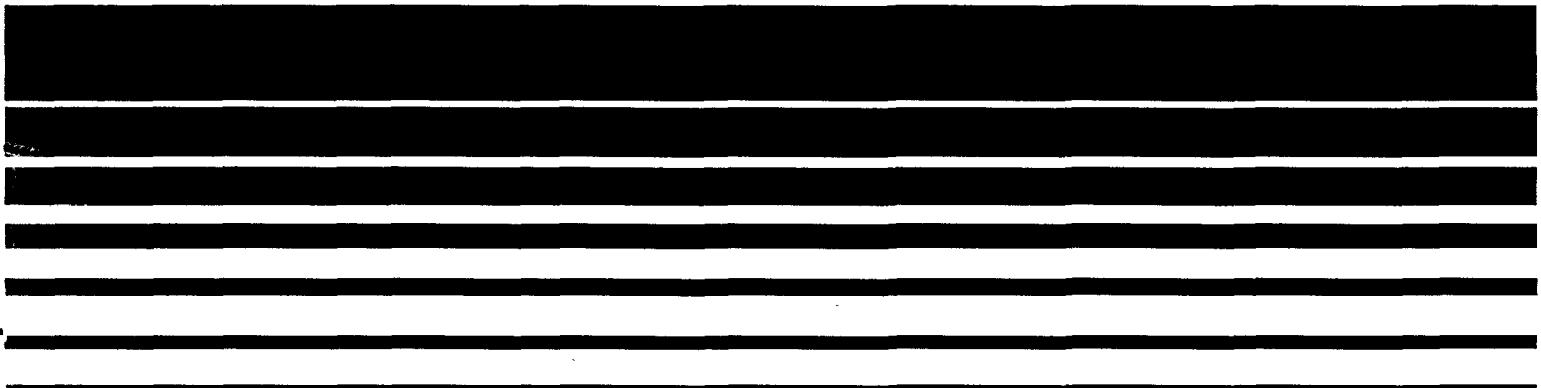




AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE STUDY SERIES

AIR/SUPERFUND GUIDE TO POLLUTANT TOXICITY



AIR/SUPERFUND NATIONAL TECHNICAL
GUIDANCE STUDY SERIES
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AIR/SUPERFUND GUIDE TO POLLUTANT TOXICITY

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CHAPTER 1

INTRODUCTION

This guide was originally developed in response to a technical assistance request (TAR 29) from U.S. EPA Region VIII to compile a list of existing health-related values (inhalation equivalent only) for thirty-four individual pollutants. The data was needed to assist Air/Superfund Coordinators in the analysis of health-related impacts of air emissions from Superfund sites. This latest revision to the Guide adds forty-five additional chemicals, resulting in a total of seventy-nine chemicals. The pollutants included are listed below:

VOCs:

Aroclor-1260	Methyl Chloride
Barium	Methyl Chloroform
Benzene	Methyl Ethyl Ketone
Benzyl Chloride	Methyl Isobutyl Ketone
Carbon Disulfide	Methyl Isocyanate
Carbon Tetrachloride	Methyl Tert-butyl Ether (MTBE)
Chlorobenzene (MCB)	Methylene Chloride
Chloroform	Naphthalene
2,4-Dichlorophenoxyacetic Acid	N-Nitrosodimethylamine
1,2-Dibromoethane	N-Nitrosodiphenylamine
1,4-Dichlorobenzene	Octahydro-1,3,5,7-Tetranitro-
M-Dichlorobenzene	1,3,5,7-Tetraccine (HMX)
O-Dichlorobenzene	Pentachlorophenol
1,1-Dichloroethane	Styrene
1,2-Dichloroethane	2,3,7,8-Tetrachlorodibenzo-p-
1,1-Dichloroethene	Dioxin
C-1,2-Dichloroethylene	1,1,2,2-Tetrachloroethane
Dichloroethyl Ether	Tetrachloroethylene (PCE)
Dichloromethane	Tetryl
1,2-Dichloropropane	Toluene
Cis/Trans 1,3-Dichloropropylene	1,1,2-Trichloro-1,2,2-
2,4-Dinitrotoluene	Trifluoroethane
Ethylbenzene	1,2,4-Trichlorobenzene
Ethyl Chloride	1,1,2-Trichloroethane
Formaldehyde	Trichloroethylene
Freon 11	1,2,4-Trimethylbenzene
Freon 12	1,3,5-Trimethylbenzene
Hexachlorobenzene	2,4,6-Trinitrotoluene
Hexachloro-1,3-Butadiene	Vinyl Chloride
Hexahydro-1,3,5-Trinitro-1,3,5-	Vinylidene Chloride
Triazine (RDX)	M-Xylene
Hexane	O-Xylene
Hydrogen Fluoride (As F)	P-Xylene
Manganese Compounds and fume (As Mn)	Total Xylenes

Metals:

Arsenic
Beryllium
Cadmium
Chromium (VI)
Lead
Mercury
Zinc

Heavy Organic Compounds:

Benzo (a) pyrene
PCBs

Pesticides:

Aldrin
Chlordane
DDT
Dieldrin
Heptachlor
Toxaphene

Health-related values were identified from sources such as the American Conference of Governmental Industrial Hygienists (ACGIH), the National Institute for Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA). Ambient air standards were also identified from States around the country. A summary of the data gathering effort involved the following for each pollutant identified:

- Searching both scientific literature and State regulations for all health related concentrations
- Preparing a listing of each concentration or limit
- Providing definitions of each of the common values listed
- Preparing a listing of compound synonyms and health effect descriptions.

Chapter 2 contains the inhalation exposure limits identified for each of the seventy-nine pollutants ranked by exposure limit. Note that for many of the metal categories, data was collected for only the metal listed and not for the many compounds that might contain the metal. Appendix A contains the references used to develop the tables in Chapter 2. Appendix B contains an alphabetical listing of the seventy-nine pollutants and their synonyms. Appendix C contains a listing of the common acronyms and abbreviations; definitions of the common values used; and each of the references which were cited.

CHAPTER 2:

INHALATION EXPOSURE LIMIT FOR INDIVIDUAL AIR POLLUTANTS (RANKED
BY EXPOSURE LIMIT)

ALDRIN

CAS Number 309-00-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.00×10^{-4} to 1.00×10^5	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	1.00×10^5 Ca	30 min.
NIOSH REL ¹	2.50×10^2	10 hr.
OSHA PEL TWA ²	2.50×10^2	8 hr.
SAAPS ³ NV	6.00	8 hr.
SAAPS ³ WI	6.00	24 hr.
SAAPS ³ VA	4.20	24 hr.
SAAPS ³ FL, ND	2.50	8 hr.
SAAPS ³ TX	2.50	30 min.
SAAPS ³ CT	1.50	8 hr.
SAAPS ³ FL	6.00×10^{-1}	24 hr.
SAAPS ³ AZ	3.80×10^{-1}	1 hr.
SAAPS ³ TX	2.50×10^{-1}	1 yr.
SAAPS ³ AZ	1.00×10^{-1}	24 hr.
SAAPS ³ PA	3.50×10^{-2}	1 yr.
RfC ^{13,a}	3.70×10^{-4} Ca	Lifetime
SAAPS ³ AZ, KS	2.80×10^{-4}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,b}	2.00×10^{-4}	70 yr.
SAAPS ³ FL, WA	2.00×10^{-4}	1 yr.

Footnotes to Aldrin:

^a A compound is considered to be cancer-causing if denoted by Ca.

^b Concentration equivalent to a 10^{-6} risk exposure.

AROCOR-1260

CAS Number 11096-82-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 8.1 to 8.00 x 10 ³	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ VA	8.00 x 10 ³	1 yr.
SAAPS ³ SC	2.50 x 10 ³	24 hr.
SAAPS ³ NY	1.67 x 10 ³	24 hr.
ACGIH TLV-TWA ⁵	1.00 x 10 ³ Chlorodiphenyl (42% Chlorine)	8 hr.
NIOSH REL TWA ⁵	1.00 x 10 ³	10 hr.
ACGIH TLV-TWA ⁵	5.00 x 10 ³ Chlorodiphenyl (54% Chlorine)	8 hr.
SAAPS ³ KS	8.3	1 yr.
SAAPS ³ MA	8.1	24 hr.

ARSENIC

CAS Number 7440-38-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$)	Conversion Factor:	
2.00×10^{-4} to 1.00×10^5	Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	1.00×10^5 Ca	30 min.
NOAEL ^{6,b}	1.00×10^3	2-50 yr. (occup.)
LOAEL ^{6,c}	5.00×10^2	23 yr. (occup.)
LOAEL ^{6,d}	3.00×10^2	13-22 yr. (occup.)
ACGIH TLV-TWA ⁶	2.00×10^2	8 hr.
NOAEL ^{6,e}	1.30×10^2	1-2 yr. (occup.)
LOAEL ^{6,f} , NOAEL ^{6,b}	1.10×10^2	2 mo. (occup.)
LOAEL ^{6,g}	7.80×10^1	2-50 yr. (occup.)
LOAEL ^{6,h}	7.00×10^1	3-22 yr. (occup.)
LOAEL ^{6,i}	5.50×10^1	1-30 yr. (occup.)
LOAEL ^{6,j}	5.00×10^1	14-40 yr. (occup.)
LOAEL ^{6,k}	3.00×10^1	1+ yr. (occup.)
LOAEL ^{6,l}	1.00×10^1	1-30 yr. (occup.)
OSHA PEL TWA ^{1,m}	1.00×10^1	8 hr.
OSHA ACTION LEVEL ⁶ , SAAPS ³ NV	5.00	8 hr.
SAAPS ³ TX	5.00	30 min.
SAAPS ³ VA	3.30	24 hr.

ARSENIC

CAS Number 7440-38-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.00×10^{-4} to 1.00×10^5	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH CEILING ⁶	2.00	10 hr.
SAAPS ³ FL, ND	2.00	8 hr.
SAAPS ³ NY	6.70×10^{-1}	1 yr.
SAAPS ³ TX	5.00×10^{-1}	1 yr.
SAAPS ³ FL	4.80×10^{-1}	24 hr.
SAAPS ³ MT	3.90×10^{-1}	24 hr.
SAAPS ³ AZ	3.20×10^{-1}	1 hr.
SAAPS ³ MI	2.30×10^{-1}	1 yr.
SAAPS ³ AZ	8.40×10^{-2}	24 hr.
SAAPS ³ MT	7.00×10^{-2}	1 yr.
SAAPS ³ CT	5.00×10^{-2}	8 hr.
SAAPS ³ PA	2.40×10^{-2}	1 yr.
SAAPS ³ LA	2.00×10^{-2}	1 yr.
SAAPS ³ OK	2.00×10^{-2}	24 hr.
RfC ^{13, a}	$4.10 \times 10^{-4}\text{Ca}$	Lifetime
SAAPS ³ KS	2.33×10^{-4}	1 yr.
SAAPS ³ AZ, FL, IL, NC, VT, WA	2.30×10^{-4}	1 yr.
SAAPS ³ RI	2.00×10^{-4}	1 yr.

Footnotes to Arsenic:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Intermediate exposure.
- ^c Chronic exposure. Serious cardio effects such as Raynauds disease in 10/46.
- ^d Chronic exposure. Value shown is cancer effect level. Serious effects such as lung cancer. Standardized mortality ratio of 303.
- ^e Chronic exposure to organic arsenic.
- ^f Intermediate exposure: Less serious neurological effects such as nausea and anorexia.
- ^g Chronic exposure. Less serious dermatological effects such as hyperpigmentation in 16/40, warts in 2/40.
- ^h Chronic exposure. Value shown is cancer effect level. Serious effects such as lung cancer. Standardized mortality ratio of 227.
- ⁱ Chronic exposure. Value shown is cancer effect level. Serious effects such as lung cancer. Standardized mortality ratio of 206.
- ^j Chronic exposure. Serious cardio effects such as Raynauds disease.
- ^k Chronic exposure. Value shown is cancer effect level. Serious effects such as lung cancer. Standardized mortality ratio of 183.
- ^l Chronic exposure. Value shown is cancer effect level. Serious effects such as lung cancer. Standardized mortality ratio of 270.
- ^m Organic arsenic values are 0.37 ppm and 0.5 mg/m³.

BARIUM

CAS Number 7440-39-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.20×10^{-1} to 2.50×10^5	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁷	2.50×10^5	30 min.
OSHA PEL TWA ⁷	2.00×10^4 (Total Dust)	8 hr.
ACGIH TLV-TWA ^{7,a}	1.00×10^4 (Total Dust)	8 hr.
SAAPS ³ CT	1.00×10^4	8 hr.
SAAPS ³ VA	8.00×10^3	24 hr.
OSHA PEL TWA ⁷	5.00×10^3 (Respirable Fraction)	8 hr.
SAAPS ³ NV	1.20×10^3	8 hr.
SAAPS ³ NY	6.70×10^2	1 yr.
OSHA PEL TWA ⁷	5.00×10^2 (Soluble Compounds)	8 hr.
ACGIH TLV-TWA ⁷	5.00×10^2	8 hr.
EPA AIS ⁷	9.80×10^1	8 hr.
EPA AIC ⁷	1.00×10^1	8 hr.
RfC ¹³	5.20×10^{-1}	Lifetime

Footnotes to Barium:

- ^a Short-term excursions to 3x above TLV for no more than 30 min. during an 8-hr workday.

BENZENE

CAS Number 71-43-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.0×10^{-1} to 9.8×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 3.08 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	9.80×10^6 Ca	30 min.
LOAEL ^{8,b}	6.80×10^5	4 mo/1 yr. (occup.)
LOAEL ^{8,c,d}	4.90×10^5	1-15 yr. (occup.)
LOAEL ^{8,b}	4.90×10^5	4 mo/1 yr. (occup.)
LOAEL ^{8,d}	3.60×10^5	2-40 yr. (occup.)
LOAEL ^{8,e}	2.40×10^5	1-25 yr. (occup.)
EEGL ⁹	1.60×10^5	24 hr.
ACGIH STEL ¹	8.10×10^4	15 min.
LOAEL ^{8,e}	7.80×10^4	3-29 yr. (occup.)
OSHA TLV-STEL ¹	1.60×10^4	15 min.
LOAEL ^{8,d}	7.00×10^3	18 mo. (occup.)
NIOSH CEILING ⁸	3.30×10^3	15 min.
OSHA PEL TWA ¹	3.30×10^3	8 hr.
OSHA ACTION LEVEL ² , NOAEL ⁸	1.60×10^3	1-21 yr. (occup.)
SAAPS ³ NV	7.10×10^2	8 hr.
SAAPS ³ AZ	6.30×10^2	1 hr.
NIOSH REL ¹	3.30×10^2	10 hr.
SAAPS ³ VA	3.20×10^2	24 hr.

BENZENE

CAS Number 71-43-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.0×10^{-1} to 9.8×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 3.08 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
MD SCREENING LEVEL ¹⁰	3.20×10^2	8 hr.
ACGIH TLV-TWA ¹ , SAAPS ³ FL	3.00×10^2	8 hr.
SAAPS ³ IN	1.60×10^2	8 hr.
SAAPS ³ SC	1.50×10^2	24 hr.
SAAPS ³ NY	1.00×10^2	1 yr.
SAAPS ³ PA	7.20×10^1	1 yr.
SAAPS ³ AZ	5.10×10^1	24 hr.
SAAPS ³ TX	3.00×10^1	30 min.
SAAPS ³ AZ	1.50×10^1	8 hr.
SAAPS ³ LA	1.20×10^1	1 yr.
SAAPS ³ FL	7.2	24 hr.
MRL ⁸	6.5	18 wk.
SAAPS ³ OK	3.2	24 hr.
SAAPS ³ TX	3.0	1 yr.
SAAPS ³ MA	1.7	24 hr.
ODOR THRESHOLD ¹¹	8.80×10^{-1}	1 min.
RfC ³	2.20×10^{-1}	Lifetime
SAAPS ³ AZ, MI	1.40×10^{-1}	1 yr.
SAAPS ³ FL, ID, KS, NC, VT, WA	1.20×10^{-1}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4, f}	1.20×10^{-1}	70 yr.
SAAPS ³ RI	1.00×10^{-1}	1 yr.

Footnotes to Benzene:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Intermediate exposure: serious systemic effects include pancytopenia and histopathology of bone marrow.
- ^c Chronic exposure: serious systemic effects include pancytopenia.
- ^d Leukemia cancer effect level.
- ^e Chronic exposure: less serious systemic effects include anemia, leukemia and increased mean corpuscular volume.
- ^f Concentration equivalent to a 10^{-6} risk exposure.

BENZO(A)PYRENE

CAS Number 50-32-8

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.30×10^{-5} to 2.00×10^2	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ACGIH TLV-TWA ¹² , OSHA PEL TWA ²	2.00×10^2	8 hr.
SAAPS ³ AZ	7.90×10^{-1}	1 hr.
SAAPS ³ AZ	2.10×10^{-1}	24 hr.
SAAPS ³ CT, IN	1.00×10^{-1}	8 hr.
SAAPS ³ TX	3.00×10^{-2}	30 min.
SAAPS ³ TX	3.00×10^{-3}	1 yr.
SAAPS ³ PA	7.00×10^{-4}	1 yr.
SAAPS ³ IN, WA	6.00×10^{-4}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,a}	5.73×10^{-4}	70 yr.
SAAPS ³ AZ, MA	5.70×10^{-4}	1 yr.
SAAPS ³ KS	3.03×10^{-4}	1 yr.
SAAPS ³ FL, MI, VT	3.00×10^{-4}	1 yr.
SAAPS ³ NC	3.30×10^{-5}	1 yr.

Footnotes to Benzo(a) Pyrene:

^a Concentration equivalent to a 10^{-6} risk exposure.

BENZYL CHLORIDE

CAS Number 100-44-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.40×10^{-3} to 5.26×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.90 \times 10^{-4} \text{ PPM @ } 25^\circ \text{ C}$	
APPLICABLE	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	5.26×10^4	30 min.
EHS LOC ²² , ACGIH TLV ¹	5.20×10^3	30 min.
OSHA PEL TWA ¹	5.00×10^3	18 mo. (occup.)
NIOSH REL ¹ , NIOSH CEILING ⁵⁶	5.00×10^3	15 min.
ODOR THRESHOLD ¹¹	2.10×10^2	1 min.
RfC ^{13, a}	$3.70 \times 10^{-2} \text{Ca}$	Lifetime
AALG ¹⁹	6.40×10^{-3}	1 yr.

Footnotes to Benzyl Chloride:

- ^a A compound is considered to be cancer-causing if denoted by Ca.

BERYLLIUM

CAS Number 440-41-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 4.10 x 10 ⁻⁶ to 2.50 x 10 ¹	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
OSHA TLV-STEL ²	2.50 x 10 ¹	30 min.
OSHA CEILING ²	5.00	15 min.
LOAEL ^{14,a,b}	4.60	occupational
NOAEL ^{14,c}	4.60	2.5 hr.
ACGIH TLV-TWA ¹⁴ , OSHA PEL TWA ¹⁴	2.00	8 hr.
LOAEL ^{14,d}	1.20	12.6 yr avg.
LOAEL ^{14,e}	1.20	4-8 yr. (occup.)
LOAEL ^{14,f}	1.20	occupational
NIOSH REL ¹⁴	5.00 x 10 ⁻¹	10 hr.
CONCENTRATION FOR 10 ⁻⁶ RISK ^{4,g}	4.20 x 10 ⁻¹	70 yr.
SAAPS ³ NV	1.00 x 10 ⁻¹	8 hr.
SAAPS ³ AZ	6.00 x 10 ⁻²	1 hr.
SAAPS ³ LA	4.00 x 10 ⁻²	1 yr.
SAAPS ³ FL, SD	2.00 x 10 ⁻²	8 hr.
SAAPS ³ OK, VA	2.00 x 10 ⁻²	24 hr.
SAAPS ³ AZ	1.60 x 10 ⁻²	24 hr.
SAAPS ³ CT	1.00 x 10 ⁻²	8 hr.
SAAPS ³ PA	1.00 x 10 ⁻²	1 yr.
SAAPS ³ SC	1.00 x 10 ⁻²	24 hr.
SAAPS ³ FL	4.80 x 10 ⁻³	24 hr.
SAAPS ³ VT	1.30 x 10 ⁻³	1 yr.
SAAPS ³ MA	1.00 x 10 ⁻³	24 hr.

BERYLLIUM

CAS Number 440-41-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 4.10×10^{-6} to 2.50×10^1	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
RfC ^{13,h}	$7.50 \times 10^{-4}\text{Ca}$	Lifetime
SAAPS ³ AZ	5.00×10^{-4}	1 yr.
SAAPS ³ FL, WA	4.20×10^{-4}	1 yr.
SAAPS ³ KS	4.17×10^{-4}	1 yr.
SAAPS ³ MA, MI	4.00×10^{-4}	1 yr.
SAAPS ³ NC	4.10×10^{-6}	1 yr.

Footnotes to Beryllium:

- a Chronic exposure: Serious respiratory effects such as chronic interstitial pneumonitis.
- b Chronic exposure: Less serious immunological effects such as granuloma of the lymph nodes.
- c Chronic exposure: Hemato system effects.
- d Chronic exposure: Serious respiratory effects such as breathing difficulties and scarring of the lung.
- e Chronic exposure: Serious respiratory effects such as inflammation and granulomatous lesion of the lung.
- f Chronic exposure: Less serious immunological effects such as increased T-cell activity.
- g Concentration equivalent to a 10^{-6} risk exposure.
- h A compound is considered to be cancer-causing if denoted by Ca.

CADMIUM

CAS Number 7440-43-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.90 x 10 ⁻⁴ to 4.00 x 10 ⁴	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	4.00 x 10 ⁴	30 min.
LOAEL ^{15,a}	1.00 x 10 ³	30 yr; 5 dy/wk; 8 hr/dy.
LOAEL ^{15,b}	1.30 x 10 ²	18 mo; 7 dy/wk; 23 hr/dy.
ACGIH CEILING ¹⁵ , ACGIH TLV-TWA ¹⁵	5.00 x 10 ¹	8 hr.
NOAEL ^{15,c}	3.30 x 10 ¹	30 yr; 5 dy/wk; 8 hr/dy.
NOAEL ^{15,d}	2.70 x 10 ¹	30 yr; 5 dy/wk; 8 hr/dy.
LOAEL ^{15,d}	2.60 x 10 ¹	30 yr; 5 dy/wk; 8 hr/dy.
LOAEL ^{15,e}	2.30 x 10 ¹	30 yr; 5 dy/wk; 8 hr/dy.
NOAEL ^{15,c}	1.70 x 10 ¹	30 yr; 5 dy/wk; 8 hr/dy.
OSHA PEL TWA ²	5.00	15 min.
OSHA ACTION LEVEL ²	2.50	8 hr.
SAAPS ³ AZ	1.70	1 hr.
SAAPS ³ NV	1.00	8 hr.
SAAPS ³ VA	8.30 x 10 ⁻¹	24 hr.
SAAPS ³ FL	5.00 x 10 ⁻¹	8 hr.
SAAPS ³ OK	5.00 x 10 ⁻¹	24 hr.
SAAPS ³ CT, SD	4.00 x 10 ⁻¹	8 hr.
SAAPS ³ MT	3.90 x 10 ⁻¹	24 hr.
SAAPS ³ SC	2.50 x 10 ⁻¹	24 hr.

