tetrachloride	W3 avg	3.6E-13	NA	4.6E-14	NA	2.8E-12	NA	4.0E-09	NA	9.3E-16	1.2E-16	7.3E-15	1.0E-11
Dibenz(a,h)anthracene	W3 avg	1.4E-09	NA	1.0E-08	NA	1.1E-08	NA	NT	NA	2.2E-12	1.6E-11	1.7E-11	NT
Di(n)octyl phthalate	W3 avg	4.1E-12	NA	NT	NA	3.2E-11	NA	1.6E-09	NA	5.9E-09	NT	4.6E-08	2.3E-06
Heptachlor	W3 avg	6.2E-13	NA	2 8E-12	NA	4.8E-12	NA	9.8E-09	NA	1.7E-14	7.6E-14	1.3E-13	2 6E-10
Hexachlorobenzene	W3 avg	3.7E-09	NA	5.9E-09	NA	2.8E-08	NA	3.6E-05	NA	7.7E-14	1.2E-13	6.0E-13	7.5E-10
Hexachlorobutadiene	W3 avg	2.5E-10	NA	2.0E-11	NA	1.9E-09	NA	9.7E-06	NA	1.2E-14	9.0E-16	9.0E-14	4.5E-10
Hexachlorocyclopentadiene	W3 avg	2.9E-13	NA	NT	NA	2.3E-12	NA	3.2E-10	NA	7.3E-16	NT	5.7E-15	8.1E-13
Hexachlorophene	W3 avg	3.1E-11	NA	NT	NA	2.4E-10	NA	8.0E-07	NA	8.9E-11	NT	6.9E-10	2.3E-06
Indeno(1,2,3-cd)pyrene	W3 avg	1.8E-09	NA	1.3E-09	NA	1.4E-08	NA	NT	NA	2.0E-12	1.5E-12	1.6E-11	NT
Antimony	W3 avg	2.4E-15	NA	NT	NA	1.8E-14	NA	4.6E-11	NA	1 0E-14	NT	7.9E-14	2.0E-10
Arsenic	W3 avg	2.3E-12	NA	4.0E-12	NA	1.8E-11	NA	5.9E-08	NA	1.7E-13	2.9E-13	1.3E-12	4 3E-09
Barium	W3 avg	4.3E-13	NA	NT	NA	3.3E-12	NA	4.7E-11	NA	5 4E-14	NT	4.2E-13	6.0E-12
Beryllium	W3 avg	1.2E-15	NA	5 2E-15	NA	9.4E-15	NA	1.9E-12	NA	7 9E-17	3.4E-16	6 1E-16	1 2E-13
Cadmium	W3 avg	5.2E-12	NA	NT	NA	4.0E-11	NA	8 1E-08	NA	5.6E-15	NT	4 3E-14	8 7E-11
Chromium (hexavalent)	W3 avg	2.1E-14	NA	NT	NA	1.7E-13	NA	3.3E-11	NA	9.6E-15	NT	7 5E-14	1.5E-11
Lead	W3 avg	1.3E-11	NA	NT	NA	1 0E-10	NA	NT	NA	3.4E-14	NT	2 7E-13	NT
Mercury	W3 avg	4.5E-09	NA	NT	NA	3.5E-08	NA	1 2E-04	NA	7 7E-13	NT	6 0E-12	2 0E-08
Mercury (methyl BCF)	W3 avg	2 6E-08	NA	NT	NA	2.0E-07	NA	6 7E-04	NA	7.7E-13	NT	6 0E-12	2.0E-08
Nickel	W3 avg	3.8E-13	NA	NT	NA	2.9E-12	NA	1 5E-10	NA	6 9E-14	NT	5 3E-13	2 7E-11
Selenium	W3 avg	5 8E-11	NA	NT	NA	4 5E-10	NA	9 0E-08	NA	3 2E-12	NT	2 5E-11	5 0E-09
Silver	W3 avg	4.2E-15	NA	NT	NA	3 3E-14	NA	6 6E-12	NA	1 3E-13	NT	1 0E-12	2 0E-10
Thallium	W3 avg	8 0E-12	NA	NT	NA	6 2E-11	NA	8 9E-07	NA	3 5E-12	NT	2 8E-11	3 9E-07
Zinc	W3 avg	2.7E-11	NA	NT	NA	2.1E-10	NA	6.9E-10	NA	7 1E-14	NT	5 6E-13	1 9E-12
DIOXIN TEQ	W3 avg			3 1E-09	NA			NT	NA		1 3E-09		NT
ORGANICS TOTAL (non-dioxin)	W3 avg			1 8E-08	NA			4 6E-05	NA		2 6E-10		5 5E-06
INORGANICS TOTAL	W3 avg			4 0E-12	NA			7 9E-04	NA		2 9E-13		4 4E-07
SUBAREA TOTAL	W3 avg			2 1E-08	NA			8 4E-04	NA		1 6E-09		5 9E-06

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TABLE 1 Avg Subsistence Fisherman and Recreational Hunter Risks and HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
		River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ

NOTES:
ADD = Average daily dose
LADD = Lifetime average daily dose
NA = Not applicable
NT = No toxicity information
HQ = Hazard quotient
TEQ = TCDD equivalents
* Mercury is listed twice; the second entry estimates fish concentrations with the methyl mercury bioconcentration factor for fish (MeHg fish BCF). It is assumed that 25% of the total mercury is methylated .

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	E1 max	5.2E-16	NA	7 8E-11	NA	4 0E-15	NA	NT	NA	2 1E-15	3 2E-10	1.7E-14	NT
1,2,3,7,8-PeCDD	E1 max	2.2E-15	NA	1 7E-10	NA	1.7E-14	NA	NT	NA	3 7E-14	2.8E-09	2 9E-13	NT
1,2,3,4,7,8-HxCDD	E1 max	3.3E-15	NA	4 9E-11	NA	2.5E-14	NA	NT	NA	2 5E-14	3.7E-10	1.9E-13	NT
1,2,3,6,7,8-HxCDD	E1 max	3.9E-15	NA	5 9E-11	NA	3.1E-14	NA	NT	NA	6 3E-15	9 4E-11	4.9E-14	NT
1,2,3,7,8,9-HxCDD	E1 max	2 5E-15	NA	3 7E-11	NA	1.9E-14	NA	NT	NA	8 9E-15	1.3E-10	6 9E-14	NT
1,2,3,4,6,7,8-HpCDD	E1 max	5.6E-15	NA	8.5E-12	NA	4 4E-14	NA	NT	NA	7.2E-14	1.1E-10	5.6E-13	NT
OCDD	E1 max	4.2E-16	NA	6 4E-14	NA	3.3E-15	NA	NT	NA	1.3E-11	2.0E-09	1 0E-10	NT
2,3,7,8-TCDF	E1 max	4 0E-15	NA	6.0E-11	NA	3.1E-14	NA	NT	NA	6.8E-15	1.0E-10	5.3E-14	NT
1,2,3,7,8-PeCDF	E1 max	1.8E-14	NA	1.4E-10	NA	1.4E-13	NA	NT	NA	3.2E-14	2.4E-10	2.5E-13	NT
2,3,4,7,8-PeCDF	E1 max	2.6E-14	NA	1 9E-09	NA	2.0E-13	NA	NT	NA	1.8E-13	1.4E-08	1.4E-12	NT
1,2,3,4,7,8-HxCDF	E1 max	3.6E-14	NA	5 4E-10	NA	2.8E-13	NA	NT	NA	9 9E-14	1.5E-09	7.7E-13	NT
1,2,3,6,7,8-HxCDF	E1 max	3.4E-14	NA	5.0E-10	NA	2.6E-13	NA	NT	NA	1 9E-13	2.8E-09	1.5E-12	NT
1,2,3,7,8,9-HxCDF	E1 max	8.1E-15	NA	1.2E-10	NA	6.3E-14	NA	NT	NA	4.3E-14	6.4E-10	3 3E-13	NT
2,3,4,6,7,8-HxCDF	E1 max	3.8E-14	NA	5.7E-10	NA	3.0E-13	NA	NT	NA	1.2E-13	1 8E-09	9.5E-13	NT
1,2,3,4,6,7,8-HpCDF	E1 max	4.1E-14	NA	6 2E-11	NA	3.2E-13	NA	NT	NA	9.5E-14	1.4E-10	7.4E-13	NT
1,2,3,4,7,8,9-HpCDF	E1 max	5.2E-15	NA	7.8E-12	NA	4.0E-14	NA	NT	NA	1.9E-14	2.8E-11	1.5E-13	NT
OCDF	E1 max	1.8E-15	NA	2 6E-13	NA	1.4E-14	NA	NT	NA	1.1E-12	1.6E-10	8 5E-12	NT
Tetrachlorobiphenyl	E1 max	3.7E-13	NA	2 8E-12	NA	2.9E-12	NA	NT	NA	4.2E-13	3.3E-12	3.3E-12	NT
Hexachlorobiphenyl	E1 max	3.3E-11	NA	2 6E-10	NA	2.6E-10	NA	NT	NA	2.8E-13	2.1E-12	2.2E-12	NT
Heptachlorobiphenyl	E1 max	1.3E-11	NA	9 9E-11	NA	1.0E-10	NA	NT	NA	8 5E-12	6.6E-11	6 6E-11	NT
Benzo(a)pyrene	E1 max	4 8E-11	NA	3.5E-10	NA	3.8E-10	NA	NT	NA	5.5E-10	4.0E-09	4 2E-09	NT
Benzo(b)fluoranthene	E1 max	2.6E-10	NA	1 9E-10	NA	2 1E-09	NA	NT	NA	3 2E-10	2.3E-10	2 5E-09	NT
Bis(2-ethylhexyl)phthalate	E1 max	2.8E-11	NA	3.9E-13	NA	2.2E-10	NA	1.1E-08	NA	4 5E-08	6.4E-10	3 5E-07	1.8E-05
Carbon tetrachloride	E1 max	6.1E-13	NA	7.9E-14	NA	4.7E-12	NA	6.8E-09	NA	1.9E-14	2.5E-15	1.5E-13	2.1E-10
Dibenz(a,h)anthracene	E1 max	2.3E-09	NA	1.7E-08	NA	1.8E-08	NA	NT	NA	5.3E-11	3.9E-10	4.1E-10	NT
Di(n)octyl phthalate	E1 max	6.9E-12	NA	NT	NA	5.4E-11	NA	2.7E-09	NA	1.2E-07	NT	9 5E-07	4.8E-05
Heptachlor	E1 max	1.1E-12	NA	4 7E-12	NA	8.2E-12	NA	1.6E-08	NA	3 5E-13	1.6E-12	2 7E-12	5.5E-09
Hexachlorobenzene	E1 max	6.2E-09	NA	1.0E-08	NA	4.8E-08	NA	6.1E-05	NA	1 6E-12	2.5E-12	1 2E-11	1.5E-08
Hexachlorobutadiene	E1 max	4.3E-10	NA	3 3E-11	NA	3.3E-09	NA	1 7E-05	NA	2 4E-13	1.9E-14	1.9E-12	9.3E-09
Hexachlorocyclopentadiene	E1 max	4.9E-13	NA	NT	NA	3.8E-12	NA	5 5E-10	NA	1.5E-14	NT	1 2E-13	1.7E-11
Hexachlorophene	E1 max	3.7E-11	NA	NT	NA	2.9E-10	NA	9.6E-07	NA	2.2E-09	NT	1 7E-08	5 6E-05
Indeno(1,2,3-cd)pyrene	E1 max	2.9E-09	NA	2.1E-09	NA	2.2E-08	NA	NT	NA	4 9E-11	3.6E-11	3 8E-10	NT
Antimony	E1 max	2.7E-15	NA	NT	NA	2.1E-14	NA	5 3E-11	NA	2 1E-13	NT	1 6E-12	4.1E-09
Arsenic	E1 max	2.6E-12	NA	4.5E-12	NA	2.0E-11	NA	6.7E-08	NA	3.4E-12	6.0E-12	2 7E-11	8 9E-08
Barium	E1 max	4.8E-13	NA	NT	NA	3.8E-12	NA	5.4E-11	NA	1.1E-12	NT	8 6E-12	1.2E-10
Beryllium	E1 max	1.4E-15	NA	5.9E-15	NA	1.1E-14	NA	2 1E-12	NA	1 6E-15	7.0E-15	1 3E-14	2.5E-12
Cadmium	E1 max	5.7E-12	NA	NT	NA	4.5E-11	NA	8 9E-08	NA	1 1E-13	NT	8 9E-13	1.8E-09
Chromium (hexavalent)	E1 max	2.4E-14	NA	NT	NA	1 9E-13	NA	3.8E-11	NA	2 0E-13	NT	1 5E-12	3.1E-10
Lead	E1 max	1.5E-11	NA	NT	NA	1.2E-10	NA	NT	NA	7 0E-13	NT	5 4E-12	NT
Mercury	E1 max	7.7E-09	NA	NT	NA	6.0E-08	NA	2 0E-04	NA	1 6E-11	NT	1 2E-10	4.1E-07
Mercury (methyl BCF)	E1 max	4.4E-08	NA	NT	NA	3.4E-07	NA	1.1E-03	NA	1 6E-11	NT	1 2E-10	4 1E-07
Nickel	E1 max	4.3E-13	NA	NT	NA	3 4E-12	NA	1 7E-10	NA	1.4E-12	NT	1 1E-11	5 5E-10
Selenium	E1 max	6 6E-11	NA	NT	NA	5.2E-10	NA	1.0E-07	NA	6 6E-11	NT	5 1E-10	1 0E-07
Silver	E1 max	4.8E-15	NA	NT	NA	3 8E-14	NA	7 5E-12	NA	2 6E-12	NT	2 0E-11	4 1E-09
Thallium	E1 max	9.1E-12	NA	NT	NA	7.1E-11	NA	1 0E-06	NA	7 2E-11	NT	5 6E-10	8 1E-06
Zinc	E1 max	3.0E-11	NA	NT	NA	2.4E-10	NA	7 9E-10	NA	1 4E-12	NT	1 1E-11	3.7E-11
DIOXIN TEQ	E1 max			4 3E-09	NA			NT	NA		2 7E-08		NT
ORGANICS TOTAL (non-dioxin)	E1 max			3.0E-08	NA			7 8E-05	NA		5 3E-09		1 2E-04
INORGANICS TOTAL	E1 max			4 6E-12	NA			1 3E-03	NA		6 0E-12		9 1E-06
SUBAREA TOTAL	E1 max			3.4E-08	NA			1 4E-03	NA		3 2E-08		1 3E-04

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	E2 max	1.6E-16	NA	2.3E-11	NA	1.2E-15	NA	NT	NA	7 3E-16	1 1E-10	5.7E-15	NT
1,2,3,7,8-PeCDD	E2 max	6 5E-16	NA	4.9E-11	NA	5.0E-15	NA	NT	NA	1 3E-14	9 4E-10	9.7E-14	NT
1,2,3,4,7,8-HxCDD	E2 max	9.1E-16	NA	1.4E-11	NA	7.1E-15	NA	NT	NA	8.4E-15	1.3E-10	6.6E-14	NT
1,2,3,6,7,8-HxCDD	E2 max	1.1E-15	NA	1.6E-11	NA	8.4E-15	NA	NT	NA	2 1E-15	3 2E-11	1.6E-14	NT
1,2,3,7,8,9-HxCDD	E2 max	6.8E-16	NA	1.0E-11	NA	5.3E-15	NA	NT	NA	3.0E-15	4.5E-11	2.3E-14	NT
1,2,3,4,6,7,8-HpCDD	E2 max	1.5E-15	NA	2.3E-12	NA	1.2E-14	NA	NT	NA	2.5E-14	3.7E-11	1.9E-13	NT
OCDD	E2 max	1.2E-16	NA	1.7E-14	NA	9.0E-16	NA	NT	NA	4.5E-12	6.7E-10	3.5E-11	NT
2,3,7,8-TCDF	E2 max	1.2E-15	NA	1.8E-11	NA	9.5E-15	NA	NT	NA	2.3E-15	3 5E-11	1.8E-14	NT
1,2,3,7,8-PeCDF	E2 max	5.4E-15	NA	4.0E-11	NA	4.2E-14	NA	NT	NA	1.1E-14	8.2E-11	8.5E-14	NT
2,3,4,7,8-PeCDF	E2 max	7.5E-15	NA	5.7E-10	NA	5.9E-14	NA	NT	NA	6.3E-14	4.7E-09	4.9E-13	NT
1,2,3,4,7,8-HxCDF	E2 max	9.9E-15	NA	1.5E-10	NA	7.7E-14	NA	NT	NA	3.3E-14	5.0E-10	2.6E-13	NT
1,2,3,6,7,8-HxCDF	E2 max	9.3E-15	NA	1.4E-10	NA	7.3E-14	NA	NT	NA	6.3E-14	9 5E-10	4.9E-13	NT
1,2,3,7,8,9-HxCDF	E2 max	2.3E-15	NA	3.4E-11	NA	1.8E-14	NA	NT	NA	1.4E-14	2.2E-10	1.1E-13	NT
2,3,4,6,7,8-HxCDF	E2 max	1.1E-14	NA	1.6E-10	NA	8.3E-14	NA	NT	NA	4.1E-14	6.2E-10	3 2E-13	NT
1,2,3,4,6,7,8-HpCDF	E2 max	1.1E-14	NA	1.7E-11	NA	8.9E-14	NA	NT	NA	3.2E-14	4 8E-11	2.5E-13	NT
1,2,3,4,7,8,9-HpCDF	E2 max	1.4E-15	NA	2.1E-12	NA	1.1E-14	NA	NT	NA	6.2E-15	9.3E-12	4.8E-14	NT
OCDF	E2 max	4.8E-16	NA	7.2E-14	NA	3.7E-15	NA	NT	NA	3.7E-13	5.6E-11	2.9E-12	NT
Tetrachlorobiphenyl	E2 max	1 1E-13	NA	8 7E-13	NA	8.8E-13	NA	NT	NA	1.4E-13	1.1E-12	1.1E-12	NT
Hexachlorobiphenyl	E2 max	1.0E-11	NA	7.8E-11	NA	7.9E-11	NA	NT	NA	9.4E-14	7.3E-13	7.3E-13	NT
Heptachlorobiphenyl	E2 max	4.0E-12	NA	3.0E-11	NA	3.1E-11	NA	NT	NA	2.9E-12	2.2E-11	2.3E-11	NT
Benzo(a)pyrene	E2 max	1.5E-11	NA	1.1E-10	NA	1.2E-10	NA	NT	NA	1.9E-10	1.4E-09	1.4E-09	NT
Benzo(b)fluoranthene	E2 max	8 1E-11	NA	5.9E-11	NA	6.3E-10	NA	NT	NA	1.1E-10	8.0E-11	8.5E-10	NT
Bis(2-ethylhexyl)phthalate	E2 max	9.8E-12	NA	1.4E-13	NA	7.6E-11	NA	3.8E-09	NA	1.5E-08	2.2E-10	1.2E-07	6 0E-06
Carbon tetrachloride	E2 max	1 9E-13	NA	2 4E-14	NA	1.4E-12	NA	2.1E-09	NA	6.6E-15	8.6E-16	5 1E-14	7.3E-11
Dibenz(a,h)anthracene	E2 max	6 6E-10	NA	4.8E-09	NA	5.2E-09	NA	NT	NA	1.5E-11	1.1E-10	1.2E-10	NT
Di(n)octyl phthalate	E2 max	2 1E-12	NA	NT	NA	1.6E-11	NA	8.2E-10	NA	4.2E-08	NT	3 2E-07	1.6E-05
Heptachlor	E2 max	3.2E-13	NA	1.5E-12	NA	2.5E-12	NA	5.0E-09	NA	1.2E-13	5.4E-13	9 3E-13	1.9E-09
Hexachlorobenzene	E2 max	1.9E-09	NA	3.1E-09	NA	1.5E-08	NA	1.9E-05	NA	5 4E-13	8.7E-13	4.2E-12	5.3E-09
Hexachlorobutadiene	E2 max	1.3E-10	NA	1.0E-11	NA	1.0E-09	NA	5.1E-06	NA	8.1E-14	6 3E-15	6 3E-13	3.2E-09
Hexachlorocyclopentadiene	E2 max	1.5E-13	NA	NT	NA	1.2E-12	NA	1.7E-10	NA	5.1E-15	NT	4 0E-14	5.7E-12
Hexachlorophene	E2 max	1.1E-11	NA	NT	NA	8.9E-11	NA	3.0E-07	NA	6 1E-10	NT	4.7E-09	1.6E-05
Indeno(1,2,3-cd)pyrene	E2 max	8.3E-10	NA	6.1E-10	NA	6.5E-09	NA	NT	NA	1.4E-11	1 0E-11	1 1E-10	NT
Antimony	E2 max	7.9E-16	NA	NT	NA	6.2E-15	NA	1.5E-11	NA	6.2E-14	NT	4 9E-13	1.2E-09
Arsenic	E2 max	7.5E-13	NA	1.3E-12	NA	5.8E-12	NA	1.9E-08	NA	1.0E-12	1 8E-12	8.0E-12	2.7E-08
Barium	E2 max	1.4E-13	NA	NT	NA	1.1E-12	NA	1.6E-11	NA	3.3E-13	NT	2 6E-12	3.7E-11
Beryllium	E2 max	3.9E-16	NA	1.7E-15	NA	3.1E-15	NA	6.1E-13	NA	4.8E-16	2.1E-15	3 8E-15	7.5E-13
Cadmium	E2 max	1 9E-12	NA	NT	NA	1.5E-11	NA	2.9E-08	NA	3.4E-14	NT	2 7E-13	5.3E-10
Chromium (hexavalent)	E2 max	7.0E-15	NA	NT	NA	5.4E-14	NA	1 1E-11	NA	5.9E-14	NT	4 6E-13	9.1E-11
Lead	E2 max	4 3E-12	NA	NT	NA	3.3E-11	NA	NT	NA	2 1E-13	NT	1 6E-12	NT
Mercury	E2 max	2.4E-09	NA	NT	NA	1.8E-08	NA	6 1E-05	NA	5 4E-12	NT	4 2E-11	1.4E-07
Mercury (methyl BCF)	E2 max	1.4E-08	NA	NT	NA	1.1E-07	NA	3 5E-04	NA	5 4E-12	NT	4 2E-11	1 4E-07
Nickel	E2 max	1 2E-13	NA	NT	NA	9.7E-13	NA	4 8E-11	NA	4 2E-13	NT	3 3E-12	1 6E-10
Selenium	E2 max	1.9E-11	NA	NT	NA	1.5E-10	NA	3 0E-08	NA	2 0E-11	NT	1 5E-10	3 0E-08
Silver	E2 max	1.4E-15	NA	NT	NA	1.1E-14	NA	2 2E-12	NA	7 8E-13	NT	6 1E-12	1 2E-09
Thallium	E2 max	2 6E-12	NA	NT	NA	2 0E-11	NA	2 9E-07	NA	2 2E-11	NT	1 7E-10	2 4E-06
Zinc	E2 max	8 9E-12	NA	NT	NA	7 0E-11	NA	2 3E-10	NA	4 3E-13	NT	3 3E-12	1 1E-11
DIOXIN TEQ	E2 max			1 2E-09	NA			NT	NA		9 2E-09		NT
ORGANICS TOTAL (non-dioxin)	E2 max			8 8E-09	NA			2 4E-05	NA		1 8E-09		3 8E-05
INORGANICS TOTAL	E2 max			1 3E-12	NA			4 1E-04	NA		1 8E-12		2 7E-06
SUBAREA TOTAL	E2 max			1.0E-08	NA			4 4E-04	NA		1 1E-08		4 1E-05