CADMIUM

CAS Number 7440-43-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.90×10^{-4} to 4.00×10^4	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ NY	1.67×10^{-1}	1 yr.
SAAPS ³ FL	1.20×10^{-1}	24 hr.
SAAPS ³ PA	1.20×10^{-1}	1 yr.
SAAPS ³ AZ	1.10×10^{-1}	24 hr.
SAAPS ³ TX	1.00×10^{-1}	1 yr.
SAAPS ³ MT	7.00×10^{-2}	1 yr.
SAAPS ³ LA	6.00×10^{-2}	1 yr.
SAAPS ³ TX	1.00×10^{-2}	30 min.
SAAPS ³ MI	5.60×10^{-3}	1 yr.
SAAPS ³ NC	5.50×10^{-3}	1 yr.
SAAPS ³ MA	3.00×10^{-3}	24 hr.
SAAPS ³ MA	1.00×10^{-3}	1 yr.
RfC ^{13,g}	9.90×10^{-4} Ca	Lifetime
SAAPS ³ RI	6.00×10^{-4}	1 yr.
SAAPS ³ VT	5.70×10^{-4}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,f}	5.60×10^{-4}	70 yr.
SAAPS ³ FL, IL, WA	5.60×10^{-4}	1 yr.
SAAPS ³ KS	5.56×10^{-4}	1 yr.
SAAPS ³ AZ	2.90×10^{-4}	1 yr.

Footnotes to Cadmium:

- ^a Chronic exposure: Less serious renal effects such as 77 % incidence of proteinuria.
- ^b Chronic exposure: Less serious respiratory effects such as bronchio-alveolar hyperplasia.
- ^c Chronic exposure.
- ^d Chronic exposure: Less serious renal effects such as 21 % incidence of proteinuria.
- ^e Chronic exposure: Less serious renal effects such as 9 % incidence of proteinuria.
- ^f Concentration equivalent to a 10^{-6} risk exposure.
- ^g A compound is considered to be cancer-causing if denoted by Ca.

CARBON DISULFIDE

CAS Number 75-15-0

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.50×10^2 to 1.58×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 \approx 3.16 \times 10^{-4} \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	1.58×10^6	30 min.
SAAPS ³ VA	5.00×10^5	24 hr.
OSHA MAXIMUM ¹	3.16×10^5	5 min. in any 4 hr.
SAAPS ³ NC	1.86×10^5	24 hr.
EEGL ⁹	1.80×10^5	24 hr.
SAAPS ³ SC	1.50×10^5	24 hr.
SAAPS ³ NY	1.00×10^5	1 yr.
OSHA CEILING ¹	9.48×10^4	15 min.
OSHA CEILING ¹⁶	7.90×10^4	15 min.
OSHA PEL TWA ¹	6.32×10^4	8 hr.
SAAPS ³ CT	6.00×10^4	8 hr.
NIOSH REL STEL ¹⁶	3.00×10^4	15 min.
OSHA PEL TWA ¹⁶	1.20×10^4	8 hr.
RfC ¹³	1.00×10^4	Lifetime
OSHA PEL STEL ¹⁶	3.60×10^3	8 hr.
NIOSH TWA ¹⁶	3.00×10^3	10 hr.
SAAPS NV ¹⁶	7.14×10^2	8 hr.
ODOR THRESHOLD ¹¹	6.64×10^2	1 min.
SAAPS ³ ND	3.00×10^2	8 hr.
SAAPS ³ FL	3.00×10^2	8 hr.
EHS LOC ²²	1.56×10^2	30 min.
AALG ¹⁹	1.50×10^2	24 hr.

CARBON TETRACHLORIDE

CAS Number 56-23-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^{-2} to 4.53×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.56 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ODOR THRESHOLD ¹¹	4.53×10^6	1 min.
NIOSH IDLH ^{1,a}	1.92×10^6 Ca	30 min.
LOAEL ^{17,b,c,d}	1.60×10^6	15 min.
LOAEL ^{17,e}	1.28×10^6	Up to 3 hr.
NOAEL ^{17,f}	6.39×10^5	70-180 min.
LOAEL ^{17,g}	5.11×10^5	3 mo+; 8hr/dy; 5 dy/wk
NOAEL ^{17,h}	5.11×10^5	8 hr/dy; 5 dy/wk.
LOAEL ^{17,i}	2.56×10^5	8 hr/dy; 5 dy/wk.
LOAEL ^{17,j}	2.56×10^5	2 mo; 8 hr/dy; 5 dy/wk.
OSHA CEILING ²	1.60×10^5	15 min.
OSHA PEL TWA ²	6.40×10^4	8 hr.
ACGIH TLV-TWA ¹	3.00×10^4	8 hr.
NIOSH REL ¹	1.26×10^4	1 hr.
OSHA MAXIMUM ²	1.28×10^3	5 min. in any and hr.
SAAPS ³ NV	7.14×10^2	8 hr.
SAAPS ³ AZ	4.90×10^2	1 hr.
MD SCREENING LEVEL ¹⁰	3.10×10^2	8 hr.
SAAPS ³ VA	3.10×10^2	24 hr.
SAAPS ³ CT, FL	3.00×10^2	8 hr.
CAPCOA ¹⁸	1.90×10^2	1 hr.
SAAPS ³ IN	1.55×10^2	8 hr.

CARBON TETRACHLORIDE

CAS Number 56-23-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^{-2} to 4.53×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.56 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ SC	1.50×10^2	24 hr.
SAAPS ³ TX	1.26×10^2	30 min.
SAAPS ³ OK	1.25×10^2	24 hr.
SAAPS ³ NY	1.00×10^2	1 yr.
SAAPS ³ MA	8.55×10^1	24 hr.
SAAPS ³ PA	7.20×10^1	1 yr.
MRL ¹⁷	6.40×10^1	18 wk.
SAAPS ³ FL	3.00×10^1	24 hr.
SAAPS ³ AZ	1.30×10^1	24 hr.
SAAPS ³ TX	1.30×10^1	1 yr.
SAAPS ³ LA, NC	6.70	1 yr.
RfC ^{13,a}	$1.20 \times 10^{-1}\text{Ca}$	Lifetime
CONCENTRATION FOR 10^{-6} RISK ^{4,k}	6.70×10^{-2}	70 yr.
SAAPS ³ FL, IN, KS, MA, VT, WA	6.70×10^{-2}	1 yr.
AALG ¹⁹	5.30×10^{-2}	1 yr.
SAAPS ³ MI	4.00×10^{-2}	1 yr.
SAAPS ³ AZ	3.60×10^{-2}	1 yr.
SAAPS ³ RI	3.00×10^{-2}	1 yr.

Footnotes to Carbon Tetrachloride:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Acute exposure: serious effects leading to death.
- ^c Acute exposure: serious systemic effects including hepatic control necrosis and renal oliguria nephrosis.
- ^d Acute exposure: less serious neurological effects such as dizziness.
- ^e Acute exposure: less serious systemic effects including renal proteinuria, increased hepatic serum bilirubin, and decreased hepatic serum iron.
- ^f Acute exposure: Neurological effects.
- ^g Intermediate exposure: serious neurological effects such as narcosis.
- ^h Intermediate exposure: Systemic hepatic effects.
- ⁱ Intermediate exposure: less serious neurological effects such as depression.
- ^j Intermediate exposure: less serious systemic gastro effects such as nausea and dyspepsia.
- ^k Concentration equivalent to a 10^{-6} risk exposure.

CHLORDANE

CAS Number 57-74-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.69×10^{-3} to 5.00×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 5.90 \times 10^{-5}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	5.00×10^5 Ca	30 min.
ACGIH STEL ²⁰	2.00×10^3	15 min.
ACGIH TLV-TWA ²⁰ , OSHA PEL ²	5.00×10^2	8 hr.
SAAPS ³ CT	2.50×10^1	8 hr.
SAAPS ³ AZ	1.70×10^1	1 hr.
SAAPS ³ NV	1.20×10^1	8 hr.
SAAPS ³ WI	1.20×10^1	24 hr.
SAAPS ³ VA	8.30	24 hr.
SAAPS ³ FL	5.00	8 hr.
SAAPS ³ OK	5.00	24 hr.
SAAPS ³ TX	5.00	30 min.
SAAPS ³ SC	2.50	24 hr.
SAAPS ³ NY	1.70	1 yr.
SAAPS ³ FL	1.20	24 hr.
SAAPS ³ AZ	1.10	24 hr.
MRL ²⁰	5.00×10^{-1}	18 wk.
SAAPS ³ TX	5.00×10^{-1}	1 yr.
SAAPS ³ PA	3.50×10^{-1}	1 yr.
SAAPS ³ MA	1.40×10^{-1}	24 hr.
EHS LOC ²²	5.00×10^{-2}	30 min.
SAAPS ³ MA	3.00×10^{-2}	1 yr.
RfC ^{13,a}	4.90×10^{-3} Ca	Lifetime
SAAPS ³ AZ	2.90×10^{-3}	1 yr.

CHLORDANE

CAS Number 57-74-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.69×10^{-3} to 5.00×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 5.90 \times 10^{-5}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ FL, KS, WA	2.70×10^{-3}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,b}	2.69×10^{-3}	70 yr.

Footnotes to Chlordane:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Concentration equivalent to a 10^{-6} risk exposure.

CHLOROBENZENE

CAS Number 108-90-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.30 to 1.12×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.14 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	1.12×10^7	30 min.
OSHA PEL TWA ²¹	3.50×10^5	8 hr.
ACGIH TLV-TWA ¹	4.60×10^4	8 hr.
SAAPS ³ OK	3.45×10^4	24 hr.
SAAPS ³ WI	8.40×10^3	24 hr.
SAAPS ³ NV	8.33×10^3	8 hr.
SAAPS ³ CT	7.00×10^3	8 hr.
SAAPS ³ VA	5.80×10^3	24 hr.
SAAPS ³ FL	3.50×10^3	8 hr.
SAAPS ³ AZ	2.56×10^3	24 hr.
SAAPS ³ NC	2.20×10^3	24 hr.
SAAPS ³ NY	1.17×10^3	1 yr.
SAAPS ³ WA	1.17×10^3	24 hr.
SAAPS ³ LA	1.10×10^3	8 hr.
ODOR THRESHOLD ¹¹	9.80×10^2	1 min.
SAAPS ³ VT	8.33×10^2	1 yr.
SAAPS ³ ND	4.60×10^2	8 hr.
SAAPS ³ TX	4.60×10^2	30 min.
AALG ¹⁹	2.60×10^2	24 hr.
SAAPS ³ FL	1.10×10^2	24 hr.
SAAPS ³ MA	9.30×10^1	24 hr.
SAAPS ³ TX	4.60×10^1	1 yr.
RfC ¹³	2.10×10^1	Lifetime
SAAPS ³ MA	6.30	1 yr.

CHLOROFORM

CAS Number 67-66-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.20×10^{-2} to 4.96×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.02 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
LOAEL ^{23,a}	4.96×10^7	1 day
LOAEL ^{23,b}	4.96×10^7	1 dy; 0.5-2 hr/dy.
LOAEL ^{23,c}	3.97×10^7	113 min/dy.
LOAEL ^{23,d}	3.97×10^7	1 day
LOAEL ^{23,b}	3.97×10^7	1 dy; 113 min/dy.
LOAEL ^{23,e}	7.44×10^6	1 day
NIOSH IDLH ^{1,f}	4.96×10^6 Ca	30 min.
LOAEL ^{23,g}	4.56×10^6	1 dy; 3 min/dy.
ODOR THRESHOLD ¹¹	3.30×10^6	1 min.
CEGL ⁹	4.96×10^5	90 days
EEGL ⁹	4.96×10^5	24 hr.
EHS LOC ²²	4.88×10^5	30 min.
LOAEL ^{23,h}	3.82×10^5	3-10 yr. (occup.)
OSHA CEILING ²	2.40×10^5	15 min.
LOAEL ^{23,i,j}	1.09×10^5	10-24 mo. (occup.)
LOAEL ^{23,k,l}	6.90×10^4	1-6 mo. (occup.)
ACGIH TLV-TWA ¹	4.90×10^4	8 hr.
LOAEL ^{23,m}	1.00×10^4	1-4 yr. (occup.)
ACGIH STEL ¹ , NIOSH REL ¹	9.78×10^3	1 hr.
SAAPS ³ NV	1.19×10^3	8 hr.
SAAPS ³ FL	5.00×10^2	8 hr.

CHLOROFORM

CAS Number 67-66-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.20×10^{-2} to 4.96×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.02 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
MD SCREENING LEVEL ¹⁰	4.90×10^2	8 hr.
SAAPS ³ VA	4.90×10^2	24 hr.
SAAPS ³ CT	2.50×10^2	8 hr.
SAAPS ³ SC	2.50×10^2	24 hr.
SAAPS ³ NY	1.67×10^2	1 yr.
SAAPS ³ PA	1.20×10^2	1 yr.
SAAPS ³ TX	9.80×10^1	30 min.
SAAPS ³ OK	9.70×10^1	24 hr.
SAAPS ³ AZ	6.00×10^1	1 hr.
SAAPS ³ IN	4.90×10^1	8 hr.
SAAPS ³ FL	2.40×10^1	24 hr.
SAAPS ³ AZ	1.60×10^1	24 hr.
SAAPS ³ MA	1.33×10^1	24 hr.
SAAPS ³ TX	1.00×10^1	1 yr.
SAAPS ³ LA, NC	4.30	1 yr.
SAAPS ³ MI	4.00×10^{-1}	1 yr.
RfC ^{13,f}	$7.80 \times 10^{-2} \text{ Ca}$	Lifetime
SAAPS ³ KS	4.40×10^{-2}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,n}	4.30×10^{-2}	70 yr.
SAAPS ³ AZ, FL, IN, MA, VT, WA	4.30×10^{-2}	1 yr.
SAAPS ³ MA, RI	4.00×10^{-2}	1 yr.
AALG ¹⁹	2.20×10^{-2}	1 yr.

Footnotes to Chloroform:

- ^a Acute exposure: less serious systemic effects such as changes in respiratory rate.
- ^b Acute exposure: Serious neurological effects such as narcosis.
- ^c Acute exposure: less serious systemic effects such as vomiting and increased prothrombin time.
- ^d Acute exposure: serious systemic effects such as arrhythmia and increased hepatic sulfobromophthalein retention.
- ^e Acute exposure: Serious neurological effects such as light anesthesia.
- ^f A compound is considered to be cancer-causing if denoted by Ca.
- ^g Acute exposure: Less serious neurological effects such as dizziness and vertigo.
- ^h Chronic exposure: Less serious effects such as nausea, exhaustion, irritability, depression, and lack of concentration.
- ⁱ Intermediate exposure: Less serious systemic effects such as nausea.
- ^j Intermediate exposure: Less serious neurological effects such as exhaustion.
- ^k Intermediate exposure: Serious systemic effects such as toxic hepatitis.
- ^l Intermediate exposure: Less serious systemic effects such as vomiting.
- ^m Chronic exposure: Serious systemic effects such as hepatitis.
- ⁿ Concentration equivalent to a 10^{-6} risk exposure.

CHROMIUM (VI)

CAS Number 18540-29-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 8.30 x 10 ⁻⁵ to 1.0 x 10 ³	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
OSHA PEL TWA ²	1.00 x 10 ³	8 hr.
NIOSH REL ^{1,a}	5.00 x 10 ²	8 hr.
LOAEL ^{24,b}	5.00 x 10 ²	4-19 yr. (occup.)
LOAEL ^{24,b}	5.00 x 10 ²	≥ 10 yr. (occup.)
LOAEL ^{24,c}	4.14 x 10 ²	2.3-12.6 yr. (6.9 yr avg) (occup.)
LOAEL ^{24,b}	2.50 x 10 ²	1-7 yr. (occup.)
LOAEL ^{24,d}	1.00 x 10 ²	< 1 yr. (occup.)
LOAEL ^{24,b}	1.00 x 10 ²	1 mo./29 yr. (occup.)
LOAEL ^{24,e}	9.00 x 10 ¹	0.5-12 mo. (6 mo. avg.) (occup.)
ACGIH TLV-TWA ²⁴	5.00 x 10 ¹	8 hr.
LOAEL ^{24,f}	5.00 x 10 ¹	7 yr./avg. (occup.)
LOAEL ^{24,g}	5.00	11-19 yr. (occup.)
LOAEL ^{24,h}	4.00	3-16 yr. (7.5 yr./avg.) (occup.)
LOAEL ^{24,i}	4.00	0.1-26 yr. (5.3 yr. avg.) (occup.)
LOAEL ^{24,j,k}	2.00	0.2-23.6 yr. (2.5 yr./avg.) (occup.)
NIOSH REL ^{1,a}	1.00	10 hr.

CHROMIUM (VI)

CAS Number 18540-29-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 8.30×10^{-5} to 1.0×10^3	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NOAEL ^{24,1,m}	1.00	0.2-23.6 yr. (2.5 yr./avg.) (occup.)
SAAPS ³ TX	2.50×10^{-1}	30 min.
SAAPS ³ AZ	1.10×10^{-1}	1 hr.
SAAPS ³ AZ	2.90×10^{-2}	24 hr.
SAAPS ³ TX	2.50×10^{-2}	1 yr.
SAAPS ³ MA	3.00×10^{-3}	24 hr.
RfC ¹³	2.10×10^{-3}	Lifetime
SAAPS ³ ND	5.00×10^{-4}	8 hr.
SAAPS ³ MA	1.00×10^{-4}	1 yr.
SAAPS ³ IL	8.30×10^{-5}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,n}	8.30×10^{-5}	70 yr.

Footnotes to Chromium:

- ^a The ranges reflect different Chromium valences. The NIOSH REL (10-hour TWA) is 0.001 mg Cr(VI)/m³ for all hexavalent chromium compounds. The NIOSH REL (8-hour TWA) is 0.5 mg Cr/m³ for chromium metal and chromium(II) and chromium(III) compounds.
- ^b Intermediate exposure: Serious effects. Lung cancer effect level.
- ^c Chronic exposure: Less serious respiratory and gastro effects such as nasal septum perforation, chronic tonsillitis, chronic pharyngitis, and atrophy of larynx.
- ^d Intermediate exposure: Less serious respiratory effects such as epistaxis, rhinorrhea, nasal ulceration and perforation.
- ^e Intermediate exposure: Less serious respiratory effects such as epistaxis, rhinorrhea, and ulceration of the nasal septum.
- ^f Chronic exposure: Less serious renal effects such as an increase in retinal binding protein and tubular antigens in urine.
- ^g Chronic exposure: Less serious gastro effects such as gastric mucosa irritation and ulcers.
- ^h Chronic exposure: Less serious respiratory and gastro effects such as epistaxis, rhinorrhea, nasal ulceration and perforation, stomach pains and cramps, and ulcers.
- ⁱ Chronic exposure: Less serious renal effects such as increased urinary B₂-macroglobulin.
- ^j Intermediate exposure: Less serious respiratory effects such as nasal mucosa atrophy and mild decreased lung function.
- ^k Chronic exposure: Less serious respiratory effects such as nasal mucosa atrophy and mild decreased lung function.
- ^l Intermediate exposure: respiratory effects.
- ^m Chronic exposure: respiratory effects.
- ⁿ Concentration equivalent to a 10⁻⁶ risk exposure.

2,4-DICHLOROPHENOXYACETIC ACID (2,4-D)

CAS Number 94-75-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.70×10^1 to 1.00×10^5	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	1.00×10^5	30 min.
NIOSH/OSHA TWA ¹	1.00×10^4	10 hr.
ODOR THRESHOLD ¹¹	3.13×10^3	1 min.
RfC ¹³	3.70×10^1	Lifetime

DDT		
CAS Number 50-29-3		
Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^{-3} to 1.00×10^3	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 6.90 \times 10^{-5}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ACGIH TWA ²⁵ , OSHA PEL TWA ²	1.00×10^3	8 hr.
NIOSH REL TWA ¹	5.00×10^2	10 hr.
SAAPS ³ AZ	2.50×10^1	1 hr.
SAAPS ³ NV	2.40×10^1	8 hr.
SAAPS ³ VA	1.70×10^1	24 hr.
SAAPS ³ FL, ND	1.00×10^1	8 hr.
SAAPS ³ AZ	5.10	24 hr.
SAAPS ³ CT	5.00	8 hr.
SAAPS ³ FL	2.40	24 hr.
SAAPS ³ PA	1.80	1 yr.
SAAPS ³ TX	1.00	30 min.
SAAPS ³ TX, WA	1.00×10^{-1}	1 yr.
RfC ¹³	1.80×10^{-2}	Lifetime
SAAPS ³ AZ	1.40×10^{-2}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,a}	1.03×10^{-2}	70 yr.
SAAPS ³ KS	1.03×10^{-2}	1 yr.
SAAPS ³ FL	1.00×10^{-2}	1 yr.
SAAPS ³ MI	3.00×10^{-3}	1 yr.

Footnotes to DDT:

^a Concentration equivalent to a 10^{-6} risk exposure.

1,2-DIBROMOETHANE

CAS Number 106-93-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 4.54×10^{-3} to 3.12×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.28 \times 10^{-4}$ ppm @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH TWA ^{1, a}	3.12×10^6 Ca	30 min.
SAAPS ³ CT	7.55×10^5	8 hr.
SAAPS ³ IN	7.20×10^5	8 hr.
OSHA CEILING	2.34×10^5	15 min.
OSHA PEL TWA ²⁶	1.56×10^5	8 hr.
MD Screening Level ¹⁰	4.32×10^3	8 hr.
OSHA STEL ²⁶	3.91×10^3	15 min.
SAAPS ³ VA	1.50×10^3	24 hr.
NIOSH CEILING ²⁶	1.00×10^3	15 min.
NIOSH REL TWA ^{26, a}	3.51×10^2 Ca	8 hr.
SAAPS ³ PA (Philadelphia)	2.47	1 yr.
SAAPS ³ NC	1.90	24 hr.
RfC ¹³	8.10×10^{-3}	Lifetime
CONCENTRATION FOR ¹⁰⁻⁶ RISK ^{4, b}	4.54×10^{-3}	70 yr.

Footnotes to 1,2 Dibromoethane:

^a A compound is considered to be cancer-causing if denoted by Ca.

^b Concentration equivalent to a 10^{-6} risk exposure.