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	E3 max	3.6E-17	NA	5 4E-12	NA	2.8E-16	NA	NT	NA	2 2E-16	3.2E-11	1 7E-15	NT
1,2,3,7,8-PeCDD	E3 max	1.5E-16	NA	1.1E-11	NA	1.2E-15	NA	NT	NA	3.7E-15	2.8E-10	2 9E-14	NT
1,2,3,4,7,8-HxCDD	E3 max	2.2E-16	NA	3 3E-12	NA	1.7E-15	NA	NT	NA	2.5E-15	3.8E-11	1 9E 14	NT
1,2,3,6,7,8-HxCDD	E3 max	2.6E-16	NA	3 9E-12	NA	2.0E-15	NA	NT	NA	6 3E-16	9.4E-12	4 9E 15	NT
1,2,3,7,8,9-HxCDD	E3 max	1.6E-16	NA	2 5E-12	NA	1.3E-15	NA	NT	NA	8.9E-16	1.3E-11	6 9E 15	NT
1,2,3,4,6,7,8-HpCDD	E3 max	3.7E-16	NA	5 6E-13	NA	2.9E-15	NA	NT	NA	7.3E-15	1.1E-11	5.7E-14	NT
OCDD	E3 max	2.8E-17	NA	4.2E-15	NA	2.2E-16	NA	NT	NA	1.3E-12	2.0E-10	1 0E-11	NT
2,3,7,8-TCDF	E3 max	2.8E-16	NA	4 2E-12	NA	2.2E-15	NA	NT	NA	6 9E-16	1.0E-11	5 4E-15	NT
1,2,3,7,8-PeCDF	E3 max	1.3E-15	NA	9.4E-12	NA	9.8E-15	NA	NT	NA	3 2E 15	2.4E-11	2.5E-14	NT
2,3,4,7,8-PeCDF	E3 max	1.8E-15	NA	1.3E-10	NA	1.4E-14	NA	NT	NA	1.9E-14	1.4E-09	1.4E-13	NT
1,2,3,4,7,8-HxCDF	E3 max	2.4E-15	NA	3.6E-11	NA	1.8E-14	NA	NT	NA	1.0E-14	1.5E-10	7.7E-14	NT
1,2,3,6,7,8-HxCDF	E3 max	2.2E-15	NA	3.4E-11	NA	1.7E-14	NA	NT	NA	1.9E-14	2.8E-10	1.5E-13	NT
1,2,3,7,8,9-HxCDF	E3 max	5.4E-16	NA	8 2E-12	NA	4.2E-15	NA	NT	NA	4 3E-15	6.4E-11	3.3E-14	NT
2,3,4,6,7,8-HxCDF	E3 max	2.5E-15	NA	3.8E-11	NA	2.0E-14	NA	NT	NA	1.2E-14	1.8E-10	9.6E-14	NT
1,2,3,4,6,7,8-HpCDF	E3 max	2.7E-15	NA	4.1E-12	NA	2.1E-14	NA	NT	NA	9.5E-15	1.4E-11	7.4E-14	NT
1,2,3,4,7,8,9-HpCDF	E3 max	3.4E-16	NA	5 1E-13	NA	2.7E-15	NA	NT	NA	1.9E-15	2.8E-12	1.4E-14	NT
OCDF	E3 max	1.2E-16	NA	1.7E-14	NA	9.0E-16	NA	NT	NA	1.1E-13	1.7E-11	8.6E-13	NT
Tetrachlorobiphenyl	E3 max	2.6E-14	NA	2 0E-13	NA	2.0E-13	NA	NT	NA	4.3E-14	3 3E-13	3.3E-13	NT
Hexachlorobiphenyl	E3 max	2.3E-12	NA	1.8E-11	NA	1.8E-11	NA	NT	NA	2.8E-14	2.2E-13	2.2E-13	NT
Heptachlorobiphenyl	E3 max	9.1E-13	NA	7.0E-12	NA	7.0E-12	NA	NT	NA	8.6E-13	6 6E-12	6.7E-12	NT
Benzo(a)pyrene	E3 max	3.7E-12	NA	2.7E-11	NA	2.9E-11	NA	NT	NA	5.5E-11	4 0E-10	4.3E-10	NT
Benzo(b)fluoranthene	E3 max	1.9E-11	NA	1.4E-11	NA	1.4E-10	NA	NT	NA	3.2E 11	2 4E-11	2.5E-10	NT
Bis(2-ethylhexyl)phthalate	E3 max	2.6E-12	NA	3.7E-14	NA	2.0E-11	NA	1.0E-09	NA	4.6E-09	6.4E-11	3.6E-08	1.8E-06
Carbon tetrachloride	E3 max	4.3E-14	NA	5 5E-15	NA	3.3E-13	NA	4.7E-10	NA	2.0E-15	2.5E-16	1.5E-14	2.2E-11
Dibenz(a,h)anthracene	E3 max	1.7E-10	NA	1.2E-09	NA	1.3E-09	NA	NT	NA	4.7E-12	3.4E-11	3 6E-11	NT
Di(n)octyl phthalate	E3 max	4.9E-13	NA	NT	NA	3.8E-12	NA	1.9E-10	NA	1.2E-08	NT	9.6E-08	4.8E-06
Heptachlor	E3 max	7.4E-14	NA	3.3E-13	NA	5.8E-13	NA	1.2E-09	NA	3.6E-14	1 6E-13	2.8E-13	5.5E-10
Hexachlorobenzene	E3 max	4.4E-10	NA	7.0E-10	NA	3.4E-09	NA	4.3E-06	NA	1 6E-13	2 6E-13	1.3E-12	1.6E-09
Hexachlorobutadiene	E3 max	3.0E-11	NA	2.3E-12	NA	2.3E-10	NA	1.2E-06	NA	2.4E-14	1.9E-15	1.9E-13	9.4E-10
Hexachlorocyclopentadiene	E3 max	3.5E-14	NA	NT	NA	2.7E-13	NA	3.8E-11	NA	1.5E-15	NT	1.2E-14	1.7E-12
Hexachlorophene	E3 max	2.9E-12	NA	NT	NA	2.3E-11	NA	7.6E-08	NA	1.9E-10	NT	1.5E-09	4.9E-06
Indeno(1,2,3-cd)pyrene	E3 max	2.1E-10	NA	1.5E-10	NA	1.6E-09	NA	NT	NA	4.3E-12	3.1E-12	3.3E-11	NT
Antimony	E3 max	2.1E-16	NA	NT	NA	1.6E-15	NA	4.0E-12	NA	2.1E-14	NT	1.6E-13	4.1E-10
Arsenic	E3 max	1.9E-13	NA	3.3E-13	NA	1.5E-12	NA	4 9E-09	NA	3.4E-13	6.0E-13	2 7E-12	8.9E-09
Barium	E3 max	3.6E-14	NA	NT	NA	2.8E-13	NA	4.0E-12	NA	1.1E-13	NT	8.6E-13	1.2E-11
Beryllium	E3 max	1.0E-16	NA	4.3E-16	NA	7.8E-16	NA	1.6E-13	NA	1.6E-16	7.0E-16	1 3E-15	2.5E-13
Cadmium	E3 max	5.1E-13	NA	NT	NA	3.9E-12	NA	7.9E-09	NA	1.1E-14	NT	8 9E-14	1.8E-10
Chromium (hexavalent)	E3 max	1.8E-15	NA	NT	NA	1.4E-14	NA	2.8E-12	NA	2.0E-14	NT	1 5E-13	3.1E-11
Lead	E3 max	1.1E-12	NA	NT	NA	8.4E-12	NA	NT	NA	7.0E-14	NT	5 4E-13	NT
Mercury	E3 max	5.4E-10	NA	NT	NA	4.2E-09	NA	1.4E-05	NA	1.6E-12	NT	1 3E-11	4 2E-08
Mercury (methyl BCF)	E3 max	3.1E-09	NA	NT	NA	2.4E-08	NA	8 0E-05	NA	1.6E-12	NT	1 3E-11	4 2E-08
Nickel	E3 max	3.2E-14	NA	NT	NA	2.5E-13	NA	1 2E-11	NA	1.4E-13	NT	1 1E-12	5 5E-11
Selenium	E3 max	4.9E-12	NA	NT	NA	3 8E-11	NA	7 6E-09	NA	6 6E-12	NT	5 1E-11	1 0E-08
Silver	E3 max	3.7E-16	NA	NT	NA	2.9E-15	NA	5 7E-13	NA	2 6E-13	NT	2 0E-12	4.1E-10
Thallium	E3 max	6 7E-13	NA	NT	NA	5.2E-12	NA	7 4E-08	NA	7 2E-12	NT	5 6E-11	8 1E-07
Zinc	E3 max	2.3E-12	NA	NT	NA	1 8E-11	NA	6 0E-11	NA	1 4E-13	NT	1.1E-12	1 7E-12
DIOXIN TEQ	E3 max			2 9E-10	NA			NT	NA		2 7E-09		[illegible]
ORGANICS TOTAL (non-dioxin)	E3 max			2.1E-09	NA			5 5E-06	NA		5 3E-10		1 1E-05
INORGANICS TOTAL	E3 max			3 3E-13	NA			9 4E-07	NA		6 0E-13		9 1E-07
SUBAREA TOTAL	E3 max			2 4E-09	NA			1 0E-04	NA		1 1E-09		1.2E-05

TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ			CANCER		NONCANCER
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	LADD Deer Ingestion mg/kg-d	RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	HQ Deer Ingestion HQ
2,3,7,8-TCDD	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	9 1E-16	1 4E-10	7.1E-15	NT
1,2,3,7,8-PeCDD	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 6E-14	1 2E-09	1 2E-13	NT
1,2,3,4,7,8-HxCDD	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.0E-14	1 6E-10	8.2E-14	NT
1,2,3,6,7,8-HxCDD	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-15	4.3E-11	2 2E-14	NT
1,2,3,7,8,9-HxCDD	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	3.9E-15	5 9E-11	3 0E-14	NT
1,2,3,4,6,7,8-HpCDD	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	3.1E-14	4.6E-11	2.4E-13	NT
OCDD	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	5.5E-12	8.3E-10	4.3E-11	NT
2,3,7,8-TCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-15	4.3E-11	2 2E-14	NT
1,2,3,7,8-PeCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-14	1 0E-10	1.1E-13	NT
2,3,4,7,8-PeCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	7.8E-14	5 8E-09	6.0E-13	NT
1,2,3,4,7,8-HxCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	4.4E-14	6 6E-10	3.4E-13	NT
1,2,3,6,7,8-HxCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	8 0E-14	1.2E-09	6.2E-13	NT
1,2,3,7,8,9-HxCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.8E-14	2.7E-10	1.4E-13	NT
2,3,4,6,7,8-HxCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	5.3E-14	8.0E-10	4.1E-13	NT
1,2,3,4,6,7,8-HpCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	4.3E-14	6.4E-11	3 3E-13	NT
1,2,3,4,7,8,9-HpCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	8 8E-15	1.3E-11	6 8E-14	NT
OCDF	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	4.6E-13	6.9E-11	3 6E-12	NT
Tetrachlorobiphenyl	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 8E-13	1.4E-12	1 4E-12	NT
Hexachlorobiphenyl	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-13	8.9E-13	9 0E-13	NT
Heptachlorobiphenyl	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	3.6E-12	2.7E-11	2.8E-11	NT
Benzo(a)pyrene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.3E-10	1.7E-09	1 8E-09	NT
Benzo(b)fluoranthene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-10	9.8E-11	1.0E-09	NT
Bis(2-ethylhexyl)phthalate	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-08	2.7E-10	1 5E-07	7.4E-06
Carbon tetrachloride	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	8.1E-15	1.0E-15	6 3E-14	9.0E-11
Dibenz(a,h)anthracene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	4.3E-11	3.1E-10	3 3E-10	NT
Di(n)octyl phthalate	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	5.1E-08	NT	4 0E-07	2.0E-05
Heptachlor	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-13	6.6E-13	1 1E-12	2.3E-09
Hexachlorobenzene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	6.7E-13	1.1E-12	5 2E-12	6.5E-09
Hexachlorobutadiene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	9.9E-14	7.8E-15	7.7E-13	3.9E-09
Hexachlorocyclopentadiene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	6.3E-15	NT	4 9E-14	7 0E-12
Hexachlorophene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.7E-09	NT	1 3E-08	4.5E-05
Indeno(1,2,3-cd)pyrene	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	3 9E-11	2.9E-11	3 1E-10	NT
Antimony	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-13	NT	1 4E-12	3.6E-09
Arsenic	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	3.0E-12	5.3E-12	2 4E-11	7.9E-08
Barium	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	9.8E-13	NT	7 6E-12	1.1E-10
Beryllium	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 4E-15	8.2E-15	1 1E-14	2.2E-12
Cadmium	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.0E-13	NT	7 9E-13	1.6E-09
Chromium (hexavalent)	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 8E-13	NT	1 4E-12	2.7E-10
Lead	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	6 3E-13	NT	4.9E-12	NT
Mercury	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	6 7E-12	NT	5 2E-11	1.7E-07
Mercury (methyl BCF)	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	6 7E-12	NT	5 2E-11	1.7E-07
Nickel	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 2E-12	NT	9 7E-12	4 9E-10
Selenium	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	5 8E-11	NT	4 5E-10	9.0E-08
Silver	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	2 4E-12	NT	1 8E-11	3 7E-09
Thallium	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	6 5E-11	NT	5 1E-10	7 2E-06
Zinc	N1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 3E-12	NT	1.0E-11	3 5E-11
DIOXIN TEQ	N1 max			NA	NA			NA	NA		1 1E-08		NT
ORGANICS TOTAL (non-dioxin)	N1 max			NA	NA			NA	NA		2 4E-09		7 2E-05
INORGANICS TOTAL	N1 max			NA	NA			NA	NA		5 3E-12		7 7E-06
SUBAREA TOTAL	N1 max			NA	NA			NA	NA		1 4E-08		8 0E-05

TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ			CANCER		NONCANCER
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	LADD Deer Ingestion mg/kg-d	RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	HQ Deer Ingestion HQ
2,3,7,8-TCDD	N2 max	3.1E-16	NA	4.7E-11	NA	2.4E-15	NA	NT	NA	3.3E-16	5.0E-11	2.6E-15	NT
1,2,3,7,8-PeCDD	N2 max	1.4E-15	NA	1.1E-10	NA	1.1E-14	NA	NT	NA	5.7E-15	4.3E-10	4.4E-14	NT
1,2,3,4,7,8-HxCDD	N2 max	7.6E-16	NA	1.1E-11	NA	5.9E-15	NA	NT	NA	3.8E-15	5.7E-11	3.0E-14	NT
1,2,3,6,7,8-HxCDD	N2 max	1.3E-15	NA	1.9E-11	NA	1.0E-14	NA	NT	NA	9.9E-16	1.5E-11	7.7E-15	NT
1,2,3,7,8,9-HxCDD	N2 max	8.3E-16	NA	1.2E-11	NA	6.4E-15	NA	NT	NA	1.4E-15	2.1E-11	1.1E-14	NT
1,2,3,4,6,7,8-HpCDD	N2 max	1.2E-15	NA	1.8E-12	NA	9.5E-15	NA	NT	NA	1.1E-14	1.7E-11	8.7E-14	NT
OCDD	N2 max	1.2E-16	NA	1.7E-14	NA	9.0E-16	NA	NT	NA	2.0E-12	3.0E-10	1.6E-11	NT
2,3,7,8-TCDF	N2 max	2.8E-15	NA	4.2E-11	NA	2.2E-14	NA	NT	NA	1.1E-15	1.6E-11	8.2E-15	NT
1,2,3,7,8-PeCDF	N2 max	9.2E-15	NA	6.9E-11	NA	7.1E-14	NA	NT	NA	4.9E-15	3.7E-11	3.8E-14	NT
2,3,4,7,8-PeCDF	N2 max	1.1E-14	NA	8.5E-10	NA	8.8E-14	NA	NT	NA	2.8E-14	2.1E-09	2.2E-13	NT
1,2,3,4,7,8-HxCDF	N2 max	1.2E-14	NA	1.7E-10	NA	9.0E-14	NA	NT	NA	1.6E-14	2.3E-10	1.2E-13	NT
1,2,3,6,7,8-HxCDF	N2 max	1.1E-14	NA	1.6E-10	NA	8.4E-14	NA	NT	NA	2.9E-14	4.3E-10	2.3E-13	NT
1,2,3,7,8,9-HxCDF	N2 max	2.6E-15	NA	3.8E-11	NA	2.0E-14	NA	NT	NA	6.6E-15	9.9E-11	5.1E-14	NT
2,3,4,6,7,8-HxCDF	N2 max	1.2E-14	NA	1.8E-10	NA	9.6E-14	NA	NT	NA	1.9E-14	2.9E-10	1.5E-13	NT
1,2,3,4,6,7,8-HpCDF	N2 max	9.4E-15	NA	1.4E-11	NA	7.3E-14	NA	NT	NA	1.5E-14	2.2E-11	1.2E-13	NT
1,2,3,4,7,8,9-HpCDF	N2 max	1.2E-15	NA	1.8E-12	NA	9.3E-15	NA	NT	NA	3.0E-15	4.5E-12	2.3E-14	NT
OCDF	N2 max	3.6E-16	NA	5.4E-14	NA	2.8E-15	NA	NT	NA	1.7E-13	2.5E-11	1.3E-12	NT
Tetrachlorobiphenyl	N2 max	9.3E-13	NA	7.2E-12	NA	7.3E-12	NA	NT	NA	6.6E-14	5.1E-13	5.1E-13	NT
Hexachlorobiphenyl	N2 max	1.7E-11	NA	1.3E-10	NA	1.3E-10	NA	NT	NA	4.3E-14	3.3E-13	3.3E-13	NT
Heptachlorobiphenyl	N2 max	1.1E-11	NA	8.6E-11	NA	8.6E-11	NA	NT	NA	1.3E-12	1.0E-11	1.0E-11	NT
Benzo(a)pyrene	N2 max	2.0E-11	NA	1.5E-10	NA	1.6E-10	NA	NT	NA	8.4E-11	6.2E-10	6.6E-10	NT
Benzo(b)fluoranthene	N2 max	3.8E-10	NA	2.8E-10	NA	3.0E-09	NA	NT	NA	4.9E-11	3.6E-11	3.8E-10	NT
Bis(2-ethylhexyl)phthalate	N2 max	4.1E-12	NA	5.7E-14	NA	3.2E-11	NA	1.6E-09	NA	7.0E-09	9.8E-11	5.4E-08	2.7E-06
Carbon tetrachloride	N2 max	1.8E-12	NA	2.3E-13	NA	1.4E-11	NA	2.0E-08	NA	3.0E-15	3.9E-16	2.3E-14	3.3E-11
Dibenz(a,h)anthracene	N2 max	1.9E-09	NA	1.4E-08	NA	1.5E-08	NA	NT	NA	1.0E-11	7.6E-11	8.1E-11	NT
Di(n)octyl phthalate	N2 max	1.9E-11	NA	NT	NA	1.5E-10	NA	7.5E-09	NA	1.9E-08	NT	1.5E-07	7.3E-06
Heptachlor	N2 max	2.9E-12	NA	1.3E-11	NA	2.3E-11	NA	4.5E-08	NA	5.4E-14	2.4E-13	4.2E-13	8.4E-10
Hexachlorobenzene	N2 max	1.8E-08	NA	2.9E-08	NA	1.4E-07	NA	1.7E-04	NA	2.5E-13	3.9E-13	1.9E-12	2.4E-09
Hexachlorobutadiene	N2 max	1.2E-09	NA	9.6E-11	NA	9.6E-09	NA	4.8E-05	NA	3.7E-14	2.9E-15	2.8E-13	1.4E-09
Hexachlorocyclopentadiene	N2 max	1.4E-12	NA	NT	NA	1.1E-11	NA	1.6E-09	NA	2.3E-15	NT	1.8E-14	2.6E-12
Hexachlorophene	N2 max	8.8E-11	NA	NT	NA	6.8E-10	NA	2.3E-06	NA	4.2E-10	NT	3.3E-09	1.1E-05
Indeno(1,2,3-cd)pyrene	N2 max	2.6E-09	NA	1.9E-09	NA	2.0E-08	NA	NT	NA	9.5E-12	6.9E-12	7.4E-11	NT
Antimony	N2 max	1.0E-14	NA	NT	NA	8.1E-14	NA	2.0E-10	NA	4.4E-14	NT	3.4E-13	8.8E-10
Arsenic	N2 max	1.0E-11	NA	1.8E-11	NA	8.1E-11	NA	2.7E-07	NA	7.2E-13	1.3E-12	5.6E-12	1.9E-08
Barium	N2 max	1.9E-12	NA	NT	NA	1.5E-11	NA	2.1E-10	NA	2.3E-13	NT	1.8E-12	2.6E-11
Beryllium	N2 max	5.5E-15	NA	2.4E-14	NA	4.3E-14	NA	8.5E-12	NA	3.4E-16	1.5E-15	2.6E-15	5.3E-13
Cadmium	N2 max	1.7E-11	NA	NT	NA	1.3E-10	NA	2.6E-07	NA	2.4E-14	NT	1.9E-13	3.7E-10
Chromium (hexavalent)	N2 max	9.7E-14	NA	NT	NA	7.5E-13	NA	1.5E-10	NA	4.1E-14	NT	3.2E-13	6.4E-11
Lead	N2 max	5.9E-11	NA	NT	NA	4.6E-10	NA	NT	NA	1.5E-13	NT	1.1E-12	NT
Mercury	N2 max	2.2E-08	NA	NT	NA	1.7E-07	NA	5.8E-04	NA	2.5E-12	NT	1.9E-11	6.4E-08
Mercury (methyl BCF)	N2 max	1.3E-07	NA	NT	NA	1.0E-06	NA	3.3E-03	NA	2.5E-12	NT	1.9E-11	6.4E-08
Nickel	N2 max	1.7E-12	NA	NT	NA	1.4E-11	NA	6.8E-10	NA	3.0E-13	NT	2.3E-12	1.2E-10
Selenium	N2 max	2.7E-10	NA	NT	NA	2.1E-09	NA	4.1E-07	NA	1.4E-11	NT	1.1E-10	2.1E-08
Silver	N2 max	1.9E-14	NA	NT	NA	1.5E-13	NA	2.9E-11	NA	5.5E-13	NT	4.3E-12	8.6E-10
Thallium	N2 max	3.5E-11	NA	NT	NA	2.7E-10	NA	3.9E-06	NA	1.5E-11	NT	1.2E-10	1.7E-06
Zinc	N2 max	1.2E-10	NA	NT	NA	9.0E-10	NA	3.0E-09	NA	3.1E-13	NT	2.4E-12	7.9E-12
DIOXIN TEQ	N2 max			1.7E-09	NA			NT	NA				
ORGANICS TOTAL (non-dioxin)	N2 max			4.5E-08	NA			2.2E-04	NA		4.2E-09		NT
INORGANICS TOTAL	N2 max			1.8E-11	NA			3.9E-03	NA		8.4E-10		2.1E-05
SUBAREA TOTAL	N2 max			4.7E-08	NA			4.1E-03	NA		1.3E-12		1.9E-06
											5.0E-09		2.3E-05

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	9 0E-17	1.4E-11	7.0E-16	NT
1,2,3,7,8-PeCDD	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 5E-15	1 2E-10	1.2E-14	NT
1,2,3,4,7,8-HxCDD	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 0E-15	1 6E-11	8 1E-15	NT
1,2,3,6,7,8-HxCDD	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-16	4.1E-12	2.1E-15	NT
1,2,3,7,8,9-HxCDD	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	3.8E-16	5.7E-12	3.0E-15	NT
1,2,3,4,6,7,8-HpCDD	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	3.0E-15	4 6E-12	2.4E-14	NT
OCDD	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	5 5E-13	8.3E-11	4.3E-12	NT
2,3,7,8-TCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-16	4.3E-12	2 2E-15	NT
1,2,3,7,8-PeCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-15	1.0E-11	1 0E-14	NT
2,3,4,7,8-PeCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	7.7E-15	5.8E-10	6.0E-14	NT
1,2,3,4,7,8-HxCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	4.3E-15	6.4E-11	3.3E-14	NT
1,2,3,6,7,8-HxCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	7.9E-15	1.2E-10	6.1E-14	NT
1,2,3,7,8,9-HxCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.8E-15	2.7E-11	1.4E-14	NT
2,3,4,6,7,8-HxCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	5.2E-15	7.8E-11	4.1E-14	NT
1,2,3,4,6,7,8-HpCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	4.1E-15	6.2E-12	3.2E-14	NT
1,2,3,4,7,8,9-HpCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	8 3E-16	1.2E-12	6.4E-15	NT
OCDF	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	4.6E-14	6.9E-12	3.6E-13	NT
Tetrachlorobiphenyl	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.8E-14	1.4E-13	1 4E-13	NT
Hexachlorobiphenyl	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 2E-14	8.9E-14	9.0E-14	NT
Heptachlorobiphenyl	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	3.6E-13	2.7E-12	2.8E-12	NT
Benzo(a)pyrene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	2.3E-11	1.7E-10	1.8E-10	NT
Benzo(b)fluoranthene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-11	9.8E-12	1.0E-10	NT
Bis(2-ethylhexyl)phthalate	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 9E-09	2.7E-11	1.5E-08	7.4E-07
Carbon tetrachloride	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	8.1E-16	1.0E-16	6.3E-15	9.0E-12
Dibenz(a,h)anthracene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	3.2E-12	2.4E-11	2.5E-11	NT
Di(n)octyl phthalate	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	5.1E-09	NT	4.0E-08	2.0E-06
Heptachlor	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-14	6.6E-14	1.1E-13	2.3E-10
Hexachlorobenzene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	6.7E-14	1.1E-13	5.2E-13	6.5E-10
Hexachlorobutadiene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	9.9E-15	7.8E-16	7.7E-14	3.9E-10
Hexachlorocyclopentadiene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	6.3E-16	NT	4.9E-15	7.0E-13
Hexachlorophene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-10	NT	1.0E-09	3.4E-06
Indeno(1,2,3-cd)pyrene	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	3.0E-12	2.2E-12	2.3E-11	NT
Antimony	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-14	NT	1 2E-13	2.9E-10
Arsenic	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	2.5E-13	4.3E-13	1.9E-12	6.4E-09
Barium	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	8.0E-14	NT	6.2E-13	8.9E-12
Beryllium	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 2E-16	5.0E-16	9 1E-16	1.8E-13
Cadmium	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	8.3E-15	NT	6.4E-14	1 3E-10
Chromium (hexavalent)	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-14	NT	1.1E-13	2.2E-11
Lead	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	5 1E-14	NT	4 0E-13	NT
Mercury	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	6 7E-13	NT	5 2E-12	1.7E-08
Mercury (methyl BCF)	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	6 7E-13	NT	5 2E-12	1 7E-08
Nickel	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 0E-13	NT	7 9E-13	4 0E-11
Selenium	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	4 7E-12	NT	3 7E-11	7.4E-09
Silver	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 9E-13	NT	1 5E-12	3 0E-10
Thallium	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	5 3E-12	NT	4 1E-11	5 8E-07
Zinc	N3 max	NA	NA	NA	NA	NA	NA	NA	NA	1 1E-13	NT	8 2E-13	2.7E-12
DIOXIN TEQ	N3 max			NA	NA			NA	NA		1 1E-09		NT
ORGANICS TOTAL (non-dioxin)	N3 max			NA	NA			NA	NA		2 3E-10		6 1E-06
INORGANICS TOTAL	N3 max			NA	NA			NA	NA		4 3E-13		6 3E-07
SUBAREA TOTAL	N3 max			NA	NA			NA	NA		1 4E-09		6 8E-06

TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	S1 max	7.4E-16	NA	1.1E-10	NA	5 8E-15	NA	NT	NA	1.2E-15	1.8E-10	9.5E-15	NT
1,2,3,7,8-PeCDD	S1 max	3 4E-15	NA	2.5E-10	NA	2 6E-14	NA	NT	NA	2.1E-14	1.6E-09	1.6E-13	NT
1,2,3,4,7,8-HxCDD	S1 max	5.2E-15	NA	7.8E-11	NA	4.1E-14	NA	NT	NA	1.4E-14	2.1E-10	1 1E-13	NT
1,2,3,6,7,8-HxCDD	S1 max	6.4E-15	NA	9.6E-11	NA	5.0E-14	NA	NT	NA	3.7E-15	5.6E-11	2.9E-14	NT
1,2,3,7,8,9-HxCDD	S1 max	4 1E-15	NA	6.1E-11	NA	3.2E-14	NA	NT	NA	5.1E-15	7.7E-11	4.0E-14	NT
1,2,3,4,6,7,8-HpCDD	S1 max	9.3E-15	NA	1 4E-11	NA	7.2E-14	NA	NT	NA	4.1E-14	6.1E-11	3.2E-13	NT
OCDD	S1 max	7.0E-16	NA	1.1E-13	NA	5.5E-15	NA	NT	NA	7.4E-12	1.1E-09	5.8E-11	NT
2,3,7,8-TCDF	S1 max	5.7E-15	NA	8.5E-11	NA	4.4E-14	NA	NT	NA	3.8E-15	5.8E-11	3.0E-14	NT
1,2,3,7,8-PeCDF	S1 max	2.7E-14	NA	2.0E-10	NA	2.1E-13	NA	NT	NA	1.8E-14	1.4E-10	1.4E-13	NT
2,3,4,7,8-PeCDF	S1 max	3.8E-14	NA	2 9E-09	NA	3.0E-13	NA	NT	NA	1 0E-13	7.8E-09	8 1E-13	NT
1,2,3,4,7,8-HxCDF	S1 max	5.7E-14	NA	8 6E-10	NA	4.5E-13	NA	NT	NA	5.8E-14	8.7E-10	4.5E-13	NT
1,2,3,6,7,8-HxCDF	S1 max	5.4E-14	NA	8 1E-10	NA	4.2E-13	NA	NT	NA	1.1E-13	1.6E-09	8.3E-13	NT
1,2,3,7,8,9-HxCDF	S1 max	1.3E-14	NA	1 9E-10	NA	1.0E-13	NA	NT	NA	2.4E-14	3.6E-10	1.9E-13	NT
2,3,4,6,7,8-HxCDF	S1 max	6.1E-14	NA	9 2E-10	NA	4.8E-13	NA	NT	NA	7.0E-14	1.1E-09	5.5E-13	NT
1,2,3,4,6,7,8-HpCDF	S1 max	6.7E-14	NA	1.0E-10	NA	5.2E-13	NA	NT	NA	5.6E-14	8.4E-11	4.3E-13	NT
1,2,3,4,7,8,9-HpCDF	S1 max	8.5E-15	NA	1 3E-11	NA	6 6E-14	NA	NT	NA	1.1E-14	1.7E-11	8.7E-14	NT
OCDF	S1 max	2.9E-15	NA	4 4E-13	NA	2.3E-14	NA	NT	NA	6.2E-13	9.2E-11	4.8E-12	NT
Tetrachlorobiphenyl	S1 max	5 2E-13	NA	4 0E-12	NA	4.0E-12	NA	NT	NA	2.4E-13	1.9E-12	1.9E-12	NT
Hexachlorobiphenyl	S1 max	4 6E-11	NA	3 5E-10	NA	3.6E-10	NA	NT	NA	1.6E-13	1.2E-12	1.2E-12	NT
Heptachlorobiphenyl	S1 max	1 8E-11	NA	1 4E-10	NA	1.4E-10	NA	NT	NA	4.8E-12	3.7E-11	3.7E-11	NT
Benzo(a)pyrene	S1 max	7.3E-11	NA	5 4E-10	NA	5.7E-10	NA	NT	NA	3.1E-10	2.3E-09	2.4E-09	NT
Benzo(b)fluoranthene	S1 max	3.7E-10	NA	2.7E-10	NA	2.9E-09	NA	NT	NA	1.8E-10	1.3E-10	1.4E-09	NT
Bis(2-ethylhexyl)phthalate	S1 max	4.4E-11	NA	6 2E-13	NA	3.4E-10	NA	1.7E-08	NA	2.5E-08	3.6E-10	2.0E-07	9.9E-06
Carbon tetrachloride	S1 max	8 4E-13	NA	1 1E-13	NA	6.6E-12	NA	9.4E-09	NA	1.1E-14	1.4E-15	8.4E-14	1.2E-10
Dibenz(a,h)anthracene	S1 max	3 7E-09	NA	2.7E-08	NA	2.9E-08	NA	NT	NA	4.8E-11	3.4E-10	3.6E-10	NT
Di(n)octyl phthalate	S1 max	9.6E-12	NA	NT	NA	7.5E-11	NA	3.7E-09	NA	6.9E-08	NT	5.3E-07	2.7E-05
Heptachlor	S1 max	1.5E-12	NA	6 6E-12	NA	1.1E-11	NA	2.3E-08	NA	2.0E-13	8.9E-13	1.5E-12	3.1E-09
Hexachlorobenzene	S1 max	8.7E-09	NA	1 4E-08	NA	6.7E-08	NA	8.4E-05	NA	8.9E-13	1.4E-12	6 9E-12	8 7E-09
Hexachlorobutadiene	S1 max	5.9E-10	NA	4.6E-11	NA	4.6E-09	NA	2.3E-05	NA	1.3E-13	1.0E-14	1 0E-12	5.2E-09
Hexachlorocyclopentadiene	S1 max	6 9E-13	NA	NT	NA	5.3E-12	NA	7.6E-10	NA	8.5E-15	NT	6 6E-14	9.4E-12
Hexachlorophene	S1 max	6 0E-11	NA	NT	NA	4.7E-10	NA	1.6E-06	NA	1.9E-09	NT	1.4E-08	4.8E-05
Indeno(1,2,3-cd)pyrene	S1 max	4.7E-09	NA	3.5E-09	NA	3.7E-08	NA	NT	NA	4.2E-11	3.1E-11	3 3E-10	NT
Antimony	S1 max	4.8E-15	NA	NT	NA	3.7E-14	NA	9.3E-11	NA	2.1E-13	NT	1.7E-12	4.1E-09
Arsenic	S1 max	4.6E-12	NA	8.1E-12	NA	3 6E-11	NA	1.2E-07	NA	3.5E-12	6.1E-12	2 7E-11	9.0E-08
Barium	S1 max	8.6E-13	NA	NT	NA	6.7E-12	NA	9.5E-11	NA	1.1E-12	NT	8 8E-12	1.3E-10
Beryllium	S1 max	2.4E-15	NA	1.1E-14	NA	1.9E-14	NA	3 8E-12	NA	1.6E-15	7.1E-15	1 3E-14	2.6E-12
Cadmium	S1 max	9.9E-12	NA	NT	NA	7.7E-11	NA	1.5E-07	NA	1 2E-13	NT	9 0E-13	1.8E-09
Chromium (hexavalent)	S1 max	4.3E-14	NA	NT	NA	3.4E-13	NA	6.7E-11	NA	2.0E-13	NT	1 6E-12	3.1E-10
Lead	S1 max	2.6E-11	NA	NT	NA	2.1E-10	NA	NT	NA	7.2E-13	NT	5 6E-12	NT
Mercury	S1 max	1.1E-08	NA	NT	NA	8.3E-08	NA	2 8E-04	NA	9.0E-12	NT	7 0E-11	2.3E-07
Mercury (methyl BCF)	S1 max	6.1E-08	NA	NT	NA	4 8E-07	NA	1 6E-03	NA	9.0E-12	NT	7 0E-11	2 3E-07
Nickel	S1 max	7.7E-13	NA	NT	NA	6.0E-12	NA	3 0E-10	NA	1.4E-12	NT	1 1E-11	5 6E-10
Selenium	S1 max	1 2E-10	NA	NT	NA	9.1E-10	NA	1 8E-07	NA	6 7E-11	NT	5 2E-10	1 0E-07
Silver	S1 max	8.5E-15	NA	NT	NA	6 6E-14	NA	1 3E-11	NA	2 7E-12	NT	2 1E-11	4 2E-09
Thallium	S1 max	1 6E-11	NA	NT	NA	1.3E-10	NA	1 8E-06	NA	7 4E-11	NT	5 8E-10	8 3E-06
Zinc	S1 max	5.3E-11	NA	NT	NA	4.2E-10	NA	1 4E-09	NA	1 5E-12	NT	1 2E-11	3.9E-11
DIOXIN TEQ	S1 max			6 7E-09	NA			NT	NA		1 5E-08		NT
ORGANICS TOTAL (non-dioxin)	S1 max			4 6E-08	NA			1 1E-04	NA		3 1E-09		8 5E-05
INORGANICS TOTAL	S1 max			8 1E-12	NA			1 9E-03	NA		6 1E-12		8 9E-06
SUBAREA TOTAL	S1 max			5 3E-08	NA			2 0E-03	NA		1 8E-08		9 4E-05

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	3.3E-16	4 9E-11	2 6E-15	NT
1,2,3,7,8-PeCDD	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	5 6E-15	4 2E-10	4 4E-14	NT
1,2,3,4,7,8-HxCDD	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	3.8E-15	5.7E-11	3.0E-14	NT
1,2,3,6,7,8-HxCDD	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	9.5E-16	1.4E-11	7 4E-15	NT
1,2,3,7,8,9-HxCDD	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1.4E-15	2 0E-11	1 1E-14	NT
1,2,3,4,6,7,8-HpCDD	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1 1E-14	1 7E-11	8.6E-14	NT
OCDD	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 0E-12	3 0E-10	1.6E-11	NT
2,3,7,8-TCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1.0E-15	1 6E-11	8.1E-15	NT
1,2,3,7,8-PeCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	4 9E-15	3.7E-11	3.8E-14	NT
2,3,4,7,8-PeCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2.8E-14	2.1E-09	2.2E-13	NT
1,2,3,4,7,8-HxCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-14	2 3E-10	1 2E-13	NT
1,2,3,6,7,8-HxCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-14	4.3E-10	2.2E-13	NT
1,2,3,7,8,9-HxCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	6.5E-15	9.8E-11	5.1E-14	NT
2,3,4,6,7,8-HxCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-14	2.8E-10	1.5E-13	NT
1,2,3,4,6,7,8-HpCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1 4E-14	2.2E-11	1.1E-13	NT
1,2,3,4,7,8,9-HpCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 8E-15	4.2E-12	2.2E-14	NT
OCDF	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1.7E-13	2.5E-11	1.3E-12	NT
Tetrachlorobiphenyl	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	6 5E-14	5.0E-13	5 0E-13	NT
Hexachlorobiphenyl	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	4 3E-14	3.3E-13	3 3E-13	NT
Heptachlorobiphenyl	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1 3E-12	1.0E-11	1 0E-11	NT
Benzo(a)pyrene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	8 4E-11	6.1E-10	6 5E-10	NT
Benzo(b)fluoranthene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	4 9E-11	3.6E-11	3 8E-10	NT
Bis(2-ethylhexyl)phthalate	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	7.0E-09	9.8E-11	5 4E-08	2.7E-06
Carbon tetrachloride	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	3.0E-15	3.9E-16	2 3E-14	3.3E-11
Dibenz(a,h)anthracene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	6 5E-12	4.7E-11	5 0E-11	NT
Di(n)octyl phthalate	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1.9E-08	NT	1 5E-07	7.3E-06
Heptachlor	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	5.4E-14	2.4E-13	4 2E-13	8.4E-10
Hexachlorobenzene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2.5E-13	3.9E-13	1.9E-12	2.4E-09
Hexachlorobutadiene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	3.7E-14	2.9E-15	2 8E-13	1.4E-09
Hexachlorocyclopentadiene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2.3E-15	NT	1 8E-14	2.6E-12
Hexachlorophene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2.6E-10	NT	2 0E-09	6.8E-06
Indeno(1,2,3-cd)pyrene	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	5.9E-12	4.3E-12	4 6E-11	NT
Antimony	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	3 0E-14	NT	2.3E-13	5.8E-10
Arsenic	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	4 9E-13	8.5E-13	3 8E-12	1 3E-06
Barium	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1 6E-13	NT	1 2E-12	1.7E-11
Beryllium	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 3E-16	9.9E-16	1 8E-15	3 6E-13
Cadmium	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1.6E-14	NT	1 3E-13	2 5E-10
Chromium (hexavalent)	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 8E-14	NT	2 2E-13	4.3E-11
Lead	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	9 9E-14	NT	7 7E-13	NT
Mercury	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 5E-12	NT	1 9E-11	6 4E-08
Mercury (methyl BCF)	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 5E-12	NT	1 9E-11	6 4E-08
Nickel	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 0E-13	NT	1 6E-12	7.8E-11
Selenium	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	9 3E-12	NT	7 2E-11	1 4E-08
Silver	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	3 7E-13	NT	2 9E-12	5 8E-10
Thallium	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	1 0E-11	NT	8 0E-11	1 1E-06
Zinc	S2 max	NA	NA	NA	NA	NA	NA	NA	NA	2 1E-13	NT	1 6E-12	5 3E-12
DIOXIN TEQ	S2 max			NA	NA			NA	NA		4 1E-09		NT
ORGANICS TOTAL (non-dioxin)	S2 max			NA	NA			NA	NA		8 1E-10		1 7E-05
INORGANICS TOTAL	S2 max			NA	NA			NA	NA		8 5E-13		1 3E-06
SUBAREA TOTAL	S2 max			NA	NA			NA	NA		5 0E-09		1 8E-05

TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	S3 max	NA	1.1E-16	NA	1.6E-11	NA	8.2E-16	NA	NT	9.9E-17	1.5E-11	7.7E-16	NT
1,2,3,7,8-PeCDD	S3 max	NA	4.4E-16	NA	3.3E-11	NA	3 5E-15	NA	NT	1 7E-15	1 3E-10	1.3E-14	NT
1,2,3,4,7,8-HxCDD	S3 max	NA	1.9E-16	NA	2.8E-12	NA	1.5E-15	NA	NT	1.1E-15	1.7E-11	8 9E-15	NT
1,2,3,6,7,8-HxCDD	S3 max	NA	3.1E-16	NA	4.7E-12	NA	2.4E-15	NA	NT	2 9E-16	4.3E-12	2.2E-15	NT
1,2,3,7,8,9-HxCDD	S3 max	NA	2.0E-16	NA	2.9E-12	NA	1.5E-15	NA	NT	4 1E-16	6.1E-12	3 2E-15	NT
1,2,3,4,6,7,8-HpCDD	S3 max	NA	2 8E-16	NA	4.2E-13	NA	2.2E-15	NA	NT	3 3E-15	5.0E-12	2.6E-14	NT
OCDD	S3 max	NA	2.6E-17	NA	4.0E-15	NA	2.1E-16	NA	NT	6.1E-13	9.1E-11	4 7E-12	NT
2,3,7,8-TCDF	S3 max	NA	1.0E-15	NA	1.5E-11	NA	7.8E-15	NA	NT	3 1E-16	4.7E-12	2.4E-15	NT
1,2,3,7,8-PeCDF	S3 max	NA	2.9E-15	NA	2.2E-11	NA	2.3E-14	NA	NT	1 5E-15	1.1E-11	1.1E-14	NT
2,3,4,7,8-PeCDF	S3 max	NA	3.4E-15	NA	2.5E-10	NA	2 6E-14	NA	NT	8 5E-15	6 4E-10	6.6E-14	NT
1,2,3,4,7,8-HxCDF	S3 max	NA	2 9E-15	NA	4.3E-11	NA	2.2E-14	NA	NT	4 5E-15	6.8E-11	3.5E-14	NT
1,2,3,6,7,8-HxCDF	S3 max	NA	2 7E-15	NA	4.0E-11	NA	2.1E-14	NA	NT	8.6E-15	1.3E-10	6.7E-14	NT
1,2,3,7,8,9-HxCDF	S3 max	NA	6 6E-16	NA	9 9E-12	NA	5.1E-15	NA	NT	2.0E-15	2.9E-11	1.5E-14	NT
2,3,4,6,7,8-HxCDF	S3 max	NA	3.1E-15	NA	4.6E-11	NA	2.4E-14	NA	NT	5.6E-15	8.4E-11	4.4E-14	NT
1,2,3,4,6,7,8-HpCDF	S3 max	NA	2 2E-15	NA	3.4E-12	NA	1.7E-14	NA	NT	4.3E-15	6.5E-12	3 4E-14	NT
1,2,3,4,7,8,9-HpCDF	S3 max	NA	2 8E-16	NA	4.2E-13	NA	2.2E-15	NA	NT	8.4E-16	1.3E-12	6.5E-15	NT
OCDF	S3 max	NA	8 2E-17	NA	1.2E-14	NA	6.3E-16	NA	NT	5.0E-14	7.6E-12	3.9E-13	NT
Tetrachlorobiphenyl	S3 max	NA	8 0E-13	NA	6.2E-12	NA	6.2E-12	NA	NT	1.9E-14	1.5E-13	1.5E-13	NT
Hexachlorobiphenyl	S3 max	NA	6 1E-12	NA	4.7E-11	NA	4.8E-11	NA	NT	1.3E-14	9.8E-14	9.9E-14	NT
Heptachlorobiphenyl	S3 max	NA	4.4E-12	NA	3.4E-11	NA	3.4E-11	NA	NT	3.9E-13	3.0E-12	3.1E-12	NT
Benzo(a)pyrene	S3 max	NA	8 2E-12	NA	6.0E-11	NA	6.4E-11	NA	NT	2.5E-11	1.8E-10	2.0E-10	NT
Benzo(b)fluoranthene	S3 max	NA	1 9E-10	NA	1.4E-10	NA	1.5E-09	NA	NT	1.5E-11	1.1E-11	1.1E-10	NT
Bis(2-ethylhexyl)phthalate	S3 max	NA	3 0E-12	NA	4.3E-14	NA	2.4E-11	NA	1.2E-09	2.1E-09	2.9E-11	1.6E-08	8.2E-07
Carbon tetrachloride	S3 max	NA	2 2E-12	NA	2 8E-13	NA	1.7E-11	NA	2.4E-08	8 9E-16	1.2E-16	6 9E-15	9.9E-12
Dibenz(a,h)anthracene	S3 max	NA	6.8E-10	NA	4.9E-09	NA	5.3E-09	NA	NT	2.0E-12	1.5E-11	1 6E-11	NT
Di(n)octyl phthalate	S3 max	NA	2 2E-11	NA	NT	NA	1.7E-10	NA	8.4E-09	5 6E-09	NT	4 4E-08	2.2E-06
Heptachlor	S3 max	NA	3.1E-12	NA	1.4E-11	NA	2.4E-11	NA	4.8E-08	1.6E-14	7.3E-14	1.3E-13	2.5E-10
Hexachlorobenzene	S3 max	NA	2 1E-08	NA	3.3E-08	NA	1.6E-07	NA	2.0E-04	7.4E-14	1.2E-13	5.7E-13	7.1E-10
Hexachlorobutadiene	S3 max	NA	1 5E-09	NA	1.1E-10	NA	1.1E-08	NA	5.7E-05	1.1E-14	8.6E-16	8 5E-14	4.3E-10
Hexachlorocyclopentadiene	S3 max	NA	1.7E-12	NA	NT	NA	1.3E-11	NA	1.9E-09	7.0E-16	NT	5.4E-15	7.7E-13
Hexachlorophene	S3 max	NA	8.3E-11	NA	NT	NA	6 4E-10	NA	2.1E-06	8.1E-11	NT	6.3E-10	2.1E-06
Indeno(1,2,3-cd)pyrene	S3 max	NA	8.7E-10	NA	6.4E-10	NA	6.8E-09	NA	NT	1 8E-12	1.3E-12	1.4E-11	NT
Antimony	S3 max	NA	1.0E-14	NA	NT	NA	7.9E-14	NA	2.0E-10	9.3E-15	NT	7.2E-14	1 8E-10
Arsenic	S3 max	NA	9.3E-12	NA	1.6E-11	NA	7.2E-11	NA	2.4E-07	1.5E-13	2.7E-13	1 2E-12	3.9E-09
Barium	S3 max	NA	1 8E-12	NA	NT	NA	1.4E-11	NA	2.0E-10	4.9E-14	NT	3 8E-13	5 4E-12
Beryllium	S3 max	NA	4.6E-15	NA	2.0E-14	NA	3.6E-14	NA	7.1E-12	7.2E-17	3.1E-16	5 6E-16	1.1E-13
Cadmium	S3 max	NA	2.5E-11	NA	NT	NA	2.0E-10	NA	3.9E-07	5 1E-15	NT	3 9E-14	7.9E-11
Chromium (hexavalent)	S3 max	NA	7 9E-14	NA	NT	NA	6.1E-13	NA	1.2E-10	8.7E-15	NT	6 8E-14	1.4E-11
Lead	S3 max	NA	4 8E-11	NA	NT	NA	3.7E-10	NA	NT	3.1E-14	NT	2.4E-13	NT
Mercury	S3 max	NA	2 8E-08	NA	NT	NA	2.1E-07	NA	7 1E-04	7 4E-13	NT	5 7E-12	1.9E-08
Mercury (methyl BCF)	S3 max	NA	1 6E-07	NA	NT	NA	1 2E-06	NA	4 1E-03	7.4E-13	NT	5 7E-12	1 9E-08
Nickel	S3 max	NA	1.6E-12	NA	NT	NA	1.2E-11	NA	6.1E-10	6 2E-14	NT	4 9E-13	2.4E-11
Selenium	S3 max	NA	2 3E-10	NA	NT	NA	1 8E-09	NA	3 6E-07	2 9E-12	NT	2 3E-11	4 5E-09
Silver	S3 max	NA	1.8E-14	NA	NT	NA	1.4E-13	NA	2 8E-11	1 2E-13	NT	9 1E-13	1 8E-10
Thallium	S3 max	NA	2 7E-11	NA	NT	NA	2 1E-10	NA	3 0E-06	3 2E-12	NT	2 5E-11	3 6E-07
Zinc	S3 max	NA	1.2E-10	NA	NT	NA	8 9E-10	NA	3 0E-09	6 4E-14	NT	5.0E-13	1.7E-12
DIOXIN TEQ	S3 max			NA	4 9E-10			NA	NA		1 2E-09		NT
ORGANICS TOTAL (non-dioxin)	S3 max			NA	3 9E-08			NA	2 6E-04		2 4E-10		5 1E-06
INORGANICS TOTAL	S3 max			NA	1 6E-11			NA	4 8E-03		2 7E-13		4 0E-07
SUBAREA TOTAL	S3 max			NA	4 0E-08			NA	5 1E-03		1 5E-09		5 5E-06

TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 4E-15	2.1E-10	1 1E-14	NT
1,2,3,7,8-PeCDD	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.4E-14	1.8E-09	1 9E-13	NT
1,2,3,4,7,8-HxCDD	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.6E-14	2.4E-10	1.2E-13	NT
1,2,3,6,7,8-HxCDD	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	4.0E-15	6.0E-11	3 1E-14	NT
1,2,3,7,8,9-HxCDD	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	5 7E-15	8.5E-11	4 4E-14	NT
1,2,3,4,6,7,8-HpCDD	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	4 7E-14	7.0E-11	3.6E-13	NT
OCDD	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	8.6E-12	1.3E-09	6.7E-11	NT
2,3,7,8-TCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	4.4E-15	6 6E-11	3.4E-14	NT
1,2,3,7,8-PeCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.1E-14	1.6E-10	1 6E-13	NT
2,3,4,7,8-PeCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-13	8.9E-09	9.3E-13	NT
1,2,3,4,7,8-HxCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	6.4E-14	9.5E-10	5 0E-13	NT
1,2,3,6,7,8-HxCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-13	1.8E-09	9.4E-13	NT
1,2,3,7,8,9-HxCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-14	4.1E-10	2.1E-13	NT
2,3,4,6,7,8-HxCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	7.9E-14	1.2E-09	6.1E-13	NT
1,2,3,4,6,7,8-HpCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	6.1E-14	9.1E-11	4.7E-13	NT
1,2,3,4,7,8,9-HpCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.2E-14	1.8E-11	9.2E-14	NT
OCDF	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	7.1E-13	1.1E-10	5.5E-12	NT
Tetrachlorobiphenyl	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-13	2.1E-12	2.1E-12	NT
Hexachlorobiphenyl	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.8E-13	1.4E-12	1.4E-12	NT
Heptachlorobiphenyl	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	5.5E-12	4.3E-11	4.3E-11	NT
Benzo(a)pyrene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	3.5E-10	2.8E-09	2.7E-09	NT
Benzo(b)fluoranthene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.1E-10	1.5E-10	1.6E-09	NT
Bis(2-ethylhexyl)phthalate	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.9E-08	4.1E-10	2.3E-07	1.1E-05
Carbon tetrachloride	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.3E-14	1.8E-15	9 7E-14	1.4E-10
Dibenz(a,h)anthracene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2 8E-11	2.0E-10	2.2E-10	NT
Di(n)octyl phthalate	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	7.9E-08	NT	6 2E-07	3.1E-05
Heptachlor	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.3E-13	1.0E-12	1 8E-12	3.5E-09
Hexachlorobenzene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.0E-12	1.7E-12	8.0E-12	1.0E-08
Hexachlorobutadiene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.5E-13	1.2E-14	1.2E-12	6.0E-09
Hexachlorocyclopentadiene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	9.8E-15	NT	7.6E-14	1.1E-11
Hexachlorophene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-09	NT	8.8E-09	2.9E-05
Indeno(1,2,3-cd)pyrene	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2.6E-11	1.9E-11	2 0E-10	NT
Antimony	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	6 7E-14	NT	5 2E-13	1.3E-09
Arsenic	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.1E-12	1.9E-12	8 6E-12	2 9E-08
Barium	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	3 5E-13	NT	2 8E-12	3 9E-11
Beryllium	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	5 2E-16	2.2E-15	4 0E-15	8 1E-13
Cadmium	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	3.7E-14	NT	2 9E-13	5 7E-10
Chromium (hexavalent)	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	6 3E-14	NT	4 9E-13	9.8E-11
Lead	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2 2E-13	NT	1 7E-12	NT
Mercury	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1 0E-11	NT	8 1E-11	2.7E-07
Mercury (methyl BCF)	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	1.0E-11	NT	8 1E-11	2 7E-07
Nickel	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	4 5E-13	NT	3 5E-12	1.8E-10
Selenium	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2 1E-11	NT	1 6E-10	3 3E-08
Silver	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	8 3E-13	NT	6 5E-12	1 3E-09
Thallium	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	2 3E-11	NT	1.8E-10	2 6E-06
Zinc	W1 max	NA	NA	NA	NA	NA	NA	NA	NA	4 5E-13	NT	3.5E-12	1.2E-11
DIOXIN TEQ	W1 max			NA	NA			NA	NA		1 7E-08		NT
ORGANICS TOTAL (non-dioxin)	W1 max			NA	NA			NA	NA		3 4E-09		7 2E-05
INORGANICS TOTAL	W1 max			NA	NA			NA	NA		1 9E-12		3 2E-06
SUBAREA TOTAL	W1 max			NA	NA			NA	NA		2 1E-08		7 5E-05