1,4-DICHLOROBENZENE

CAS Number 106-46-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) $1.80 \times 10^{-1} \times 6.01 \times 10^6$	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.66 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{27,a}	$6.01 \times 10^6 \text{ Ca}$	30 min.
ACGIH STEL ²⁷	6.61×10^5	15 min.
LOAEL ^{27,b}	4.81×10^5	5 yr/avg. (occup.)
ACGIH TLV-TWA ²⁷	4.51×10^5	8 hr.
OSHA PEL TWA ²⁷	4.50×10^5	8 hr.
SAAPS ³ NC	6.60×10^4	15 min.
SAAPS ³ WI	1.08×10^4	24 hr.
SAAPS ³ LA, NV	1.07×10^4	8 hr.
SAAPS ³ CT	9.00×10^3	8 hr.
SAAPS ³ OK	9.00×10^3	24 hr.
SAAPS ³ VA	7.50×10^3	24 hr.
SAAPS ³ ND	6.61×10^3	1 hr.
SAAPS ³ ND	4.51×10^3	8 hr.
SAAPS ³ FL	4.50×10^3	8 hr.
SAAPS ³ SC	4.50×10^3	24 hr.
SAAPS ³ IN	2.25×10^3	8 hr.
SAAPS ³ WA	1.50×10^3	24 hr.
MRL ²²	1.20×10^3	18 wk.
SAAPS ³ FL	1.08×10^3	24 hr.
SAAPS ³ TX	1.08×10^3	30 min.
SAAPS ³ TX	4.50×10^2	1 yr.
SAAPS ³ AZ	2.50×10^2	1 hr.
SAAPS ³ MA	1.23×10^2	24 hr.

1,4-DICHLOROBENZENE

CAS Number 106-46-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) $1.80 \times 10^{-1} \times 6.01 \times 10^6$	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.66 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ AZ	6.60×10^1	24 hr.
RfC ¹³	3.70×10^1	Lifetime
SAAPS ³ FL	7.00×10^{-1}	1 yr.
SAAPS ³ AZ, MA	1.80×10^{-1}	1 yr.

Footnotes to 1,4-Dichlorobenzene:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Chronic exposure: Less serious systemic effects such as eye and nose irritation.

M-DICHLOROBENZENE

CAS Number 541-73-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.20×10^2 to 3.20×10^2	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
RfC ¹³	3.20×10^2	Lifetime

O-DICHLOROBENZENE

CAS Number 95-50-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.50×10^2 to 6.11×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.64 \times 10^{-4} \text{ ppm @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	6.11×10^6	30 min.
NIOSH CEILING ¹	3.00×10^5	15 min.
NIOSH REL CEILING ⁵⁶	3.00×10^5	10 hr.
RfC ¹³	1.50×10^2	Lifetime

1,1-DICHLOROETHANE

CAS Number 75-34-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 19.3 to 1.65×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.43 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ²⁸ , NIOSH OSHA IDLH ¹	1.65×10^7	30 min.
ACGIH STEL ²⁸	1.01×10^6	15 min.
ACGIH TLV TWA ²⁸	8.10×10^5	8 hr.
NIOSH OSHA TWA ¹	4.12×10^5	30 min.
NIOSH REL TWA ²⁸	4.12×10^5	10 hr.
OSHA PEL TWA ²⁸	4.00×10^5	8 hr.
SAAPS ³ VA	1.35×10^4	24 hr.
SAAPS ³ ND	8.10×10^3	24 hr.
SAAPS ³ CT	8.00×10^3	8 hr.
RfC ¹³	5.20×10^2	Lifetime
SAAPS ³ NV	19.3	8 hr.

1,2-DICHLOROETHANE

CAS Number 107-06-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^{-2} to 4.04×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.47 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{29, a}	4.04×10^6 Ca	30 min.
OSHA MAXIMUM ²	8.10×10^5	5 min. in any 3 hr.
OSHA CEILING ²	4.00×10^5	15 min.
OSHA PEL TWA ²	2.00×10^5	8 hr.
ACGIH TLV-TWA ²⁹	4.00×10^4	8 hr.
ODOR THRESHOLD ¹¹	2.50×10^4	1 min.
NIOSH REL ²⁹	4.00×10^3	1 hr.
NIOSH CEILING ²⁹	4.00×10^3	15 min.
SAAPS ³ NV	9.52×10^2	8 hr.
SAAPS ³ VA	6.70×10^2	24 hr.
MD SCREENING LEVEL ¹⁰ , SAAPS ³ ND	4.00×10^2	8 hr.
SAAPS ³ TX	4.00×10^2	30 min.
SAAPS ³ IN	2.00×10^2	8 hr.
SAAPS ³ SC	2.00×10^2	24 hr.
SAAPS ³ PA	1.48×10^2	1 yr.
SAAPS ³ AZ	5.30×10^1	1 hr.
SAAPS ³ FL	4.00×10^1	8 hr.
SAAPS ³ OK	4.00×10^1	24 hr.
SAAPS ³ CT	2.00×10^1	8 hr.
SAAPS ³ AZ	1.40×10^1	24 hr.
SAAPS ³ MA	1.10×10^1	24 hr.
SAAPS ³ FL	9.60	24 hr.
SAAPS ³ TX	4.00	1 yr.

1,2-DICHLOROETHANE

CAS Number 107-06-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^{-2} to 4.04×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.47 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ LA	3.85	1 yr.
SAAPS ³ NC	3.80	1 yr.
SAAPS ³ WA	4.00×10^{-1}	1 yr.
SAAPS ³ NY	2.00×10^{-1}	1 yr.
SAAPS ³ MI	9.00×10^{-2}	1 yr.
RfC ¹³	6.90×10^{-2}	Lifetime
SAAPS ³ MA, RI	4.00×10^{-2}	1 yr.
SAAPS ³ KS, IL	3.85×10^{-2}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,b}	3.80×10^{-2}	70 yr.
SAAPS ³ AZ, FL, IN, MA, VT	3.80×10^{-2}	1 yr.
AALG ¹⁹	3.00×10^{-2}	1 yr

Footnotes to 1,2-Dichloroethane:

^a A compound is considered to be cancer-causing if denoted by Ca.

^b Concentration equivalent to a 10^{-6} risk exposure.

1,1-DICHLOROETHENE

CAS Number 540-59-0

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) $2.00 \times 10^{-2} \times 7.90 \times 10^5$	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.53 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
OSHA PEL TWA ²	7.90×10^5	8 hr.
SAAPS ³ OK	7.93×10^4	24 hr.
ACGIH STEL ³⁰	7.90×10^4	15 min.
SAAPS ³ VT	7.90×10^4	8 hr.
ACGIH TLV-TWA ³⁰	1.90×10^4	8 hr.
SAAPS ³ WI	1.89×10^4	24 hr.
SAAPS ³ NV	1.88×10^4	8 hr.
SAAPS ³ CT	1.58×10^4	8 hr.
SAAPS ³ VA	1.30×10^4	24 hr.
SAAPS ³ ND	7.93×10^3	8 hr.
SAAPS ³ TX	7.93×10^3	30 min.
SAAPS ³ FL	2.90×10^3	8 hr.
SAAPS ³ WA	2.63×10^3	24 hr.
SAAPS ³ TX	7.90×10^2	1 yr.
SAAPS ³ FL	6.96×10^2	24 hr.
SAAPS ³ MA	2.16×10^2	24 hr.
SAAPS ³ MA	1.08×10^2	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,a}	2.00×10^{-2}	70 yr.

Footnotes to 1,1-Dichloroethene:

^a Concentration equivalent to a 10^{-6} risk exposure.

DICHLOROETHYL ETHER

CAS Number 111-44-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.40×10^{-3} to 5.94×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.68 \times 10^{-4} \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1, a}	$5.94 \times 10^5 \text{ Ca}$	30 min.
SAAPS ³ VA	5.00×10^5	24 hr.
SAAPS ³ KS	7.14×10^4	1 yr.
OSHA CEILING ³²	9.00×10^4	8 hr.
ACGIH STEL ³²	6.00×10^4	15 min.
NIOSH TWA ^{1, a}	$3.00 \times 10^4 \text{ Ca}$	10 hr.
ACGIH TLV-TWA	3.00×10^4	8 hr.
SAAPS ³ PA (Philadelphia)	7.13×10^2	1 yr.
SAAPS ³ NV	7.07×10^2	8 hr.
RfC ¹³	5.40×10^{-3}	Lifetime

Footnotes to Dichloroethyl Ether:

- ^a A compound is considered to be cancer-causing if denoted by Ca.

C-1,2-DICHLOROETHYLENE

CAS Number 540-59-0

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.30×10^1 to 4.03×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.48 \times 10^{-4} \text{ PPM @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	4.03×10^6	30 min.
ACGIH TLV-TWA ³³ , OSHA PEL TWA ³³	7.93×10^5	8 hr.
NIOSH/OSHA TWA ¹	7.90×10^5	10 hr.
SAAPS ³ AZ	2.38×10^4	1 hr.
SAAPS ³ TX	7.90×10^3	30 min.
SAAPS ³ AZ	6.30×10^3	24 hr.
ODOR THRESHOLD ¹¹	4.30×10^3	24 hr.
SAAPS ³ TX	7.90×10^2	1 yr.
RF ¹³	3.30×10^1	Lifetime

DICHLOROMETHANE

CAS Number 75-09-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) LFC to 1.77×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.83 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{34,a}	$1.77 \times 10^7 \text{ Ca}$	30 min.
OSHA MAX PEAK ³⁴	7.06×10^6	5 min./2 hr.
OSHA CEILING ³⁴	3.53×10^6	---
CAPCOA ¹⁸	3.50×10^6	1 hr.
OSHA TWA ^{34,a}	$1.77 \times 10^6 \text{ Ca}$	8 hr.
ACGIH TLV TWA ^{34,a}	$1.77 \times 10^5 \text{ Ca}$	8 hr.
ACGIH IDLH A2 ^{1,b}	1.77×10^5	---
SAAPS ³ ND	1.70×10^3	1 hr.
SAAPS ³ ND	3.50×10^3	8 hr.
SAAPS ³ NY	27.0	1 yr.
SAAPS ³ NC	2.40×10^1	1 yr.
SAAPS ³ KS	21	1 yr.
SAAPS ³ NV	8.3	8 hr.
SAAPS ³ MA	2.4	24 hr.
SAAPS ³ RI	2.00×10^{-1}	1 yr.
AALG ¹⁹	1.20×10^{-1}	1 yr.
SAAPS ³ VT	2.50×10^{-1}	1 yr.
SAAPS ³ SC	8.75×10^{-3}	24 hr.
SAAPS ³ IN	8.70×10^{-3}	8 hr.
SAAPS ³ PA (Philadelphia)	8.40×10^{-3}	1 yr.
SAAPS ³ CT	7.00×10^{-3}	8 hr.
SAAPS ³ VA	5.80×10^{-3}	24 hr.
SAAPS ³ SD	3.50×10^{-3}	8 hr.

DICHLOROMETHANE

CAS Number 75-09-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) LFC to 1.77×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.83 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH REL ^{34, a}	Lowest Feasible Concen. Ca	10 hr.

Footnotes to Dichloromethane:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Confined human carcinogen.

1,2-DICHLOROPROPANE

CAS Number 78-87-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 9.20×10^{-2} to 9.40×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.13 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1, a}	$9.40 \times 10^6 \text{ Ca}$	30 min.
OSHA STEL TWA ¹ , ACGIH STEL ³⁵	5.10×10^5	15 min.
ACGIH TLV-TWA ³⁵ , OSHA PEL TWA ¹	3.50×10^5	8 hr.
SAAPS ³ CT	1.00×10^5	8 hr.
SAAPS ³ NV	8.33×10^3	8 hr.
SAAPS ³ VA	5.80×10^3	24 hr.
ODOR THRESHOLD ¹¹	1.18×10^3	1 min.
NIOSH REL ^{56, a}	$1.41 \times 10^2 \text{ Ca}$	10 hr.
SAAPS ³ KS	13.89	1 yr.
SAAPS ³ ME	5.1	24 hr.
RfC ¹³	9.20×10^{-2}	Lifetime

Footnotes to 1,2-Dichloropropane:

- ^a A compound is considered to be cancer-causing if denoted by Ca.

(CIS/TRANS)1,3-DICHLOROPROPYLENE

CAS Number 542-75-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.90×10^{-6} to 4.50×10^3	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.22 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ACGIH TLV-TWA ¹	4.50×10^3	8 hr.
SAAPS ³ VA	7.50×10^2	24 hr.
SAAPS ³ WI	1.20×10^2	24 hr.
SAAPS ³ NV	1.19×10^2	8 hr.
SAAPS ³ LA	1.07×10^2	8 hr.
SAAPS ³ CT	1.00×10^2	8 hr.
SAAPS ³ FL	5.00×10^1	8 hr.
SAAPS ³ OK	5.00×10^1	24 hr.
SAAPS ³ ND	4.50×10^1	8 hr.
SAAPS ³ TX	4.50×10^1	30 min.
SAAPS ³ WA	1.67×10^1	24 hr.
MRL ^{36, a}	1.40×10^1	18 wk.
SAAPS ³ FL	1.20×10^1	24 hr.
MRL ^{36, b}	9.00	18 wk.
SAAPS ³ TX	4.50	1 yr.
Rfc ¹³	4.80×10^{-2}	Lifetime
CONCENTRATION FOR 10^{-6} RISK ^{4, c}	2.70×10^{-2}	70 yr.
SAAPS ³ KS	2.70×10^{-2}	1 yr.
SAAPS ³ MI	2.00×10^{-2}	1 yr.
SAAPS ³ FL	2.90×10^{-6}	1 yr.

Footnotes to (Cis/Trans) 1,3-Dichloropropene:

^a Intermediate exposure.

^b Chronic exposure.

^c Concentration equivalent to a 10^{-6} risk exposure.

DIELDRIN

CAS Number 60-57-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.00×10^{-4} to 2.50×10^2	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
OSHA PEL TWA ²	2.50×10^2	8 hr.
SAAPS ³ NV	6.00	8 hr.
SAAPS ³ WI	6.00	24 hr.
SAAPS ³ CT	5.00	8 hr.
SAAPS ³ VA	4.10	24 hr.
SAAPS ³ FL	2.50	8 hr.
SAAPS ³ TX	2.50	30 min.
SAAPS ³ WA	8.00×10^{-1}	24 hr.
SAAPS ³ FL	6.00×10^{-1}	24 hr.
SAAPS ³ AZ	4.20×10^{-1}	1 hr.
SAAPS ³ TX	2.50×10^{-1}	1 yr.
SAAPS ³ AZ	1.10×10^{-1}	24 hr.
SAAPS ³ PA	3.50×10^{-2}	1 yr.
RfC ¹³	3.90×10^{-4}	Lifetime
SAAPS ³ AZ	2.90×10^{-4}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,a}	2.20×10^{-4}	70 yr.
SAAPS ³ KS	2.17×10^{-4}	1 yr.
SAAPS ³ WA	2.00×10^{-4}	1 yr.

Footnotes to Dieldrin:

^a Concentration equivalent to a 10^{-6} risk exposure.

2,4-DINITROTOLUENE

CAS Number 121-14-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 7.30 to 1.50×10^3	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
OSHA PEL TWA ¹ , ACGIH TLV-TWA ¹	1.50×10^3	8 hr.
RfC ¹³	7.30	Lifetime

ETHYLBENZENE

CAS Number 100-41-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.18 x 10 ² to 8.70 x 10 ⁶	Conversion Factor: 1 $\mu\text{g}/\text{m}^3$ = 2.30 x 10 ⁻⁴ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ³⁷	8.70 x 10 ⁶	30 min.
ACGIH STEL ³⁷	5.45 x 10 ⁵	15 min.
ACGIH TLV-TWA ³⁷ , OSHA PEL TWA ³⁷	4.35 x 10 ⁵	8 hr.
NIOSH REL ³⁷	4.35 x 10 ⁵	1 hr.
SAAPS ³ MA	5.40 x 10 ⁴	15 min.
SAAPS ³ VT	4.35 x 10 ⁴	8 hr.
SAAPS ³ OK	4.34 x 10 ⁴	24 hr.
SAAPS ³ NV	1.04 x 10 ⁴	8 hr.
SAAPS ³ WI	1.04 x 10 ⁴	24 hr.
SAAPS ³ LA	1.03 x 10 ⁴	8 hr.
SAAPS ³ CT	8.70 x 10 ³	8 hr.
SAAPS ³ VA	7.20 x 10 ³	24 hr.
SAAPS ³ ND	5.43 x 10 ³	1 hr.
SAAPS ³ AZ	4.50 x 10 ³	1 hr.
SAAPS ³ FL	4.35 x 10 ³	8 hr.
SAAPS ³ SC	4.35 x 10 ³	24 hr.
SAAPS ³ ND	4.34 x 10 ³	8 hr.
SAAPS ³ AZ, MA	3.50 x 10 ³	24 hr.
SAAPS ³ TX	2.00 x 10 ³	30 min.
SAAPS ³ NY	1.45 x 10 ³	1 yr.
SAAPS ³ WA	1.45 x 10 ³	24 hr.
MRL ³⁷	1.31 x 10 ³	18 wk.
SAAPS ³ FL	1.04 x 10 ³	24 hr.

ETHYLBENZENE

CAS Number 100-41-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.18×10^2 to 8.70×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.30 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
RfC ¹³	1.00×10^3	Lifetime
SAAPS ³ TX	4.34×10^2	1 yr.
SAAPS ³ MA	3.50×10^2	1 yr.
AALG ¹⁹	1.30×10^2	24 hr.
SAAPS ³ MA	1.18×10^2	24 hr.

ETHYL CHLORIDE

CAS Number 75-00-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.38×10^4 to 5.20×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 3.73 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ NY	5.20×10^7	1 yr.
NIOSH TWA IDLH ¹	1.02×10^7	10 hr.
OSHA PEL ¹	2.68×10^6	8 hr.
ACGIH TLV ¹	2.68×10^6	8 hr.
SAAPS ³ MA	3.60×10^5	24 hr.
EPA OERR	2.68×10^5	---
SAAPS ³ NV	6.38×10^4	8 hr.

FORMALDEHYDE

CAS Number 50-00-0

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 4.00×10^{-2} to 3.70×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 8.18 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	3.70×10^4 Ca	30 min.
AIHA ERPG(3) ^{41,b}	3.10×10^4	1 hr.
EHS LOC ²²	1.23×10^4	30 min.
ACGIH STEL ¹ , OSHA TLV-STEL ²	2.50×10^3	15 min.
ODOR THRESHOLD ¹¹	1.20×10^3	1 min.
AIHA ERPG(1) ^{41,b}	1.20×10^3	1 hr.
OSHA PEL TWA ²	1.00×10^3	8 hr.
OSHA ACTION LEVEL ²	6.00×10^2	8 hr.
ACGIH TLV-TWA ¹	3.70×10^2	8 hr.
CAPCOA ¹⁸	3.70×10^2	1 hr.
SAAPS ³ NC	1.50×10^2	15 min.
SAAPS ³ NV	7.10×10^1	8 hr.
SAAPS ³ MA	6.70×10^1	15 min.
SAAPS ³ WA	6.20×10^1	---
MD SCREENING LEVEL ¹⁰	2.50×10^1	1 hr.
NIOSH REL ¹	2.00×10^1	10 hr.
SAAPS ³ AZ	2.00×10^1	1 hr.
SAAPS ³ FL	1.50×10^1	8 hr.
SAAPS ³ TX	1.50×10^1	30 min.
SAAPS ³ AZ	1.20×10^1	24 hr.
SAAPS ³ CT, SD	1.20×10^1	8 hr.
SAAPS ³ OK, VA	1.20×10^1	24 hr.
SAAPS ³ LA	7.69	1 yr.

FORMALDEHYDE

CAS Number 50-00-0

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 4.00×10^{-2} to 3.70×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 8.18 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ SC	7.50	24 hr.
SAAPS ³ PA	7.20	1 yr.
SAAPS ³ IN	6.00	8 hr.
SAAPS ³ NY	5.00	1 yr.
SAAPS ³ TX	1.50	1 yr.
SAAPS ³ FL	1.08	24 hr.
SAAPS ³ MA	3.30×10^{-1}	24 hr.
RfC ^{13,a}	$1.40 \times 10^{-1} \text{ Ca}$	Lifetime
SAAPS ³ AZ, MA, MI, VT	8.00×10^{-2}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,c}	7.70×10^{-2}	70 yr.
SAAPS ³ FL, IN, KS, WA	7.70×10^{-2}	1 yr.
AALG ¹⁹	6.20×10^{-2}	1 yr.
SAAPS ³ MA	4.00×10^{-2}	1 yr.

Footnotes to Formaldehyde:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b (3) denotes ERPG-3; (1) denotes ERPG-1. See Appendix C for discussion.
- ^c Concentration equivalent to a 10^{-6} risk exposure.

FREON 11

CAS Number 75-69-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.60×10^6 to 5.71×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.75 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH/OSHA IDLH ¹	5.71×10^7	30 min.
NIOSH/OSHA CEILING ¹	5.60×10^6	15 min.

FREON 12

CAS Number 75-71-8

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 4.95 x 10 ⁶ to 7.55 x 10 ⁷	Conversion Factor: 1 $\mu\text{g}/\text{m}^3$ = 1.99 x 10 ⁻⁴ ppm @ 25° C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH/OSHA TWA ¹	4.95 x 10 ⁶	10 hr.
NIOSH/OSHA IDLH ¹	7.55 x 10 ⁷	30 min.

HEPTACHLOR

CAS Number 76-44-8

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 7.68×10^{-4} to 7.00×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 6.50 \times 10^{-5}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	7.00×10^5 Ca	30 min.
OSHA PEL TWA ²	5.00×10^2	8 hr.
SAAPS ³ NV	1.20×10^1	8 hr.
SAAPS ³ WI	1.20×10^1	24 hr.
SAAPS ³ VA	8.30	24 hr.
SAAPS ³ FL, ND	5.00	8 hr.
SAAPS ³ OK	5.00	24 hr.
SAAPS ³ CT	2.50	8 hr.
SAAPS ³ SC	2.50	24 hr.
SAAPS ³ NY	1.70	1 yr.
SAAPS ³ AZ	1.50	1 hr.
SAAPS ³ FL	1.20	24 hr.
SAAPS ³ TX	5.00×10^{-1}	30 min.
SAAPS ³ AZ	4.00×10^{-1}	24 hr.
SAAPS ³ PA	1.80×10^{-1}	1 yr.
SAAPS ³ MA	1.40×10^{-1}	24 hr.
SAAPS ³ TX	5.00×10^{-2}	1 yr.
RfC ^{13,a}	1.40×10^{-3} Ca	Lifetime
SAAPS ³ AZ	1.10×10^{-3}	1 yr.
SAAPS ³ MA	1.00×10^{-3}	1 yr.
SAAPS ³ FL, WA	7.70×10^{-4}	1 yr.
SAAPS ³ KS	7.69×10^{-4}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,b}	7.68×10^{-4}	70 yr.

Footnotes to Heptachlor:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Concentration equivalent to a 10^{-6} risk exposure.