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ
2,3,7,8-TCDD	W2 max	8.2E-16	NA	1.2E-10	NA	6 4E-15	NA	NT	NA	4 9E-16	7.4E-11	3 8E-15	NT
1,2,3,7,8-PeCDD	W2 max	3 7E-15	NA	2.8E-10	NA	2.9E-14	NA	NT	NA	8.5E-15	6.3E-10	6 6E-14	NT
1,2,3,4,7,8-HxCDD	W2 max	5.6E-15	NA	8.5E-11	NA	4.4E-14	NA	NT	NA	5 7E-15	8 6E-11	4.4E-14	NT
1,2,3,6,7,8-HxCDD	W2 max	6.9E-15	NA	1.0E-10	NA	5.4E-14	NA	NT	NA	1.4E-15	2.1E-11	1.1E-14	NT
1,2,3,7,8,9-HxCDD	W2 max	4.4E-15	NA	6.6E-11	NA	3.4E-14	NA	NT	NA	2 0E-15	3.0E-11	1.6E-14	NT
1,2,3,4,6,7,8-HpCDD	W2 max	1.0E-14	NA	1.5E-11	NA	7.7E-14	NA	NT	NA	1.7E-14	2.5E-11	1 3E-13	NT
OCDD	W2 max	7.6E-16	NA	1.1E-13	NA	5.9E-15	NA	NT	NA	3 0E-12	4.6E-10	2.4E-11	NT
2,3,7,8-TCDF	W2 max	6 3E-15	NA	9.5E-11	NA	4.9E-14	NA	NT	NA	1 6E-15	2 4E-11	1.2E-14	NT
1,2,3,7,8-PeCDF	W2 max	2.9E-14	NA	2.2E-10	NA	2 3E-13	NA	NT	NA	7.4E-15	5.5E-11	5.7E-14	NT
2,3,4,7,8-PeCDF	W2 max	4 2E-14	NA	3.2E-09	NA	3 3E-13	NA	NT	NA	4 2E-14	3.2E-09	3.3E-13	NT
1,2,3,4,7,8-HxCDF	W2 max	6 2E-14	NA	9.3E-10	NA	4 8E-13	NA	NT	NA	2.2E-14	3.4E-10	1.7E-13	NT
1,2,3,6,7,8-HxCDF	W2 max	5 8E-14	NA	8.7E-10	NA	4.5E-13	NA	NT	NA	4.3E-14	6.4E-10	3.3E-13	NT
1,2,3,7,8,9-HxCDF	W2 max	1 4E-14	NA	2.1E-10	NA	1.1E-13	NA	NT	NA	9 7E-15	1.5E-10	7.6E-14	NT
2,3,4,6,7,8-HxCDF	W2 max	6.6E-14	NA	9 9E-10	NA	5.1E-13	NA	NT	NA	2.8E-14	4.2E-10	2.2E-13	NT
1,2,3,4,6,7,8-HpCDF	W2 max	7.2E-14	NA	1.1E-10	NA	5 6E-13	NA	NT	NA	2.1E-14	3.2E-11	1.7E-13	NT
1,2,3,4,7,8,9-HpCDF	W2 max	9.1E-15	NA	1 4E-11	NA	7.1E-14	NA	NT	NA	4.1E-15	6.2E-12	3.2E-14	NT
OCDF	W2 max	3 1E-15	NA	4 7E-13	NA	2 4E-14	NA	NT	NA	2.5E-13	3.8E-11	2.0E-12	NT
Tetrachlorobiphenyl	W2 max	5 7E-13	NA	4 4E-12	NA	4.5E-12	NA	NT	NA	9.7E-14	7.5E-13	7.6E-13	NT
Hexachlorobiphenyl	W2 max	5 1E-11	NA	3 9E-10	NA	4.0E-10	NA	NT	NA	6.4E-14	4.9E-13	5.0E-13	NT
Heptachlorobiphenyl	W2 max	2.0E-11	NA	1 5E-10	NA	1 6E-10	NA	NT	NA	2.0E-12	1.5E-11	1.5E-11	NT
Benzo(a)pyrene	W2 max	8 1E-11	NA	5 9E-10	NA	6.3E-10	NA	NT	NA	1.3E-10	9.1E-10	9.7E-10	NT
Benzo(b)fluoranthene	W2 max	4.1E-10	NA	3.0E-10	NA	3.2E-09	NA	NT	NA	7.4E-11	5.4E-11	5.7E-10	NT
Bis(2-ethylhexyl)phthalate	W2 max	4 9E-11	NA	6 8E-13	NA	3.8E-10	NA	1.9E-08	NA	1.0E-08	1.5E-10	8.2E-08	4 1E-06
Carbon tetrachloride	W2 max	9.4E-13	NA	1.2E-13	NA	7.3E-12	NA	1.0E-08	NA	4.5E-15	6.8E-16	3.5E-14	5.0E-11
Dibenz(a,h)anthracene	W2 max	4.0E-09	NA	2.9E-08	NA	3.1E-08	NA	NT	NA	8.6E-12	6.3E-11	6.7E-11	NT
Di(n)octyl phthalate	W2 max	1.1E-11	NA	NT	NA	8 3E-11	NA	4.2E-09	NA	2.8E-08	NT	2.2E-07	1.1E-05
Heptachlor	W2 max	1.6E-12	NA	7.3E-12	NA	1.3E-11	NA	2.5E-08	NA	8.1E-14	3.6E-13	6.3E-13	1.3E-09
Hexachlorobenzene	W2 max	9.7E-09	NA	1 5E-08	NA	7.5E-08	NA	9.4E-05	NA	3.7E-13	5.9E-13	2.9E-12	3.6E-09
Hexachlorobutadiene	W2 max	6.6E-10	NA	5.2E-11	NA	5.1E-09	NA	2.6E-05	NA	5.5E-14	4.3E-15	4.3E-13	2.1E-09
Hexachlorocyclopentadiene	W2 max	7.6E-13	NA	NT	NA	5.9E-12	NA	8.5E-10	NA	3.5E-15	NT	2.7E-14	3.9E-12
Hexachlorophene	W2 max	6.5E-11	NA	NT	NA	5.1E-10	NA	1.7E-06	NA	3.5E-10	NT	2.7E-09	9.1E-08
Indeno(1,2,3-cd)pyrene	W2 max	5.1E-09	NA	3.7E-09	NA	4.0E-08	NA	NT	NA	7.9E-12	5.8E-12	6.2E-11	NT
Antimony	W2 max	5.1E-15	NA	NT	NA	4.0E-14	NA	1.0E-10	NA	3.7E-14	NT	2.9E-13	7.2E-10
Arsenic	W2 max	4.9E-12	NA	8.6E-12	NA	3.8E-11	NA	1.3E-07	NA	6.1E-13	1.1E-12	4.7E-12	1.6E-08
Barium	W2 max	9.2E-13	NA	NT	NA	7.2E-12	NA	1.0E-10	NA	2.0E-13	NT	1 5E-12	2 2E-11
Beryllium	W2 max	2.6E-15	NA	1.1E-14	NA	2.0E-14	NA	4 1E-12	NA	2.9E-16	1.2E-15	2.2E-15	4.5E-13
Cadmium	W2 max	1.1E-11	NA	NT	NA	8.3E-11	NA	1.7E-07	NA	2 0E-14	NT	1.6E-13	3 2E-10
Chromium (hexavalent)	W2 max	4.6E-14	NA	NT	NA	3.6E-13	NA	7.2E-11	NA	3.5E-14	NT	2 7E-13	5.4E-11
Lead	W2 max	2.8E-11	NA	NT	NA	2.2E-10	NA	NT	NA	1 2E-13	NT	9 7E-13	NT
Mercury	W2 max	1.2E-08	NA	NT	NA	9 3E-08	NA	3.1E-04	NA	3 7E-12	NT	2 9E-11	9.6E-08
Mercury (methyl BCF)	W2 max	6.8E-08	NA	NT	NA	5.3E-07	NA	1 8E-03	NA	3 7E-12	NT	2 9E-11	9 6E-08
Nickel	W2 max	8.2E-13	NA	NT	NA	6 4E-12	NA	3.2E-10	NA	2.5E-13	NT	1 9E-12	9 7E-11
Selenium	W2 max	1 3E-10	NA	NT	NA	9.8E-10	NA	2 0E-07	NA	1 2E-11	NT	9 0E-11	1 8E-08
Silver	W2 max	9.2E-15	NA	NT	NA	7 1E-14	NA	1 4E-11	NA	4 7E-13	NT	3 6E-12	7 2E-10
Thallium	W2 max	1.7E-11	NA	NT	NA	1.4E-10	NA	1 9E-06	NA	1 3E-11	NT	1.0E-10	1 4E-06
Zinc	W2 max	5.7E-11	NA	NT	NA	4 5E-10	NA	1 5E-09	NA	2.6E-13	NT	2.0E-12	6 6E-12
DIOXIN TEQ	W2 max			7 3E-09	NA			NT	NA		6 2E-09		NT
ORGANICS TOTAL (non-dioxin)	W2 max			5 0E-08	NA			1 2E-04	NA		1 2E-09		2 4E-05
INORGANICS TOTAL	W2 max			8 7E-12	NA			2 1E-03	NA		1 1E-12		1 7E-06
SUBAREA TOTAL	W2 max			5 7E-08	NA			2 2E-03	NA		7 4E-09		2 6E-05

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

Chemical	Subarea	SUBSISTENCE FISHERMAN LADD River Fish Ingestion mg/kg-d	LADD Lake Fish Ingestion mg/kg-d	CANCER RISK River Fish Ingestion Risk	CANCER RISK Lake Fish Ingestion Risk	ADD River Fish Ingestion mg/kg-d	ADD Lake Fish Ingestion mg/kg-d	NONCANCER HQ River Fish Ingestion HI	NONCANCER HQ Lake Fish Ingestion HQ	RECREATIONAL HUNTER LADD Deer Ingestion mg/kg-d	CANCER RISK Deer Ingestion Risk	ADD Deer Ingestion mg/kg-d	NONCANCER HQ Deer Ingestion HQ
2,3,7,8-TCDD	W3 max	8.5E-16	NA	1 3E-10	NA	6.6E-15	NA	NT	NA	1 6E-16	2.4E-11	1 2E-15	NT
1,2,3,7,8-PeCDD	W3 max	3.8E-15	NA	2 8E-10	NA	2.9E-14	NA	NT	NA	2 7E-15	2 1E-10	2.1E-14	NT
1,2,3,4,7,8-HxCDD	W3 max	5.8E-15	NA	8 6E-11	NA	4.5E-14	NA	NT	NA	1 8E-15	2 8E-11	1.4E-14	NT
1,2,3,6,7,8-HxCDD	W3 max	7.0E-15	NA	1.1E-10	NA	5.5E-14	NA	NT	NA	4 5E-16	6.7E-12	3 5E-15	NT
1,2,3,7,8,9-HxCDD	W3 max	4 5E-15	NA	6 7E-11	NA	3.5E-14	NA	NT	NA	6.5E-16	9.7E-12	5 0E-15	NT
1,2,3,4,6,7,8-HpCDD	W3 max	1 0E-14	NA	1.5E-11	NA	7.9E-14	NA	NT	NA	5.4E-15	8.0E-12	4 2E-14	NT
OCDD	W3 max	7.7E-16	NA	1.2E-13	NA	6.0E-15	NA	NT	NA	9.9E-13	1 5E-10	7.7E-12	NT
2,3,7,8-TCDF	W3 max	6 5E-15	NA	9 8E-11	NA	5.1E-14	NA	NT	NA	5.1E-16	7.6E-12	3 9E-15	NT
1,2,3,7,8-PeCDF	W3 max	3.0E-14	NA	2.3E-10	NA	2.3E-13	NA	NT	NA	2 4E-15	1.8E-11	1.9E-14	NT
2,3,4,7,8-PeCDF	W3 max	4.3E-14	NA	3 2E-09	NA	3.4E-13	NA	NT	NA	1 4E-14	1.0E-09	1 1E-13	NT
1,2,3,4,7,8-HxCDF	W3 max	6 3E-14	NA	9 5E-10	NA	4.9E-13	NA	NT	NA	7 2E-15	1.1E-10	5.6E-14	NT
1,2,3,6,7,8-HxCDF	W3 max	5 9E-14	NA	8 9E-10	NA	4.6E-13	NA	NT	NA	1.4E-14	2.1E-10	1.1E-13	NT
1,2,3,7,8,9-HxCDF	W3 max	1 4E-14	NA	2.1E-10	NA	1.1E-13	NA	NT	NA	3.1E-15	4.7E-11	2.4E-14	NT
2,3,4,6,7,8-HxCDF	W3 max	6.7E-14	NA	1.0E-09	NA	5.2E-13	NA	NT	NA	9 0E-15	1.3E-10	7 0E-14	NT
1,2,3,4,6,7,8-HpCDF	W3 max	7.4E-14	NA	1.1E-10	NA	5 7E-13	NA	NT	NA	6.8E-15	1.0E-11	5.3E-14	NT
1,2,3,4,7,8,9-HpCDF	W3 max	9 3E-15	NA	1 4E-11	NA	7.2E-14	NA	NT	NA	1 3E-15	2 0E-12	1.0E-14	NT
OCDF	W3 max	3 2E-15	NA	4 8E-13	NA	2 5E-14	NA	NT	NA	8 2E-14	1.2E-11	6.3E-13	NT
Tetrachlorobiphenyl	W3 max	5 9E-13	NA	4.6E-12	NA	4.6E-12	NA	NT	NA	3.1E-14	2.4E-13	2.4E-13	NT
Hexachlorobiphenyl	W3 max	5.3E-11	NA	4.1E-10	NA	4.1E-10	NA	NT	NA	2.1E-14	1.6E-13	1.6E-13	NT
Heptachlorobiphenyl	W3 max	2.1E-11	NA	1.6E-10	NA	1.6E-10	NA	NT	NA	6 4E-13	4.9E-12	5 0E-12	NT
Benzo(a)pyrene	W3 max	8 3E-11	NA	6.1E-10	NA	6.5E-10	NA	NT	NA	4.0E-11	3.0E-10	3 1E-10	NT
Benzo(b)fluoranthene	W3 max	4 2E-10	NA	3 1E-10	NA	3.3E-09	NA	NT	NA	2.4E-11	1.7E-11	1 9E-10	NT
Bis(2-ethylhexyl)phthalate	W3 max	5 1E-11	NA	7.1E-13	NA	3.9E-10	NA	2.0E-08	NA	3 4E-09	4 8E-11	2.6E-08	1 3E-06
Carbon tetrachloride	W3 max	9 7E-13	NA	1 3E-13	NA	7.6E-12	NA	1.1E-08	NA	1.4E-15	1.9E-16	1 1E-14	1.6E-11
Dibenz(a,h)anthracene	W3 max	4 1E-09	NA	3.0E-08	NA	3.2E-08	NA	NT	NA	2.1E-12	1.5E-11	1 6E-11	NT
Di(n)octyl phthalate	W3 max	1.1E-11	NA	NT	NA	8.6E-11	NA	4.3E-09	NA	9.1E-09	NT	7.1E-08	3 6E-06
Heptachlor	W3 max	1 7E-12	NA	7.6E-12	NA	1.3E-11	NA	2.6E-08	NA	2.6E-14	1.2E-13	2 0E-13	4.1E-10
Hexachlorobenzene	W3 max	1.0E-08	NA	1.6E-08	NA	7.8E-08	NA	9.7E-05	NA	1.2E-13	1.9E-13	9.3E-13	1.2E-09
Hexachlorobutadiene	W3 max	6.8E-10	NA	5.3E-11	NA	5.3E-09	NA	2.7E-05	NA	1.8E-14	1.4E-15	1 4E-13	6.9E-10
Hexachlorocyclopentadiene	W3 max	7.9E-13	NA	NT	NA	6.1E-12	NA	6.8E-10	NA	1.1E-15	NT	8 8E-15	1 3E-12
Hexachlorophene	W3 max	6 7E-11	NA	NT	NA	5.2E-10	NA	1.7E-06	NA	8.5E-11	NT	6 6E-10	2.2E-06
Indeno(1,2,3-cd)pyrene	W3 max	5.2E-09	NA	3 8E-09	NA	4.1E-08	NA	NT	NA	1.9E-12	1.4E-12	1 5E-11	NT
Antimony	W3 max	5.2E-15	NA	NT	NA	4 1E-14	NA	1.0E-10	NA	9 2E-15	NT	7.1E-14	1.8E-10
Arsenic	W3 max	5.0E-12	NA	8.8E-12	NA	3.9E-11	NA	1 3E-07	NA	1 5E-13	2.6E-13	1 2E-12	3.9E-09
Barium	W3 max	9.4E-13	NA	NT	NA	7.3E-12	NA	1.0E-10	NA	4.8E-14	NT	3 8E-13	5.4E-12
Beryllium	W3 max	2.7E-15	NA	1.1E-14	NA	2.1E-14	NA	4.1E-12	NA	7 1E-17	3.0E-16	5 5E-16	1.1E-13
Cadmium	W3 max	1.1E-11	NA	NT	NA	8.6E-11	NA	1.7E-07	NA	5 0E-15	NT	3 9E-14	7.8E-11
Chromium (hexavalent)	W3 max	4.7E-14	NA	NT	NA	3.7E-13	NA	7.3E-11	NA	8 6E-15	NT	6 7E-14	1.3E-11
Lead	W3 max	2.9E-11	NA	NT	NA	2.2E-10	NA	NT	NA	3 1E-14	NT	2 4E-13	NT
Mercury	W3 max	1.2E-08	NA	NT	NA	9.6E-08	NA	3.2E-04	NA	1 2E-12	NT	9 3E-12	3.1E-08
Mercury (methyl BCF)	W3 max	7.1E-08	NA	NT	NA	5.5E-07	NA	1 8E-03	NA	1.2E-12	NT	9 3E-12	3.1E-08
Nickel	W3 max	8 4E-13	NA	NT	NA	6 5E-12	NA	3 3E-10	NA	6 2E-14	NT	4 8E-13	2 4E-11
Selenium	W3 max	1.3E-10	NA	NT	NA	1.0E-09	NA	2 0E-07	NA	2 9E-12	NT	2 2E-11	4 5E-09
Silver	W3 max	9.3E-15	NA	NT	NA	7.3E-14	NA	1 5E-11	NA	1 1E-13	NT	8 9E-13	1 8E-10
Thallium	W3 max	1.8E-11	NA	NT	NA	1 4E-10	NA	2 0E-06	NA	3 2E-12	NT	2 5E-11	3 5E-07
Zinc	W3 max	5.9E-11	NA	NT	NA	4.6E-10	NA	1 5E-09	NA	6 2E-14	NT	4 8E-13	1 6E-12
DIOXIN TEQ	W3 max			7.4E-09	NA			NT	NA		2 0E-09		NT
ORGANICS TOTAL (non-dioxin)	W3 max			5 1E-08	NA			1 3E-04	NA		3 8E-10		7 1E-06
INORGANICS TOTAL	W3 max			8 8E-12	NA			2 2E-03	NA		2 6E-13		4 2E-07
SUBAREA TOTAL	W3 max			5 9E-08	NA			2 3E-03	NA		2 4E-09		7 5E-06

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TABLE 2 Max Deer Hunter and Subsistence Fisherman Risks and Noncancer HQs

		SUBSISTENCE FISHERMAN								RECREATIONAL HUNTER			
		LADD		CANCER RISK		ADD		NONCANCER HQ		LADD	CANCER RISK	ADD	NONCANCER HQ
Chemical	Subarea	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion Risk	Lake Fish Ingestion Risk	River Fish Ingestion mg/kg-d	Lake Fish Ingestion mg/kg-d	River Fish Ingestion HI	Lake Fish Ingestion HQ	Deer Ingestion mg/kg-d	Deer Ingestion Risk	Deer Ingestion mg/kg-d	Deer Ingestion HQ

NOTES:
ADD = Average daily dose
LADD = Lifetime average daily dose
NA = Not applicable
NT = No toxicity information
HQ = Hazard quotient
TEQ = TCDD equivalents
* Mercury is listed twice; the second entry estimates fish concentrations with the methyl mercury bioconcentration factor for fish (MeHg fish BCF). It is assumed that 25% of the total mercury is methylated .

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APPENDIX V-19

Estimation of Population Risk

Age-distributed Population by ZIP Code			
ZIP Code	Population		
	Infants	Children	Adults
43920	364	4399	21205
15059	84	1027	5355
15043	42	532	2234
26034	66	956	4945
26050	24	365	1927
43968	112	1455	6762
44432	157	1999	9037
44455	20	264	1110
44441	32	416	1813
16115	41	571	2786
15010	386	4771	25468
15052	35	480	2403
15077	3	41	182
15050	43	551	2339
26047	60	880	4838
Source: CACI 1991			

Fraction of ZIP Code Areas Contained within WTI Phase II Risk Assessment Subareas												
ZIP Code	Fraction of Zip Code Area Contained within Subarea											
	E1	E2	E3	N1	N2	N3	S1	S2	S3	W1	W2	W3
43920	0.02	0	0	0.06	0.24	0.35	0	0	0	0.06	0.17	0.09
15059	0.02	0.19	0.29	0	0.10	0.40	0	0	0	0	0	0
15043	0.01	0.23	0.11	0	0	0	0	0.06	0.24	0	0	0
26034	0	0	0	0	0	0	0.13	0.46	0.40	0	0.01	0
26050	0	0	0	0	0	0	0	0.01	0	0	0.79	0.20
43968	0	0	0	0	0	0	0	0	0	0	0.03	0.52
44432	0	0	0	0	0	0.01	0	0	0	0	0	0.01
44455	0	0	0	0	0	0.02	0	0	0	0	0	0
44441	0	0	0	0	0	0.13	0	0	0	0	0	0
16115	0	0	0	0	0	0.01	0	0	0	0	0	0
15010	0	0	0	0	0	0.01	0	0	0	0	0	0
15052	0	0	0.56	0	0	0.02	0	0	0	0	0	0
15077	0	0	0.88	0	0	0	0	0	0	0	0	0
15050	0	0	0.24	0	0	0	0	0	0.06	0	0	0
26047	0	0	0	0	0	0	0	0	0.26	0	0	0.14

Notes:
Fraction of ZIP code area within a subarea was estimated based on Figure VIII-2, which was developed by superimposing subarea boundaries on a ZIP Code map of the Pennsylvania, Ohio, and West Virginia area.

REFERENCES

CACI Marketing, Inc. (CACI). 1991. *The sourcebook of ZIP code demographics: Census edition, Volume one.* CACI, Marketing Systems. Arlington, Virginia.

APPENDIX V-20

Estimation of Cancer Risks and Hazard Quotients Resulting from Fugitive Emissions

EASTERN SECTOR - AVERAGE INHALATION

CAB SYSTEM Chemical	Inhal Slope Factor (mg/kg-d)-	RAC (ug/m3)	Inhalation RfD (mg/kg d)	Emission Rate (g/sec)	Avg East Vapor DF (ug/m3 - g/s)	Avg East Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	CAB Adult Cancer Risk	CAB Child Cancer Risk	CAB School-age Cancer Risk	CAB Adult Noncancer HQ	CAB Child Noncancer HQ	CAB School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 23E-03	0 83	0 0010	3 6E-08	9 0E-08	5 4E-08	2 8E-07	1 0E-06	6 3E-07	0	0	0	1E-05	4E-05	3E-05
Acrylonitrile	0 24	0 5	1 4E-04	2 71E-05	0 83	0 0000	7 9E-10	2 0E-09	1 2E-09	6 2E-09	2 3E-08	1 4E-08	2E 10	5E-10	3E-10	4E-05	2E-04	1E-04
Carbon Disulfide	NA	2 5	7 1E-04	8 1E-05	0 83	0 0001	2 4E-09	5 9E-09	3 6E-09	1 8E-08	6 9E-08	4 2E-08	0	0	0	3E-05	1E-04	8E-05
Carbon Tetrachloride	0.053	0.5	1 4E-04	5 44E-05	0 83	0 0000	1 6E-09	4 0E-09	2 4E-09	1 2E-08	4 6E-08	2 8E-08	8E-11	2E-10	1E-10	9E-05	3E-04	2E-04
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 68E-06	0 83	0 0000	7 8E-11	2 0E-10	1 2E-10	6 1E-10	2 3E-09	1 4E-09	6E-11	1E-10	9E-11	4E-05	2E-04	1E-04
1,1-Dichloroethene	1.2	7.9	2 3E-03	7 95E-05	0 83	0 0001	2 3E-09	5 8E-09	3 5E-09	1 8E-08	6 8E-08	4 1E-08	3E-09	7E-09	4E-09	8E-06	3E-05	2E-05
Formaldehyde	0 045	175	5.0E-02	6 75E-04	0 83	0 0006	2 0E-08	4 9E-08	3 0E-08	1 5E-07	5 7E-07	3 5E-07	9E-10	2E-09	1E-09	3E-06	1E-05	7E-06
Hydrazine	17	NA	0 0E+00	1 72E-06	0 83	0 0000	5 0E-11	1 3E-10	7 6E-11	3 9E-10	1 5E-09	8 8E-10	9E-10	2E-09	1E-09	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 23E-05	0 83	0 0000	8 5E-10	1 6E-09	9 8E-10	5 1E-09	1 9E-08	1 1E-08	6E-09	2E-08	9E-09	4E-06	1E-05	8E-06
Pyridine	NA	0 875	2 5E-04	2 83E-05	0 83	0 0000	8 3E-10	2 1E-09	1 2E-09	6 4E-09	2 4E-08	1 5E-08	0	0	0	3E-05	1E-04	8E-05
Dichlorodifluoromethane	% total HI	0 08														2E-05	7E-05	5E-05
Total Risk/HI													**1.1E-06**	**2.7E-06**	**1.7E-06**	**2.7E-04**	**1 0E-03**	**6.1E-04**

WASTEWATER TANK Chemical	Inhal. Slope Factor (mg/kg-d)-	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg East Vapor DF (ug/m3 - g/s)	Avg East Off-Site Conc. (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	WW Tank Adult Cancer Risk	WW Tank Child Cancer Risk	WW Tank School-age Cancer Risk	WW Tank Adult Noncancer HQ	WW Tank Child Noncancer HQ	WW Tank School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 10E-03	11 7	0 0129	4 5E-07	1 1E-06	6 8E-07	3 5E-06	1 3E-05	8 0E-06	0	0	0	1E-04	5E-04	3E-04
Acrylonitrile	0 24	0 5	1 4E-04	2 44E-05	11 7	0 0003	1 0E-08	2 5E-08	1 5E-08	7 8E-08	2 9E-07	1 8E-07	2E-09	6E-09	4E-09	5E-04	2E-03	1E-03
Carbon Disulfide	NA	2 5	7 1E-04	7.3E-05	11 7	0 0009	3 0E-08	7 5E-08	4 5E-08	2 3E-07	8 7E-07	5 3E-07	0	0	0	3E-04	1E-03	7E-04
Carbon Tetrachloride	0 053	0 5	1 4E-04	4 90E-05	11 7	0 0006	2 0E-08	5 0E-08	3.0E-08	1 6E-07	5 9E-07	3 5E-07	1E-09	3E-09	2E-09	1E-03	4E-03	2E-03
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 41E-06	11 7	0 0000	9 9E-10	2 5E-09	1 5E-09	7 7E-09	2 9E-08	1 7E-08	8E-10	2E-09	1E-09	5E-04	2E-03	1E-03
1,1-Dichloroethene	1 2	7.9	2 3E-03	7 16E-05	11 7	0 0008	2 9E-08	7 3E-08	4 4E-08	2 3E-07	8 6E-07	5 2E-07	4E-08	9E-08	5E-08	1E-04	4E-04	2E-04
Formaldehyde	0 045	175	5 0E-02	6 08E-04	11 7	0 0071	2 5E-07	6 2E-07	3 8E-07	1 9E-06	7 3E-06	4 4E-06	1E-06	3E-06	2E-06	4E-05	1E-04	9E-05
Hydrazine	17	NA	0 0E+00	1 55E-06	11 7	0 0000	6 4E-10	1 6E-09	9 8E-10	5 0E-09	1 9E-08	1 1E-08	1E-08	3E-08	2E-08	ERR	ERR	ERR
2-Nitropropane	9.4	5	1 4E-03	2 01E-05	11 7	0 0002	8 3E-09	2 1E-08	1 2E-08	6 4E-08	2 4E-07	1 5E-07	8E-08	2E-07	1E-07	5E-05	2E-04	1E-04
Pyridine	NA	0 875	2 5E-04	2 55E-05	11 7	0 0003	1 1E-08	2 8E-08	1 8E-08	8 2E-08	3 1E-07	1 8E-07	0	0	0	3E-04	1E-03	7E-04
Dichlorodifluoromethane	% total HI	0 08														3E-04	9E-04	6E-04
Total Risk/HI													**1.4E-07**	**3.5E-07**	**2.1E-07**	**3.4E-03**	**1.3E-02**	**7.7E-03**

TRUCK WASH Chemical	Inhal Slope Factor (mg/kg-d)-	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg East Vapor DF (ug/m3 - g/s)	Avg East Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Truck Adult Cancer Risk	Truck Child Cancer Risk	Truck School-age Cancer Risk	Truck Adult Noncancer HQ	Truck Child Noncancer HQ	Truck School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	5 41E-05	10 2	0 0006	1 9E-08	4 6E-08	2 9E-08	1.5E-07	5 6E-07	3 4E-07	0	0	0	6E-06	2E-05	1E-05
Acrylonitrile	0 24	0 5	1 4E-04	1 19E-06	10 2	0 0000	4 3E-10	1 1E-09	6 4E-10	3 3E-09	1 2E-08	7 5E-09	1E-10	3E-10	2E-10	2E-05	9E-05	5E-05
Carbon Disulfide	NA	2 5	7 1E-04	3.6E-06	10 2	0 0000	1 3E-09	3 2E-09	1 9E-09	1 0E-08	3 7E-08	2 3E-08	0	0	0	1E-05	5E-05	3E-05
Carbon Tetrachloride	0 053	0.5	1 4E-04	2 40E-06	10 2	0 0000	8 6E-10	2 1E-09	1 3E-09	6 7E-09	2 5E-08	1 5E-08	5E-11	1E-10	7E-11	5E-05	2E-04	1E-04
1,2-Dibromoethane	0 76	0.05	1 4E-05	1 18E-07	10 2	0 0000	4.2E-11	1 1E-10	6 4E-11	3 3E-10	1 2E-09	7 4E-10	3E-11	8E-11	5E-11	2E-05	9E-05	5E-05
1,1-Dichloroethene	1 2	7.9	2 3E-03	3 51E-06	10 2	0 0000	1 3E-09	3 1E-09	1 9E-09	9 8E-09	3 7E-08	2 2E-08	2E-09	4E-09	2E-09	4E-06	2E-05	1E-05
Formaldehyde	0 045	175	5 0E-02	2 98E-05	10 2	0 0003	1 1E-08	2 7E-08	1 6E-08	8 3E-08	3 1E-07	1 9E-07	5E-10	1E-09	7E-10	2E-06	6E-06	4E-06
Hydrazine	17	NA	0.0E+00	7 58E-08	10 2	0 0000	2 7E-11	6 8E-11	4 1E-11	2 1E-10	7 9E-10	4 8E-10	5E-10	1E-09	7E-10	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	9 86E-07	10 2	0 0000	3 5E-10	8 8E-10	5 3E-10	2 8E-09	1 0E-08	6 2E-09	3E-09	8E-09	5E-09	2E-06	7E-06	4E-06
Pyridine	NA	0 875	2 5E-04	1 25E-06	10 2	0 0000	4 5E-10	1 1E-09	6 8E-10	3 5E-09	1 3E-08	7 9E-09	0	0	0	1E-05	5E-05	3E-05
Dichlorodifluoromethane	% total HI	0 08														1E-05	4E-05	2E-05
Total Risk/HI													**6 0E-09**	**1.6E-08**	**9.0E-09**	**1.5E-04**	**5.5E-04**	**3.3E-04**