HEXACHLOROBENZENE

CAS Number 118-74-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.17×10^{-3} to 3.70×10^3	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ AZ	3.70×10^3	70 yr.
SAAPS ³ AZ	9.90×10^2	24 hr.
SAAPS ³ LA	2.00×10^2	1 yr.
SAAPS ³ NY	3.00×10^1	1 yr.
SAAPS ³ KS, KC	7.04	1 yr.
SAAPS ³ AZ	2.7	1 yr.
SAAPS ³ VT	2.1	1 yr.
SAAPS ³ WA, SWEST	2.0	1 yr.
SAAPS ³ FL (Pinellas)	2.0	8 hr.
SAAPS ³ MI	2.0	1 yr.
SAAPS ³ IN	2.0	1 yr.
SAAPS ³ KS	2.00×10^{-1}	1 yr.
RfC ^{13,b}	4.00×10^{-3} Ca	Lifetime
EPA OAR ³⁸	---	---
Concentration for 10^{-6} Risk ^{4,a}	2.17×10^{-3}	70 yr.

Footnotes to Hexachlorobenzene:

^a Concentration equivalent to a 10^{-6} risk exposure.

^b A compound is considered to be cancer-causing if denoted by Ca.

HEXACHLORO-1,3 BUTADIENE

CAS Number 106-99-0

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) LFC to 4.50×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 4.44 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	$4.50 \times 10^6 \text{ Ca}$	30 min.
OSHA PEL ³⁹	2.25×10^6	8 hr.
OSHA TWA ¹	2.20×10^6	8 hr.
SAAPS ³ NV	5.24×10^4	8 hr.
OSHA STEL ³⁹	2.25×10^4 (proposed)	15 min.
ACGIH TLV ^{39,a}	$2.25 \times 10^4 \text{ Ca}$	8 hr.
SAAPS ³ CT	2.20×10^4	8 hr.
SAAPS ³ KY	1.10×10^4	8 hr.
OSHA PEL ³⁹	4.50×10^3 (proposed)	8 hr.
SAAPS ³ VA	2.20×10^2	24 hr.
ODOR THRESHOLD ¹¹	1.01	---
SAAPS ³ MA	3.50×10^{-2}	24 hr.
SAAPS ³ NC	3.50×10^{-2}	1 yr.
SAAPS ³ MI	3.00×10^{-3}	1 yr.
AALG ¹⁹	2.86×10^{-3}	1 yr.
NIOSH REL ^{39,a}	Lowest Feasible Concent. Ca	8 hr.

Footnotes to Hexachloro-1,3-Butadiene:

- ^a A compound is considered to be cancer-causing if denoted by Ca.

HEXAHYDRO-1,3,5-TRINITRO-1,3,5- TRIAZINE (RDX)

CAS Number 121-82-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.00×10^{-2} to 3.00×10^4	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ CT	3.00×10^4	8 hr.
SAAPS ³ VA	2.50×10^4	24 hr.
SAAPS ³ OK	3.00×10^4	24 hr.
SAAPS ³ FL (Pinellas)	1.50×10^4	8 hr.
SAAPS ³ TX	1.50×10^4	30 min.
SAAPS ³ FL (Pinellas)	3.60×10^3	24 hr.
NIOSH TWA ⁴⁰	1.50×10^3	10 hr.
SAAPS ³ TX	1.50×10^3	1 yr.
SAAPS ³ NV	3.60×10^1	8 hr.
SAAPS ³ ND	1.50×10^1	8 hr.
RfC ¹³	6.00×10^{-2}	Lifetime

HEXANE

CAS Number 110-54-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.00×10^2 to 3.94×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.79 \times 10^4 \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	3.94×10^6	30 min.
OSHA PEL TWA ¹	1.80×10^6	8 hr.
LOAEL ^{42, a}	2.04×10^5	---
NIOSH TWA ¹	1.80×10^5	10 hr.
OSHA PEL TWA ⁴²	1.80×10^5	8 hr.
NIOSH REL ⁴²	1.80×10^5	10 hr.
ACGIH TLV-TWA ⁴²	1.76×10^5	8 hr.
AALG ¹⁹	3.80×10^2	24 hr.
RfC ¹³	2.00×10^2	Lifetime

Footnotes to Hexane:

- ^a The LOAEL is from the critical study used as the basis for the EPA RfC.

HYDROGEN FLUORIDE

CAS Number 7664-39-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.64 to 8.20×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.20 \times 10^3 \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
CAPCOA ¹⁸	8.20×10^5	1 hr.
SAAPS ³ CT	5.00×10^4	8 hr.
SAAPS ³ SD	5.00×10^4	8 hr.
AIHA ERPG-3 ⁴³	4.15×10^4	1 hr.
SAAPS ³ RI	3.00×10^4	1 hr.
SAAPS ³ SC	2.50×10^4	24 hr.
NIOSH IDLH ⁴³	2.49×10^4	30 min.
NIOSH IDLH ¹	2.49×10^4	30 min.
SAAPS ³ VA	2.00×10^4	24 hr.
SAAPS ³ NY	8.30×10^3	1 yr.
NAS PEL ⁴³	8.00×10^3	10 min.
NIOSH CEILING ¹	5.00×10^3	15 min.
AIHA ERPG-1 ⁴³	4.15×10^3	1 hr.
NAS PEL ⁴³	4.00×10^3	30 and 60 min.
SAAPS ³ MA	3.40×10^3	24 hr.
NAS STPL ⁴³	3.00×10^3	10-30 and 60 min.
ACGIH TLV CEILING ⁴³	2.60×10^3	8 hr.
NIOSH REL TWA ⁴³	2.50×10^3	10 hr.
NIOSH TWA ¹	2.50×10^3	10 hr.
OSHA PEL TWA ¹	2.49×10^3	8 hr.
OSHA PEL TWA ⁴³	2.49×10^3	8 hr.
NAS STPL ⁴³	1.00×10^3	5 hr/dy; 3-4 dy/1 mo.
SAAPS ³ KY	8.30×10^2	24 hr.

HYDROGEN FLUORIDE

CAS Number 7664-39-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.64 to 8.20×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.20 \times 10^3 \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ NC	2.50×10^2	15 min.
SAAPS ³ NV	6.00×10^2	8 hr.
SAAPS ³ ND	2.50×10^1	1 hr.
SAAPS ³ NC	2.50×10^1	24 hr.
EHS LOC ²²	1.64	30 min.

LEAD

CAS Number 7439- 92-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 7.00×10^{-2} to 1.50×10^2	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ACGIH TLV-TWA ⁴⁴	1.50×10^2	8 hr.
OSHA PEL TWA ⁴⁴	5.00×10^1	8 hr.
LOAEL ^{44,a}	1.10×10^1	18 wk; 23 hr/dy.
SAAPS ³ NV	4.00	8 hr.
SAAPS ³ CT	3.00	8 hr.
SAAPS ³ VA	2.50	24 hr.
OAQPS, NAAQS ⁴⁴	1.50	---
SAAPS ³ AZ	1.50	4 mo.
SAAPS ³ FL, ND	1.50	8 hr.
SAAPS ³ PA	1.50	1 yr.
SAAPS ³ VT, TN	1.50	3 mo.
SAAPS ³ FL	3.60×10^{-1}	24 hr.
SAAPS ³ KS	3.57×10^{-1}	1 yr.
SAAPS ³ MA	1.40×10^{-1}	24 hr.
NIOSH REL ⁴⁴	$< 1.00 \times 10^{-1}$	1 hr.
SAAPS ³ FL	9.00×10^{-2}	1 yr.
SAAPS ³ MA	7.00×10^{-2}	1 yr.

Footnotes to Lead:

- ^a Intermediate exposure: Less serious systemic effects including a 47% decrease in delta-amine levulinic acid dehydratase (ALAD) activity.

MANGANESE COMPOUNDS

CAS Number 7439-96-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.00×10^{-2} to 1.00×10^7	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁴⁵	1.00×10^7	30 min.
NIOSH IDLH ⁴⁵	5.00×10^5	30 min.
SAAPS ³ VT	1.19×10^5	1 yr.
SAAPS ³ PA	2.40×10^4	1 yr.
SAAPS ³ CT	2.00×10^4	8 hr.
SAAPS ³ SD	2.00×10^4	8 hr.
SAAPS ³ VA	1.70×10^4	24 hr.
OSHA CEILING ⁴⁵	5.00×10^3	15 min.
ACGIH TLV-TWA ⁴⁵	5.00×10^3 (dust)	8 hr.
ACGIH STEL ⁴⁵	3.00×10^3 (fume)	15 min.
ACGIH TLV-TWA ⁴⁵	1.00×10^3 (fume)	8 hr.
NIOSH STEL ⁴⁵	3.00×10^3	15 min.
OSHA STEL ⁴⁵	3.00×10^3	15 min.
SAAPS ³ RI	2.00×10^3	1 hr.
NIOSH TWA ¹	1.00×10^3	10 hr.
OSHA PEL TWA ⁴⁵	1.00×10^3 (fume)	8 hr.
SAAPS ³ NV	1.19×10^2	8 hr.
SAAPS ³ ND	5.00×10^1	1 hr.
SAAPS ³ NC	3.10×10^1	24 hr.
RfC ¹³	5.00×10^{-2}	Lifetime

MERCURY

CAS Number 7439-97-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00×10^{-2} to 2.80×10^4	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁴⁶	2.80×10^4	30 min.
ACGIH TLV TWA ⁴⁶ , OSHA PEL TWA ⁴⁶	5.00×10^1	8 hr.
SAAPS ³ VT	1.20×10^1	1 yr.
SAAPS ³ VA	1.70	24 hr.
SAAPS ³ AZ	1.50	1 hr.
SAAPS ³	1.00	8 hr.
AALG ¹⁹	9.50×10^{-1}	8 hr.
SAAPS ³ NC	6.00×10^{-1}	15 min.
SAAPS ³ NC (Forco)	6.00×10^{-1}	24 hr.
SAAPS ³ ND, SAAPS ³ FL (Tampa), SAAPS ³ FL (Ft Lauderdale)	5.00×10^{-1}	8 hr.
SAAPS ³ OK	5.00×10^{-1}	24 hr.
SAAPS ³ TX	5.00×10^{-1}	30 min.
SAAPS ³ AZ	4.00×10^{-1}	24 hr.
RfC ¹³	3.00×10^{-1}	Lifetime
SAAPS ³ SC	2.50×10^{-1}	24 hr.
SAAPS ³ PA (Philadelphia)	2.40×10^{-1}	1 yr.
SAAPS ³ NY	1.67×10^{-1}	1 yr.
SAAPS ³ CT, SAAPS ³ FL (Pinellas)	1.00×10^{-1}	8 hr.
SAAPS ³ MT	8.00×10^{-2}	24 hr.
SAAPS ³ NC	6.00×10^{-2}	24 hr.
SAAPS ³ TX	5.00×10^{-2}	1 yr.

MERCURY

CAS Number 7439-97-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00×10^{-2} to 2.80×10^4	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ KS	2.40×10^{-2}	1 yr.
SAAPS ³ FL (PINELLAS)	2.40×10^{-2}	24 hr.
SAAPS ³ MT	1.00×10^{-2}	1 yr.

METHYL CHLORIDE

CAS Number 74-87-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.6 to 2.10×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 4.76 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	$2.10 \times 10^7 \text{ Ca}$	30 min.
NIOSH MAX. PEAK ⁴⁷	6.30×10^5	5 min. in 3 hr.
NIOSH CEILING ⁴⁷	4.20×10^5	15 min.
NIOSH TWA ⁴⁷	2.10×10^5	10 hr.
OSHA STEL ⁴⁷	2.10×10^5	15 min.
ACGIH STEL ⁴⁷	2.10×10^5	15 min.
ACGIH TLV TWA ⁴⁷	1.05×10^5	8 hr.
OSHA TWA ¹	1.05×10^5	8 hr.
SAAPS ³ KY	5.25×10^4	8 hr.
ODOR THRESHOLD ¹¹	2.10×10^4	1 min.
EHS LOC ²²	2.08×10^4	30 min.
SAAPS ³ PA	2.52×10^3	8 hr.
SAAPS ³ NV	2.50×10^3	1 yr.
SAAPS ³ CT	2.10×10^3	8 hr.
SAAPS ³ NY	2.10×10^3	1 yr.
SAAPS ³ ND	2.05×10^3	1 hr.
SAAPS ³ VA	1.75×10^3	24 hr.
SAAPS ³ ND	1.05×10^3	8 hr.
AALG ¹⁹	3.00×10^2	1 yr.
SAAPS ³ KS	74.12	1 yr.
SAAPS ³ MI	1.6	1 yr.

Footnotes to Methyl Chloride:

- ^a A compound is considered to be cancer-causing if denoted by Ca.

METHYL CHLOROFORM

CAS Number 71-55-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00×10^3 to 5.55×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.80 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
LOAEL ^{48,a,b} , NOAEL ^{48,c}	5.55×10^7	1 dy; Up to 2 hr/dy.
LOAEL ^{48,d}	1.47×10^7	1 dy; 15-186 min/dy.
LOAEL ^{48,e}	1.05×10^7	1 dy; 5-450 min/dy.
LOAEL ^{48,f}	5.55×10^6	1 dy; 15-186 min/dy.
NIOSH IDLH ¹	5.55×10^6	30 min.
LOAEL ^{48,g} , NOAEL ^{48,c}	5.11×10^6	1 dy; 5-450 min/dy.
LOAEL ^{48,h}	5.00×10^6	1 dy; 15-186 min/dy.
LOAEL ^{48,i} , NOAEL ^{48,c}	2.78×10^6	5 dy; 1-7.5 hr./dy.
LOAEL ^{48,j}	2.78×10^6	5 dy; 6.5-7 hr./dy.
NOAEL ^{48,c}	2.75×10^6	1 dy; 15-186 min/dy.
LOAEL ^{48,k}	1.94×10^6	1 dy; 30 min/dy.
ACGIH TLV-TWA ¹	1.91×10^6	8 hr.
NIOSH REL ¹	1.90×10^6	10 hr.
OSHA PEL TWA ¹	1.90×10^6	8 hr.
NOAEL ^{48,l}	1.11×10^6	6.7 yr./avg. (occup.)
RfC ¹³	1.00×10^6	Lifetime
LOAEL ^{48,m}	9.71×10^5	1 dy; 3.5 hr/dy.
NOAEL ^{48,l}	8.33×10^5	Up to 6 yr.
SAAPS ³ MA	2.50×10^5	15 min.
SAAPS ³ NC	2.45×10^5	15 min.

METHYL CHLOROFORM

CAS Number 71-55-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00 x 10 ³ to 5.55 x 10 ⁷	Conversion Factor: 1 $\mu\text{g}/\text{m}^3$ = 1.80 x 10 ⁻⁴ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ OK	1.91 x 10 ⁵	24 hr.
SAAPS ³ VT	1.90 x 10 ⁵	8 hr.
SAAPS ³ NV	4.52 x 10 ⁴	8 hr.
SAAPS ³ CT, FL, SD	3.80 x 10 ⁴	8 hr.
SAAPS ³ NY	3.80 x 10 ⁴	1 yr.
AALG ¹⁹	3.60 x 10 ⁴	8 hr.
SAAPS ³ VA	3.20 x 10 ⁴	24 hr.
SAAPS ³ ND	2.46 x 10 ⁴	1 hr.
SAAPS ³ AZ	2.00 x 10 ⁴	1 hr.
SAAPS ³ ND	1.91 x 10 ⁴	8 hr.
SAAPS ³ TX	1.91 x 10 ⁴	30 min.
SAAPS ³ IN	1.90 x 10 ⁴	8 hr.
SAAPS ³ NC	1.20 x 10 ⁴	24 hr.
SAAPS ³ MA	1.00 x 10 ⁴	24 hr.
SAAPS ³ FL	9.16 x 10 ³	24 hr.
SAAPS ³ WA	6.33 x 10 ³	24 hr.
SAAPS ³ LA	4.55 x 10 ³	8 hr.
SAAPS ³ TX	1.91 x 10 ³	1 yr.
SAAPS ³ AZ	1.10 x 10 ³	24 hr.
SAAPS ³ MA	1.04 x 10 ³	24 hr.
SAAPS ³ MA	1.04 x 10 ³	1 yr.
SAAPS ³ MA	1.00 x 10 ³	1 yr.

Footnotes to Methyl Chloroform:

- ^a Acute exposure: Less serious systemic effects such as lower blood pressure.
- ^b Acute exposure: Serious neurological effects such as anesthesia.
- ^c Acute exposure.
- ^d Acute exposure: Less serious systemic effects such as greater urobilinogen.
- ^e Acute exposure: Serious neurological effects such as obvious ataxia.
- ^f Acute exposure: Less serious systemic effects such as mild eye irritation.
- ^g Acute exposure: Less serious neurological effects such as slight ataxia.
- ^h Acute exposure: Less serious neurological effects such as light-headedness.
- ⁱ Acute exposure: Less serious neurological effects such as altered EEG.
- ^j Acute exposure: Less serious neurological effects such as impaired balance.
- ^k Acute exposure: Less serious neurological effects such as less psychophysiological ability.
- ^l Chronic exposure.
- ^m Acute exposure: Less serious neurological effects such as lower psychomotor performance.

METHYLENE CHLORIDE

CAS Number 75-09-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.20×10^{-1} to 1.77×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.83 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{49,a}	1.77×10^7 Ca	30 min.
OSHA MAXIMUM ²	7.06×10^6	5 min./2 hr.
OSHA CEILING ²	3.53×10^6	15 min.
LOAEL ^{49,b}	2.82×10^6	1 dy; 3-4 hr/dy.
LOAEL ^{49,c}	2.44×10^6	1-2 hr.
NOAEL ^{49,d}	1.77×10^6	5 dy/wk; 1,3,7.5 hr/dy.
OSHA PEL TWA ²	1.76×10^6	8 hr.
NOAEL ^{49,e}	1.68×10^6	8 hr.
NOAEL ^{49,f}	1.68×10^6	>1-5 yr; 8 hr/dy.
LOAEL ^{49,g}	1.06×10^6	24 hr.
LOAEL ^{49,g}	1.06×10^6	1 dy; 3-4 hr/dy.
ODOR THRESHOLD ¹¹	7.41×10^5	1 min.
NOAEL ^{49,e}	3.53×10^5	3 dy; 8 hr/dy.
ACGIH TLV-TWA ⁴⁹	1.77×10^5	8 hr.
SAAPS ³ ND	1.74×10^4	1 hr.
SAAPS ³ SC	8.75×10^3	24 hr.
SAAPS ³ PA	8.40×10^3	1 yr.
SAAPS ³ WI	8.40×10^3	24 hr.
SAAPS ³ NV	8.33×10^3	8 hr.
SAAPS ³ AZ	7.60×10^3	1 hr.
SAAPS ³ CT	7.00×10^3	8 hr.
CAPCOA ¹⁸	3.50×10^3	1 hr.
SAAPS ³ ND, SD	3.50×10^3	8 hr.

METHYLENE CHLORIDE

CAS Number 75-09-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$)	Conversion Factor:	
1.20×10^{-1} to 1.77×10^7	$1 \mu\text{g}/\text{m}^3 = 2.83 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
RfC ¹³	3.00×10^3	Lifetime
SAAPS ³ AZ	2.00×10^3	24 hr.
SAAPS ³ FL	1.80×10^3	8 hr.
SAAPS ³ OK	1.74×10^3	24 hr.
SAAPS ³ VA	1.70×10^3	24 hr.
MRL ^{49, h}	1.40×10^3	18 wk.
SAAPS ³ IN	8.70×10^2	8 hr.
SAAPS ³ FL	4.20×10^2	24 hr.
SAAPS ³ TX	2.60×10^2	30 min.
SAAPS ³ LA	2.13×10^2	1 yr.
MRL ^{49, i}	1.00×10^2	18 wk.
SAAPS ³ NY	2.70×10^1	1 yr.
SAAPS ³ TX	2.60×10^1	1 yr.
SAAPS ³ NC	2.40×10^1	1 yr.
SAAPS ³ IN	2.13×10^1	1 yr.
SAAPS ³ MA	9.45	24 hr.
SAAPS ³ AZ	5.60	1 yr.
SAAPS ³ KS	2.13	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4, j}	2.10	70 yr.
SAAPS ³ MA, IL	2.10	1 yr.
SAAPS ³ VT, WA	2.00	1 yr.
SAAPS ³ MI	1.00	1 yr.
SAAPS ³ FL, MA	2.40×10^{-1}	1 yr.

METHYLENE CHLORIDE

CAS Number 75-09-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.20×10^{-1} to 1.77×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.83 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ RI	2.00×10^{-1}	1 yr.
AALG ¹⁹	1.20×10^{-1}	1 yr.

Footnotes to Methylene Chloride:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Acute exposure: Serious neurological effects such as impaired psychomotor tasks.
- ^c Acute exposure: Less serious neurological effects such as increased visual evoked response.
- ^d Intermediate exposure: Respiratory, cardio, hepatic and renal system effects as well as neurological effects.
- ^e Acute exposure: Cardio effects.
- ^f Chronic exposure: Hemato system effects.
- ^g Acute exposure: Less serious neurological effects such as critical flicker frequency depression and vigilance decrease.
- ^h Acute MRL.
- ⁱ Intermediate MRL.
- ^j Concentration equivalent to a 10^{-6} risk exposure.

METHYL ETHYL KETONE

CAS Number 78-93-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.90×10^2 to 1.18×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 3.33 \times 10^4 \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ CT, SD	1.18×10^7	8 hr.
SAAPS ³ SC	1.48×10^7	24 hr.
SAAPS ³ VA	9.80×10^6	24 hr.
NIOSH IDLH ¹	9.00×10^6	30 min.
ACGIH STEL ⁵⁰	9.00×10^5	8 hr.
OSHA PEL STEL ⁵⁰	9.00×10^5	15 min.
NIOSH STEL ⁵⁰	8.85×10^5	15 min.
NIOSH (Occupational Std) ⁵⁰	6.00×10^5	---
ACGIH TLV-TWA ⁵⁰ , OSHA PEL TWA ⁵⁰	6.00×10^5	8 hr.
OSHA PEL TWA ¹	5.90×10^5	8 hr.
NIOSH REL TWA ¹	5.90×10^5	10 hr.
SAAPS ³ KY	2.95×10^5	8 hr.
ACGIH TLV	2.05×10^5	8 hr.
SAAPS ³ MA	1.60×10^5	24 hr.
SAAPS ³ NC	8.85×10^4	15 min.
SAAPS ³ NV	1.40×10^4	8 hr.
SAAPS ³ FL, ND	5.90×10^3	8 hr.
SAAPS ³ ND	8.85×10^3	24 hr.
SAAPS ³ NC	3.70×10^3	24 hr.
SAAPS ³ NY	1.97×10^3	1 yr.
RfC ¹³	1.00×10^3	Lifetime
AALG ¹⁹	3.90×10^2	24 hr.

METHYL ISOBUTYL KETONE

CAS Number 108-10-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 8.00×10^1 to 2.09×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.40 \times 10^{-4} \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	2.09×10^6	30 min.
OSHA PEL ¹	4.10×10^5	8 hr.
NIOSH STEL ¹	3.00×10^5	15 min.
OSHA PEL STEL ¹	3.00×10^5	15 min.
ACGIH TLV ¹	2.05×10^5	8 hr.
OSHA PEL TWA ¹	2.05×10^5	8 hr.
NIOSH REL TWA ¹	2.05×10^5	10 hr.
AALG ¹⁹	4.90×10^2	8 hr.
ODOR THRESHOLD ¹¹	4.17×10^2	1 min.
RfC ¹³	8.00×10^1	Lifetime

METHYL ISOCYANATE

CAS Number 624-83-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 4.7 to 4.66×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 4.22 \times 10^{-4} \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
OSHA IDLH ⁷⁴	4.66×10^4	30 min.
NIOSH IDLH ¹	7.11×10^3	30 min.
OSHA PEL, ACGIH TLV ⁷⁴	5.00×10^1	8 hr.
EHS LOC ²²	4.7	30 min.