TANK FARM Chemical	Inhal Slope Factor (mg/kg-d)-	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg East Vapor DF (ug/m3 4g/s)	Avg East Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Tank Farm Adult Cancer Risk	Tank Farm Child Cancer Risk	Tank Farm School-age Cancer Risk	Tank Farm Adult Noncancer HQ	Tank Farm Child Noncancer HQ	Tank Farm School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 16E-02	18 2	0 0528	1 9E-06	4 6E-06	2 8E-06	1 4E-05	5 4E-05	3 3E-05	0	0	0	6E-04	2E 03	1E 03
Acrylonitrile	0 24	0 5	1 4E-04	2 57E-04	18 2	0 0012	4 1E-08	1 0E-07	6 2E-08	3 2E-07	1 2E-06	7 2E-07	1E-08	2E-08	1E 08	2E-03	8E 03	5E 03
Carbon Disulfide	NA	2 5	7 1E-04	7 7E-04	18 2	0 0035	1 2E-07	3 1E-07	1 9E-07	9 6E-07	3 6E-06	2 2E-06	0	0	0	1E 03	5E 03	3E 03
Carbon Tetrachloride	0.053	0.5	1 4E-04	5 16E-04	18 2	0 0023	8 3E-08	2 1E-07	1 2E-07	6 4E-07	2 4E-06	1 5E-06	4E-09	1E-08	7E 09	5E 03	2E-02	1E-02
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 54E-05	18 2	0 0001	4 1E-09	1 0E-08	6 1E-09	3 2E-08	1 2E-07	7 1E-08	3E 09	8E-09	5E 09	2E 03	8E 03	5E-03
1,1-Dichloroethene	1.2	7 9	2 3E-03	7 54E-04	18 2	0 0034	1 2E-07	3 0E-07	1 8E-07	9 4E-07	3 5E-06	2 1E-06	1E 07	4E 07	2E 07	4E 04	2E-03	9E-04
Formaldehyde	0 045	175	5 0E-02	6 40E-03	18 2	0 0291	1 0E-06	2 6E-06	1 5E-06	8 0E-06	3 0E-05	1 8E-05	5E 08	1E-07	7E 08	2E-04	6E-04	4E-04
Hydrazine	17	NA	0 0E+00	1 63E-05	18 2	0 0001	2 6E-09	6 5E-09	3 9E-09	2 0E-08	7 6E-08	4 6E-08	4E 08	1E 07	7E 08	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 12E-04	18 2	0 0010	3 4E-08	8 5E-08	5 1E-08	2 6E-07	9 9E 07	6 0E 07	3E 07	8E 07	5E 07	2E 04	7E-04	4E-04
Pyridine	NA	0 875	2 5E-04	2 68E-04	18 2	0 0012	4 3E-08	1 1E-07	6 5E-08	3 3E-07	1 2E 06	7 5E-07	0	0	0	1E 03	5E 03	3E 03
Dichlorodifluoromethane	% total HI	0 08														1E 03	4E 03	2E 03
Total Risk/HI													**5 7E-07**	**1 4E-06**	**8 6E-07**	**1 4E-02**	**5 2E-02**	**3 2E-02**

WESTERN SECTOR - AVERAGE INHALATION

CAB SYSTEM Chemical	Inhal Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg West Vapor DF (ug/m3 - g/s)	Avg West Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	CAB Adult Cancer Risk	CAB Child Cancer Risk	CAB School-age Cancer Risk	CAB Adult Noncancer HQ	CAB Child Noncancer HQ	CAB School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 23E-03	0 64	0 0008	2 8E-08	6 9E-08	4 2E-08	2 2E-07	8 1E-07	4 9E-07	0	0	0	9E-06	3E-05	2E-05
Acrylonitrile	0 24	0 5	1 4E-04	2 71E-05	0 64	0 0000	6 1E-10	1 5E-09	9 2E-10	4 7E-09	1 8E-08	1 1E-08	1E-10	4E-10	2E-10	3E-05	1E-04	8E-05
Carbon Disulfide	NA	2 5	7 1E-04	8 1E-05	0 64	0 0001	1 8E-09	4 5E-09	2 7E-09	1 4E-08	5 3E-08	3 2E-08	0	0	0	2E-05	7E-05	4E-05
Carbon Tetrachloride	0 053	0 5	1 4E-04	5 44E-05	0 64	0 0000	1 2E-09	3 1E-09	1 8E-09	9 5E-09	3 6E-08	2 2E-08	6E-11	2E-10	1E-10	7E-05	2E-04	2E-04
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 68E-06	0 64	0 0000	8 0E-11	1 5E-10	9 1E-11	4 7E-10	1 8E-09	1 1E-09	5E-11	1E-10	7E-11	3E-05	1E-04	7E-05
1,1-Dichloroethene	1 2	7 9	2 3E-03	7 95E-05	0 64	0 0001	1 8E-09	4 5E-09	2 7E-09	1 4E-08	5 2E-08	3 1E-08	2E-09	5E-09	3E-09	6E-06	2E-05	1E-05
Formaldehyde	0 045	175	5 0E-02	6 75E-04	0 64	0 0004	1 5E-08	3 8E-08	2 3E-08	1 2E-07	4 4E-07	2 7E-07	7E-10	2E-09	1E-09	2E-06	8E-06	5E-06
Hydrazine	17	NA	0 0E+00	1 72E-06	0 64	0 0000	3 9E-11	9 [illegible]11	5 8E-11	3 0E-10	1 1E-09	6 8[illegible]10	7E-10	2E-09	1E-09	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 23E-05	0 64	0 0000	5 0E-10	1 3[illegible]09	7 6E-10	3 9E-09	1 5E-08	8 6E-09	5E-09	1E-08	7E-09	3E-06	1E-05	6E-06
Pyridine	NA	0 875	2 5E-04	2 83E-05	0 64	0 0000	8 4E-10	1 6E-09	9.6E-10	5 0E-09	1 9E-08	1 1E-08	0	0	0	2E-05	7E-05	4E-05
Dichlorodifluoromethane	% total HI =	0 08														2E-05	8E-05	3E 05
Total Risk/HI													**6.5E-09**	**2.1E-08**	**1.3E-08**	**2.1E-04**	**7.8E-04**	**4.7E-04**

WASTEWATER TANK Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg West Vapor DF (ug/m3 g/s)	Avg West Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	WW Tank Adult Cancer Risk	WW Tank Child Cancer Risk	WW Tank School-age Cancer Risk	WW Tank Adult Noncancer HQ	WW Tank Child Noncancer HQ	WW Tank School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 10E-03	9 7	0 0107	3 8E-07	9 4E-07	5 7E-07	2 9E-06	1 1E-05	6 6E-06	0	0	0	1E-04	4E-04	3E-04
Acrylonitrile	0 24	0 5	1 4E-04	2.44E-05	9 7	0 0002	8 3E-09	2 1E-08	1 3E-08	6 5E-08	2 4E-07	1 5E-07	2E-09	5E-09	3E-09	5E-04	2E-03	1E-03
Carbon Disulfide	NA	2 5	7 1E-04	7 3E-05	9 7	0 0007	2 5E-08	6 2E-08	3 8E-08	1 9E-07	7 2E-07	4 4E-07	0	0	0	3E-04	1E-03	6E-04
Carbon Tetrachloride	0 053	0 5	1 4E-04	4 90E-05	9 7	0 0005	1 7E-08	4 2E-08	2 5E-08	1 3E-07	4 9E-07	2 9E-07	9E-10	2E-09	1E-09	9E-04	3E-03	2E-03
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 41E-06	9 7	0 0000	8 2E-10	2 1E-09	1 2E-09	6 4E-09	2 4E-08	1 4E-08	6E-10	2E-09	9E-10	4E-04	2E-03	1E-03
1,1-Dichloroethene	1 2	7 9	2 3E-03	7 16E-05	9 7	0 0007	2 4E-08	6 1E-08	3 7E-08	1 9E-07	7 1E-07	4 3E-07	3E-08	7E 08	4E-08	8E-05	3E-04	2E-04
Formaldehyde	0 045	175	5 0E-02	6 08E-04	9 7	0 0059	2 1E-07	5 2E-07	3 1E-07	1 6E-06	6 0E-06	3 6E-06	9E-09	2E-08	1E-08	3E-05	1E-04	7E-05
Hydrazine	17	NA	0 0E+00	1 55E-06	9 7	0 0000	5 3E-10	1 3E-09	8 0E-10	4 1E-09	1 5E-08	9 3E-09	9E-09	2E-08	1E-08	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 01E-05	9 7	0 0002	6 9E-09	1 7E-08	1 0E-08	5 3E-08	2 0E-07	1 2E-07	6E-08	2E-07	1E-07	4E-05	1E-04	8E-05
Pyridine	NA	0 875	2 5E-04	2 55E-05	9 7	0 0002	8 7E-09	2 2E-08	1 3E-08	6 8E-08	2 5E-07	1 5E-07	0	0	0	3E-04	1E-03	6E-04
Dichlorodifluoromethane	% total HI =	0 08														2E-04	8E-04	5E-04
Total Risk/HI													**1.2E-07**	**2.9E-07**	**1.7E-07**	**2.8E-03**	**1.1E-02**	**6 4E-03**

TRUCK WASH Chemical	Inhal Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg West Vapor DF (ug/m3 - g/s)	Avg West Off-Site Conc. (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Truck Adult Cancer Risk	Truck Child Cancer Risk	Truck School-age Cancer Risk	Truck Adult Noncancer HQ	Truck Child Noncancer HQ	Truck School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	5 41E-05	14	0 0008	2 7E-08	6 6E-08	4.0E-08	2 1E-07	7 8E-07	4 7E-07	0	0	0	8E-06	3E-05	2E-05
Acrylonitrile	0 24	0 5	1 4E-04	1 19E-06	14	0 0000	5 9E-10	1 5E-09	8 6E-10	4 6E-09	1 7E-08	1 0E-08	1E-10	4E-10	2E-10	3E-05	1E-04	7E-05
Carbon Disulfide	NA	2 5	7 1E-04	3.6E-06	14	0 0001	1 8E-09	4 4E-09	2 7E-09	1 4E-08	5 1E-08	3 1E-08	0	0	0	2E-05	7E-05	4E-05
Carbon Tetrachloride	0.053	0 5	1 4E-04	2 40E-06	14	0 0000	1 2E-09	2 9E-09	1 8E-09	9 2E-09	3 4E-08	2 1E-08	6E-11	2E-10	9E-11	6E-05	2E 04	1E-04
1,2-Dibromoethane	0.76	0.05	1 4E-05	1 18E-07	14	0 0000	5 8E-11	1 4E-10	8.8E-11	4 5E-10	1 7E-09	1 0E-09	4E-11	1E-10	7E-11	3E-05	1E 04	7E 05
1,1-Dichloroethene	1.2	7.9	2 3E-03	3.51E-06	14	0 0000	1 7E-09	4 3E-09	2 6E-09	1 3E-08	5 0E-08	3.0E-08	2E-09	5E-09	3E-09	6E-06	2E 05	1E-05
Formaldehyde	0 045	175	5 0E-02	2 98E-05	14	0 0004	1 5E-08	3 7E-08	2 2E-08	1 1E-07	4 3E-07	2 6E-07	7E-10	2E-09	1E-09	2E-06	9E 06	5E-06
Hydrazine	17	NA	0 0E+00	7 58E-06	14	0 0000	3 7E-11	9 3E-11	5 6E-11	2 9E-10	1 1E-09	6 6E-10	6E-10	2E-09	1E-09	ERR	ERR	ERR
2-Nitropropane	9.4	5	1 4E-03	9 66E-07	14	0 0000	4 9E-10	1 2E-09	7 3E-10	3 8E-09	1 4E-08	8 5E-09	5E-09	1E-08	7E-09	3E-06	1E-05	6E-06
Pyridine	NA	0.875	2 5E-04	1 25E-06	14	0 0000	6 2E-10	1 5E-09	9 3E-10	4 8E-09	1 8E-08	1 1E-08	0	0	0	2E-05	7E-05	4E-05
Dichlorodifluoromethane	% total HI =	0 08														1E-05	8E-05	3E-05
Total Risk/HI													**8.2E-09**	**2.0E-08**	**1.2E-08**	**2.0E-04**	**7.5E-04**	**4.5E-04**

TANK FARM Chemical	Inhal Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg West Vapor DF (ug/m3 - 4g/s)	Avg West Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Tank Farm Adult Cancer Risk	Tank Farm Child Cancer Risk	Tank Farm School-age Cancer Risk	Tank Farm Adult Noncancer HQ	Tank Farm Child Noncancer HQ	Tank Farm School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 16E-02	20 8	0 0803	2 1E-06	5 3E-06	3 2E-06	1 7E-05	6 2E-05	3 7E-05	0	0	0	7E-04	2E 03	1E 03
Acrylonitrile	0 24	0 5	1 4E-04	2 57E-04	20 8	0 0013	4 7E-08	1 2E-07	7 1E-08	3 7E-07	1 4E-06	8 3E-07	1E-08	3E-08	2E-08	3E-03	1E-02	6E 03
Carbon Disulfide	NA	2 5	7 1E-04	7.7E-04	20 8	0 0040	1 4E-07	3 5E-07	2 1E-07	1 1E-06	4 1E-06	2 5E-06	0	0	0	2E-03	6E-03	3E-03
Carbon Tetrachloride	0.053	0 5	1 4E-04	5 16E-04	20 8	0 0027	9 4E-08	2 4E-07	1 4E-07	7 3E-07	2 7E-06	1 7E-06	5E-09	1E 08	8E-09	5E 03	2E-02	1E 02
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 54E-05	20 8	0 0001	4 7E-09	1 2E-08	7 0E-09	3 6E-08	1 4E-07	8 2E-08	4E-09	9E 09	5E 09	3E 03	9E-03	6E 03
1,1-Dichloroethene	1.2	7.9	2 3E-03	7 54E-04	20 8	0 0039	1 4E-07	3 4E-07	2 1E-07	1 1E-06	4 0E-06	2 4E-06	2E 07	4E-07	2E 07	5E 04	2E-03	1E 03
Formaldehyde	0 045	175	5 0E-02	6 40E-03	20 8	0 0333	1 2E-06	2 9E-06	1 8E-06	9 1E-06	3 4E 05	2 1E-05	5E 08	1E 07	8E 08	2E-04	7E-04	4E-04
Hydrazine	17	NA	0 0E+00	1 63E-05	20 8	0 0001	3 0E-09	7 4E-09	4 5E-09	2 3E-08	8 7E-08	5 2E-08	5E-08	1E 07	[illegible]	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 12E-04	20 8	0 0011	3 9E-08	9 7E-08	5 8E-08	3 0E-07	1 1E 06	6 8E-07	4E 07	[illegible]		2E-04	8E 04	5E-04
Pyridine	NA	0 875	2 5E-04	2 68E-04	20 8	0 0014	4 9E-08	1 2E-07	7 4E-08	3 8E-07	1 4E 06	8 6E-07	0			2E-03	6E 03	3E-03
Dichlorodifluoromethane	% total HI =	0 08														1E 03	4E 03	3E 03
Total Risk/HI													**6 5E-07**	**1 6E 06**	**9 8E-07**	**1 6E-02**	**6 0E-02**	**3 6E-02**

External Review Not Cite or Quote

NORTHERN SECTOR - AVERAGE INHALATION

CAB SYSTEM Chemical	Inhal Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg North Vapor DF (ug/m3 - g/s)	Avg North Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	CAB Adult Cancer Risk	CAB Child Cancer Risk	CAB School-age Cancer Risk	CAB Adult Noncancer HQ	CAB Child Noncancer HQ	CAB School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 23E-03	0 49	0 0006	2 1E-08	5 3E-08	3 2E-08	1 7E-07	6 2E-07	3 7E-07	0	0	0	7E-06	2E-05	1E 05
Acrylonitrile	0 24	0 5	1 4E-04	2 71E-05	0 49	0 0000	4 7E-10	1 2E-09	7 0E-10	3 6E-09	1 4E-08	8 2E-09	1E-10	3E-10	2E-10	3E-05	1E-04	6E-05
Carbon Disulfide	NA	2 5	7 1E-04	6.1E-05	0 49	0 0000	1 4E-09	3 5E-09	2 1E-09	1 1E-08	4 1E-08	2 5E-08	0	0	0	2E-05	6E-05	3E-05
Carbon Tetrachloride	0 053	0 5	1 4E-04	5 44E-05	0 49	0 0000	9 4E-10	2 3E-09	1 4E-09	7 3E-09	2 7E-08	1 6E-08	5E-11	1E-10	7E-11	5E-05	2E-04	1E-04
1,2-Dibromoethane	0 76	0.05	1 4E-05	2 68E-06	0 49	0 0000	4 6E-11	1 2E-10	7 0E-11	3 6E-10	1 3E-09	8 1E-10	4E-11	9E-11	5E-11	3E-05	9E-05	6E-05
1,1-Dichloroethene	1 2	7 9	2 3E-03	7 95E-05	0 49	0 0000	1 4E-09	3 4E-09	2 1E-09	1 1E-08	4 0E-08	2 4E-08	2E-09	4E-09	2E-09	5E-06	2E-05	1E-05
Formaldehyde	0 045	175	5.0E-02	6 75E-04	0 49	0 0003	1 2E-08	2 9E-08	1 8E-08	9 1E-08	3 4E-07	2 0E-07	5E-10	1E-09	8E-10	2E-06	7E-06	4E-06
Hydrazine	17	NA	0 0E+00	1 72E-06	0 49	0 0000	3 0E-11	7 4E-11	4 5E-11	2 3E-10	8 6E-10	5 2E-10	5E-10	1E-09	8E-10	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 23E-05	0 49	0 0000	3 8E-10	9 6E-10	5 8E-10	3 0E-09	1 1E-08	6 8E-09	4E-09	9E-09	5E-09	2E-06	8E-06	5E-06
Pyridine	NA	0 875	2 5E-04	2 83E-05	0 49	0 0000	4 9E-10	1 2E-09	7 4E-10	3 8E-09	1 4E-08	8 6E-09	0	0	0	2E-05	6E-05	3E-05
Dichlorodifluoromethane	% total HI =	0 08														1E-05	4E-05	3E-05
Total Risk/HI													**6.5E-09**	**1.6E-08**	**9.8E-09**	**1.6E-04**	**5.9E-04**	**3.6E-04**

WASTEWATER TANK Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg North Vapor DF (ug/m3 - g/s)	Avg North Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	WW Tank Adult Cancer Risk	WW Tank Child Cancer Risk	WW Tank School-age Cancer Risk	WW Tank Adult Noncancer HQ	WW Tank Child Noncancer HQ	WW Tank School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 10E-03	15 3	0 0168	5 9E-07	1 5E-06	8 9E-07	4 6E-06	1 7E-05	1 0E-05	0	0	0	2E-04	7E-04	4E-04
Acrylonitrile	0 24	0 5	1 4E-04	2 44E-05	15 3	0 0004	1 3E-08	3 3E-08	2 0E-08	1 0E-07	3 6E-07	2 3E-07	3E-09	8E-09	5E-09	7E-04	3E-03	2E-03
Carbon Disulfide	NA	2 5	7 1E-04	7.3E-05	15 3	0 0011	3 9E-08	9 8E-08	5 9E-08	3 1E-07	1 1E-06	6 9E-07	0	0	0	4E-04	2E-03	1E-03
Carbon Tetrachloride	0 053	0.5	1 4E-04	4 90E-05	15 3	0 0007	2 6E-08	6 6E-08	4 0E-08	2 1E-07	7 7E-07	4 6E-07	1E-09	3E-09	2E-09	1E-03	5E-03	3E-03
1,2-Dibromoethane	0 76	0.05	1 4E-05	2 41E-06	15 3	0 0000	1 3E-09	3 2E-09	2 0E-09	1 0E-08	3 6E-08	2 3E-08	1E-09	2E-09	1E-09	7E-04	3E-03	2E-03
1,1-Dichloroethene	1 2	7 9	2 3E-03	7 16E-05	15 3	0 0011	3 9E-08	9 6E-08	5 8E-08	3 0E-07	1 1E-06	6 8E-07	5E-08	1E-07	7E-08	1E-04	5E-04	3E 04
Formaldehyde	0 045	175	5 0E-02	6 08E-04	15 3	0 0093	3 3E-07	8 2E-07	4 9E-07	2 5E-06	9 5E-06	5 8E-06	1E-06	4E-06	2E-06	5E-05	2E-04	1E-04
Hydrazine	17	NA	0 0E+00	1 55E-06	15 3	0 0000	8 4E-10	2 1E-09	1 3E-09	6 5E-09	2 4E-08	1 5E-08	1E-06	4E-06	2E-06	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 01E-05	15 3	0 0003	1 1E-08	2 7E-08	1 6E-08	8 4E-08	3 1E-07	1 9E-07	1E-07	3E-07	2E-07	6E-05	2E-04	1E-04
Pyridine	NA	0 875	2 5E-04	2 55E-05	15 3	0 0004	1 4E-08	3 4E-08	2 1E-08	1 1E-07	4 0E-07	2 4E-07	0	0	0	4E-04	2E-03	1E-03
Dichlorodifluoromethane	% total HI =	0 08														3E-04	1E-03	7E-04
Total Risk/HI													**1.8E-07**	**4.5E-07**	**2.7E-07**	**4.5E-03**	**1.7E-02**	**1 0E-02**

TRUCK WASH Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg North Vapor DF (ug/m3 - g/s)	Avg North Off-Site Conc. (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Truck Adult Cancer Risk	Truck Child Cancer Risk	Truck School-age Cancer Risk	Truck Adult Noncancer HQ	Truck Child Noncancer HQ	Truck School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	5 41E-05	15 1	0 0008	2 9E-08	7 2E-08	4 3E-08	2 2E-07	8 4E-07	5 1E-07	0	0	0	9E-06	3E-05	2E-05
Acrylonitrile	0.24	0 5	1 4E-04	1 19E-06	15 1	0 0000	6 3E-10	1 6E-09	9 5E-10	4 9E-09	1 8E-08	1 1E-08	2E-10	4E-10	2E-10	3E-05	1E-04	6E-05
Carbon Disulfide	NA	2 5	7 1E-04	3 6E-06	15 1	0 0001	1 9E-09	4 7E-09	2 9E-09	1 5E-08	5 5E-08	3 3E-08	0	0	0	2E-05	6E-05	5E-05
Carbon Tetrachloride	0.053	0.5	1 4E-04	2 40E-06	15 1	0 0000	1 3E-09	3 2E-09	1 9E-09	9 9E-09	3 7E-08	2 2E-08	7E-11	2E-10	1E-10	7E-05	3E-04	2E-04
1,2-Dibromoethane	0 76	0.05	1 4E-05	1 18E-07	15 1	0 0000	6 3E-11	1 6E-10	9 4E-11	4 9E-10	1 8E-09	1 1E-09	5E-11	1E-10	7E-11	3E-05	1E-04	8E-05
1,1-Dichloroethene	1.2	7.9	2 3E-03	3 51E-06	15 1	0 0001	1 9E-09	4 6E-09	2 8E-09	1 5E-08	5 4E-08	3 3E-08	2E-09	6E-09	3E-09	6E-06	2E-05	1E-05
Formaldehyde	0 045	175	5.0E-02	2 96E-05	15 1	0 0004	1 6E-08	3 9E-08	2 4E-08	1 2E-07	4 6E-07	2 8E-07	7E-10	2E-09	1E-09	2E-06	9E-06	6E-06
Hydrazine	17	NA	0 0E+00	7 58E-06	15 1	0 0000	4 0E-11	1 0E-10	6 1E-11	3 1E-10	1 2E-09	7 1E-10	7E-10	2E-09	1E-09	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	9 86E-07	15 1	0 0000	5 2E-10	1 3E-09	7 9E-10	4 1E-09	1 5E-08	9 2E-09	5E-09	1E-08	7E-09	3E-06	1E-05	6E-06
Pyridine	NA	0 875	2 5E-04	1 25E-06	15 1	0 0000	6 6E-10	1 7E-09	1 0E-09	5 2E-09	1 9E-08	1 2E-08	0	0	0	2E-05	6E-05	5E-05
Dichlorodifluoromethane	% total HI =	0 08														2E-05	6E-05	4E-05
Total Risk/HI													**8.8E-09**	**2.2E-08**	**1.3E-08**	**2.2E-04**	**8.1E-04**	**4 9E-04**

TANK FARM Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg North Vapor DF (ug/m3 - 4g/s)	Avg North Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Tank Farm Adult Cancer Risk	Tank Farm Child Cancer Risk	Tank Farm School-age Cancer Risk	Tank Farm Adult Noncancer HQ	Tank Farm Child Noncancer HQ	Tank Farm School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 16E-02	10 4	0 0302	1 1E-06	2 6E-06	1 6E-06	8 3E-06	3 1E-05	1 9E-05	0	0	0	3E-04	1E 03	7E 04
Acrylonitrile	0 24	0 5	1 4E-04	2 57E-04	10 4	0 0007	2 4E-08	5 9E-08	3 5E-08	1 8E-07	6 8E-07	4 1E-07	6E-09	1E-08	9E-09	1E 03	5E-03	3E-03
Carbon Disulfide	NA	2 5	7 1E-04	7 7E-04	10 4	0 0020	7 0E-08	1 8E-07	1 1E-07	5 5E-07	2 0E-06	1 2E-06	0	0	0	8E-04	3E 03	2E-03
Carbon Tetrachloride	0 053	0 5	1 4E-04	5 16E-04	10 4	0 0013	4 7E-08	1 2E-07	7 1E-08	3 7E-07	1 4E-06	8 3E-07	3E-09	6E-09	4E 09	3E 03	1E 02	6E 03
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 54E-05	10 4	0 0001	2 3E 09	5 8E-09	3 5E-09	1 8E-08	6 8E-08	4 1E-08	2E-09	4E-09	3E 09	1E-03	5E 03	3E 03
1,1-Dichloroethene	1 2	7 9	2 3E-03	7 54E-04	10 4	0 0020	6 9E-08	1 7E-07	1 0E-07	5 4E-07	2 0E-06	1 2E-06	8E 08	2E 07	1E 07	2E-04	9E 04	5E-04
Formaldehyde	0 045	175	5.0E-02	6 40E-03	10 4	0 0166	5 9E-07	1 5E-06	8 6E-07	4 6E-06	1 7E-05	1 0E-05	3E-06	7E 08	4E 08	9E-05	3E-04	2E-04
Hydrazine	17	NA	0 0E+00	1 63E-05	10 4	0 0000	1 5E-09	3 7E-09	2 2E-09	1 2E 08	4 3E 08	2 6E-08	3E 08	6E 08	4E 08	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 12E-04	10 4	0 0006	1 9E-08	4 8E-08	2 9E-08	1 5E 07	5 6E-07	3 4E 07	2E 07	5E 07	3E 07	1E 04	4E 04	2E 04
Pyridine	NA	0 875	2 5E-04	2 68E-04	10 4	0 0007	2 5E-08	6 1E-08	3 7E-08	1 9E-07	7 1E-07	4 3E-07	0	0	0	8E 04	3E 03	2E 03
Dichlorodifluoromethane	% total HI =	0 08														8E 04	2E 03	1E 03
Total Risk/HI													**3 3E-07**	**8 1E-07**	**4 9E-07**	**8 0E-03**	**3 0E-02**	**1 8E-02**

SOUTHERN SECTOR - AVERAGE INHALATION

CAB SYSTEM Chemical	Inhal Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg South Vapor DF (ug/m3 - g/s)	Avg South Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	CAB Adult Cancer Risk	CAB Child Cancer Risk	CAB School-age Cancer Risk	CAB Adult Noncancer HQ	CAB Child Noncancer HQ	CAB School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 23E-03	0 66	0 0008	2 9E-08	7 1E-08	4 3E-08	2 2E-07	8 3E-07	5 0E-07	0	0	0	9E-06	3E-05	2E-05
Acrylonitrile	0 24	0 5	1 4E-04	2 71E-05	0 66	0 0000	6 3E-10	1 6E-09	9 5E-10	4 9E-09	1 8E 08	1 1E-08	2E-10	4E-10	2E-10	3E-05	1E-04	8E-05
Carbon Disulfide	NA	2 5	7 1E-04	8.1E-05	0 66	0 0001	1 9E-09	4 7E-09	2 8E-09	1 5E-08	5 5E-08	3 3E-08	0	0	0	2E-05	8E-05	5E-05
Carbon Tetrachloride	0 053	0.5	1 4E-04	5 44E-05	0 66	0 0000	1 3E-09	3 1E-09	1 9E-09	9 8E-09	3 7E-08	2 2E-08	7E-11	2E-10	1E-10	7E-05	3E-04	2E-04
1,2-Dibromoethane	0 76	0.05	1 4E-05	2 68E-06	0 66	0 0000	6 2E-11	1 6E-10	9 4E-11	4 8E-10	1 8E-09	1 1E-09	5E-11	1E-10	7E-11	3E-05	1E-04	8E-05
1,1-Dichloroethene	1.2	7 9	2 3E-03	7 95E-05	0 66	0 0001	1 8E-09	4 6E-09	2 8E-09	1 4E-08	5 4E-08	3 2E-08	2E-09	6E-09	3E-09	6E-06	2E-05	1E-05
Formaldehyde	0 045	175	5 0E-02	6 75E-04	0 66	0 0004	1 6E-08	3 9E-08	2 4E-08	1 2E-07	4 6E-07	2 8E-07	7E-10	2E-09	1E-09	2E-06	9E-06	6E-06
Hydrazine	17	NA	0 0E+00	1 72E-06	0 66	0 0000	4 0E-11	1 0E-10	6 0E-11	3 1E-10	1 2E-09	7 0E-10	7E-10	2E-09	1E-09	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 23E-05	0 66	0 0000	5 2E-10	1 3E-09	7 8E-10	4 0E-09	1 5E-08	9 1E-09	5E-09	1E-08	7E-09	3E-06	1E-05	6E-06
Pyridine	NA	0.875	2 5E-04	2 83E-05	0 66	0 0000	6 6E-10	1 6E-09	9 9E-10	5 1E-09	1 9E-08	1 2E-08	0	0	0	2E-05	8E-05	5E-05
Dichlorodifluoromethane	% total HI =	0 08														2E-05	6E-05	4E-05
Total Risk/HI													**8.7E-09**	**2.2E-08**	**1.3E-08**	**2.1E-04**	**8.0E-04**	**4 8E-04**

WASTEWATER TANK Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg South Vapor DF (ug/m3 - g/s)	Avg South Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	WW Tank Adult Cancer Risk	WW Tank Child Cancer Risk	WW Tank School-age Cancer Risk	WW Tank Adult Noncancer HQ	WW Tank Child Noncancer HQ	WW Tank School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 10E-03	5 4	0 0059	2 1E-07	5 2E-07	3 1E-07	1 6E-06	6 1E-06	3 7E-06	0	0	0	7E-05	2E-04	1E-04
Acrylonitrile	0 24	0 5	1 4E-04	2 44E-05	5 4	0 0001	4 6E-09	1 2E-08	7 0E-09	3 6E-08	1 3E-07	8 1E-08	1E-09	3E-09	2E-09	3E-04	9E-04	6E-04
Carbon Disulfide	NA	2 5	7 1E-04	7.3E-05	5 4	0 0004	1 4E-08	3 5E-08	2 1E-08	1 1E-07	4 0E-07	2 4E-07	0	0	0	2E-04	6E-04	3E-04
Carbon Tetrachloride	0 053	0.5	1 4E-04	4 90E-05	5 4	0 0003	9 3E-09	2 3E-08	1 4E-08	7 2E-08	2 7E-07	1 6E-07	5E-10	1E-09	7E-10	5E-04	2E-03	1E-03
1,2-Dibromoethane	0 76	0.05	1 4E-05	2 41E-06	5 4	0 0000	4 6E-10	1 1E-09	6 9E-10	3 6E-09	1 3E-08	8 0E-09	3E-10	9E-10	5E-10	2E-04	9E-04	6E-04
1,1-Dichloroethene	1.2	7.9	2 3E-03	7 16E-05	5 4	0 0004	1 4E-08	3 4E-08	2 0E-08	1 1E-07	4 0E-07	2 4E-07	2E-08	4E-08	2E-08	5E-05	2E-04	1E-04
Formaldehyde	0.045	175	5 0E-02	6 08E-04	5 4	0 0033	1 2E-07	2 9E-07	1 7E-07	9 0E-07	3 4E-06	2 0E-06	5E-09	1E-08	8E-09	2E-05	7E-05	4E-05
Hydrazine	17	NA	0 0E+00	1 55E-06	5 4	0 0000	2 9E-10	7 3E-10	4 4E-10	2 3E-09	8 6E-09	5 2E-09	5E-09	1E-08	8E-09	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 01E-05	5 4	0 0001	3 8E-09	9 5E-09	5 8E-09	3 0E-08	1 1E-07	6 7E-08	4E-08	9E-08	5E-08	2E-05	8E-05	5E-05
Pyridine	NA	0.875	2 5E-04	2 55E-05	5 4	0 0001	4 8E-09	1 2E-08	7 3E-09	3 8E-08	1 4E-07	8 5E-08	0	0	0	2E-04	6E-04	3E-04
Dichlorodifluoromethane	% total HI =	0 08														1E-04	4E-04	3E-04
Total Risk/HI													**6.4E-09**	**1.6E-07**	**9.7E-08**	**1.6E-03**	**5.9E-03**	**3.6E-03**

TRUCK WASH Chemical	Inhal Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg South Vapor DF (ug/m3 - g/s)	Avg South Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Truck Adult Cancer Risk	Truck Child Cancer Risk	Truck School-age Cancer Risk	Truck Adult Noncancer HQ	Truck Child Noncancer HQ	Truck School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	5 41E-05	6 3	0 0003	1 2E-08	3 0E-08	1 8E-08	9 3E-08	3 5E-07	2 1E-07	0	0	0	4E-06	1E-05	8E-06
Acrylonitrile	0.24	0 5	1 4E-04	1 19E-06	6 3	0 0000	2 6E-10	6 6E-10	4 0E-10	2 1E-09	7 7E-09	4 6E-09	6E-11	2E-10	1E-10	1E-05	5E-05	3E-05
Carbon Disulfide	NA	2 5	7 1E-04	3 6E-06	6 3	0 0000	7 9E-10	2 0E-09	1 2E-09	6 2E-09	2 3E-08	1 4E-08	0	0	0	9E-06	3E-05	2E-05
Carbon Tetrachloride	0 053	0.5	1 4E-04	2 40E-06	6 3	0 0000	5 3E-10	1 3E-09	8 0E-10	4 1E-09	1 5E-08	9 4E-09	3E-11	7E-11	4E-11	3E-05	1E-04	7E-05
1,2-Dibromoethane	0 76	0 05	1 4E-05	1 18E-07	6 3	0 0000	2 6E-11	6 5E-11	3 9E-11	2 0E-10	7 6E-10	4 6E-10	2E-11	5E-11	3E-11	1E-05	5E-05	3E-05
1,1-Dichloroethene	1.2	7.9	2 3E-03	3 51E-06	6 3	0 0000	7 8E-10	1 9E-09	1 2E-09	6 1E-09	2 3E-08	1 4E-08	9E-10	2E-09	1E-09	3E-06	1E-05	6E-06
Formaldehyde	0.045	175	5 0E-02	2 98E-05	6 3	0 0002	6 8E-09	1 6E-08	1 0E-08	5 1E-08	1 9E-07	1 2E-07	3E-10	7E-10	4E-10	1E-06	4E-06	2E-06
Hydrazine	17	NA	0.0E+00	7 58E-06	6 3	0 0000	1 7E-11	4 2E-11	2 5E-11	1 3E-10	4 9E-10	3 0E-10	3E-10	7E-10	4E-10	ERR	ERR	ERR
2-Nitropropane	9.4	5	1 4E-03	9 86E-07	6 3	0 0000	2 2E-10	5 4E-10	3 3E-10	1 7E-09	6 4E-09	3 8E-09	2E-09	5E-09	3E-09	1E-06	4E-06	3E-06
Pyridine	NA	0 875	2 5E-04	1 25E-06	6 3	0 0000	2 8E-10	6 9E-10	4 2E-10	2.2E-09	8 1E-09	4 9E-09	0	0	0	9E-06	3E-05	2E-05
Dichlorodifluoromethane	% total HI =	0 08														7E-06	2E-05	2E-05
Total Risk/HI													**3.7E-09**	**9.2E-09**	**5.5E-09**	**9.0E-05**	**3.4E-04**	**2.0E-04**

TANK FARM Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Avg South Vapor DF (ug/m3 - 4g/s)	Avg South Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Tank Farm Adult Cancer Risk	Tank Farm Child Cancer Risk	Tank Farm School-age Cancer Risk	Tank Farm Adult Noncancer HQ	Tank Farm Child Noncancer HQ	Tank Farm School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 16E-02	16 2	0 0470	1 7E-06	4 1E-06	2 5E-06	1 3E-05	4 8E-05	2 9E-05	0	0	0	5E-04	2E-03	1E-03
Acrylonitrile	0 24	0 5	1 4E-04	2 57E-04	16 2	0 0010	3 7E-06	9 1E-06	5 5E-06	2 9E-07	1 1E-06	6 4E-07	9E-09	2E-08	1E-08	2E-03	7E-03	5E-03
Carbon Disulfide	NA	2 5	7 1E-04	7.7E-04	16 2	0 0031	1 1E-07	2 7E-07	1 6E-07	8 5E-07	3 2E 06	1 9E-06	0	0	0	1E-03	4E-03	3E-03
Carbon Tetrachloride	0 053	0 5	1 4E-04	5 16E-04	16 2	0 0021	7 4E-06	1 8E-07	1 1E-07	5 7E-07	2 1E 06	1 3E-06	4E-09	1E-08	6E 09	4E 03	1E-02	9E-03
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 54E-05	16 2	0 0001	3 6E-09	9 0E-09	5 5E-09	2 8E-08	1 1E-07	6 4E-08	3E-09	7E 09	4E 09	2E-03	7E-03	4E-03
1,1-Dichloroethene	1.2	7.9	2 3E-03	7 54E-04	16 2	0 0031	1 1E-07	2 7E-07	1 6E-07	8 4E-07	3 1E-06	1 9E-06	1E 07	3E-07	2E 07	4E 04	1E-03	8E-04
Formaldehyde	0 045	175	5.0E-02	6 40E-03	16 2	0 0259	9 1E-07	2 3E-06	1 4E-06	7 1E-06	2 7E-05	1 6E-05	4E-08	1E 07	6E 08	1E-04	5E-04	3E-04
Hydrazine	17	NA	0 0E+00	1 63E-05	16 2	0 0001	2 3E-09	5 8E-09	3 5E-09	1 8E-08	6 8E 08	4 1E-08	4E 08	1E-07	6E 08	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 12E-04	16 2	0 0009	3 0E-08	7 5E-08	4 6E-08	2 4E-07	8 8E 07	5 3E-07	3E 07	7E-07	4E 07	2E 04	6E-04	4E-04
Pyridine	NA	0 875	2 5E-04	2 68E-04	16 2	0 0011	3 8E-06	9 5E-06	5 8E-06	3 0E-07	1 1E-06	6 7E-07	0	0	0	1E-03	4E-03	3E-03
Dichlorodifluoromethane	% total HI =	0 08														9E-04	3E 03	2E 03
Total Risk/HI													**5 1E-07**	**1 3E-06**	**7 7E-07**	**1 2E-02**	**4 7E-02**	**2 8E-02**

External Review Not Cite or Quote

MAX INHALATION CAB SYSTEM Chemical	Inhal Slope Factor (mg/kg-d) 1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Max Off-Site Disp (ug/m3	Vapor Factor g/s	Max Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	CAB Adult Cancer Risk	CAB Child Cancer Risk	CAB School-age Cancer Risk	CAB Adult Noncancer HQ	CAB Child Noncancer HQ	CAB School age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 23E-03		3 8	0 0047	1 6E-07	4 1E-07	2 5E-07	1 3E-06	4 8E-06	2 9E-06	0	0	0	5E-05	2E-04	1E-04
Acrylonitrile	0 24	0 5	1 4E-04	2 71E-05		3 8	0 0001	3 6E-09	9 0E-09	5 5E-09	2 8E-08	1 1E-07	6 4E 08	9E-10	2E-09	1E-09	2E-04	7E-04	4E-04
Carbon Disulfide	NA	2 5	7 1E-04	8 1E-05		3 8	0 0003	1 1E-08	2 7E-08	1 6E-08	8 4E-08	3 1E-07	1 9E-07	0	0	0	1E-04	4E-04	3E-04
Carbon Tetrachloride	0 053	0 5	1 4E-04	5 44E-05		3 8	0 0002	7 3E-09	1 8E-08	1 1E-08	5 7E-08	2 1E-07	1 3E-07	4E-10	1E-09	6E-10	4E-04	1E-03	9E-04
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 68E-06		3 8	0 0000	3 6E-10	8 9E-10	5 4E-10	2 8E-09	1 0E-08	6 3E-09	3E-10	7E-10	4E-10	2E-04	7E-04	4E-04
1,1-Dichloroethene	0 091	125	3 6E-02	7 95E-05		3 8	0 0003	1 1E 08	2 6E-08	1 6E-08	8 3E-08	3 1E-07	1 9E-07	1E-09	2E-09	1E-09	2E-06	9E-06	5E-06
Formaldehyde	0 045	175	5 0E-02	6 75E-04		3 8	0 0026	9 0E-08	2 2E-07	1 4E-07	7 0E-07	2 6E-06	1 6E-06	4E-09	1E-08	6E-09	1E-05	5E-05	3E-05
Hydrazine	17	NA	0 0E+00	1 72E-06		3 8	0 0000	2 3E-10	5 7E-10	3 5E-10	1 8E-09	6 7E-09	4 0E-09	4E-09	1E-08	6E-09	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 23E-05		3 8	0 0001	3 0E-09	7 4E-09	4 5E-09	2 3E-08	8 7E-08	5 2E-08	3E-08	7E-08	4E-08	2E-05	6E-05	4E-05
Pyridine	NA	0 875	2 5E-04	2 83E-05		3 8	0 0001	3 8E-09	9 4E-09	5 7E-09	2 9E-08	1 1E-07	6 7E-08	0	0	0	1E-04	4E-04	3E-04
Dichlorodifluorometha	% total HI =	0 08															9E-05	3E-04	2E-04
Total Risk/HI														3 9E-08	9.6E-08	5.8E-08	1.2E-03	4.5E-03	2 7E-03

WASTEWATER TANK Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Max Off-Site Disp (ug/m3 - g/s	Vapor Factor	Max Off-Site Conc. (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	WW Tank Adult Cancer Risk	WW Tank Child Cancer Risk	WW Tank School-age Cancer Risk	WW Tank Adult Noncancer HQ	WW Tank Child Noncancer HQ	WW Tank School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 10E-03	298 68		0 3285	1 2E-05	2 9E-05	1 7E-05	9 0E-05	3 4E-04	2 0E-04	0	0	0	4E-03	1E-02	8E-03
Acrylonitrile	0 24	0 5	1 4E-04	2.44E-05	298 68		0 0073	2 6E-07	6 4E-07	3 9E-07	2 0E-06	7 5E-06	4 5E-06	6E-08	2E-07	9E-08	1E-02	5E-02	3E-02
Carbon Disulfide	NA	2 5	7 1E-04	7.3E-05	298 68		0 0218	7 7E-07	1 9E-06	1 2E-06	6 0E-06	2 2E-05	1 3E-05	0	0	0	8E-03	3E-02	2E-02
Carbon Tetrachloride	0 053	0 5	1 4E-04	4 90E-05	298 68		0 0146	5 2E-07	1 3E-06	7 8E-07	4 0E-06	1 5E-05	9 1E-06	3E-08	7E-08	4E-08	3E-02	1E-01	6E-02
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 41E-06	298 68		0 0007	2 5E-08	6 3E-08	3 8E-08	2 0E-07	7 4E-07	4 5E-07	2E-08	5E-08	3E-08	1E-02	5E-02	3E-02
1,1-Dichloroethene	0 091	125	3 6E-02	7 16E-05	298 68		0 0214	7 5E-07	1 9E-06	1 1E-06	5 9E-06	2 2E-05	1 3E-05	7E-08	2E-07	1E-07	2E-04	6E-04	4E-04
Formaldehyde	0 045	175	5 0E-02	6 08E-04	298 68		0 1816	6 4E-06	1 6E-05	9 6E-06	5 0E-05	1 9E-04	1 1E-04	3E-07	7E-07	4E-07	1E-03	4E-03	2E-03
Hydrazine	17	NA	0 0E+00	1 55E-06	298 68		0 0005	1 6E-08	4 1E-08	2 5E-08	1 3E-07	4 7E-07	2 9E-07	3E-07	7E-07	4E-07	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 01E-05	298 68		0 0060	2 1E-07	5 3E-07	3 2E-07	1 6E-06	6 1E-06	3 7E-06	2E-06	5E-06	3E-06	1E-03	4E-03	3E 03
Pyridine	NA	0 875	2 5E-04	2 55E-05	298 68		0 0076	2 7E-07	6 7E-07	4 0E-07	2 1E-06	7 6E-06	4 7E-06	0	0	0	8E-03	3E-02	2E 02
Dichlorodifluorometha	% total HI =	% total HI =															6E-03	2E-02	1E-02
Total Risk/HI														2.7E-06	6.8E-06	4.1E-06	8.5E-02	3.2E-01	1.9E-01

TRUCK WASH Chemical	Inhal Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Max Off-Site Disp (ug/m3 - g/s	Vapor Factor	Max Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Truck Adult Cancer Risk	Truck Child Cancer Risk	Truck School-age Cancer Risk	Truck Adult Noncancer HQ	Truck Child Noncancer HQ	Truck School-age Noncancer HQ
Acetone	NA	87 5	2 5E-02	5 41E-05	203 1		0 0110	3 9E-07	9 6E-07	5 6E-07	3 0E-06	1 1E-05	6 8E-06	0	0	0	1E-04	4E-04	3E 04
Acrylonitrile	0 24	0 5	1 4E-04	1 19E-06	203 1		0 0002	8 5E-09	2 1E-08	1 3E-08	6 6E-08	2 5E-07	1 5E-07	2E-09	5E-09	3E-09	5E-04	2E-03	1E 03
Carbon Disulfide	NA	2 5	7 1E-04	3 6E-06	203 1		0 0007	2 6E-08	6 4E-08	3 9E-08	2 0E-07	7 4E-07	4 5E-07	0	0	0	3E-04	1E-03	6E-04
Carbon Tetrachloride	0 053	0.5	1 4E-04	2 40E-06	203 1		0 0005	1 7E-08	4 3E-08	2 6E-08	1 3E-07	5 0E-07	3 0E-07	9E-10	2E-09	1E-09	9E-04	3E-03	2E 03
1,2-Dibromoethane	0 76	0 05	1 4E-05	1 18E-07	203 1		0 0000	8 4E-10	2 1E-09	1 3E-09	6 6E-09	2 5E-08	1 5E-08	6E-10	2E-09	1E-09	5E-04	2E-03	1E 03
1,1-Dichloroethene	0 091	125	3 6E-02	3 51E-06	203 1		0 0007	2 5E-08	6 3E-08	3 8E-08	2 0E-07	7 3E-07	4 4E-07	2E-09	6E-09	3E-09	5E-08	2E-05	1E 05
Formaldehyde	0 045	175	5 0E-02	2 98E-05	203 1		0 0061	2 1E-07	5 3E-07	3 2E-07	1 7E-06	6 2E-06	3 7E-06	1E-08	2E-08	1E-08	3E-05	1E-04	7E-05
Hydrazine	17	NA	0 0E+00	7 58E-06	203 1		0 0000	5 4E-10	1 4E-09	8 2E-10	4 2E-09	1 6E-08	9 5E-09	9E-09	2E-08	1E-08	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	9 66E-07	203 1		0 0002	7 1E-09	1 8E-08	1 1E-08	5 5E-08	2 0E-07	1 2E-07	7E-08	2E-07	1E-07	4E-05	1E-04	9E-05
Pyridine	NA	0 875	2 5E-04	1 25E-06	203 1		0 0003	8 9E-09	2 2E-08	1 3E-08	7 0E-08	2 6E-07	1 6E-07	0	0	0	3E-04	1E-03	6E-04
Dichlorodifluorometha	% total HI =	% total HI =															2E-04	8E-04	5E 04
Total Risk/HI														9.1E-08	2.3E-07	1.4E-07	2.8E-03	1.1E-02	6.4E-03

TANK FARM Chemical	Inhal. Slope Factor (mg/kg-d)-1	RAC (ug/m3)	Inhalation RfD (mg/kg-d)	Emission Rate (g/sec)	Max Off-Site Disp (ug/m3 - g/s	Vapor Factor	Max Off-Site Conc (ug/m3)	Cancer Adult Exposure (mg/kg-d)	Cancer Child Exposure (mg/kg-d)	Cancer School-age Exposure (mg/kg-d)	Noncancer Adult Exposure (mg/kg-d)	Noncancer Child Exposure (mg/kg-d)	Noncancer School-age Exposure (mg/kg-d)	Tank Farm Adult Cancer Risk	Tank Farm Child Cancer Risk	Tank Farm School-age Cancer Risk	Tank Farm Adult Noncancer HQ	Tank Farm Child Noncancer HQ	Tank Farm School age Noncancer HQ
Acetone	NA	87 5	2 5E-02	1 16E-02		67 9	0 1969	6 9E-06	1 7E-05	1 0E-05	5 4E-05	2 0E-04	1 2E-04	0	0	0	2E 03	8E-03	5E 03
Acrylonitrile	0 24	0 5	1 4E-04	2 57E-04		67 9	0 0044	1 5E-07	3 8E-07	2 3E 07	1 2E-06	4 5E-06	2 7E-06	4E-08	9E-08	6E-08	8E 03	3E-02	2E 02
Carbon Disulfide	NA	2 5	7 1E-04	7 7E-04		67 9	0 0130	4 6E-07	1 1E-06	6 9E-07	3 6E-06	1 3E-05	8 1E-06	0	0	0	5E 03	2E-02	1E 02
Carbon Tetrachloride	0 053	0 5	1 4E-04	5 16E-04		67 9	0 0088	3 1E-07	7 7E-07	4 6E-07	2 4E-06	9 0E 06	5 4E-06	2E-08	4E-08	2E-08	2E 02	6E-02	4E 02
1,2-Dibromoethane	0 76	0 05	1 4E-05	2 54E-05		67 9	0 0004	1 5E-08	3 8E-08	2 3E-08	1 2E-07	4 4E-07	2 7E-07	1E 08	3E-08	2E-08	8E 03	3E-02	2E 02
1,1-Dichloroethene	0 091	125	3 6E-02	7 54E-04		67 9	0 0128	4 5E-07	1 1E-06	6 8E-07	3 5E-06	1 3E-05	7 9E 06	4E 08	1E-07	6E 08	1E 04	4E-04	2E 04
Formaldehyde	0 045	175	5 0E-02	6 40E-03		67 9	0 1086	3 8E-06	9 5E-06	5 8E-06	3 0E-05	1 1E-04	6 7E-05	2E-07	4E-07	3E-07	6E-04	2E-03	1E-03
Hydrazine	17	NA	0 0E+00	1 63E-05		67 9	0 0003	9 7E-09	2 4E-08	1 5E-08	7 6E-08	2 8E-07	1 7E 07	2E-07	4E 07	2E 07	ERR	ERR	ERR
2-Nitropropane	9 4	5	1 4E-03	2 12E-04		67 9	0 0036	1 3E 07	3 2E-07	1 9E-07	9 9E-07	3 7E 06	2 2E 06	1E-06	3E 06	2E 06	7E 04	3E-03	2E 03
Pyridine	NA	0 875	2 5E-04	2 68E-04		67 9	0 0045	1 6E-07	4 0E-07	2 4E-07	1 2E-06	4 7E-06	2 8E-06	0	0	0	5E-03	2E 02	1E 02
Dichlorodifluorometha	% total HI =	% total HI =															4E 03	1E 02	8E 03
Total Risk/HI														1 6E-06	4 1E-06	2 5E-06	5 1E-02	1 9E-01	1 1E-01

ASH HANDLING MAX. INHALATION	Inhal Slope Factor	RAC	Inhalation RfD	Emission Rate	Max Off-Sit Particulate Disp Facto	Max Off-Site Conc	Cancer Adult Exposure	Cancer Child Exposure	Cancer School-age Exposure	Noncancer Adult Exposure	Noncancer Child Exposure	NoncancerAsh School-age Exposure	HandlinAsh Adult Cancer	HandlinAsh Child Cancer	HandlinAsh School-age Cancer	HandlinAsh Adult Noncancer	HandlinAsh Child Noncancer	HandlinAsh School-age Noncancer
Chemical	(mg/kg-d)-1	(ug/m3)	(mg/kg-d)	(g/sec)	(ug/m3 - g/s	(ug/m3)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	Risk	Risk	Risk	HQ	HQ	HQ
Arsenic	50	0 263	7 5E-05	1 37E-06	64	8 8E-05	3 1E 09	7 7E-09	4 6E-09	2 4E-08	9 0E-08	5 4E-08	2E-07	4E-07	2E-07	3E-04	1E-03	7E-04
Barium	NA	0 125	3 6E-05	6 75E-07	64	4 3E-05	1 5E-09	3 8E-09	2 3E-09	1 2E-08	4 4E-08	2 7E-08	0E+00	0E+00	0E+00	3E-04	1E-03	7E-04
Cadmium	6 1	0 438	1 3E-04	2 86E-05	64	1 8E 03	6 4E-08	1 6E-07	9 7E-08	5 0E-07	1 9E-06	1 1E-06	4E-07	1E-06	6E-07	4E-03	1E-02	9E-03
Lead	NA	NA	0.0E+00	1 45E-05	64	9 3E-04	3 3E-08	8 1E-08	4 9E-08	2 5E-07	9 5E-07	5 7E-07	0E+00	0E+00	0E+00	ERR	ERR	ERR
Nickel	0 84	17 5	5 0E-03	2 92E-07	64	1 9E-05	6 6E-10	1 6E-09	9 9E-10	5 1E-09	1 9E-08	1 2E-08	6E-10	1E-09	8E-10	1E-06	4E-06	2E-06
Selenium	NA	4 375	1 3E-03	8 23E-08	64	5 3E-06	1 9E-10	4 6E-10	2 8E-10	1 4E-09	5 4E-09	3 3E-09	0E+00	0E+00	0E+00	1E-06	4E-06	3E-06
Silver	NA	4 375	1 3E-03	1 04E-07	64	6 7E-06	2 3E-10	5 8E-10	3 5E-10	1 8E-09	6 8E-09	4 1E-09	0E+00	0E+00	0E+00	1E-06	5E-06	3E-06
Total Cyanide	NA	17 5	5 0E-03	1 41E-07	64	9 0E-06	3 2E-10	7 9E-10	4 8E-10	2 5E-09	9 2E-09	5 6E-09	0E+00	0E+00	0E+00	5E-07	2E-06	1E-06
Total Risk/HI													**5E-07**	**1E-06**	**8E-07**	**5E-03**	**2E-02**	**1E-02**