METHYL TERT-BUTYL ETHER (MTBE)

CAS Number 1634-04-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^3 to 3.61×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.77 \times 10^{-4} \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
WEEL TWA ⁵¹	3.61×10^5	8 hr.
RfC ¹³	3.00×10^3	Lifetime

NAPHTHALENE

CAS Number 91-20-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.20×10^2 to 2.67×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.88 \times 10^{-4} \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁵²	2.67×10^6	30 min.
NIOSH IDLH ¹	1.33×10^6	30 min.
SAAPS ³ SC	1.25×10^6	24 hr.
SAAPS ³ CT	1.00×10^6	8 hr.
SAAPS ³ VA	8.00×10^5	24 hr.
SAAPS ³ NY	1.67×10^5	1 yr.
ACGIH STEL, OSHA STEL ⁵² , NIOSH STEL ¹	7.50×10^4	15 min.
ACGIH TLV-TWA ⁵² , OSHA PEL TWA ¹ , NIOSH TWA ¹	5.00×10^4	8 hr.
NIOSH TWA ⁵²	5.00×10^4	10 hr.
ODOR THRESHOLD ¹¹	3.62×10^4	1 min.
SAAPS ³ MD	1.40×10^4	24 hr.
SAAPS ³ NV	1.19×10^3	8 hr.
SAAPS ³ ND	7.50×10^2	1 hr.
SAAPS ³ ND, FL (Tampa)	5.00×10^2	8 hr.
AALG ¹⁹	1.20×10^2	8 hr.

N-NITROSODIMETHYLAMINE

CAS Number 67-75-9

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 7.14×10^{-5} to 1.88×10^1	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 3.25 \times 10^{-4} \text{ ppm @ } 25^\circ \text{ C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
EHS LOC ²²	1.88×10^1	30 min.
RfC ^{13, b}	$1.00 \times 10^{-4} \text{ Ca}$	Lifetime
CONCENTRATION FOR 10^{-6} RISK ^{4, a}	7.14×10^{-5}	70 yr.

Footnotes to N-Nitrosodimethylamine:

^a Concentration equivalent to a 10^{-6} risk exposure.

^b A compound is considered to be cancer-causing if denoted by Ca.

N-NITROSODIPHENYLAMINE

CAS Number 156-10-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00 to 1.00	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
RfC ^{13, a}	1.00	Lifetime
EPA ^{53, a}	Ca	---

Footnotes to N-Nitrosodiphenylamine:

- ^a A compound is considered to be cancer-causing if denoted by Ca.

OCTAHYDRO-1,3,5,7-TETRANITRO- 1,3,5,7-TETRACCINE (HMX)

CAS Number 2691-41-0

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.00×10^2 to 2.00×10^2	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
RfC ¹³	2.00×10^2	Lifetime

PENTACHLOROPHENOL

CAS Number 87-86-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.00 x 10 ⁻² to 3.00 x 10 ⁴	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ FL (Pinellas)	3.00 x 10 ⁴	1 yr.
SAAPS ³ AZ	1.30 x 10 ⁴	1 hr.
SAAPS ³ PA (Philadelphia)	1.20 x 10 ⁴	1 yr.
SAAPS ³ SD	1.00 x 10 ⁴	8 hr.
SAAPS ³ CT	1.00 x 10 ⁴	8 hr.
SAAPS ³ VA	8.30 x 10 ³	24 hr.
SAAPS ³ TX	5.00 x 10 ³	30 min.
SAAPS ³ FL (Pinellas)	5.00 x 10 ³	8 hr.
SAAPS ³ SC, OK	5.00 x 10 ³	24 hr.
SAAPS ³ AZ	4.00 x 10 ³	24 hr.
SAAPS ³ KS	2.56 x 10 ³	1 yr.
SAAPS ³ KS (Kansas City)	2.56 x 10 ³	1 yr.
NIOSH IDLH ⁵⁴	2.50 x 10 ³	30 min.
SAAPS ³ NY	1.67 x 10 ³	1 yr.
SAAPS ³ FL (Pinellas)	1.20 x 10 ³	24 hr.
SAAPS ³ VT	1.19 x 10 ³	1 yr.
SAAPS ³ TX	5.00 x 10 ²	1 yr.
SAAPS ³ NC, NC (Forco)	2.50 x 10 ¹	1 hr.
SAAPS ³ NV	1.20 x 10 ¹	8 hr.
SAAPS ³ MA	1.00 x 10 ¹	24 hr.
SAAPS ³ MA	1.00 x 10 ¹	1 yr.
SAAPS ³ ND, FL (Ft Lauderdale)	5.0	8 hr.
SAAPS ³ NC, NC (Forco)	3.0	24 hr.

PENTACHLOROPHENOL

CAS Number 87-86-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.00×10^{-2} to 3.00×10^4	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
RfC ^{13,a}	5.00×10^{-2} Ca	Lifetime

Footnotes to Pentachlorophenol:

- ^a A compound is considered to be cancer-causing if denoted by Ca.

POLYCHLORINATED BIPHENYLS (PCB)

CAS Number 1336-36-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.00×10^{-4} to 1.00×10^3	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.06 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH REL ^{55, a}	1.00×10^3	1 hr.
SAAPS ³ PA	1.80×10^2	1 yr.
MD Screening Level ¹⁰	1.00×10^1	1 hr.
SAAPS ³ OK	1.00×10^1	24 hr.
SAAPS ³ VA	8.00	24 hr.
SAAPS ³ FL	5.00	8 hr.
SAAPS ³ IN	2.50	8 hr.
SAAPS ³ SC	2.50	24 hr.
SAAPS ³ NY	1.67	1 yr.
SAAPS ³ AZ	3.00×10^{-1}	1 hr.
SAAPS ³ PA	1.80×10^{-1}	1 yr.
SAAPS ³ TX	1.00×10^{-1}	30 min.
SAAPS ³ NC	8.30×10^{-2}	1 yr.
SAAPS ³ AZ	7.90×10^{-2}	24 hr.
SAAPS ³ TX	1.00×10^{-2}	1 yr.
SAAPS ³ MA	3.00×10^{-3}	24 hr.
SAAPS ³ IN	1.00×10^{-3}	1 yr.
SAAPS ³ KS	8.33×10^{-4}	1 yr.
SAAPS ³ VT	8.10×10^{-4}	1 yr.
RfC ^{13, b}	8.00×10^{-4} Ca	Lifetime
SAAPS ³ AZ	6.10×10^{-4}	1 yr.
SAAPS ³ MA	5.00×10^{-4}	1 yr.

Footnotes to PCBs:

^a Chlorodiphenyl (42% chlorine).

^b A compound is considered to be cancer-causing if denoted by Ca.

STYRENE

CAS Number 100-42-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.75 to 2.15×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.31 \times 10^{-1} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁵⁷	2.15×10^7	30 min.
ACGIH STEL ⁵⁷ , OSHA STEL ⁵⁷	4.25×10^5	15 min.
NIOSH TWA ⁵⁷	2.15×10^5	10 hr.
ACGIH TLV TWA ⁵⁷ , OSHA PEL TWA ⁵⁷	2.15×10^5	8 hr.
SAAPS ³ NC (Forsyth Co)	4.25×10^4	15 min.
SAAPS ³ NC	4.25×10^4	15 min.
SAAPS ³ NV	5.12×10^3	8 hr.
SAAPS ³ CT	4.30×10^3	8 hr.
SAAPS ³ ND	4.25×10^3	1 hr.
SAAPS ³ VA	3.60×10^3	24 hr.
SAAPS ³ IN (Indianapolis)	2.17×10^3	8 hr.
SAAPS ³ ND	2.15×10^3	8 hr.
SAAPS ³ NC (Forsyth Co)	1.34×10^3	24 hr.
SAAPS ³ NC	1.30×10^3	24 hr.
RfC ¹³	1.00×10^3	Lifetime
SAAPS ³ NY	7.16×10^2	1 yr.
SAAPS ³ VT	5.12×10^2	1 yr.
ODOR THRESHOLD ¹¹	2.04×10^2	1 min.
SAAPS ³ MA	1.16×10^2	24 hr.
SAAPS ³ RI	3.00×10^1	1 yr.
AALG ¹⁹	2.63×10^1	1 yr.
SAAPS ³ KS (Kansas city)	3.45	1 yr.
SAAPS ³ IN	3.45	1 yr.

STYRENE

CAS Number 100-42-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.75 to 2.15×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.31 \times 10^{-1} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ MA, (Allowable Ambient Level)	1.75	---
SAAPS ³ KS	1.75	1 yr.

2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN

CAS Number 1746-01-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.33×10^{-8} to 2.33×10^{-8}	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
CONCENTRATION FOR 10^{-6} RISK ^{4, a}	2.33×10^{-8}	70 yr.

Footnotes to 2,3,7,8-Tetrachlorodibenzo-p-Dioxin:

^a Concentration equivalent to a 10^{-6} risk exposure.

1,1,2,2-TETRACHLOROETHANE

CAS Number 79-34-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.70×10^{-2} to 1.05×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.43 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	1.05×10^6 Ca	30 min.
LOAEL ^{59,b}	8.12×10^5	10 min.
LOAEL ^{59,c}	8.12×10^5	10-30 min.
LOAEL ^{59,d}	1.05×10^5	8 hr. (work place)
NOAEL ^{59,e}	9.10×10^4	10 min.
LOAEL ^{59,f}	6.30×10^4	3-6 mo.
OSHA PEL TWA ²	3.50×10^4	8 hr.
AALG ^{19,g}	7.00×10^3	1 yr.
ACGIH STEL ⁵⁹	7.00×10^3	15 min.
NIOSH TWA ⁵⁹	7.00×10^3	10 hr.
SAAPS ³ PA	1.68×10^2	1 yr.
SAAPS ³ WI	1.68×10^2	24 hr.
SAAPS ³ NV	1.67×10^2	8 hr.
SAAPS ³ VA	1.20×10^2	24 hr.
SAAPS ³ FL	7.00×10^1	8 hr.
SAAPS ³ TX	7.00×10^1	30 min.
SAAPS ³ ND	6.90×10^1	8 hr.
SAAPS ³ OK	6.80×10^1	24 hr.
SAAPS ³ SC	3.50×10^1	24 hr.
SAAPS ³ CT	3.44×10^1	8 hr.
SAAPS ³ AZ	3.30×10^1	1 hr.
SAAPS ³ NY	2.33×10^1	1 yr.
SAAPS ³ WA	2.33×10^1	24 hr.

1,1,2,2-TETRACHLOROETHANE

CAS Number 79-34-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.70×10^{-2} to 1.05×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.43 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ MA	1.87×10^1	24 hr.
SAAPS ³ FL	1.68×10^1	24 hr.
SAAPS ³ AZ	8.80	24 hr.
SAAPS ³ TX	7.00	1 yr.
SAAPS ³ LA	1.70	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,h}	1.35×10^{-1}	70 yr.
RfC ^{13,a}	3.00×10^{-2} Ca	Lifetime
SAAPS ³ AZ	2.40×10^{-2}	1 yr.
SAAPS ³ MA, MI	2.00×10^{-2}	1 yr.
SAAPS ³ KS	1.72×10^{-2}	1 yr.
SAAPS ³ FL, VT	1.70×10^{-2}	1 yr.

Footnotes to 1,1,2,2-Tetrachloroethane:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
- ^b Acute exposure: Less serious systemic effects such as vomiting and mucosal irritation.
- ^c Acute exposure: Less serious neurological effects such as dizziness.
- ^d Intermediate exposure: Less serious systemic effects such as jaundice.
- ^e Acute exposure: Less serious systemic effects such as vomiting and mucosal irritation and less serious neurological effects such as dizziness.
- ^f Intermediate exposure: Less serious neurological effects such as tremors.
- ^g Ceiling limit for occupational exposure.
- ^h Concentration equivalent to a 10^{-6} risk exposure.

TETRACHLOROETHYLENE (PCE)

CAS Number 127-18-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00×10^{-2} to 1.36×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.47 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
LOAEL ^{60,a}	1.36×10^7	> 3 hr.
LOAEL ^{60,b}	6.78×10^6	> 3 hr.
NOAEL ^{60,c}	3.39×10^6	>3 hr.
OSHA MAXIMUM ²	2.03×10^6	5 min. in 3 hr.
LOAEL ^{60,d,e}	1.90×10^6	1 dy; 0.5-2 hr.
LOAEL ^{60,f}	1.46×10^6	1 dy; 0.05-2 hr.
ACGIH STEL ⁶⁰ , OSHA CEILING ²	1.36×10^6	15 min.
LOAEL ^{60,g} , NOAEL ^{60,c}	7.19×10^5	1dy; 0.05-2 hr.
OSHA PEL TWA ²	6.78×10^5	8 hr.
LOAEL ^{60,h}	6.78×10^5	5 dy; 7.5 hr/dy.
ACGIH TLV-TWA ¹	3.39×10^5	8 hr.
NOAEL ^{60,i}	1.42×10^5	6 yr. (occup.)
NOAEL ^{60,c}	1.36×10^5	5dy; 7.5 hr/dy.
LOAEL ^{60,j}	6.80×10^4	14 yr. (occup.)
ODOR THRESHOLD ¹¹	3.20×10^4	1 min.
SAAPS ³ ND	1.37×10^4	1 hr.
SAAPS ³ AZ	1.10×10^4	1 hr.
SAAPS ³ PA	8.04×10^3	1 yr.
SAAPS ³ NV	7.98×10^3	8 hr.

TETRACHLOROETHYLENE (PCE)

CAS Number 127-18-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00×10^{-2} to 1.36×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.47 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
CAPCOA ¹⁸	6.80×10^3	1 hr.
SAAPS ³ VA	5.70×10^3	24 hr.
SAAPS ³ OK	5.45×10^3	24 hr.
MRL ⁶⁰	4.00×10^3	18 wk.
SAAPS ³ FL	3.40×10^3	8 hr.
SAAPS ³ ND	3.39×10^3	8 hr.
SAAPS ³ SC	3.35×10^3	24 hr.
SAAPS ³ SD	3.35×10^3	8 hr.
NIOSH REL ⁶⁰	3.00×10^3	10 hr.
SAAPS ³ NY	1.12×10^3	1 yr.
SAAPS ³ MA	9.22×10^2	24 hr.
SAAPS ³ IN	8.50×10^2	8 hr.
SAAPS ³ FL	8.04×10^2	24 hr.
SAAPS ³ AZ	7.70×10^2	24 hr.
SAAPS ³ TX	3.40×10^2	30 min.
SAAPS ³ NC	1.90×10^2	1 yr.
SAAPS ³ LA	1.05×10^2	1 yr.
SAAPS ³ TX	3.40×10^1	1 yr.
SAAPS ³ VT	4.10	1 yr.
SAAPS ³ AZ	2.10	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,k}	1.72	70 yr.
SAAPS ³ IN	1.70	1 yr.
SAAPS ³ WA	1.10	1 yr.

TETRACHLOROETHYLENE (PCE)		
CAS Number 127-18-4		
Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00×10^{-2} to 1.36×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.47 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ KS	1.05	1 yr.
AALG ¹⁹	8.60×10^{-1}	1 yr.
SAAPS ³ MI	1.70×10^{-1}	1 yr.
SAAPS ³ RI	5.00×10^{-2}	1 yr.
SAAPS ³ MA	2.00×10^{-2}	1 yr.
SAAPS ³ MA	1.00×10^{-2}	1 yr.

Footnotes to Tetrachloroethylene (PCE):

- ^a Acute exposure: serious neurological effects such as anesthesia.
- ^b Acute exposure: less serious neurological effects such as mood/personality changes.
- ^c Acute exposure
- ^d Acute exposure: less serious neurological effects such as incoordination.
- ^e Acute exposure: less serious neurological effects such as dizziness and sleepiness.
- ^f Acute exposure: less serious systemic respiratory effects such as irritation
- ^g Acute exposure: less serious systemic respiratory effects such as slight ocular irritation.
- ^h Acute exposure: less serious neurological effects such as cortical depression.
- ⁱ Intermediate exposure
- ^j Intermediate exposure: less serious systemic renal effects such as increased proteinuria, B-glucuronidase, and lysozyuria.
- ^k Concentration equivalent to a 10^{-6} risk exposure.

TETRYL

CAS Number 479-45-8

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.00×10^2 to 7.50×10^5	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	7.50×10^5	30 min.
SAAPS ³ NV	3.60×10^4	8 hr.
SAAPS ³ CT	3.00×10^4	8 hr.
SAAPS ³ VA	2.50×10^4	24 hr.
SAAPS ³ ND, FL (Pinellas)	1.50×10^4	8 hr.
SAAPS ³ FL (Pinellas)	3.60×10^3	24 hr.
ACGIH TLV-TWA ⁶¹	1.50×10^3	8 hr.
SAAPS ³ TX	1.00×10^3	30 min.
SAAPS ³ TX	1.00×10^2	1 yr.

TOLUENE

CAS Number 108-88-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$)	Conversion Factor:	
1.02×10^1 to 7.66×10^6	$1 \mu\text{g}/\text{m}^3 = 2.61 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	7.66×10^6	30 min.
NOAEL ^{62,a}	2.30×10^6	>3 yr.
OSHA MAXIMUM ²	1.92×10^6	10 min.
NOAEL ^{62,a}	1.28×10^6	7-10 yr; 8 hr/dy.
NOAEL ^{62,b}	1.24×10^6	2-14 mo; 8 hr/dy.
OSHA CEILING ²	1.15×10^6	15 min.
OSHA TLV-STEL ²	7.66×10^5	15 min.
EEGL ⁹	7.66×10^5	24 hr.
LOAEL ^{62,c}	7.66×10^5	2-8 hr/dy; 18 mo.
NIOSH STEL ⁶²	7.66×10^5	15 min.
NOAEL ^{62,a}	6.13×10^5	>1 yr.
ACGIH STEL ¹	5.75×10^5	15 min.
LOAEL ^{62,d}	3.83×10^5	6 hr.
LOAEL ^{62,e}	3.83×10^5	6.5 hr.
NOAEL ^{62,a}	3.83×10^5	>3 yr.
ACGIH TLV-TWA ¹	3.77×10^5	8 hr.
NIOSH REL ¹	3.75×10^5	10 hr.
OSHA PEL TWA ¹	3.75×10^5	8 hr.
LOAEL ^{62,a}	3.37×10^5	5.7 yr.
LOAEL ^{62,a}	1.62×10^5	4-43 yr.
LOAEL ^{62,f,g}	1.57×10^5	82 mo.
NOAEL ^{62,h}	1.53×10^5	6 hr.
SAAPS ³ NC	5.60×10^4	15 min.
SAAPS ³ OK	3.77×10^4	24 hr.

TOLUENE

CAS Number 108-88-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.02×10^1 to 7.66×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.61 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ WI	9.00×10^3	24 hr.
SAAPS ³ NV	8.93×10^3	8 hr.
SAAPS ³ VT	8.93×10^3	24 hr.
SAAPS ³ LA	8.90×10^3	8 hr.
SAAPS ³ CT, FL, SD	7.50×10^3	8 hr.
SAAPS ³ NY	7.50×10^3	1 yr.
SAAPS ³ VA	6.30×10^3	24 hr.
SAAPS ³ ND	5.65×10^3	1 hr.
SAAPS ³ AZ	4.70×10^3	1 hr.
SAAPS ³ NC	4.70×10^3	24 hr.
SAAPS ³ ND	3.77×10^3	8 hr.
SAAPS ³ TX	3.75×10^3	30 min.
SAAPS ³ AZ	3.00×10^3	24 hr.
SAAPS ³ RI	2.00×10^3	24 hr.
SAAPS ³ IN	1.88×10^3	8 hr.
AALG ¹⁹	1.40×10^3	8 hr.
SAAPS ³ WA	1.25×10^3	24 hr.
MRL ⁶²	1.10×10^3	18 wk.
SAAPS ³ FL	9.00×10^2	24 hr.
ODOR THRESHOLD ¹¹	6.50×10^2	1 min.
RfC ¹³	4.00×10^2	Lifetime
SAAPS ³ RI	4.00×10^2	1 yr.
SAAPS ³ TX	3.75×10^2	1 yr.
SAAPS ³ FL	3.00×10^2	1 yr.

TOLUENE

CAS Number 108-88-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.02×10^1 to 7.66×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.61 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ MA	2.60×10^2	24 hr.
SAAPS ³ MA	1.80×10^2	1 yr.
SAAPS ³ MA	1.02×10^1	24 hr.
SAAPS ³ MA	1.02×10^1	1 yr.

Footnotes to Toluene:

- ^a Chronic exposure.
- ^b Intermediate exposure.
- ^c Chronic exposure: Less serious systemic effects such as elevated alanine aminotransferase to aspartate aminotransferase ratios in all patients and fatty infiltration.
- ^d Acute exposure: Less serious neurological effects such as mild intoxication.
- ^e Acute exposure: Less serious neurological effects such as decreased manual dexterity and visual perception.
- ^f Chronic exposure: Less serious systemic effects such as significant decrease in lymphocytes.
- ^g Chronic exposure: Less serious neurological effects such as headaches and dizziness.
- ^h Acute exposure.

TOXAPHENE

CAS Number 8001-35-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^{-3} to 2.00×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 5.90 \times 10^{-5}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{63,a}	2.00×10^5 Ca	30 min.
EHS LOC ²²	2.00×10^4	30 min.
ACGIH STEL ⁶³	1.00×10^3	15 min.
ACGIH TLV-TWA ⁶³ , OSHA PEL TWA ²	5.00×10^2	8 hr.
NIOSH REL TWA ⁶³	5.00×10^2	10 hr.
SAAPS ³ NV	1.20×10^1	8 hr.
SAAPS ³ WI	1.20×10^1	24 hr.
SAAPS ³ ND	1.00×10^1	1 hr.
SAAPS ³ AZ	8.30	1 hr.
SAAPS ³ VA	8.30	24 hr.
SAAPS ³ FL, ND	5.00	8 hr.
SAAPS ³ OK	5.00	24 hr.
SAAPS ³ TX	5.00	30 min.
SAAPS ³ CT	2.50	8 hr.
SAAPS ³ SC	2.50	24 hr.
SAAPS ³ WA	1.70	24 hr.
SAAPS ³ NY	1.67	1 yr.
SAAPS ³ AZ	1.50	24 hr.
SAAPS ³ FL	1.20	24 hr.
SAAPS ³ PA	1.20	1 yr.
SAAPS ³ TX	5.00×10^{-1}	1 yr.
SAAPS ³ AZ	4.00×10^{-3}	1 yr.
SAAPS ³ KS	3.13×10^{-3}	1 yr.

TOXAPHENE

CAS Number 8001-35-2

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.00×10^{-3} to 2.00×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 5.90 \times 10^{-5} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
CONCENTRATION FOR 10^{-6} RISK ^{4, b}	3.12×10^{-3}	70 yr.
SAAPS ³ FL	3.10×10^{-3}	1 yr.
SAAPS ³ MI, WA	3.00×10^{-3}	1 yr.

Footnotes to Toxaphene:

^a A compound is considered to be cancer-causing if denoted by Ca.

^b Concentration equivalent to a 10^{-6} risk exposure.

1,2,4-TRICHLOROBENZENE

CAS Number 120-82-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.10×10^2 to 4.00×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.90 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
OSHA PEL CEILING ⁵⁶	4.00×10^4	8 hr.
ACGIH TLV ¹	3.70×10^4	8 hr.
NIOSH REL CEILING ⁵⁶	4.00×10^3	10 hr.
NIOSH TWA ¹	4.00×10^3	15 min.
RfC ¹³	2.10×10^2	Lifetime

1,1,2-TRICHLORO-1,2,2- TRIFLUOROETHANE

CAS Number 76-13-1

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.0×10^4 to 9.50×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.28 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH REL STEL ¹	9.50×10^6	15 min.
NIOSH OSHA TWA ¹	17.60×10^6	10 hr.
ODOR THRESHOLD ¹¹	3.51×10^5	1 min.
RfC ¹³	3.00×10^4	Lifetime

1,1,2-TRICHLOROETHANE

CAS Number 79-00-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.00×10^{-2} to 2.78×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.8 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ^{1,a}	2.78×10^6 Ca	30 min.
SAAPS ³ PA	1.33×10^6	1 yr.
ACGIH TWA ⁶⁴	5.55×10^4	8 hr.
OSHA PEL TWA ²	4.50×10^4	8 hr.
OSHA PEL TWA ⁶⁴ , ACGIH TWA ⁶⁴	5.50×10^3	8 hr.
SAAPS ³ KY	4.50×10^3	8 hr.
SAAPS ³ WI	1.08×10^3	24 hr.
SAAPS ³ NV	1.07×10^3	8 hr.
SAAPS ³ VA	9.20×10^2	24 hr.
SAAPS ³ AZ	7.50×10^2	1 hr.
SAAPS ³ ND	5.50×10^2	8 hr.
SAAPS ³ TX	5.50×10^2	30 min.
SAAPS ³ OK	5.45×10^2	24 hr.
SAAPS ³ FL	4.50×10^2	8 hr.
SAAPS ³ CT, IN	2.25×10^2	8 hr.
SAAPS ³ NY	1.50×10^2	1 yr.
SAAPS ³ WA	1.50×10^2	24 hr.
SAAPS ³ FL	1.08×10^2	24 hr.
CONCENTRATION FOR 10^{-6} RISK ^{4,b}	6.24×10^1	70 yr.
SAAPS ³ TX	5.50×10^1	1 yr.
SAAPS ³ PA	3.30×10^1	1 yr.
SAAPS ³ AZ	3.00×10^1	24 hr.
SAAPS ³ MA	1.48×10^1	24 hr.

1,1,2-TRICHLOROETHANE

CAS Number 79-00-5

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.00×10^{-2} to 2.78×10^6	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.8 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ RI	7.00	1 yr.
SAAPS ³ LA	6.25	1 yr.
RfC ^{13,a}	1.00×10^{-1} Ca	Lifetime
SAAPS ³ AZ	8.20×10^{-2}	1 yr.
SAAPS ³ IN	6.30×10^{-2}	1 yr.
SAAPS ³ KS	6.25×10^{-2}	1 yr.
SAAPS ³ VT	6.10×10^{-2}	1 yr.
SAAPS ³ MA	6.00×10^{-2}	1 yr.

Footnotes to 1,1,2-Trichloroethane:

- ^a A compound is considered to be cancer-causing if denoted by Ca.
^b Concentration equivalent to a 10^{-6} risk exposure.

TRICHLOROETHYLENE

CAS Number 79-01-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.00×10^{-2} to 1.60×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.83 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
LOAEL ^{65,a}	1.60×10^7	1 hr.
LOAEL ^{65,b}	5.50×10^6	2 hr.
NIOSH IDLH ^{1,c}	5.46×10^6 Ca	30 min.
OSHA MAXIMUM ²	1.64×10^6	5 min. in any 2 hr.
LOAEL ^{65,d}	1.10×10^6	1 min.
ACGIH STEL ¹ , OSHA CEILING ²	1.09×10^6	15 min.
EEGL ⁹	1.09×10^6	24 hr.
LOAEL ^{65,e}	6.00×10^5	8 hr.
OSHA PEL TWA ²	5.37×10^5	8 hr.
ACGIH TLV-TWA ¹	2.69×10^5	8 hr.
SPEGL ⁹	2.20×10^5	24 hr.
NIOSH REL ¹	1.37×10^5	10 hr.
SAAPS ³ OK	1.30×10^5	24 hr.
ODOR THRESHOLD ¹¹	1.15×10^5	1 min.
SAAPS ³ ND	1.07×10^4	1 hr.
SAAPS ³ PA	6.84×10^3	1 yr.
SAAPS ³ SC	6.80×10^3	24 hr.
SAAPS ³ WI	6.48×10^3	24 hr.
SAAPS ³ NV	6.43×10^3	8 hr.
SAAPS ³ VA	4.50×10^3	24 hr.
SAAPS ³ IN, SD, FL	2.70×10^3	8 hr.
SAAPS ³ ND	2.69×10^3	8 hr.
SAAPS ³ TX	1.35×10^3	30 min.

TRICHLOROETHYLENE

CAS Number 79-01-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.00×10^{-2} to 1.60×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.83 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ AZ	1.10×10^3	1 hr.
SAAPS ³ NY	9.00×10^2	1 yr.
SAAPS ³ FL	6.50×10^2	24 hr.
SAAPS ³ AZ	2.80×10^2	24 hr.
SAAPS ³ TX	1.35×10^2	1 yr.
SAAPS ³ LA, NC	5.90×10^1	1 yr.
SAAPS ³ MA	3.70×10^1	24 hr.
AALG ¹⁹	3.90	1 yr.
RfC ¹³	1.00	Lifetime
SAAPS ³ WA	8.00×10^{-1}	1 yr.
SAAPS ³ AZ	7.60×10^{-1}	1 yr.
SAAPS ³ MA	6.10×10^{-1}	1 yr.
SAAPS ³ MI	6.00×10^{-1}	1 yr.
SAAPS ³ KS, IN, IL	5.90×10^{-1}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4,f}	5.83×10^{-1}	70 yr.
SAAPS ³ VT	4.20×10^{-1}	1 yr.
SAAPS ³ RI	3.00×10^{-1}	1 yr.
SAAPS ³ MA	2.00×10^{-1}	1 yr.
SAAPS ³ AZ	5.00×10^{-2}	70 yr.

Footnotes to Trichloroethylene:

- ^a Causes unconsciousness.
- ^b Decreases visual and motor skills.
- ^c A compound is considered to be cancer-causing if denoted by Ca.
- ^d Causes eye irritation.
- ^e Intermediate-duration inhalation Minimal Risk Level (MRL) of 11 mg/m³ derived from: 2730 mg/m³ duration-adjusted (16 hr/d, 5/7 d) to 1300 mg/m³, and divided by an uncertainty factor of 100 (10 for extrapolation to humans, and 10 for human variability) = 13 mg/m³.
- ^f Concentration equivalent to a 10⁻⁶ risk exposure.

1,2,4-TRIMETHYLBENZENE

CAS Number 95-63-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 8.80×10^{-1} to 2.45×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 1.90 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ACGIH TLV-TWA ¹	2.45×10^5	8 hr.
NIOSH TWA ¹	1.25×10^5	10 hr.
AALG ¹⁹	2.90×10^3	8 hr.
RfC ¹³	2.00	Lifetime
ODOR THRESHOLD ¹¹	8.80×10^{-1}	1 min.

1,3,5-TRIMETHYLBENZENE

CAS Number 108-67-8

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.50 to 1.25×10^5	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.00 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH TWA ¹	1.25×10^5	10 hr.
RfC ¹³	1.50	Lifetime

2,4,6-TRINITROTOLUENE

CAS Number 118-96-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 2.00×10^{-1} to 5.00×10^5	Conversion Factor: NOT APPLICABLE	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	5.00×10^5	30 min.
SAAPS ³ OK	5.00×10^4	24 hr.
SAAPS ³ CT	1.00×10^4	8 hr.
SAAPS ³ VA	8.30×10^3	24 hr.
SAAPS ³ FL (Pinellas)	5.00×10^3	8 hr.
SAAPS ³ TX	5.00×10^3	30 min.
SAAPS ³ FL (Pinellas)	1.20×10^3	24 hr.
SAAPS ³ TX	5.00×10^2	1 yr.
NIOSH REL TWA ⁶⁷	5.00×10^2	10 hr.
ACGIH TLV ¹	5.00×10^2	8 hr.
SAAPS ³ NV	1.20×10^1	8 hr.
SAAPS ³ ND	5.00	8 hr.
RfC ^{13,a}	2.00×10^{-1} Ca	Lifetime

Footnotes to 2,4,6-Trinitrotoluene:

^a A compound is considered to be cancer-causing if denoted by Ca.

VINYL CHLORIDE

CAS Number 75-01-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.20×10^{-2} to 1.30×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 3.83 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ACGIH TLV-TWA ¹	1.30×10^4	8 hr.
OSHA TLV-STEL ²	1.30×10^4	15 min.
OSHA PEL TWA ²	2.60×10^3	8 hr.
OSHA ACTION LEVEL ²	1.30×10^3	8 hr.
SAAPS ³ NV	2.38×10^2	8 hr.
SAAPS ³ AZ	1.70×10^2	1 hr.
MD SCREENING LEVEL ¹⁰	1.30×10^2	8 hr.
SAAPS ³ TX	1.30×10^2	30 min.
SAAPS ³ VA	1.30×10^2	24 hr.
SAAPS ³ OK	1.27×10^2	24 hr.
SAAPS ³ FL	1.00×10^2	8 hr.
SAAPS ³ CT, SD	5.00×10^1	8 hr.
SAAPS ³ SC	5.00×10^1	24 hr.
SAAPS ³ AZ	4.40×10^1	24 hr.
SAAPS ³ FL	2.40×10^1	24 hr.
SAAPS ³ TX	1.30×10^1	1 hr.
SAAPS ³ PA	6.70	1 yr.
SAAPS ³ MA	3.47	24 hr.
SAAPS ³ LA	1.90	1 yr.
SAAPS ³ MA, MI, NC, NY	3.80×10^{-1}	1 yr.
SAAPS ³ VT	2.00×10^{-1}	1 yr.
SAAPS ³ KS	2.38×10^{-2}	1 yr.
SAAPS ³ WA	2.30×10^{-2}	1 yr.
RfC ¹³	2.00×10^{-2}	Lifetime

VINYL CHLORIDE

CAS Number 75-01-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.20×10^{-2} to 1.30×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 3.83 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ FL	1.40×10^{-2}	1 yr.
AIHA ERPG ⁴¹	1.30×10^{-2}	1 yr.
CONCENTRATION FOR 10^{-6} RISK ^{4, a}	1.20×10^{-2}	70 yr.
SAAPS ³ AZ	1.20×10^{-2}	1 yr.

Footnotes to Vinyl Chloride:

^a Concentration equivalent to a 10^{-6} risk exposure.

VINYLLIDENE CHLORIDE

CAS Number 75-35-4

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) LFC to 8.06×10^4	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.48 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
ACGIH STEL ⁶⁸	8.06×10^4	15 min.
NRC EEGL ⁹	4.03×10^4	24 hr.
ACGIH TLV TWA ⁶⁸	2.02×10^4	8 hr.
OSHA PEL TWA	4.00×10^3	8 hr.
SAAPS ³ NV	4.76×10^2	8 hr.
SAAPS ³ CT	4.00×10^2	8 hr.
SAAPS ³ VA	3.30×10^2	24 hr.
SAAPS ³ IN	2.00×10^2	8 hr.
SAAPS ³ ND	2.00×10^2	8 hr.
SAAPS ³ OK	1.98×10^2	24 hr.
SAAPS ³ NC	1.20×10^2	24 hr.
SAAPS ³ AZ	1.10×10^2	24 hr.
SAAPS ³ NY	6.67×10^1	1 yr.
SAAPS ³ PA	2.40×10^1	1 yr.
SAAPS ³ TX	4.00	1 yr.
SAAPS ³ MA	1.08	24 hr.
SAAPS ³ KS	2.00×10^{-2}	1 yr.
AALG ¹⁹	1.00×10^{-2}	1 yr.
NIOSH IDLH ^{1,a}	Lowest Feasible Concen.Ca	30 min.

Footnotes to Vinylidene Chloride:

^a A compound is considered to be cancer-causing if denoted by Ca.

M-XYLENE

CAS Number 108-38-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 3.52×10^2 to 4.35×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.27 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁶⁹	4.35×10^7	30 min.
NIOSH/OSHA IDLH ¹	4.35×10^6	30 min.
NIOSH CEILING ⁶⁹	8.82×10^5	10 min.
ACGIH TLV TWA ⁶⁹ , OSHA PEL TWA ⁶⁹	4.35×10^5	8 hr.
NIOSH REL TWA ⁶⁹ , NIOSH/OSHA TWA ¹	4.35×10^5	10 hr.
ACGIH STEL ⁶⁹ , OSHA STEL ⁶⁹	6.55×10^3	15 min.
SAAPS ³ SC	4.35×10^3	24 hr.
AALG ¹⁹	2.90×10^3	24 hr.
SAAPS ³ NY	1.45×10^3	1 yr.
RfC ¹³	7.00×10^2	Lifetime
SAAPS ³ VA	7.30×10^1	24 hr.
ODOR THRESHOLD ¹¹	3.52×10^2	1 min.

O-XYLENE

CAS Number 95-47-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 7.30×10^1 to 4.41×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.27 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH/OSHA IDLH ⁷⁰	4.35×10^7	30 min.
NIOSH OSHA IDLH ¹	4.35×10^6	30 min.
NIOSH CEILING ⁷⁰	8.82×10^5	10 min.
NIOSH OSHA TWA ¹ , ACGIH STEL ⁷⁰ , OSHA STEL ⁷⁰	6.55×10^5	15 min.
ACGIH TLV TWA ⁷⁰ OSHA PEL TWA ⁷⁰	4.35×10^5	8 hr.
NIOSH REL TWA ⁷⁰ , NIOSH OSHA TWA ¹	4.35×10^5	10 hr.
SAAPS ³ SC	4.35×10^3	24 hr.
SAAPS ³ NY	1.45×10^3	1 yr.
RfC ¹³	7.00×10^2	Lifetime
AALG ¹⁹	2.90×10^2	24 hr.
SAAPS ³ VA	7.30×10^1	24 hr.

P-XYLENE

CAS Number 106-42-3

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 5.70×10^1 to 4.35×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.27 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁷¹	4.35×10^7	30 min.
NIOSH CEILING ⁷¹	8.70×10^5	10 min.
ACGIH STEL ⁷¹ , OSHA STEL ⁷¹	6.55×10^5	15 min.
NIOSH REL TWA ⁷¹	4.35×10^5	10 hr.
ACGIH TLV TWA ⁷¹ , OSHA PEL TWA ⁷¹	4.35×10^5	8 hr.
NIOSH/OSHA TWA ¹	6.55×10^3	10 hr.
SAAPS ³ SC	4.35×10^3	24 hr.
SAAPS ³ NY	1.45×10^3	1 yr.
RfC ¹³	3.10×10^2	Lifetime
SAAPS ³ VA	7.30×10^1	24 hr.
AALG ¹⁹	5.70×10^1	24 hr.

TOTAL XYLENES

CAS Number 1330-20-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.18×10^1 to 4.41×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.30 \times 10^{-4}$ PPM @ 25°C	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ⁷²	4.41×10^7	30 min.
NIOSH CEILING ⁷²	8.70×10^5	10 min.
ACGIH STEL ⁷²	6.55×10^5	15 min.
NIOSH REL ¹	4.35×10^5	10 hr.
OSHA PEL TWA ²	4.35×10^5	8 hr.
ACGIH TLV-TWA ¹	4.34×10^5	8 hr.
EEGL ⁹	2.00×10^5	24 hr.
SAAPS ³ MA	6.50×10^4	15 min.
SAAPS ³ NC	6.50×10^4	min.
SAAPS ³ OK	4.34×10^4	24 hr.
SAAPS ³ NV	1.04×10^4	8 hr.
SAAPS ³ WI	1.04×10^4	24 hr.
SAAPS ³ LA	1.03×10^4	8 hr.
SAAPS ³ SD	8.70×10^3	8 hr.
SAAPS ³ CT	8.68×10^3	8 hr.
RfC ¹³	7.00×10^3	Lifetime
SAAPS ³ ND	6.51×10^3	1 hr.
SAAPS ³ AZ	5.50×10^3	1 hr.
AALG ¹⁹	5.20×10^3	24 hr.
SAAPS ³ FL	4.40×10^3	8 hr.
SAAPS ³ MI	4.40×10^3	1 hr.
SAAPS ³ ND	4.34×10^3	8 hr.
SAAPS ³ TX	3.70×10^3	30 min.
SAAPS ³ AZ	3.50×10^3	24 hr.

TOTAL XYLENES

CAS Number 1330-20-7

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 1.18×10^1 to 4.41×10^7	Conversion Factor: $1 \mu\text{g}/\text{m}^3 = 2.30 \times 10^{-4} \text{ PPM @ } 25^\circ\text{C}$	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ NC	2.70×10^3	24 hr.
SAAPS ³ IN	2.17×10^3	8 hr.
SAAPS ³ NY	1.45×10^3	1 yr.
SAAPS ³ WA	1.45×10^3	24 hr.
SAAPS ³ FL	1.04×10^3	24 hr.
SAAPS ³ VT	1.04×10^3	1 yr.
SAAPS ³ RI	7.00×10^2	24 hr.
SAAPS ³ TX	4.35×10^2	1 yr.
ODOR THRESHOLD ¹¹	3.50×10^2	1 min.
SAAPS ³ MA	3.00×10^2	24 hr.
SAAPS ³ MA	3.00×10^2	1 yr.
SAAPS ³ MA	1.18×10^1	24 hr.
SAAPS ³ MA	1.18×10^1	1 yr.

ZINC

CAS Number 7440-66-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.55 to 4.80×10^6	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
NIOSH IDLH ¹	4.80×10^6 (chloride)	30 min.
NIOSH REL TWA CEILING ⁷³	15.00×10^3 (oxide)	15 min.
NIOSH TLV TWA ⁷³	1.00×10^4 (oxide dust)	15 min.
PEL STEL ⁷³	1.00×10^4	15 min.
NIOSH REL STEL ¹	1.00×10^4 (oxide fume)	15 min.
ACGIH TLV STEL ¹	10.00×10^3 (oxide fume)	15 min.
ACGIH TLV TWA ⁷³	10.00×10^3 (oxide dust)	10 hr.
OSHA STEL ⁷³	5.00×10^3 (chloride)	15 min.
ACGIH TLV TWA ⁷³ , NIOSH REL TWA ⁷³	5.00×10^3 (oxide fume)	10 hr.
OSHA PEL TWA ⁷³	5.00×10^3 (oxide)	8 hr.
ACGIH TLV STEL ⁷³ , NIOSH REL STEL ⁷³	2.00×10^3 (chloride)	15 min.
ACGIH TLV TWA ⁷³ , NIOSH REL TWA ⁷³	1.00×10^3 (chloride)	10 hr.
NIOSH OSHA TWA ¹	1.00×10^3 (chloride)	10 hr.
RfC ¹³	1.00×10^3	Lifetime
OSHA PEL TWA ⁷³	1.00×10^3 (chloride)	8 hr.
SAAPS ³ MT	3.93×10^1	24 hr.

ZINC

CAS Number 7440-66-6

Exposure Limit Range ($\mu\text{g}/\text{m}^3$) 6.55 to 4.80×10^6	Conversion Factor: Not Applicable	
APPLICABLE DEFINITION	INHALATION EXPOSURE LIMITS	
	$\mu\text{g}/\text{m}^3$	Time
SAAPS ³ MT	6.55	1 yr.

APPENDIX A:
REFERENCES

REFERENCES

Number	Title
1	<u>NIOSH Pocket Guide to Chemical Hazards</u>
2	29 CFR 1910 Part Z
3	NATICH Data Base
4	Calculated from the Risk-Based Concentration Table, Fourth Quarter 1993, developed by Dr. Roy Smith, EPA Senior Toxicologist, from the IRIS database.
5	<u>Toxicological Profile for Aroclor-1260</u> . Department of Health & Human Services.
6	<u>Toxicological Profile for Arsenic</u> . Department of Health & Human Services.
7	<u>Toxicological Profile for Barium</u> . Department of Health & Human Services.
8	<u>Toxicological Profile for Benzene</u> . Department of Health & Human Services.
9	Committee on Toxicology, National Research Council. <u>Criteria and Methods for Preparing Emergency Exposure Guidance Level (EEGL), Short-Term Public Emergency Guidance Level (SPEGL), and Continuous Exposure Guidance Level (CEGL) Documents</u> . National Academy Press, Washington, D.C., 1986.
10	Maryland Department of the Environment. <u>Overview of Maryland's Proposed Air Toxics Regulations, June 1988</u> .
11	Fazzalari, F.A. <u>Compilation of Odor and Taste Threshold Values Data</u> . 1978. American Society for Testing and Materials.
12	<u>Toxicological Profile for Benzo(a) Pyrene</u> . Department of Health & Human Services.
13	Calculated from the Risk-Based Concentration Table, Fourth Quarter 1993, developed by Dr. Roy Smith, EPA Senior Toxicologist, from the HEAST database.
14	<u>Toxicological Profile for Beryllium</u> . Department of Health & Human Services.
15	<u>Toxicological Profile for Cadmium</u> . Department of Health & Human Services.
16	<u>Toxicological Profile for Carbon Disulfide</u> . Department of Health & Human Services.
17	<u>Toxicological Profile for Carbon Tetrachloride</u> . Department of Health & Human Services.