External Review Dra ot Cite or Quote

Chemical	Subarea	CHILD RESIDENT typical cancer risks ag expos veg ing	ag prot veg ing	leafy veg ing	root veg ing	ag expos fruit ing	ag prot fruit ing	soil ing	soil derm	TOTAL SOIL, VEG RISK
EAST										
Arsenic	East	2 1E-12	5 4E-13	1 8E-12	4 0E-16	2 5E-12	1 9E-12	3 4E-11	6 6E-13	4 3E-11
Barium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	East	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
NORTH										
Arsenic	North	1 7E-12	4 4E-13	1 5E-12	3 2E-16	2 0E-12	1 5E-12	2 8E-11	5 3E-13	3 5E-11
Barium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	North	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
SOUTH										
Arsenic	South	1 1E-12	2 7E-13	9 2E-13	2 0E-16	1 3E-12	9 4E-13	1 7E-11	3 3E-13	2 2E-11
Barium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	South	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
WEST										
Arsenic	West	1 9E-12	5 1E-13	1 7E-12	3 6E-16	2 3E-12	1 8E-12	3 2E-11	6 2E-13	4 1E-11
Barium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	West	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
MAXIMUM LOCATION										
Arsenic	Maximum	1 2E-11	2 9E-12	1 0E-11	2 2E-15	1 4E-11	1 0E-11	1 8E-10	3 6E-12	2 4E-10
Barium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0.0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	Maximum	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

Chemical	Subarea	CHILD RESIDENT typical hazard indices ag expos veg ing	ag prot veg ing	leafy veg ing	root veg ing	ag expos fruit ing	ag prot fruit ing	soil ing	soil derm contact	TOTAL SOIL, VEG HI
EAST										
Arsenic	East	4 6E-08	1 2E-08	4 0E-08	8 8E-12	5 6E-08	4 1E-08	7 5E-07	6 7E-14	9 5E-07
Barium	East	1 2E-10	4 1E-11	1 5E-10	7 5E-14	1 4E 10	1 4E-10	4 8E-10	2 3E-12	1 1E-09
Cadmium	East	8 1E-07	3 5E-07	5 8E-07	1 3E-09	9 7E-07	1 2E-06	3 2E-07	7 9E-14	4 2E-06
Nickel	East	5 2E-10	3 6E-10	1 6E-10	1 6E-14	6 3E-10	1 2E-09	1 8E-09	7 1E-13	4 7E-09
Selenium	East	3 4E-10	1 9E-10	1 2E-10	5 7E-14	4 1E-10	6 7E-10	4 0E-09	9 9E-14	5 8E-09
Silver	East	7 2E-10	4 9E-10	6 1E-10	1 2E-12	8 7E-10	1.7E-09	7 8E-10	1 9E-14	5 2E-09
Cyanide	East	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
NORTH										
Arsenic	North	3 7E-08	9 8E-09	3 3E-08	7 2E-12	4 5E-08	3 4E-08	6 1E-07	5 4E-14	7 7E-07
Barium	North	9 3E-11	3 3E-11	1 2E-10	6 1E-14	1 1E-10	1 1E-10	3 9E-10	1 9E-12	8 7E-10
Cadmium	North	6 5E-07	2 8E-07	4 7E-07	1 0E-09	7 9E-07	9 7E-07	2 6E-07	6 4E-14	3 4E-06
Nickel	North	4 3E-10	2 9E-10	1 3E-10	1 4E-14	5 1E-10	1 0E-09	1 5E-09	5 8E-13	3 8E-09
Selenium	North	2 8E-10	1 6E-10	9 7E-11	4 6E-14	3 3E-10	5 4E-10	3 3E-09	8 1E-14	4 7E-09
Silver	North	5 9E-10	4 0E-10	4 9E-10	9 8E-13	7 1E-10	1.4E-09	6 4E-10	1 6E-14	4 2E-09
Cyanide	North	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
SOUTH										
Arsenic	South	2 3E-08	6 0E-09	2 0E-08	4 5E-12	2 8E-08	2 1E-08	3 8E-07	3 4E-14	4 8E-07
Barium	South	5 8E-11	2 0E-11	7 5E-11	3 8E-14	7 0E-11	7 1E-11	2 4E-10	1 2E-12	5 4E-10
Cadmium	South	4 1E-07	1 7E-07	2 9E-07	6 3E-10	4 9E-07	6 0E-07	1 6E-07	4 0E-14	2 1E-06
Nickel	South	2 6E-10	1 8E-10	7 9E-11	8 9E-15	3 2E-10	6 2E-10	9 1E-10	3 6E-13	2 4E-09
Selenium	South	1 7E-10	9 7E-11	6 1E-11	2 9E-14	2 1E-10	3 4E-10	2 0E-09	5 0E-14	2 9E-09
Silver	South	3 6E-10	2 5E-10	3 1E-10	6 1E-13	4 4E-10	6 5E-10	3 9E-10	9 7E-15	2 6E-09
Cyanide	South	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
WEST										
Arsenic	West	4.3E-08	1 1E-08	3 6E-08	8.4E-12	5 2E-08	3 9E-08	7 1E-07	6 3E-14	9 0E-07
Barium	West	1 1E-10	3 9E-11	1 4E-10	7 1E-14	1 3E-10	1 3E-10	4 6E-10	2 2E-12	1 0E-09
Cadmium	West	7 6E-07	3 3E-07	5 4E-07	1 2E-09	9 1E-07	1 1E-06	3 0E-07	7 5E-14	4 0E-06
Nickel	West	4 9E-10	3 4E-10	1 5E-10	1 7E-14	6 0E-10	1 2E-09	1 7E-09	6 8E-13	4 5E-09
Selenium	West	3 2E-10	1 8E-10	1 1E-10	5 4E-14	3 9E-10	6 3E-10	3 8E-09	9 4E-14	5 5E-09
Silver	West	6 8E-10	4 6E-10	5 8E-10	1 1E-12	8 2E-10	1 0E-09	7.4E-10	1 8E-14	4 9E-09
Cyanide	West	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
MAXIMUM LOCATION										
Arsenic	Maximum	2 7E-07	6 5E-08	2 3E-07	4 8E-11	3 2E-07	2 3E-07	4 1E-06	3 6E-13	5 2E-06
Barium	Maximum	6 6E-10	2 2E-10	8 3E-10	4 1E-13	7 9E-10	7 6E-10	2 6E-09	1 3E 11	5 9E-09
Cadmium	Maximum	4 6E-06	1 9E-06	3 2E-06	6 8E-09	5 5E-06	6 5E-06	1 7E-06	4 3E-13	2 3E-05
Nickel	Maximum	2 9E-09	1 9E-09	8 8E-10	9 6E-14	3 5E-09	6 7E-09	9 8E-09	3 9E-12	2 6E-08
Selenium	Maximum	1 9E-09	1 0E-09	6 8E-10	3 1E-13	2 3E-09	3 6E-09	2 2E-08	5 4E-13	3 1E-08
Silver	Maximum	4 0E-09	2 7E-09	3 3E-09	6 5E-12	4 8E-09	9 2E-09	4 2E-09	1 0E-13	2 8E-08
Cyanide	Maximum	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

NOTE:
ERR = Risks and HQs can not be calculated for cyanide because chemical-specific values can not be estimated

Chemical	Subarea	SCHOOL-AGE CHILD typical cancer risks: ag expos veg ing	ag prot veg ing	leafy veg ing	root veg ing	ag expos fruit ing	ag prot fruit ing	soil ing	soil derm	TOTAL SOIL, VEG RISK
EAST										
Arsenic	East	1 6E-12	4 2E-13	1 4E-12	2 9E-16	1 3E-12	9 7E-13	4 9E-12	4 3E-13	1 1E-11
Barium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	East	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
NORTH										
Arsenic	North	1 3E-12	3 4E-13	1 1E-12	2 4E-16	1 1E-12	7 9E-13	4 0E-12	3 5E-13	8 9E-12
Barium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	North	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
SOUTH										
Arsenic	South	8 1E-13	2 1E-13	6 9E-13	1 5E-16	6 7E-13	4 9E-13	2 5E-12	2 2E-13	5 6E-12
Barium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	South	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
WEST										
Arsenic	West	1 5E-12	4 0E-13	1 3E-12	2 6E-16	1 2E-12	9 2E-13	4 7E-12	4 1E-13	1 0E-11
Barium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	West	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
MAXIMUM LOCATION										
Arsenic	Maximum	9 2E-12	2 3E-12	7 7E-12	1 6E-15	7 6E-12	5 3E-12	2 7E-11	2 4E-12	6 1E-11
Barium	Maximum	0.0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	Maximum	0.0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0.0E+00
Cyanide	Maximum	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

Chemical	Subarea	SCHOOL-AGE CHILD typical hazard indices: ag expos veg ing	ag prot veg ing	leafy veg ing	root veg ing	ag expos fruit ing	ag prot fruit ing	soil ing	soil derm contact	TOTAL SOIL, VEG HI
EAST										
Arsenic	East	3 6E-08	9 3E-09	3 0E-08	6 5E-12	2 9E-08	2 2E-08	1 1E-07	4 4E-14	2 4E-07
Barium	East	8 9E-11	3 2E-11	1 1E-10	5 6E-14	7 4E-11	7 3E-11	7 0E-11	1 5E-12	4 5E-10
Cadmium	East	6 2E-07	2 7E-07	4 3E-07	9 3E-10	5 1E-07	6 2E-07	4 6E-08	5 2E-14	2 5E-06
Nickel	East	4 0E-10	2 8E-10	1 2E-10	1 3E-14	3 3E-10	6 4E-10	2 6E-10	4 7E-13	2 0E-09
Selenium	East	2 6E-10	1 5E-10	9 0E-11	4 2E-14	2 2E-10	3 5E-10	5 6E-10	6 6E-14	1 7E-09
Silver	East	5 6E-10	3 8E-10	4 5E-10	8 9E-13	4 6E-10	8 8E-10	1 1E-10	1 3E-14	2 8E-09
Cyanide	East	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
NORTH										
Arsenic	North	2 9E-08	7 6E-09	2 4E-08	5 3E-12	2 4E-08	1 8E-08	8 9E-08	3 6E-14	1 9E-07
Barium	North	7 2E-11	2 6E-11	9 0E-11	4 5E-14	5 9E-11	6 0E-11	5 7E-11	1 3E-12	3 7E-10
Cadmium	North	5 0E-07	2 2E-07	3 5E-07	7 6E-10	4 2E-07	5 1E-07	3 8E-08	4 3E-14	2 0E-06
Nickel	North	3 3E-10	2 3E-10	9 5E-11	1 1E-14	2 7E-10	5 3E-10	2 1E-10	3 9E-13	1 7E-09
Selenium	North	2 1E-10	1 2E-10	7 3E-11	3 4E-14	1 8E-10	2 8E-10	4 8E-10	5 4E-14	1 3E-09
Silver	North	4 5E-10	3 1E-10	3 7E-10	7 3E-13	3 7E-10	7 2E-10	9 2E-11	1 0E-14	2 3E-09
Cyanide	North	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
SOUTH										
Arsenic	South	1 8E-08	4 7E-09	1 5E-08	3 3E-12	1 5E-08	1 1E-08	5 5E-08	2 2E-14	1 2E-07
Barium	South	4 5E-11	1 6E-11	5 6E-11	2 8E-14	3 7E-11	3 7E-11	3 5E-11	7 8E-13	2 3E-10
Cadmium	South	3 2E-07	1 4E-07	2 2E-07	4 7E-10	2 6E-07	3 1E-07	2 3E-08	2 6E-14	1 3E-06
Nickel	South	2 0E-10	1 4E-10	5 9E-11	6.6E-15	1 7E-10	3 3E-10	1 3E-10	2 4E-13	1 0E-09
Selenium	South	1 3E-10	7 6E-11	4 5E-11	2 1E-14	1 1E-10	1 6E-10	2 9E-10	3 3E-14	8 4E-10
Silver	South	2 8E-10	1 9E-10	2.3E-10	4 5E-13	2 3E-10	4 4E-10	5 7E-11	6 5E-15	1 4E-09
Cyanide	South	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
WEST										
Arsenic	West	3 3E-08	8 9E-09	2 8E-08	6 2E-12	2 7E-08	2 1E-08	1 0E-07	4 2E-14	2 2E-07
Barium	West	8 3E-11	3 0E-11	1 0E-10	5 3E-14	6 9E-11	7 0E-11	6 7E-11	1 5E-12	4 2E-10
Cadmium	West	5 8E-07	2 6E-07	4 0E-07	8 9E-10	4 8E-07	5 9E-07	4 4E-08	5 0E-14	2 4E-06
Nickel	West	3 8E-10	2 7E-10	1 1E-10	1 2E-14	3 1E-10	6 1E-10	2 5E-10	4 5E-13	1 9E-09
Selenium	West	2 5E-10	1 4E-10	8 4E-11	4 0E-14	2 1E-10	3 3E-10	5 6E-10	6 3E-14	1 6E-09
Silver	West	5 3E-10	3 6E-10	4 3E-10	8 5E-13	4 3E-10	8.4E-10	1 1E-10	1 2E-14	2 7E-09
Cyanide	West	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
MAXIMUM LOCATION										
Arsenic	Maximum	2 0E-07	5 1E-08	1 7E-07	3 6E-11	1 7E-07	1 2E-07	5 9E-07	2 4E-13	1 3E-06
Barium	Maximum	5 1E-10	1 7E-10	6 2E-10	3 0E-13	4 2E-10	4 0E-10	3 8E-10	8 4E-12	2 5E-09
Cadmium	Maximum	3 5E-06	1 5E-06	2 4E-06	5 1E-09	2 9E-06	3 4E-06	2 5E-07	2 8E-13	1 4E-05
Nickel	Maximum	2 2E-09	1 5E-09	6 6E-10	7.1E-14	1 8E-09	3 5E-09	1 4E-09	2 8E-12	1 1E-08
Selenium	Maximum	1 5E-09	8 2E-10	5 1E-10	2 3E-13	1 2E-09	1 9E-09	3 2E-09	3 6E-13	9 1E-09
Silver	Maximum	3 1E-09	2 1E-09	2 5E-09	4 8E-12	2 5E-09	4 6E-09	6 2E-10	6 9E-14	1 6E-08
Cyanide	Maximum	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

NOTE:
ERR = Risks and HQs can not be calculated for cyanide because chemical-specific values can not be estimated

Chemical	Subarea	ADULT RESIDENT typical cancer risks ag expos veg ing	ag prot veg ing	leafy veg ing	root veg ing	ag expos fruit ing	ag prot fruit ing	soil ing	soil derm	TOTAL SOIL, VEG RISK
EAST										
Arsenic	East	1 7E-12	4 4E-13	1 4E-12	3 1E-16	7 2E-13	5 3E-13	2 7E-12	4 1E-13	7 9E-12
Barium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	East	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	East	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
NORTH										
Arsenic	North	1 4E-12	3 6E-13	1 2E-12	2 5E-16	5 8E-13	4 3E-13	2 2E-12	3 3E-13	6 4E-12
Barium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	North	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	North	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
SOUTH										
Arsenic	South	8 5E-13	2 2E-13	7 2E-13	1 6E-16	3 6E-13	2 7E-13	1 4E-12	2 1E-13	4 0E-12
Barium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	South	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	South	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
WEST										
Arsenic	West	1 6E-12	4 2E-13	1 3E-12	3 0E-16	6 7E-13	5 0E-13	2 6E-12	3 9E-13	7 5E-12
Barium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	West	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	West	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
MAXIMUM LOCATION										
Arsenic	Maximum	9 7E-12	2 4E-12	8 1E-12	1 7E-15	4 1E-12	2 9E-12	1 5E-11	2 2E-12	4 4E-11
Barium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cadmium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Nickel	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Selenium	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Silver	Maximum	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00	0 0E+00
Cyanide	Maximum	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

Chemical	Subarea	ADULT RESIDENT typical hazard indices ag expos veg ing	ag prot veg ing	leafy veg ing	root veg ing	ag expos fruit ing	ag prot fruit ing	soil ing	soil derm contact	TOTAL SOIL, VEG HI
EAST										
Arsenic	East	2 5E-08	6 5E-09	2 1E-08	4 6E-12	1 1E-08	7 8E-09	4 0E-08	2 8E-14	1 1E-07
Barium	East	6 2E-11	2 2E-11	7 8E 11	3 9E-14	2 7E-11	2 6E-11	2 6E-11	9 7E-13	2 4E-10
Cadmium	East	4 4E-07	1 9E-07	3 0E-07	6 6E-10	1 9E-07	2 2E-07	1 7E-08	3 3E-14	1 4E-06
Nickel	East	2 8E-10	1 9E-10	8 2E-11	9 2E-15	1 2E-10	2 3E-10	9 7E-11	3 0E-13	1 0E-09
Selenium	East	1 8E-10	1 0E-10	6 3E-11	3 0E-14	7 9E-11	1 3E-10	2 2E-10	4 1E-14	7 7E-10
Silver	East	3 9E-10	2 7E-10	3 2E-10	6 3E-13	1 7E-10	3 2E-10	4 2E-11	8 0E-15	1 5E-09
Cyanide	East	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
NORTH										
Arsenic	North	2 0E-08	5 3E-09	1 7E-08	3 8E-12	8 6E-09	6 3E-09	3 3E-08	2 3E-14	9 0E-08
Barium	North	5 0E-11	1 8E-11	6 3E-11	3 2E-14	2 1E-11	2 2E-11	2 1E-11	7 9E-13	2 0E-10
Cadmium	North	3 5E-07	1 5E-07	2 5E-07	5 3E-10	1 5E-07	1.8E-07	1 4E-06	2 7E-14	1 1E-06
Nickel	North	2 3E-10	1 6E-10	6 7E-11	7 5E-15	9 8E-11	1 9E-10	7 9E-11	2 4E-13	8 2E-10
Selenium	North	1 5E-10	8 5E-11	5 1E-11	2 4E-14	6 4E-11	1 0E-10	1 6E-10	3 4E-14	6 3E-10
Silver	North	3 2E-10	2 2E-10	2 6E-10	5 1E-13	1 3E-10	2 6E-10	3 4E-11	6 6E-15	1 2E-09
Cyanide	North	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
SOUTH										
Arsenic	South	1 3E-08	3 3E-09	1 1E-08	2 3E-12	5 4E-09	3 9E-09	2 0E-08	1 4E-14	5 6E-08
Barium	South	3 2E-11	1 1E-11	3 9E-11	2 0E-14	1 3E-11	1 3E-11	1 3E-11	4 9E-13	1 2E-10
Cadmium	South	2 2E-07	9 5E-08	1 5E-07	3 3E-10	9 4E-08	1 1E-07	8 6E-09	1 7E-14	6 9E-07
Nickel	South	1 4E-10	9 8E-11	4 2E-11	4 6E-15	6 1E-11	1 2E-10	4 9E-11	1 5E-13	5 1E-10
Selenium	South	9 4E-11	5 3E-11	3 2E-11	1 5E-14	4 0E-11	6 3E-11	1 1E-10	2 1E-14	3 9E-10
Silver	South	2 0E-10	1 3E-10	1 6E-10	3 2E-13	8 4E-11	1 6E-10	2 1E-11	4 1E-15	7 6E-10
Cyanide	South	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
WEST										
Arsenic	West	2 3E-08	6 2E-09	2 0E-08	4 4E-12	9 9E-09	7 4E-09	3 8E-08	2 6E-14	1 0E-07
Barium	West	5 6E-11	2 1E-11	7 4E-11	3 7E-14	2 5E-11	2 5E-11	2 5E-11	9 3E-13	2 3E-10
Cadmium	West	4 1E-07	1.8E-07	2 8E-07	6 2E-10	1 7E-07	2 1E-07	1 6E-06	3 1E-14	1 3E-06
Nickel	West	2 7E-10	1 8E-10	7 7E-11	8 7E-15	1 1E-10	2 2E-10	9 2E-11	2 8E-13	9 6E-10
Selenium	West	1 7E-10	1 0E-10	5 9E-11	2 8E-14	7 4E-11	1.2E-10	2 0E-10	3 9E-14	7 3E-10
Silver	West	3 7E-10	2 5E-10	3 0E-10	6 0E-13	1 6E-10	3 0E-10	4 0E-11	7 7E-15	1 4E-09
Cyanide	West	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
MAXIMUM LOCATION										
Arsenic	Maximum	1 4E-07	3 5E-08	1 2E-07	2 5E-11	6 1E-08	4 2E-08	2 2E-07	1 5E-13	6 2E-07
Barium	Maximum	3 6E-10	1 2E-10	4 3E-10	2 1E-13	1 5E-10	1 4E-10	1 4E-10	5 3E 12	1 4E-09
Cadmium	Maximum	2 5E-06	1 0E-06	1 7E-06	3 6E-09	1 1E-06	1 2E-06	9 3E-08	1 8E-13	7 8E-06
Nickel	Maximum	1 6E-09	1 1E-09	4 6E-10	5 0E-14	6 7E-10	1 3E-09	5 3E-10	1 6E-12	5 5E-09
Selenium	Maximum	1 0E-09	5 7E-10	3 6E-10	1 6E-13	4 4E-10	6 8E-10	1 2E-09	2 3E-13	4 3E-09
Silver	Maximum	2 2E-09	1 4E-09	1 8E-09	3 4E-12	9 2E-10	1 7E-09	2 3E-10	4 4E-14	8 2E-09
Cyanide	Maximum	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

NOTE
ERR = Risks and HQs can not be calculated for cyanide because chemical-specific values can not be estimated

APPENDIX V-21

Summary of Input Parameters Used in Uncertainty Analysis

APPENDIX V-21
Summary of Input Parameters Used in Uncertainty Analysis

Because the uncertainty analysis focuses on the indirect exposure of subsistence farmers to 2,3,4,7,8-PeCDF and arsenic, the important fate and transport model components are the constituent concentrations in soil, meat, eggs, milk, and vegetation. In the HHRA, the surface water, sediment, fish, and mother's milk model components were not found to be significant contributors to exposure for this population subgroup, and thus the input parameters associated with these model components are not included in this analysis.

The ranges of the possible values for the relevant input parameters are summarized in Table IX-1 of Chapter IX. The rationale for the selection of the ranges are discussed below. While ranges are defined based on available data or guidance to the extent possible, scientific judgment is used to estimate conservative ranges where appropriate data or guidance are unavailable. As discussed in Chapter IX, these ranges are estimated to represent the 95 percent confidence interval.

A. Chemical and Physical Properties

- **Henry's Law constant (H)**

  2,3,4,7,8-PeCDF: The Henry's Law constant of 6.2×10^{-6} atm-m^3/mol for 2,3,4,7,8-PeCDF (U.S. EPA 1994a), which is calculated from the chemical's vapor pressure/water solubility (VP/WS) ratio (Lyman et al. 1990), is used as the most likely value of H. Vapor pressures estimated for PeCDF congeners range from 2.0×10^{-12} to 5.7×10^{-12} atm (U.S. EPA 1994a), spanning a factor of about three. Only one value is reported for the water solubility of PeCDFs; however, values for other dioxin and furan congeners have ranges spanning about one order of magnitude (U.S. EPA 1994a). Therefore, the Henry's Law constant for 2,3,4,7,8-PeCDF is assumed to be accurate over a factor of approximately 30, from 8.0×10^{-7} to 2.4×10^{-5} atm-m^3/mol.

  Arsenic: Arsenic is assumed to have a Henry's Law constant of zero (i.e., nonvolatile).

- **Octanol/water partition coefficient (K_{ow})**

  2,3,4,7,8-PeCDF: The only value of log K_{ow} reported by U.S. EPA (1994a) for 2,3,4,7,8-PeCDF of 6.92 (Sijm et al. 1989), which corresponds to a value for K_{ow} of 8.3×10^6, is used as the most likely value of log K_{ow}. Values have been reported for log K_{ow} for other PeCDF congeners ranging from 6.19 to 6.79 (Sijm et al. 1989). Thus, the range of log K_{ow} values for all PeCDF congeners spans a factor of about one, which corresponds to a range of about an order of magnitude for K_{ow} values. Because the value of log K_{ow} for 2,3,4,7,8-PeCDF is the upper limit of the range of values for all PeCDF congeners, the value of K_{ow} for 2,3,4,7,8-PeCDF is conservatively estimated to range over two orders of magnitude, ranging from 4.2×10^5 to 4.2×10^7 (which corresponds to values of log K_{ow} ranging from 5.6 to 7.6).

  Arsenic: Value not required for modeling.

- **Organic carbon adsorption coefficient (K_{oc})**

  2,3,4,7,8-PeCDF: Values for K_{oc} are based on the following relationship with the octanol/water coefficient (K_{ow}) (U.S. EPA 1993, 1994a):

$$\log K_{oc} = \log K_{ow} - 0.21 \qquad \text{(V-21-1)}$$

  This regression equation is based on data collected for ten chemicals by Karickhoff et al. (1979), and is recommended for chemicals with high K_{ow} values. Using the range for log K_{ow} of 5.6 to 7.6, K_{oc} ranges from 2.5×10^5 to 2.5×10^7 L/kg, with a most likely value of 5.1×10^6 L/kg (using log K_{ow}=6.92).

  Arsenic: Value not required for modeling.

- **Soil/water distribution coefficient (Kd_s)**

  2,3,4,7,8-PeCDF: For organic compounds, Kd_s is calculated as follows (U.S. EPA 1993, 1994a):

$$Kd_s = (K_{oc})(OC_{soil}) \qquad \text{(V-21-2)}$$

  where OC_{soil} is the fraction of organic carbon in soil and K_{oc} is calculated from the relationship with K_{ow} given by equation (V-21-1). Using the range for log K_{ow} of 5.6 to 7.6 and a range for OC_{soil} of 0.010 to 0.016 (USDA SCS 1968, 1974, 1981,

1982, 1983, 1989), Kd_s ranges from 2,500 to 4.0×10^5 L/kg, with a most likely value of 6.6×10^4 L/kg (using $OC_{soil}=0.013$ and log $K_{ow}=6.92$).

Arsenic: The most likely value for Kd_s for arsenic is 200 L/kg (Baes et al. 1984). This value of Kd_s is estimated by Baes et al. (1984) to be uncertain over three orders of magnitude, which corresponds to a GSD of 5.62. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated to be 45 L/kg, ranging from 1.4 to 1,400 L/kg.

- **Diffusion coefficient (D_a)**

  2,3,4,7,8-PeCDF: Measured values for D_a are not available for dioxin-like compounds. Therefore, U.S. EPA (1994a) estimates values based on the square root of the ratio of the molecular weight of each dioxin-like compound and diphenyl, a compound for which D_a is available (Thibodeaux 1979). Using this method, the value of D_a for 2,3,4,7,8-PeCDF is 0.047 cm^2/sec. Based on professional judgment, the uncertainty associated with this approximation is estimated to be a factor of two. The value of D_a for 2,3,4,7,8-PeCDF is therefore assumed to range from 0.023 and 0.1 cm^2/s.

  Arsenic: Value not required for modeling.