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Number	Title
18	CAPCOA. January 1991. <u>Air Toxics "Hot Spots" Program: Risk Assessment Guidelines</u> . Sacramento, CA: AB 2588 Risk Assessment Committee of the California Air Pollution Control Officers Association.
19	Calabrese, E.J., and Kenyon, E.M. 1991. <u>Air Toxics and Risk Assessment</u> . Chelsea, MI. Lewis Publishers.
20	<u>Toxicological Profile for Chlordane</u> . Department of Health & Human Services.
21	<u>Toxicological Profile for Chlorobenzene</u> . Department of Health & Human Services.
22	US EPA Technical Guidance for Hazards Analysis, Emergency Planning for Extremely Hazardous Substances, 1987.
23	<u>Toxicological Profile for Chloroform</u> . Department of Health & Human Services.
24	<u>Toxicological Profile for Chromium (VI)</u> . Department of Health & Human Services.
25	<u>Toxicological Profile for p,p'-DDT, p,p'-DDE, p,p'-DDD</u> . Department of Health & Human Services.
26	<u>Toxicological Profile for 1,2-Dibromoethane</u> . Department of Health & Human Services.
27	<u>Toxicological Profile for 1,4-Dichlorobenzene</u> . Department of Health & Human Services.
28	<u>Toxicological Profile for 1,1-Dichloroethane</u> . Department of Health & Human Services.
29	<u>Toxicological Profile for 1,2-Dichloroethane</u> . Department of Health & Human Services.
30	<u>Toxicological Profile for 1,1-Dichloroethene</u> . Department of Health & Human Services.
31	Calculated from the Risk-Based Concentration Table, Fourth Quarter 1993, developed by Dr. Roy Smith, EPA Senior Toxicologist, from the EPA-ECAO.
32	<u>Toxicological Profile for Dichloroethyl Ether</u> . Department of Health & Human Services.
33	<u>Toxicological Profile for C-1,2-Dichloroethylene</u> . Department of Health & Human Services.

REFERENCES

Number	Title
34	<u>Toxicological Profile for Dichloromethane.</u> Department of Health & Human Services.
35	<u>Toxicological Profile for 1,2 Dichloropropane.</u> Department of Health & Human Services.
36	<u>Toxicological Profile for C-1,3-Dichloropropylene.</u> Department of Health & Human Services.
37	<u>Toxicological Profile for Ethylbenzene.</u> Department of Health & Human Services.
38	<u>Toxicological Profile for Hexachlorobenzene.</u> Department of Health & Human Services.
39	<u>Toxicological Profile for Hexachloro-1,3-Butadiene.</u> Department of Health & Human Services.
40	<u>Toxicological Profile for Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX).</u> Department of Health & Human Services.
41	American Industrial Hygiene Association (AIHA). <u>Concepts and Procedures for the Development of Emergency Response Planning Guidelines (ERPGs).</u> 1989.
42	<u>Toxicological Profile for Hexane.</u> Department of Health & Human Services.
43	<u>Toxicological Profile for Hydrogen Fluoride.</u> Department of Health & Human Services.
44	<u>Toxicological Profile for Lead.</u> Department of Health & Human Services.
45	<u>Toxicological Profile for Manganese.</u> Department of Health & Human Services.
46	<u>Toxicological Profile for Mercury.</u> Department of Health & Human Services.
47	<u>Toxicological Profile for Methyl Chloride.</u> Department of Health & Human Services.
48	<u>Toxicological Profile for Methyl Chloroform.</u> Department of Health & Human Services.
49	<u>Toxicological Profile for Methylene Chloride.</u> Department of Health & Human Services.
50	<u>Toxicological Profile for Methyl Ethyl Ketone.</u> Department of Health & Human Services.

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Number	Title
51	U.S. Environmental Protection Agency. <u>Integrated Risk Information System (IRIS) on Methyl tert-Butyl Ether</u> . Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1993.
52	<u>Toxicological Profile for Naphthalene</u> . Department of Health & Human Services.
53	<u>Toxicological Profile for N-Nitrosodiphenylamine</u> . Department of Health & Human Services.
54	<u>Toxicological Profile for Pentachlorophenol</u> . Department of Health & Human Services.
55	<u>Toxicological Profile for Polychlorinated Biphenyls (PCB)</u> . Department of Health & Human Services.
56	<u>Registry of Toxic Effects of Chemical Substances (RTECs)</u> . Department of Health & Human Services; Superintendent of Documents 8E20-7112.
57	<u>Toxicological Profile for Styrene</u> . Department of Health & Human Services.
58	<u>Toxicological Profile for 2,3,7,8-Tetra-Chlorodibenzo-p-Dioxin</u> . Department of Health & Human Services.
59	<u>Toxicological Profile for 1,1,2,2-Tetrachloroethane</u> . Department of Health & Human Services.
60	<u>Toxicological Profile for Tetrachloroethylene</u> . Department of Health & Human Services.
61	<u>Toxicological Profile for Tetryl</u> . Department of Health & Human Services.
62	<u>Toxicological Profile for Toluene</u> . Department of Health & Human Services.
63	<u>Toxicological Profile for Toxaphene</u> . Department of Health & Human Services.
64	<u>Toxicological Profile for 1,1,2-Trichloroethane</u> . Department of Health & Human Services.
65	<u>Toxicological Profile for Trichloroethylene</u> . Department of Health & Human Services.

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Number	Title
66	Appendix C of EPA's guidance document "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Response, Washington, D.C. October 1991)
67	<u>Toxicological Profile for 2,4,6-Trinitrotoluene.</u> Department of Health & Human Services.
68	<u>Toxicological Profile for Vinylidene Chloride.</u> Department of Health & Human Services.
69	<u>Toxicological Profile for M-Xylene.</u> Department of Health & Human Services.
70	<u>Toxicological Profile for O-Xylene.</u> Department of Health & Human Services.
71	<u>Toxicological Profile for P-Xylene.</u> Department of Health & Human Services.
72	<u>Toxicological Profile for Total Xylenes.</u> Department of Health & Human Services.
73	<u>Toxicological Profile for Zinc.</u> Department of Health & Human Services.
74	U.S. Environmental Protection Agency. <u>Technical Background Document to Support Rulemaking Pursuant to the Clean Air Act-Section 112(g). Ranking of Pollutants with Respect to Hazard to Human Health.</u> EPA-450/3-92-010. Emissions Standards Division, Office of Air Quality Planning and Standards, Research Triangle Park, NC. 1994.

APPENDIX B:

LISTING OF AIR POLLUTANTS AND THEIR SYNONYMS

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
ALDRIN	1,4:5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXACHLORO-1,4,4A,5,8,8A- HEXAHYDRO, (1ALPHA, 4ALPHA, 4ABETA, 5ALPHA, 8ALPHA, 8ABETA); 1,4:5,8- DIMETHANONAPHTHALENE, 1,2,3,4,10,10- HEXACHLORO-1,4,4A,5,8,8A-HEXAHYDRO, ENDO,EXO; HEXACHLOROHEXAHYDRO-ENDO-EXO- DIMETHANONAPHTHALENE; NCI-C00044; ENT-15, 949; 1,2,3,4,10,10-HEXACHLORO- 1,4,4A,5,8,8A-HEXAHYDRO-1,4-ENDO,EXO-5,8- DIMETHANONAPHTHALENE; (1R,4S,5S,8R)- 1,2,3,4,10,10-HEXACHLORO-1,4,4A,5,8,8A- HEXAHYDRO-1,4:5,8-DI METHANONAPHTHALENE, NOT LESS THAN 95%; HHDN; COMPOUND-118; SD- 2794; ALDROSOL; ALDOCIT; ALDRINE; ALDRITE; KORTOFIN; OCTALENE; SEEDRIN; TATUZINHO; TIPULA; ALDREX-40
AROCOR-1260	PCB-1260; POLYCHLORINATED BIPHENYL MIXTURE WITH 60% CHLORINE
ARSENIC	ARSENIC-BLACK; ARSENIC-75; COLLOIDAL- ARSENIC; GRAY-ARSENIC; METALLIC-ARSENIC
BARIUM	ACETIC ACID; BARIUM SALT; BARIUM DIACETATE; BARIUM ACETATE MONOHYDRATE; ELEMENTAL BARIUM; BARIUM ION; BARIUM, ALLOYS, NONPYROPHORIC; BARIUM, METAL, NON- PYROPHORIC
BENZENE	ANNULENE; BENZOL; BENZOLE; COAL NAPHTHA; CYCLOHEXATRIENE; PHENE; PHENYL HYDRIDE; PYROBENZOL; PYROBENZOLE
BENZO (A) PYRENE	3,4-BENZ (A) PYRENE; BENZ- (A)PYRENE; BAP; BP
BENZYL CHLORIDE	ALPHA-CHLOROTOLUENE; CHLOROMETHYLBENZENE;
BERYLLIUM	BERYLLIUM-METALLIC; BERYLLIUM-9; GLUCINIUM; GLUCINIUM; BERYLLIUM-DUST; BERYLLIUM, -METAL-POWDER
CADMIUM	C-I-77180; COLLOIDAL-CADMIUM
CARBON DISULFIDE	CARBON-BISULFIDE; CARBON DISULPHIDE; CARBON SULFIDE; CARBON SULPHIDE; DITHIOCARBONIC ANHYDRIDE

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
CARBON TETRACHLORIDE	CARBON-CHLORIDE; CARBON-CHLORIDE (CCL ₄); CARBON-TET; ENT-4;705; METHANE-TETRACHLORIDE; METHANE, TETRACHLORO; PERCHLOROMETHANE; R-10; TETRACHLOORMETAAN; TETRACHLOROCARBON; TETRACHLOROMETHANE; BENZINOFORM; UNIVERM; VERMOESTRICID; NECATORINA; NECATORINE; FASCIOLIN; FLUKOIDS; TETRAFINOL; TETRAFORM; TETRASOL; CARBONA; FREON-10; HALON-104
CHLORDANE	4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO; 4,7-METHANOINDAN, 1,2,4,5,6,7,8,8-OCTACHLORO-3A,4,7,7A-TETRAHYDRO; OCTACHLORO-4,7-METHANOHYDROINDANE; OCTACHLORO-4,7-METHANOTETRAHYDROINDANE; OCTACHLORODIHYDRODICYCLOPENTADIENE; OCTACHLORO-TETRAHYDRO-METHANOINDAN; ENT-9,932; ENT-9932; NCI-C00099; ENT 25,552-X; 1,2,4,5,6,7,8,8-OCTACHLORO-4,7-METHANO-3A,4,7,7A-TETRAHYDROINDANE; 1,2,4,5,6,7,8,8-OCTACHLORO-4,7-METHANE-3A,4,7,7A-TETRAHYDROINDANE; 1068; VELSICOL-1068; ASPON-CHLORDANE; CD-68; CHLORINDAN; CORTILAN-NEU; DOWCHLOR; HCS-3260; M-140; M-410; OCTA-KLOR; OKTATERR; SYNKLOR; TAT-CHLOR-4; TOPICLOR; TOXICHLOR; INTOX-8
CHLOROBENZENE	BENZENE-CHLORIDE; BENZENE, CHLORO; CHLOROBENZENE; CHLOROBENZOL; CHLORBENZOL; MONOCHLOROBENZENE; MONOCHLOROBENZENE; PHENYL-CHLORIDE; NCI-C54886; CASWELL-NO-183A; EPA-PESTICIDE-CHEMICAL-CODE-056504-; MCB-; CP-27; I-P-CARRIER-T-40; TETROSIN-SP
CHLOROFORM	FORMYL-TRICHLORIDE; METHANE-TRICHLORIDE; METHANE-TRICHLORO; METHENYL-CHLORIDE; METHENYL-TRICHLORIDE; METHYL-TRICHLORIDE; NCI-C02686; TCM; TRICHLOROFORM; TRICHLOROMETHANE; FREON-20; R-20
CHROMIUM (VI)	HEXAVALENT CHROMIUM; CHROMIC ACID; CHROMIUM TRIOXIDE; CHROMIC ANHYDRIDE; LEAD CHROMATE; ZINC CHROMATE
2,4-DICHLOROPHENOXYACETIC ACID (2,4-D)	DICHLOROPHENOXYACETIC ACID; 2,4,-DICHLOROPHEOXYACETIC ACID; 2,4-D

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
DDT	1,1,1-TRICHLORO-2,2-BIS (P-CHLOROPHENYL) ETHANE; 2,2-BIS (P-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE; 4,4'-DDT; 4,4'-DICHLORODIPHENYLTRICHLOROETHANE; ETHANE, 1,1,1-TRICHLORO-2,2-BIS (4-CHLOROPHENYL); ETHANE, 1,1,1-TRICHLORO-2,2-BIS (P-CHLOROPHENYL); P,P'-DDT; P,P'-DICHLORODIPHENYLTRICHLOROETHANE; ALPHA, ALPHA-BIS (P-CHLOROPHENYL)-BETA, BETA, BETA-TRICHLOROETHANE; 1,1-BIS- (P-CHLOROPHENYL)-2,2,2-TRICHLOROETHANE; DIPHENYLTRICHLOROETHANE; TRICHLOROBIS (4-CHLOROPHENYL) ETHANE; 1,1,1-TRICHLORO-2,2-DI (4-CHLOROPHENYL)-ETHANE; NCI-C00464; ENT-1506; DICOPHANE; CHLOROPHENOTHANE; 1,1'-(2,2,2-TRICHLOROETHYLIDENE) BIS (4-CHLOROBENZENE); AAVERO-EXTRA; ANOFEX; ZERDANE; SANTOBANE; PENTECH; NEOCID; NEOCIDOL; GESAROL; ARKOTINE; PENTACHLORIN; AGRITAN; AZOTOX; AZOTOX M-33; BOSAN-SUPRA; BOVIDERMOL; CHLOFENOTAN; CHLORPHENOTHAN; CHLORPHENOTOXUM; CITOX; CLOFENOTANE; DEOVAL; DETOX; DETOXAN; DIBOVIN; DODAT; DYKOL; ESTONATE; GESAFID; IVORAN; MUTOXAN; NEOCIDOL-(SOLID); PARACHLOROCIDUM; PEB1; PENTICIDUM; TAFIDEX; EPA-PESTICIDE-CODE-029201; CASWELL-NO-308
1,2-DIBROMOETHANE	ETHYLENE DIBROMIDE; ETHYLENE BROMIDE, GLYCOL DIBROMIDE
1,4-DICHLOROBENZENE	BENZENE, 1,4-DICHLORO; BENZENE, P-DICHLORO; DICHLOROBENZENE, -PARA, -SOLID; P-CHLOROPHENYL CHLORIDE; P-DICHLOROBENZENE; P-DICHLOROBENZOL; PDB; PARADICHLOROBENZENE; PARADICHLOROBENZOL; NCI-C54955; CASWELL-NO-632; A13-0050; EPA-PESTICIDE-CHEMICAL-CODE-061501; PARADICHLOROBENZOL; PARAMOTH; DI-CHLORICIDE; PARADI; PERSIA-PERAZOL; SANTOCHLOR; PARADOW; PARAMOTH; EVOLA; PARAZENE
M-DICHLOROBENZENE	1,3-DICHLOROBENZENE; META-DICHLOROBENZENE
O-DICHLOROBENZENE	1,2-DICHLOROBENZENE; ORTHO-DICHLOROBENZENE; O-DICHLOROBENZOL; O-DCB

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
1,1-DICHLOROETHANE	ALPHA ALPHA-DICHLOROETHANE; ASYMMETRICAL DICHLOROETHANE; CHLORINATED HYDROCLORIC ETHER; 1,1-DICHLORO-(9CI); 5-DICHLOROETHANE; DUTCH OIL; ETHANE; ETHYLIDENE-CHLORIDE; 1,1-ETHYLIDENE DICHLORIDE; ETHYLIDENE-DICHLORIDE
1,2-DICHLOROETHANE	1,2-BICHLOROETHANE; 1,2-DICHLORETHANE; 1,2-ETHYLENE DICHLORIDE; ALPHA, BETA-DICHLOROETHANE; RY DICHLORO-1,2-ETHANE; ENT-1,656; ETHANE-DICHLORIDE; ETHANE, 1,2-DICHLORO; ETHYLENE-CHLORIDE; ETHYLENE-DICHLORIDE; GLYCOL-DICHLORIDE; NCI-COO511; SYM-DICHLOROETHANE; FREON-150; BORER-SOL; BROCID; DESTRUOL BORER-SOL; DI-CHLOR-MULSION; DICHLOR-MULSION; DICHLOREMULSION; DUTCH-LIQUID; DUTCH-OIL; GRANOSAN; BETA-DICHLOROETHANE
1,1-DICHLOROETHENE	1,1-DCE; 1,1-DICHLOROETHYLENE; ASYM-DICHLOROETHYLENE; ETHENE, 1,1-DICHLORO; ETHYLENE, 1,1-DICHLORO; NCI-C54262; VDC; VINYLIDENE-CHLORIDE, MONOMER; VINYLIDENE-CHLORIDE (II); VINYLIDENE-CHLORIDE (INHIBITED); VINYLIDENE-DICHLORIDE; VINYLIDINE-CHLORIDE; AS-DICHLOROETHYLENE; VC
DICHLOROETHYL ETHER	BIS(CHLOROETHYL) ETHER; 2,2-DICHLORODIETHYL ETHER; 2,2-DICHLOROETHYL ETHER
C-1,2-DICHLOROETHYLENE (CIS)	ASYMMETRICAL DICHLOROETHANE; ETHYLIDENE CHLORIDE; 1,1-ETHYLIDENE DICHLORIDE; ACETYLENE DICHLORIDE; CIS-ACETYLENE DICHLORIDE; TRANS-ACETYLENE DICHLORIDE
DICHLOROMETHANE	METHYLENE CHLORIDE; METHYLENE DICHLORIDE
1,2-DICHLOROPROPANE	1,2-DICHLORO-1,2-PROPANE; DICHLOROPROPANE; PROPYLENE CHLORIDE; PROPYLENE DICHLORIDE
1,3-DICHLOROPROPYLENE (CIS/TRANS)	(Z)-1,3-DICHLOROPROPENE; 1-PROPENE, 1,3-DICHLORO, (Z); CIS-1,3-DICHLORO-1-PROPENE; CIS-1,3-DICHLOROPROPYLENE; PROPENE, 1,3-DICHLORO, (Z); TELONE-II; CIS-DCP

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
DIELDRIN	1,2,3,4,10,10-HEXACHLORO-6,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTA-HYDRO-ENDO,EXO 1,4:5,8-DIMETHANONAPHTHALENE; 1,2,3,4,10,10-HEXACHLORO-EXO-6,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTAHYDRO-1,4-ENDO,EXO-5,8-DIMETHANONAPHTHALENE; 1,4:5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXACHLORO-6,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTAHYDRO,ENDO,EXO; 2,7:3,6-DIMETHANONAPHTH(2,3-B) OXIRENE,3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO,(1AALPHA,2BETA,2AALPHA,3BETA,6BETA,6AALPHA,7BETA,7AALPHA); ENT-16225; EXO-DIELDRIN; HEOD; HEXACHLOROEOXYOCTAHYDRO-ENDO, EXO-DIMETHANONAPHTHALENE; NCI-COO124; 1,8,9,10,11,11-HEXACHLORO-4,5-EXO EPOXY-2,3-7,6-ENDO-2,1-7,8-EXO-TETRACYCLO(6.2.1.1 3,6 .0 2,7) DODEC-9-ENE; COMPOUND-497; 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-2,7:3,6-DIMETHANONAPHTH[2,3-B] OXIRENE; AI3-16225; CASWELL-NO-333; ENT-16,225; EPA-PESTICIDE-CHEMICAL-CODE-045001; 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-2,7:3,6-DIME-THANONAPHTH(2,3-B) OXIRENE; SD-3417; ENDO,EXO-3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-2,7:3,6-DIMETHENAPHTH(2,3-B) OXIRENE
2,4-DINITROTOLUENE	DINITROTOLUENE; DINITROTOLUOL; DNT; METHYLDINITROBENZENE
ETHYLBENZENE	BENZENE, ETHYL; EB; ETHYL-BENZENE; ETHYLBENZOL; PHENYLETHANE; NCI-C56393
ETHYL CHLORIDE	CHLOROETHANE; HYDROCHLORIC ETHER; MONOCHLOROETHANE; MURIATIC ETHER
FORMALDEHYDE	BFV; FANNOFORM; FORMALDEHYDE-SOLUTION; FORMALDEHYDE, -GAS; FORMALIN; FORMALITH; FORMIC-ALDEHYDE; FORMOL; FYDE; IVALON; LYSOFORM; METHANAL; METHYL-ALDEHYDE; METHYLENE-OXIDE; MORBICID; OXOMETHANE; OXYMETHYLENE; SUPERLYSOFORM; DORMOL
FREON 11	FLUOROTRICHLOROMETHANE; FLUOROCARBON-11; TRICHLOROFLUOROMETHANE; REFRIGERANT 11; TRICHLOROMONOFUOROMETHANE; MONOFUOROTRICHLOROMETHANE

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
FREON 12	DICHLORODICHLOROMETHANE; PROPELLANT 12; DICHLORODIFLUOROMETHANE; FLUOROCARBON-12; HALON 122; REFRIGERANT 12
HEPTACHLOR	3-CHLOROCHLORDENE; 4,7-METHANO-1H-INDENE, 1,4,5,6,7,8,8-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO; 4,7-METHANOINDENE, 1,4,5,6,7,8,8-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO; ALPHA-DICYCLOPENTADIENE, 3,4,5,6,7,8,8A-HEPTACHLORO; DICYCLOPENTADIENE, 3,4,5,6,7,8,8A-HEPTACHLORO; NCI-CO0180; ENT-15,152; E-3314; AAHEPTA; AGROCERES; GPKH; H-34; HEPTA; HEPTACHLORANE; HEPTAGRAN; HEPTAMUL; RHODIACLOR; VELSICOL-104; BASAKLOR; HEPTAGRANOX; HEPTAMAK; HEPTASOL; HEPTOX; SOLEPTAX; GOLD CREST H-60, TERMIDE
HEXACHLOROBENZENE	PERCHLOROBENZENE; HEXACHLOROBENZOL; HCB; BENZENE; HEXACHLORO-ESACHLOROBENZENE
HEXACHLORO-1,3-BUTADIENE	BIETHYLENE; BIVINYL; 1,3 BUTADIENE; BUTADIENE; A,A-BUTADIENE; BUTA-1,3-DIENE; DIVINYL; ERYTHRENE; PYRROLYLENE; TRANS-BUTADIENE; VINYLETHYLENE
HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE (RDX)	CYCLOTRIMETHYLENE TRINITRAMINE; 1,3,5-TRINITRO-1,3,5-TRIAZACYCLOHEXANE TRIMETHYLENETRINITRAMINE; CYCLONITE; HEXAHYDRO-1,3,5-TRINITRO-S-TRIAZINE
HEXANE	N-HEXANE; HEXYL HYDRIDE; NORMAL-HEXANE
HYDROGEN FLUORIDE	ANHYDROUS HYDROGEN FLUORIDE; AQUEOUS HYDROGEN FLUORIDE; HF-A
LEAD	LEAD-METAL; PLUMBUM; CI-PIGMENT-METAL-4; CI-77575; KS-4; LEAD-FLAKE; LEAD-S2; PB-S 100
MANGANESE COMPOUNDS AND FUME (AS MN)	MANGANESE METAL; MANGANESE-55 COLLOIDAL MANGANESE
MERCURY	COLLOIDAL MERCURY; METALLIC MERCURY; QUICKSILVER
METHYL CHLORIDE	CHLOROMETHANE; MONOCHLOROMETHANE

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
METHYL CHLOROFORM	1,1,1-TRICHLOROETHANE; METHYLTRICHLOROMETHANE; TRICHLOROETHANE; TRIELENE; CHLOROFORM, METHYL; ETHANE, 1,1,1-TRICHLORO; TCEA; AI3-02061; CASWELL- NO-875; ALPHA-RICHCHLOROETHANE; AEROTHENE-TT; ALGYLEN; ALPHA-T; BALTANA; CF-2; CHLOROETHENE; CHLOROETHANE-NU; CHLOROTENE; CHLOROTHANE-NU; CHLOROTHENE-SM; CHLOROTHENE-VG; CHLORTEN; CHLORTHANE-NU; CHLORYLEN; GEMALGENE; GENKLENE; ICI-CF 2; INHIBISOL; DOWCLENEL-LS; CHLOROTHENE- (INHIBITED); CHLOROTHENE-NU; SOLVENT-111; TRI; TRICHLORAN; NCI-CO4626; AEROTHENE; MM
METHYLENE CHLORIDE	DCM; METHANE; DICHLORO; METHYLENUnM- CHLORATUM; NCI-C50102; DICHLOROMETHANE
METHYL ETHYL KETONE	2-BUTANONE; MEK; METHYL ACETONE; ETHYL METHYL KETONE
METHYL ISOBUTYL KETONE	HEXONE; ISOBUTYL METHYL KETONE; 4-METHYL 2- PENTANONE; MIBK
METHYL ISOCYANATE	METHYL ESTER OF ISOCYANIC ACID; MIC
METHYL TERT-BUTYL ETHER (MTBE)	METHYL T-BUTYL ETHER; TERT-BUTYL METHYL ETHER; 2-METHOXY-2 METHYLPROPANE; MTBE
NAPHTHALENE	NAPHTHALIN; TAR CAMPHOR; WHITE TAR
N-NITROSODIMETHYLAMINE	NDMA; NITROSO-N,N-DIMETHYLAMINE; N,N- DIMETHYLNITROSAMINE; DIMETHYLNITROSAMINE; DMNA; N-METHYL-N-NITROSO-METHANAMINE
N-NITROSODIPHENYLAMINE	BENZENAMINE; DIPHENYLNITROSAMINE; NDPA; DIPHENYLAMINE, N-NITROSAMINE; N-NITROSO-N- PHENYLANILINE; DIPHENYL-N-NITROSAMINE; N,N- DIPHENYLNITROSAMINE; NDPHA; NITROUS DIPHENYLAMIDE
OCTAHYDRO 1,3,5,7- TETRANITRO-1,3,5,7- TETRACCINE (HMX)	1,3,5-TETRANITRO-1,3,5,7- TETRAAZOCYCLOOCTANE; CYCLOTETRAMETHYLENETRANITRAMINE; OCTOGEN; TETRAMETHYLENETETRANITRANINE; OCTAHYDRO- 1,3,5,7-TETRAZOCINE; AND OTHERS
PENTACHLOROPHENOL	2,3,4,5,6-PENTACHLOROPHENOL; PCP; PENTA; PENCLOROL; PENTACHLOROPHENATE

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
POLYCHLORINATED BIPHENYLS (PCB)	POLYCHLORINATED-BIPHENYL; CHLORINATED-DIPHENYL; 1,1'-BIPHENYL, CHLORO DERIVS; CASWELL-NO-672A; EPA-PESTICIDE-CHEMICAL-CODE-017801; CLOPHEN; KANECHLOR; AROCLOR; FENCOLOR; CHLOREXTOL; INERTEEN; MONTER; PHENOCOLOR; PYRALENE; PYRANOL; SANTOTHERM; SOVOL; THERMINOL; NOFLAMOL; BIPHENYL, POLYCHLORO; CHLORINATED-BIPHENYL; CHLORINATED-DIPHENYLENE; CHLORO 1,1-BIPHENYL; DYKANOL; MONTAR; SANTOTHERM-FR; THERMINOL FR-1; CHLORO-BIPHENYL; POLYCHLOROBIPHENYL
STYRENE	ETHENYL BENZENE; PHENYLETHYLENE; STYRENE MONOMER; STYROL; VINYL BENZENE; POLYSTYRENE
2,3,7,8-TETRA- CHLORODIBENZO-P-DIOXIN	DIOXIN; DIOXINE; TCDBD; TCDD; 2,3,7,8-TCDD
1,1,2,2-TETRACHLOROETHANE	1,1-DICHLORO-2,2-DICHLOROETHANE; ACETYLENE-TETRACHLORIDE; DICHLORO-2,2-DICHLOROETHANE; ETHANE, 1,1,2,2-TETRACHLORO; S-TETRACHLOROETHANE; SYM-TETRACHLOROETHANE; TETRACHLOROETHANE; NCI-C03554; A13-04597; EPA-PESTICIDE-CHEMICAL-CODE-078601; WESTRON; ACETOSAL; ACETYLENE-TETRACHLORIDE; CELLON; BONOFORM
TETRACHLOROETHYLENE (PCE)	1,1,2,2-TETRACHLOROETHYLENE; ETHENE, TETRACHLORO; ETHYLENE-TETRACHLORIDE; PERCHLORETHYLENE; PERCHLOROETHYLENE; TETRACHLORETHYLENE; TETRACHLOROETHYLENE; PCE; A13-01860; ANKILOSTIN; CASWELL-NO-827; DIDAKENE; ENT-1,860; EPA-PESTICIDE-CHEMICAL-CODE-078501; ETHYLENE, TETRACHLORO; FEDAL-UN; NCI-C04580; NEMA; PERCLEN; PERSEC; TETLEN; TETRACAP; TETRALENO; TETROPIL; ANTISAL-1; ANTISOL-1; DOW-PER; FEDAL-UN; PER; PERAWIN; PERC; PERCHLOR; PERCOSOLV; PERK; PERKLONE; TETRAGUER; TETRALEX; TETRAVEC; TETROGUER
TETRYL	N-METHYL-N-2,4,6-TETRANITROANILINE; NITRAMINE; 2,4,6-TETRYL; TETRALITE; 2,4,6-TRINITROPHENYL-N-METHYLNITRAMINE; N-METHYL-N,2,4,6-TETRANITROBENZENAMINE; N-PICRYL-N-METHYL-NITRAMINE; TETRALIT; TETRIL; TRINITROPHENYL-METHYLNITRAMINE; CE

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
TOLUENE	BENZENE-METHYL; METHACIDE; METHANE-, PHENYL; METHYLBENZENE; METHYLBENZOL; PHENYLMETHANE; CASWELL-NO-859; NCI-C07272; ANTISAL-1A; CP-25-MF
TOXAPHENE	CHLORINATED-CAMPHENE; CHLOROCAMPHENE; NCI- C00259; OCTACHLOROCAMPHENE; POLYCHLOROCAMPHENE; CAMPHOFENE-HUILEUX; CAMPHOCHLOR; CAMPHECHLOR; TOXAPHEN; KAMFOCHLOR; AGRICIDE-MAGGOT-KILLER; ALLTEX; ALLTOX; CHEM-PHENE; COMPOUND-3956; CRESTOXO; CRISTOXO-90; ENT-9735; ESTONOX; FASCO-TERPENE; GENIPHENE; GY-PHENE; HERCULES-3956; M-5055; MELIPAX; MOTOX; PENPHENE; PHENACIDE; PHENATOX; STROBANE-T; TOXADUST; TOXAKILL; TOXYPHEN; VERATC-90%; SYNTHETIC-3956; TOXON-63; PCC; ATTAC-6; ATTAC-8; ATTAC 4-2; ATTAC 6-3; ATTAC 4-4; VERTAC-TOXAPHENE-90; ANATOX; PCHK; TOXAPHENE-8-EMULSIFIABLE-INSECTICIDE; RIGO- TOXAPHENE-8; ROYAL-BRAND-BEAN-TOX-82; COTTON-TOX MP 82; TOXAPHENE 90-10; TOXAPHENE E-8; TOXAPHENE-8-EC; HERCULES- TOXAPHENE-EMULSIFIABLE-CONCENTRATE; RED- TOP-TOXAPHENE-8-SPRAY; SECURITY TOX-SOL-6; SECURITY TOX-MP COTTON SPRAY; SECURITY- MOTOX-63-COTTON-SPRAY; AGRO-CHEM BRAND TORBIDAN 28; AGRO-CHEM BRAND TOXAPHENE 6E; AGSCO-TOXAPHENE; AGWAY-TOXAPHENE-6E; DR ROGER'S TOX-ENE; FELCO/LAND-O'LAKES- TOXAPHENE; GROWER-SERVICE-TOXAPHENE-6E; GROWER-SERVICE-TOXAPHENE-MP
1,2,4-TRICHLOROBENZENE	1,2,4-TRICHLOROBENZOL; UNSYM- TRICHLOROBENZENE
1,1,2-TRICHLORO-1,2,2- TRIFLUOROETHANE	CFC-113; GENETRON-113; HALOCARBON 113; TTE; REFRIGERANT 113; CHLOROFLUOROCARBON-113
1,1,2-TRICHLOROETHANE	BETA-TRICHLOROETHANE; ETHANE, 1,1,2- TRICHLORO; BETA-T; VINYL-TRICHLORIDE

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
TRICHLOROETHYLENE	ACETYLENE TRICHLORIDE; ALGYLEN; ANAMENTH; BENZINOL; BLACOSOLV; BLANCOSOLV; CECOLENE; CHLORILEN; 1-CHLORO-2; 2-DICHLOROETHYLENE; CHLORYLEA; CHLORYLEN; CHLORYLEN; CIRCOSOLV; CRAWHASPOL; DENSINFLUAT; 1,1-DICHLORO-2-CHLOROETHYLENE; DOW-TRI; DUKERON; ETHINYL TRICHLORIDE; ETHYLENE TRICHLORIDE; ETHYLENE TRICHLORO; FLECK-FLIP; FLOCK FLIP; FLUATE; GEMALGENE; GERMALGENE; LANADIN; LETHURIN; NARCOGEN; NARKOGEN; NARKOSOID; NCI-C04546; NIALK; PERM-A-CHLOR; PERM-A-CLOR; PETZINOL; PHILEX; RCRA WASTE NUMBER U228; TCE; THRETHYLEN; THRETHYLENE; TRI; TRIAD; TRIAL; TRIASOL; TRICHOORETHEEN; TRICHOORETHYLEEN TRI; TRICHLORAETHEN; TRICHLORAETHYLEN TRI; TRICHLORAN; TRICHLOREN; TRICHLORETHENE; TRICHLORETHYLENE; TRICHLORETHYLENE TRI; TRICHLOROETHENE; 1,1,2-TRICHLOROETHYLENE; 1,2,2-TRICHLOROETHYLENE; TRI-CLENE; TRICHLORETENE; TRICLOROETILENE; TRIELENE; TRIELIN; TRIELINA; TRIKLONE; TRILEN; TRILENE; TRILINE; TRIMAR; TRIOL; TRI-PLUS; TRI-PLUS M; UN 1710; VESTROL; VITRAN; WESTROSOL
1,2,4-TRIMETHYLBENZENE	PSEUDOCUMENE; UNS-TRIMETHYLBENZENE; ASYMMETRICAL-TRIMETHYLBENZENE; PSI-CUMENE
1,3,5-TRIMETHYLBENZENE	MESITYLENE; FLEET-X; SYM-TRIMETHYLBENZENE; TRIMETHYLBENZOL
2,4,6-TRINITROTOLUENE	1-METHYL-2,4,6-TRINITROBENZENE; TNT; TRINITROTOLUENE; TRINITROLUOL
VINYL CHLORIDE	CHLORETHENE; CHLORETHYLENE; CHLOROETHENE; CHLOROETHYLENE; ETHYLENE-MONOCHLORIDE; ETHYLENE, CHLORO; MONOCHLOROETHENE; MONOCHLOROETHYLENE; VC; VCM; VINYL-C-MONOMER; VINYL-CHLORIDE-MONOMER; ETHENE, CHLORO; TROVIDUR; MONOVINYL-CHLORIDE (MVC)
VINYLDENE CHLORIDE	1,1-DICHLOROETHENE; VINYLDENE-DICHLORIDE; 1,1-DICHLOROETHYLENE; ; VINYLDENE-CHLORIDE MONOMER; 1,1-DCE; VDC
M-XYLENE	1,3-DIMETHYLBENZENE; M-XYLOL
O-XYLENE	1,2-DIMETHYLBENZENE; O-XYLOL
P-XYLENE	1,4-DIMETHYLBENZENE, P-XYLOL

AIR POLLUTANTS AND THEIR SYNONYMS

AIR TOXIN	SYNONYMS
TOTAL XYLENES	1,3-DIMETHYLBENZENE; 1,3-XYLENE; BENZENE, 1,3-DIMETHYL; m-DIMETHYLBENZENE; m-XYLOL; m-METHYLTOLUENE; AI3-08916; m-XYLENE
ZINC	ZINC-DISTEARATE; DERMARONE; ZINC-OCTADECANOATE; TALCULIN-Z

APPENDIX C:

LISTING OF COMMON AIR POLLUTANT ACRONYMS AND
ABBREVIATIONS (WITH DEFINITIONS AND REFERENCES)

Alphabetical Listing of Common Acronyms/Abbreviations (with Definitions & References)

<u>Acronyms/Abbreviation</u>	<u>Definition & Reference</u>
AALG	Ambient Air Level Goals; the lifetime exposure level of a toxicant below which the risk of an adverse health effect for an exposed population is less than a predetermined de minimus value such as one in a million or one in one hundred thousand. (Calabrese, E.J., and Kenyon, E.M. 1991. <u>Air Toxics and Risk Assessment</u> . Chelsea, MI. Lewis Publishers.)
AIHA ERPG	American Industrial Hygiene Association Emergency Response Planning Guidelines; concentrations of an airborne chemical that fall into three categories: ERPG-3 is the maximum concentration in air below which no "life-threatening health effects" would occur; ERPG-2 is the maximum concentration in air below which no "irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action" would occur; ERPG-1 is the maximum concentration in air below which no "mild, transient adverse health effects" would occur and no "objectionable odor" would be detected. (American Industrial Hygiene Association (AIHA). <u>Concepts and Procedures for the Development of Emergency Response Planning Guidelines (ERPGs)</u> . 1989.)

Alphabetical Listing of Common Acronyms/Abbreviations (with Definitions & References)

Acronyms/Abbreviation

Definition & Reference

ACGIH-STEL

American Conference of Governmental Industrial Hygienists-Short Term Exposure Limit; a 15 minute exposure which should not be exceed at any time during a workday. (1992-1993 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, ACGIH Handbook)

ACGIH-TLV

American Conference of Governmental Industrial Hygienists-Threshold Limit Values; the conditions under which almost all workers may be exposed to a workplace chemical day after day without developing any adverse effect. (Regulatory Requirements for Hazardous Materials, McGraw-Hill, Inc., New York, NY. 1993)

ACGIH-TWA

American Conference of Governmental Industrial Hygienists-Time-Weighted Average; concentrations which are averaged for up to a 10-hour workday during a 40-hour work week. (June 1990 NIOSH Pocket Guide to Chemical Hazards)

BACT

Best Available Control Technology.

CAPCOA

California Air Pollution Control Officers Association; one hour maximum concentrations considered to be acceptable exposure levels. Exposures below the CAPCOA acceptable level are not expected to result in adverse effects to the exposed population. (CAPCOA. January 1991. Air Toxics "Hot

Alphabetical Listing of Common Acronyms/Abbreviations (with Definitions & References)

Acronyms/Abbreviation

Definition & Reference

	<u>Spots" Program: Risk Assessment Guidelines</u> Sacramento, CA: AB 2588 Risk Assessment Committee of the California Air Pollution Control Officers Association.)
CEGL	Continuous Exposure Guidance Level; an exposure guidance level developed by the National Research Council specifically for military personnel operating under emergency conditions. The CEGL is a ceiling concentration of a chemical in air to which military personnel can be exposed for up to 90 days without immediate or delayed adverse effects or degradation of performance. A CEGL is generally estimated by applying an uncertainty factor of 10 to 100 to the EEGL, depending on the evidence of detoxification or accumulation of the substance in the body. (Appendix C of EPA's guidance document "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Response, Washington, D.C. October 1991))
CHEMADVISOR DATABASE	A database of regulatory data as well as physical and chemical constants for specific compounds. (ChemAdvisor(R), Inc. Canadian Centre for Occupational Health and Safety. 1994)
EEGL	Emergency Exposure Guidance Level; an exposure guidance level developed by the National Research Council specifically for military

Alphabetical Listing of Common Acronyms/Abbreviations (with Definitions & References)

Acronyms/Abbreviation

Definition & Reference

	personnel operating under emergency conditions. An EEGL is the air concentration of a substance that is acceptable for the performance of specific tasks during rare emergencies usually lasting from 1 to 24 hours. EEGLs are intended to prevent irreversible harm or serious impairment of judgement or performance. Acute toxicity is the primary basis for establishing an EEGL. (Appendix C of EPA's guidance document "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Response, Washington, D.C. October 1991)
EHS LOC	Extremely Hazardous Substances Levels of Concern; airborne concentrations of chemicals on the Superfund Amendments and Reauthorization Act (SARA) Title III Section 302 list at which no serious, irreversible health effects or death may occur following a single, short-term exposure. (US EPA Technical Guidance for Hazards Analysis, Emergency Planning for Extremely Hazardous Substances, 1987.)
EPA	Environmental Protection Agency.
IRIS DATABASE	Integrated Risk Information System Database; a database maintained by the National Library of Medicine that contains health-effects related data.

Alphabetical Listing of Common
Acronyms/Abbreviations
(with Definitions & References)

<u>Acronyms/Abbreviation</u>	<u>Definition & Reference</u>
LFC	Lowest-Concentration-Feasible. Registry of Toxic Effects of Chemical Substances.
LOAEL	Lowest-Observed-Adverse-Effect Level; the lowest dose of chemical in a study, or group of studies, that produces statistically or biologically significant increases in frequency or severity of adverse effects between the exposed population and its appropriate control. (<u>Toxicological Profiles</u> . Agency for Toxic Substances and Disease Registry. April 1993)
MD SCREENING LEVEL	State of Maryland Screening Levels; the State uses 1-hour and 8-hour screening levels as guides for ambient air emission levels that are protective of public health from noncancer effects. A screening level can be equivalent to either the TLV-TWA, TLV-STEL, or TLV-C divided by a factor of 100. (Maryland Department of the Environment. Overview of Maryland's Proposed Air Toxics Regulations, June 1988.)
MRL	Minimum Risk Level; an estimate of daily human exposure to a dose of a chemical that is likely to be without an appreciable risk of adverse noncancerous effects over a specified duration of exposure. (<u>Toxicological Profiles</u> . Agency for Toxic Substances and Disease Registry. April 1993)

Alphabetical Listing of Common
Acronyms/Abbreviations
(with Definitions & References)

<u>Acronyms/Abbreviation</u>	<u>Definition & Reference</u>
NATICH DATABASE	National Air Toxics Information Clearinghouse Database; a database maintained by the EPA related to Federal, State, and Local air toxics activities.
NIOSH-REL	National Institute for Occupational Safety and Health-Recommended Exposure Level
NIOSH-IDLH	National Institute for Occupational Safety and Health-Immediately Dangerous to Life or Health; maximum concentrations from which, in the event of respirator failure, one could escape within 30 minutes without a respirator and without experiencing any escape-impairing (e.g., severe eye irritation) or reversible health effects. (June 1990 <u>NIOSH Pocket Guide to Chemical Hazards</u>)
NOAEL	No Observed Adverse Effect Level; the dose of chemical at which there were no statistically of biologically significant increases in frequency or severity of adverse effects seen between the exposed population and its appropriate control. Effects may be produced at this dose, but they are not considered to be adverse. (<u>Toxicological Profiles</u> . Agency for Toxic Substances and Disease Registry. April 1993)

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Acronyms/Abbreviation

Definition & Reference

ODOR THRESHOLD

The detection threshold is defined as the minimum physical intensity detection by a subject where he is not required to identify the stimulus but just detect the existence of the stimulus. Tests were performed with air samples, usually of the highest purity. (Compilation of Odor and Taste Threshold Values Data, American Society for Testing and Materials, Philadelphia, PA. 1978)

OSHA ACTION LEVEL

Occupational Safety and Health Administration - Action Level; an airborne concentration. (Occupational Safety and Health Standards. 29 CFR 1910 Part Z.

OSHA CEILING

Occupational Safety and Health Administration - Ceiling Limit; an acceptable ceiling concentration for a 15 minute exposure that must not be exceeded. (Occupational Safety and Health Standards - Subpart S. 29 CFR Part 1910.1000(f). Corrected November 1, 1990)

OSHA MAXIMUM

Occupational Safety and Health Administration - Maximum Limit; an acceptable maximum peak above the acceptable ceiling concentration that must not be exceeded. The time of the maximum duration is dependent on the compound. (Occupational Safety and Health Standards - Subpart S. 29 CFR Part 1910.1000(f). Corrected November 1, 1990)

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OSHA-PEL

Occupational Safety and Health Administration - Permissible Exposure Limit; the maximum allowable exposure level to air contaminants by workers averaged over an 8-hour period that may result from various chemicals and chemical substances. (Regulatory Requirements for Hazardous Materials, McGraw-Hill, Inc., New York, NY. 1993)

RFC

Reference Concentration; the maximum air concentration of a chemical above which adverse effects have been shown to occur in a developing organism. (Appendix C of EPA's guidance document "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Response, Washington, D.C. October 1991))

SAAPS

State ambient air pollutant standards.

SPEGL

Short-term Public Emergency Guidance Level; an exposure guidance level developed by the National Research Council specifically for military personnel operating under emergency conditions. The SPEGL is a suitable concentration for unpredicted, single, short-term emergency exposure of 1 to 24 hours. The SPEGL is generally estimated by applying an uncertainty factor of two to ten to the EEGL to account for

Alphabetical Listing of Common
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sensitive groups - such as children, the elderly, and persons with serious debilitating diseases. (Appendix C of EPA's guidance document "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Response, Washington, D.C. October 1991)

UNIT RISK CONCENTRATIONS

The concentration in air of a specific carcinogen to which exposure for 70 years results in an incremental cancer risk of 1×10^{-6} . Unit Risk Concentrations are calculated from the slope of the dose-response curve. The dose response curve is generated through modelling to predict the impact of long-term low doses on human health. ("Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part A). EPA/540/1-89/002. Washington, D.C. December 1989)

WEEL

Workplace Environmental Exposure Level.

TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

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16. ABSTRACT This report compiles a list of existing health-related values (inhalation equivalent only) for 34 individual pollutants [volatile organic compounds (VOCs), metals, pesticides, and heavy organic compounds]. Health-related values were identified from sources such as the American Conference of Governmental Industrial Hygienists (ACGIH), the National Institute for Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA). Ambient air standards were also identified from States around the country. The data gathering effort involved the following for each pollutant identified: ◦ Searching both scientific literature and State regulations for all health related concentrations ◦ Preparing a listing of each concentration or limit ◦ Providing definitions of each of the common values listed ◦ Preparing a listing of compound synonyms and health effect descriptions. This report also contains the inhalation exposure limits that were identified for each of the 34 pollutants ranked by exposure limit.					
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