B. Emissions and Atmospheric Transport

- **Emission rate**

  2,3,4,7,8-PeCDF: As discussed in Chapter III of Volume III, emission rates can be variable depending on the operating conditions and waste feed composition. Based on data collected during the February 1994 trial burn (four test runs) and the 22 performance test runs conducted between August 1993 and August 1994, emission rates of 2,3,4,7,8-PeCDF ranged from 9.0×10^{-11} to 1.5×10^{-9} g/sec, with a most likely value of 4.7×10^{-10} g/sec. Because of the wide variety of operating conditions used, this range is assumed to be an adequate characterization of the range of emission rates. The upper limit of this range is multiplied by a correction factor ranging in value from 1.0 to 1.5 to account for the possible presence of brominated compounds, as discussed in Chapter IX.

  Arsenic: The most likely value for the emission rate of arsenic is 3.7×10^{-5} g/sec (Chapter III of Volume III). This emission rate is estimated to vary over an order

of magnitude (Appendix III-1 of Volume III), which corresponds to a GSD of 1.78. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated to be 2.7×10^{-5} g/sec, ranging from 8.4×10^{-6} to 8.4×10^{-5} g/sec.

- **Atmospheric dispersion**

  2,3,4,7,8-PeCDF: Dispersion factors relating emissions from the WTI incinerator to ambient concentrations at the receptor site are developed using the dispersion model ISC-COMPDEP. A series of sensitivity tests of the model predictions to a range of inputs was performed to assess the response of the model to uncertainties in the model input parameters (Chapter V of Volume IV). Based on an analysis of these sensitivity tests and the performance of other similar steady-state Gaussian models, it is estimated that the uncertainty of the annual average concentration predictions from ISC-COMPDEP is a factor of four. Therefore, the dispersion factor for 2,3,4,7,8-PeCDF of 0.914 $(\mu g/m^3)/(g/s)$ at the location of maximum vapor intake is assumed to range from 0.23 to 3.66 $(\mu g/m^3)/(g/s)$.

  Arsenic: The dispersion factor for arsenic is estimated to be accurate to within a factor of four, based on the sensitivity testing of the ISC-COMPDEP model and previous evaluation studies with the ISC and COMPLEX I models (Chapter V of Volume IV). Therefore, the dispersion factor for arsenic of 0.0155 $(\mu g/m^3)/(g/s)$ at the location of maximum wet deposition is assumed to range from 0.0039 to 0.062 $(\mu g/m^3)/(g/s)$.

- **Wet and dry deposition**

  2,3,4,7,8-PeCDF: Deposition factors are developed relating ambient concentrations at the receptor site to the wet and dry deposition fluxes. The wet deposition factors discussed in Chapter II of Volume IV are maximum values. The actual peak values could range to as low as one tenth this value. For reasons discussed in Chapter IV of Volume IV, the wet deposition algorithm is likely to overestimate near-field wet removal rates and, therefore, wet deposition fluxes. This is due to the use of scavenging coefficients that implicitly include the effects of both below-cloud and in-cloud scavenging, whereas, near the stack, only below-cloud scavenging occurs under most conditions. To estimate an upper limit for this maximum wet deposition factor, the uncertainty in the ISC-COMPDEP model (factor of four) is used. However, this is considered very conservative because the wet deposition algorithm is likely to have a bias toward overprediction of wet deposition fluxes in the near

field, where the peak deposition is predicted to occur. For wet deposition, the deposition factor for 2,3,4,7,8-PeCDF of 0.0245 $(g/m^2\text{-}yr)/(g/s)$ is assumed to range from 0.00245 to 0.098 $(g/m^2\text{-}yr)/(g/s)$.

Dry deposition factors are estimated to be accurate to within a factor of five. A series of sensitivity tests evaluating the sensitivity of the deposition fluxes to model inputs (e.g., particle size distribution, land use assumptions) show variations from the base case results that are within this factor. For dry deposition, the deposition factor for 2,3,4,7,8-PeCDF of 0.00515 $(g/m^2\text{-}yr)/(g/s)$ is assumed to range from 0.00103 to 0.026 $(g/m^2\text{-}yr)/(g/s)$.

Arsenic: The same uncertainty factors used for 2,3,4,7,8-PeCDF are assumed to be applicable for arsenic. The dry deposition factor for arsenic of 1.2×10^{-4} $(g/m^2\text{-}yr)/(g/s)$ is assumed to be accurate to within a factor of five, ranging from 2.4×10^{-5} to 6.0×10^{-4} $(g/m^2\text{-}yr)/(g/s)$. The maximum predicted wet deposition factor for arsenic of 0.221 $(g/m^2\text{-}yr)/(g/s)$ is assumed to range from 0.0221 to 0.884 $(g/m^2\text{-}yr)/(g/s)$.

- **Vapor/particle partitioning fraction (ϕ)**

  2,3,4,7,8-PeCDF: No specific data for ϕ were found for 2,3,4,7,8-PeCDF. Therefore, using the theoretical approach of Junge (1977) as recommended by Bidleman (1988), the most likely value for ϕ is estimated to be 0.61 for 2,3,4,7,8-PeCDF. Fifteen measurements from six studies have been reported for ϕ for PeCDF congeners, ranging from 0.0 to 0.71 (U.S. EPA 1994a), which is used for the range for 2,3,4,7,8-PeCDF.

  Arsenic: Arsenic is assumed to exist entirely in the particulate phase (i.e., $\phi=1.0$).

- **Wind speed (u)**

  According to airport wind speed data used in this risk assessment (Vreeland 1994), wind speeds typically range from 1 to 10 m/sec, with a most likely value of 4.1 m/sec.

- **Air temperature (T)**

  Based on regional soil surveys (USDA SCS 1968, 1974, 1981, 1982, 1983, 1989), the air temperature in the site vicinity typically ranges from 265 to 301 K, with a most likely value of 293 K.

- **Viscosity of air (μ_a)**
  The average temperature at the site is 293 K, which corresponds to an air viscosity of 1.82×10^{-4} g/cm^2-s (Perry and Green 1984). For temperatures ranging from 265 to 301 K, the viscosity of air ranges from 1.68×10^{-4} to 1.86×10^{-4} g/cm^2-s.

- **Density of air (ρ_a)**
  The average temperature at the site is 293 K, which corresponds to an air density of 1.20×10^{-3} g/cm^3 (Perry and Green 1984). For temperatures ranging from 265 to 301 K, the density of air ranges from 1.18×10^{-3} to 1.33×10^{-3} g/cm^3.

C. Soil Concentration

- **Soil bulk density (BD)**
  Based on regional soil surveys (USDA SCS 1982, 1983, 1989), the site-specific value of BD is estimated to be 1.31 g/m^3, ranging from 1.10 to 1.55 g/m^3.

- **Fraction organic carbon in soil (OC_{soil})**
  Based on regional soil surveys (USDA SCS 1968, 1974, 1981, 1982, 1983, 1989), the site-specific value of OC_{soil} is estimated to be 0.013, ranging from 0.010 to 0.016.

- **Average annual precipitation (P)**
  Based on regional soil surveys (USDA SCS 1968, 1974, 1981, 1982, 1983, 1989), the site-specific average annual precipitation is 95 cm/year, ranging from 87 to 101 cm/year.

- **Average annual irrigation (I)**
  The site-specific value of I is estimated to be 28 cm/year (Jarrett 1994). During a normal crop season, the irrigation need for the area could be as low as 11 cm/year; an upper limit on the range for I is estimated to be 40 cm/year (Jarrett 1994).

- **Average annual runoff (RO)**
  The site-specific value for the annual average surface water runoff is estimated to be 25 cm/year (Jarrett 1994). The annual average surface water runoff for Ohio is estimated to range from 12 to 38 cm/year (Geraghty et al. 1973).

- **Average annual evapotranspiration (Ev)**
  The site-specific average potential evapotranspiration is estimated to be 88 cm/year (Reinke 1994). The average potential evapotranspiration for Ohio ranges from 60 to 90 cm/year (Geraghty et al. 1973). Average annual evapotranspiration is assumed to be half of the potential evapotranspiration (U.S. EPA 1993).

- **Soil volumetric water content (Θ_s)**
  Volumetric water content, estimated as the midpoint between a soil's field capacity and wilting point, ranges from 0.10 mL/cm^3 for very sandy soils to 0.30 mL/cm^3 for heavy loam/clay soils (U.S. EPA 1993). Based on the recommendation of Seibert (1994), the most likely value used in the risk assessment is 0.25 mL/cm^3.

- **Enrichment ratio (E)**
  Enrichment ratios have been assigned values ranging from 1 to 5 for organic matter, phosphorus, and other soil-bound constituents of concern (U.S. EPA 1994a, 1993). Based on EPA guidance (U.S. EPA 1994a, 1993), a value of 3 is selected as the most likely value in the risk assessment.

- **Erosivity factor (R)**
  Annual values for the rainfall/erosivity index range from <50 for the arid western United States to 300 or 400 for the Southeast (U.S. EPA 1994a, 1993). A value of 125, recommended by Moyer (1994), is selected as the most likely value in the risk assessment.

- **Erodability factor (K)**
  Based on regional soil surveys (USDA SCS 1982, 1983, 1989), the site-specific value of K is estimated to be 0.34 yr^{-1}, ranging from 0.15 to 0.49 yr^{-1}.

- **Slope length factor (LS)**
  LS is a topographic factor that reflects the influence of slope steepness and length of the field in the direction of erosion, with values ranging from 0.1 for slopes $<1.0\%$ and lengths <100 feet, to >2.0 for slopes generally $>10\%$ (U.S. EPA 1994a, 1993). Based on EPA guidance (U.S. EPA 1994a, 1993), a range of 0.1 to 2.0 is assumed for this analysis, with a most likely value of 0.20.

- **Cover management factor (C)**

  The cover management factor reflects how vegetative cover and cropping practices influence erosion, and range from 0.1 for areas with dense vegetative cover to a maximum of 1.0 for bare soils (U.S. EPA 1994a, 1993). Based on EPA guidance (U.S. EPA 1994a, 1993), the most likely value is set at 0.3, which is recommended for rural settings.

- **Supporting practice factor (P_s)**

  The supporting practice factor reflects the use of surface conditioning, dikes, or other methods to control runoff/erosion, and has a value of 1.0 when no such practices are employed (U.S. EPA 1994a, 1993). The uncertainty analysis conservatively assumes P_s to be constant at 1.0, given a lack of information suggesting that any supporting practices are used in the area.

- **Soil loss due to degradation (ksg)**

  2,3,4,7,8-PeCDF: The degradation soil loss constant of 0.0693 yr^{-1} recommended by U.S. EPA (1994a) for 2,3,4,7,8-PeCDF corresponds to a degradation half life of 10 years. Fries and Paustenbach (1990) report that half lives for TCDD could be as long as 20 years. Therefore, estimating the degradation half life to be uncertain by a factor of 2, the values of ksg that correspond to half lives of 5 and 20 years are 0.139 and 0.0347 yr^{-1}, respectively.

  Arsenic: It is assumed that arsenic does not degrade in soil (i.e., ksg=0).

- **Root concentration factor (RCF)**

  2,3,4,7,8-PeCDF: The root concentration factor is calculated from a correlation with K_{ow} (U.S. EPA 1993, 1994a), which was developed by Briggs (1982) for lipophilic compounds (i.e., log K_{ow}>2.0):

$$\log RCF = 0.77 \log K_{ow} - 1.52 \qquad \text{(V-21-3)}$$

  Assuming log K_{ow} ranges from 5.6 to 7.6, RCF ranges from 620 to 21,500 L/kg for 2,3,4,7,8-PeCDF, with a most likely value of 6,400 L/kg (using log K_{ow}=6.92).

  Arsenic: The value for RCF of 0.008 L/kg recommended by U.S. EPA (1994b) is used as the most likely value. Estimating the uncertainty for arsenic to be comparable to that of 2,3,4,7,8-PeCDF, the values of RCF are assumed to range

over a factor of 35, which corresponds to a GSD of 2.43. Assuming this range represents the 95 percent confidence interval of a lognormal distribution, the geometric mean is estimated to be 0.005, ranging from 0.0009 to 0.032.

D. Meat, Eggs, and Milk Concentrations

The following parameters are required to determine the constituent concentration in beef, pork, chicken, eggs, and milk.

- **Soil bioavailability (Bs)**
  From studies measuring the oral bioavailability of TCDD in soil in the diet of rats, the bioavailability of soil is reported to range from 0.5 to 0.8 (U.S. EPA 1994a). Because no other data were available for the bioavailability of PeCDF in soil in the diet of cattle, the same range is adopted in this assessment, with a most likely value of 0.65 (U.S. EPA 1994a).

- **Fraction of beef that is fat (fat_{beef})**
  According to data reported by Pennington (1989), the average fat content of beef (including brisket, chuck, flank, ground, ribs, round, shank, short loin, and wedge-bone sirloin) is 0.23, ranging from 0.12 to 0.35.

- **Fraction of milk that is fat (fat_{milk})**
  The most likely value for the fat content of milk is assumed to be 0.02 (U.S. EPA 1994a). The value of fat_{milk} is assumed to range from 0.002 (skim milk) to 0.037 (whole milk) (Pennington 1989).

- **Fraction of pork that is fat (fat_{pork})**
  According to data reported by Pennington (1989), the average fat content of pork (including arm picnic, bacon, boston blade, center loin, center rib, ham, leg, loin, loin blade, rump, sausage, shank, shoulder, sirloin, spareribs, and top loin) is 0.23, ranging from 0.050 to 0.35.

- **Fraction of chicken that is fat ($fat_{chicken}$)**
  According to data reported by Pennington (1989), the average fat content of chicken (including light and dark meat) is 0.058, ranging from 0.015 to 0.12.

- **Fraction of eggs that is fat (fat_{egg})**
  The most likely value for the fat content of an egg is assumed to be 0.08, based on data reported by CalEPA (1993), McKone (1993), and Goldman et al. (1989). Other estimates of fat content have been reported as high as 0.11 (Pennington 1989). Therefore, assuming 0.11 represents the upper bound, the lower bound is estimated to be 0.05.

- **Animal tissue bioconcentration factors (BCF)**
  2,3,4,7,8-PeCDF: McLachlan et al. (1990) reported the only measured value of BCF for 2,3,4,7,8-PeCDF, 3.1, which is used as the most likely value. Values are reported for other dioxin-like compounds in beef and milk fat ranging from 0.05 to 5.7 (U.S. EPA 1994a; McLachlan et al. 1990; Fries and Paustenbach 1990; Jensen and Hummel 1982; Jensen et al. 1981; Arstilla et al. 1981; Parker et al. 1980; Firestone et al. 1979), with lower chlorinated congeners generally having higher values of BCF than higher chlorinated congeners. Taking this association of decreasing bioconcentration ratios with increasing chlorination into consideration, the range of BCF values reported for tetra-, penta-, and hexa-chlorinated dioxins and furans, from 0.73 to 5.7, is selected to represent the estimated uncertainty in the BCF value for 2,3,4,7,8-PeCDF in the fat content of beef, milk, pork, chicken, and eggs.

  Arsenic: Value not required for modeling.

- **Animal tissue biotransfer factors (Ba)**
  2,3,4,7,8-PeCDF: Value not required for modeling.

  Arsenic: Baes et al. (1984) and Ng (1982) provided the only available estimates of the ingestion-to-beef biotransfer factor for arsenic of 0.002 day/kg, which is used as the most likely value for Ba_{beef}. The GSD of the arsenic biotransfer factors is not reported, however, GSDs for other elements range from 1.3 to 3.8. Therefore, the GSD of Ba_{beef} for arsenic is conservatively estimated to be 3.8, which corresponds to a geometric mean of 8.2×10^{-4} and values for Ba_{beef} ranging from 5.7×10^{-5} to 0.012. For milk and other animal tissues, most likely biotransfer factors that have been reported are 6.0×10^{-5} for milk (Baes et al. 1984), 0.0037 for pork, 0.2011 for chicken, and 0.2615 for eggs (Belcher and Travis 1989). The same GSD is assumed for Ba in milk and other animal tissue groups, resulting in the following geometric means and ranges: GM=2.5×10^{-5} and range=1.7×10^{-6} to 3.6×10^{-4} for milk;

GM=0.0015 and range=1.1×10^{-4} to 0.022 for pork; GM=0.082 and range=0.0057 to 1.2 for chicken; and GM=0.11 and range=0.0074 to 1.5 for eggs.

- **Plant and soil diet fractions of animals (DFp_{ij}, DFs_j)**

  The diets of beef cattle, dairy cattle, hogs, and chicken consist of various proportions of forage, grain, silage, and soil.

  For beef cattle, reported soil ingestion rates range from 1 to 18% of dry matter intake, which is 1 to 15% of total intake, with a typical value of 3% (U.S. EPA 1990a, Thorton and Abrams 1983). Therefore, forage, grain, and silage comprise the remaining portion of the diet. Typical diets for beef cattle reportedly consist of 72% forage, 4% grain, and 21% silage (U.S. EPA 1990a, Ensminger 1976). Generally, soil ingestion is inversely related to the availability of forage (Fries and Paustenbach 1990). The higher soil ingestion rates likely occur under poor pasture conditions with sparse vegetation, whereas periods of lush plant growth are associated with low soil intake. Because beef cattle often subsist on diets that are largely forage (Fries and Paustenbach 1990), the upper limit of the forage diet fraction is assumed to be 99%, with a soil diet fraction of 1%, in which case the lower limits of the silage and grain diet fractions would both be 0%. Under poor pasture conditions or for various dietary considerations, the lower limit of the forage diet fraction is estimated based on professional judgment to be one third (33%), approximately a factor of two lower than the typical value of 72%, with the soil ingestion increasing to its maximum value of 15%, and the balance of the diet comprised of an increase from the most likely value in either the silage or grain fractions (i.e., either 4% grain and 48% silage or 31% grain and 21% silage). The higher silage diet fraction corresponds to periods of short growing seasons and low rainfall; the higher grain diet fraction corresponds to periods of beef cattle fattening (Fries and Paustenbach 1990, NRC 1984). In summary, for beef cattle, the diet fractions are assumed to range from 33 to 99% forage, 1 to 15% soil, 0 to 31% grain, and 0 to 48% silage.

  Dairy cattle generally do not graze to the extent that beef cattle do, partly because high-producing cows are unable to meet their energy requirements when pasture is their main food source (Bath et al. 1985). Therefore, a 99% upper bound forage diet fraction for dairy cattle is not likely. Typical diets for dairy cattle reportedly consist of 64% forage, 15% grain, and 19% silage, with the remaining 2% intake being soil (U.S. EPA 1990a). Reported soil ingestion rates range from 1 to 7% of total intake, with a typical value of 1% for lactating dairy cows and 4%

for nonlactating cattle (U.S. EPA 1990a, Fries et al. 1982a). Because of the low cost of pasture grass and the high nutritive value of grain, it is unlikely that the diets of dairy cattle are completely devoid of either roughage or grain (Bath et al. 1985, NRC 1978). Therefore, based on professional judgment, the lower limits of the forage and grain diet fractions are estimated to be 30% and 7%, respectively, approximately a factor of two lower than the typical values. For nutritional reasons, grain does not generally exceed 50% of the total diet (Stallings 1995). The maximum forage diet fraction is estimated to be 92% by assuming all other diet components are at their minimum values. The maximum silage diet fraction is estimated to be 56% by assuming forage and grain are at their minimum values and soil is at its maximum value (assuming soil and forage ingestion are inversely related). In summary, for dairy cattle, the diet fractions are assumed to range from 30 to 92% forage, 1 to 7% soil, 7 to 50% grain, and 0 to 56% silage.

Hogs and poultry are not grazing animals, and are assumed not to eat forage. Reported soil ingestion rates for hogs range from 2 to 7% of total intake (U.S. EPA 1993, Fries and Paustenbach 1990, Fries et al. 1982b). Grain reportedly comprises 35 to 80% of the dry matter intake (NRC 1988), with a typical value of 70% (U.S. EPA 1993). For a soil diet fraction of 2%, the grain diet fraction is assumed to range from 34 to 78%, and the silage diet fraction from 20 to 64%; for a soil diet fraction of 7%, the grain diet fraction is assumed to range from 33 to 75%, and the silage diet fraction from 18 to 60%. In summary, for hogs, the diet fractions are assumed to range from 2 to 7% soil, 33 to 78% grain, and 18 to 64% silage.

Poultry typically subsist entirely on grain, although free ranging chicken may also ingest soil. For free ranging chicken, the maximum soil diet fraction is estimated to be 3% of total intake (U.S. EPA 1993), with the remainder of the diet comprised of grain. Therefore, for chicken, the diet fractions are assumed to range from 0 to 3% for soil and from 97 to 100% for grain.

E. Vegetation Concentrations

The following parameters are required to determine the constituent concentration in fruit and vegetables.

- **Fraction of wet deposition that adheres to plant surfaces (Fw)**
  For organic compounds, the fraction of material retained on vegetation from wet deposition is estimated based on the measurements of Hoffman et al. (1992) of particles to three plant types during moderate and high intensity rainfall to range from 0.32 to 0.79, with an average of 0.60 (U.S. EPA 1995b). Based on the

measurements of Hoffman et al. (1992) for beryllium, Fw is estimated to range from 0.32 to 0.60, with an average of 0.46.

- **Length of plant's exposure to deposition (Tp_i)**
  The Pennsylvania Agricultural Statistics Service (1994) reported the following ranges for plant exposure to deposition: 0.123 to 0.329 years for exposed vegetables; 0.247 to 0.329 years for leafy vegetables; 0.096 to 0.150 years for grain; and 0.27 to 0.36 years for forage. For silage, the range is estimated to be 0.042 to 0.122 years. Typical values are reported in Table IX-1.

- **Yield or standing crop biomass (Yp_i)**
  The following ranges for site-specific crop yields are reported in the 1992 Census of Agriculture (USDC 1993a,b,c): 0.17 to 0.66 kg DW/m^2 for grain; 0.29 to 0.57 kg DW/m^2 for forage; and 2.5 to 3.4 kg DW/m^2. For crops for which site-specific data are not reported, the default ranges reported by Belcher and Travis (1989) are used: 0.01 to 0.25 kg DW/m^2 for above ground exposed fruits and vegetables, and 0.09 to 0.35 kg DW/m^2 for leafy vegetables. Typical values are reported in Table IX-1.

- **Environmental half-life on plant surfaces ($t_{1/2}$)**
  The most likely value of the environmental weathering half life is assumed to be 14 days (Fries and Paustenbach 1990). Miller and Hoffman (1983) analyzed 54 measurements of $t_{1/2}$ from 25 studies, ranging from 2.8 to 34 days. These data include various categories of depositing substances and vegetation growth forms.

- **Plant/soil bioconcentration factor (Bv or Br)**
  2,3,4,7,8-PeCDF: Based on a review of bioconcentration factor data for 29 organic chemicals in vegetation, Travis and Arms (1988) developed the following regression equation for Br (U.S. EPA 1993, 1994a):

$$\log Br = 1.588 - 0.578 \log K_{ow} \qquad \text{(V-21-4)}$$

  Assuming log K_{ow} ranges from 5.6 to 7.6, Br ranges from 0.0016 to 0.022, with a most likely value of 0.0039 (using log K_{ow}=6.92).

  Arsenic: For arsenic, Baes et al. (1984) report the most likely values of the plant/soil bioconcentration factors for vegetative (Bv) and nonvegetative/reproductive

(Br) portions of food crops and feed plants to be 0.04 and 0.006, respectively. Available plant and product elemental concentration data for arsenic (Baes et al. 1984, Shacklette et al. 1978, Vinogradov 1959) show values of Bv ranging from 0.01 to 0.05 and Br ranging from 0.006 to 0.78.

- **Volumetric air-to-leaf biotransfer factor (B_{vol})**

  2,3,4,7,8-PeCDF: B_{vol} is correlated with K_{ow} and the Henry's Law constant (U.S. EPA 1993, 1994a):

$$\log B_{vol} = 1.065 \log K_{ow} - \log\left[\frac{H}{RT}\right] - 1.654 \qquad \text{(V-21-5)}$$

  This correlation is based on data for 14 chemicals collected by Bacci et al. (1990, 1992). Assuming log K_{ow} ranges from 5.6 to 7.6 and H from 1.2×10^{-6} to 1.2×10^{-5} atm-m^3/mol, B_{vol} could range from 8.66×10^{7} to 1.17×10^{11}, with a most likely value of 1.95×10^{9} (using log K_{ow}=6.92 and H=6.2×10^{-6} atm-m^3/mol).

  Arsenic: Value not required for modeling.

F. Dose Parameters

- **Intake of Beef (IR_{beef})**

  The intake of beef by subsistence farmers is estimated from a 1987-88 USDA national food consumption survey to range from 27 to 251 g/day (USDA 1993, 1982). These values correspond to the 5th and 95th percentile consumption rates, respectively, as calculated by the methodology described in Chapter VII.

- **Intake of Milk (IR_{milk})**

  The intake of milk by subsistence farmers is estimated from a 1987-88 USDA national food consumption survey to range from 20 to 712 g/day (USDA 1993, 1982). These values correspond to the 5th and 95th percentile consumption rates, respectively, as calculated by the methodology described in Chapter VII.

- **Intake of Pork (IR_{pork})**

  The intake of pork by subsistence farmers is estimated from a 1987-88 USDA national food consumption survey to range from 5 to 127 g/day (USDA 1993,

1982). These values correspond to the 5th and 95th percentile consumption rates, respectively, as calculated by the methodology described in Chapter VII.

- **Intake of Chicken ($IR_{chicken}$)**
  The intake of chicken by subsistence farmers is estimated from a 1987-88 USDA national food consumption survey to range from 18 to 125 g/day (USDA 1993, 1982). These values correspond to the 5th and 95th percentile consumption rates, respectively, as calculated by the methodology described in Chapter VII.

- **Intake of Eggs (IR_{eggs})**
  The intake of eggs by subsistence farmers is estimated from a 1987-88 USDA national food consumption survey to range from 8 to 61 g/day (USDA 1993, 1982). These values correspond to the 5th and 95th percentile consumption rates, respectively, as calculated by the methodology described in Chapter VII.

- **Intake of Vegetables (IR_{AGexpo}, IR_{AGprot}, IR_{leafy}, IR_{root})**
  The intake of vegetables by subsistence farmers is estimated from a 1987-88 USDA national food consumption survey to range from 63 to 708 g/day (USDA 1993, 1982). This includes the consumption of above ground exposed (21 to 234 g/day), above ground protected (10 to 113 g/day), leafy (8 to 92 g/day), and root (24 to 269 g/day) vegetables. These values correspond to the 5th and 95th percentile consumption rates, respectively, as calculated by the methodology described in Chapter VII.

- **Intake of Fruits (IR_{Fexpo}, IR_{Fprot})**
  The intake of fruit by subsistence farmers is estimated from a 1987-88 USDA national food consumption survey to range from 42 to 471 g/day (USDA 1993, 1982). This includes the consumption of exposed (18 to 198 g/day) and protected (24 to 273 g/day) fruit. These values correspond to the 5th and 95th percentile consumption rates, respectively, as calculated by the methodology described in Chapter VII.

- **Ingestion of Soil (IR_{soil})**
  Based on the results of soil exposure models and extrapolations from soil ingestion data for children, soil ingestion rates for adults are estimated to range from 0.025 g/day under most conditions to 0.100 g/day for people who are in direct contact with contaminated soil (LaGoy 1987).

- **Body Weight (BW)**

  Data and cumulative probability distributions for body weight for over 20,000 adults and children (ages 6 months to 74 years) were collected during the second National Health and Nutrition Examination Survey (NHANES II), conducted between 1976 and 1980. For adult male and female (combined) body weights (ages 18 to 75), the values corresponding to the 5th and 95th percentiles are 52 and 97 kg, respectively (AIHC 1994, U.S. EPA 1990b).

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