United States
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July-September 1992

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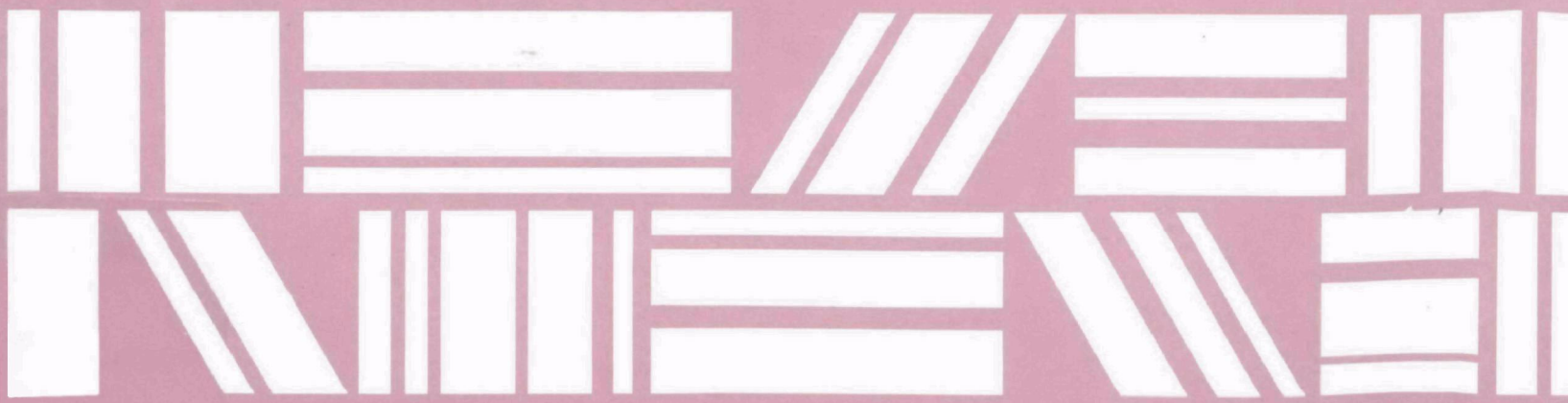

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QUARTERLY ABSTRACT BULLETIN

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SAMPLE ENTRY

NTIS Order Number/Media Code Price Codes	**PB90-120072/HSU PC A09/MF A01**
Report Title	Sensitivity of Ecological Landscapes and Regions to Global Climatic Change
Corporate Author	Oregon State Univ., Corvallis
Personal Authors	F. P. Neilson, G. A. King, R. L. DeVelice, J. Lenihan, and D. Marks.
Date	Sep 89
Pages	193p
Report Number	EPA/600/3-89/073
Contract Number	EPA-68-C8-0006 Prepared in cooperation with NSI Technology Services Corp., Corvallis, OR. Sponsored by Corvallis Environmental Research Lab., OR.
Abstract	Increasing awareness of the potential impacts from global climatic change has elicited a storm of research planning among all the major federal agencies. One of the primary difficulties confronted in the planning effort is the need to objectively define clear priorities for research dollars. The report is an attempt to contribute to the process of defining those priorities by scientifically defining specific regions, ecological systems and attributes of those systems that might be particularly sensitive to climatic change. Two approaches to addressing sensitivity have been defined, intrinsic sensitivity and sensitivity relative to a particular stressor. Intrinsic sensitivity is gauged by past variations in different ecosystems. Extrinsic or stressor relative sensitivity addressed the same question, but from the perspective of a particular stress.
Keywords (Descriptors & Identifiers)	*Climatic changes, *Environmental Surveys, *Research projects, Hydrology, Forecasting, Weather, Biological Surveys, Precipitation (Meteorology), Runoff, Natural Resources, Seasonal variations, Biomass, vegetation, Forestry, *Regional Analysis, * Ecosystems, *Global aspects, Federal agencies, Comprehensive planning.

EPA PUBLICATIONS BIBLIOGRAPHY
Quarterly Abstract Bulletin

PB92-115245/REB PC **A04**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
BioTrol Soil Washing System for Treatment of a Wood Preserving Site: Applications Analysis Report.
Science Applications International Corp., Paramus, NJ.
H. S. Skovronek. Mar 92, 67p EPA/540/A5-91/003
Contracts EPA-68-03-3485, EPA-68-CO-0048
See also PB92-115302 and PB92-150655. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The report analyzes the results of the SITE Program demonstration of BioTrol's Soil Washing System at the MacGillis & Gibbs wood treatment facility in New Brighton, MN. The contaminants of primary interest are pentachlorophenol (penta) and polynuclear aromatic hydrocarbons (PAHs). From tests with two soils (130 mg/kg and 680 mg/kg penta), it is concluded that the soil washer effectively segregates contaminated soil into a large fraction of relatively uncontaminated washed soil, a small fraction of fine clay and silt retaining about 30% of the original penta contamination, contaminated woody debris and contaminated process water. Biotreatment of the process water from the two soil washing tests degraded 91-94% of the penta; removal of PAHs could not be determined. While steady state was not achieved, the biological treatment of the contaminated fines in a Slurry Bio-Reactor suggested that >90% removal of penta and PAHs could be achieved with a fully acclimated system. Combined operating and capital costs for an integrated, full-scale system are estimated to be $168/ton of soil treated; incineration of the woody debris is a major cost factor.

Keywords: *Wood preservatives, *Soil treatment, *Waste management, *Biological treatment, Aromatic polycyclic hydrocarbons, Phenol/pentachloro, Performance evaluation, Aerobic processes, Biodeterioration, Superfund, Hazardous materials, *Soil washing, *BioTrol soil washers, Superfund Innovative Technology Evaluation Program.

PB92-119668/REB PC **A05**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils. Documentation. Research rept. Apr 90-Sep 91.
Agricultural Research Service, Riverside, CA. Salinity Lab.
M. T. van Genuchten, F. J. Leij, and S. R. Yates. Dec 91, 94p EPA/600/2-91/065, , EPA/SW/DK-92/038A
For system on diskette, see PB92-501329. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

The EPA uses numerous mathematical models to predict and analyze the movement of water and dissolved contaminants in the saturated and unsaturated zones of the subsurface environment. The usefulness of these models, and the accuracy with which model predictions can be made, depends greatly on the ability to reliably characterize the hydraulic properties of the unsaturated zone. The report discusses several theoretical models which may be used to quantify the unsaturated soil hydraulic properties involving the soil water retention and hydraulic conductivity functions. The report includes a computer program which predicts, among other things, the unsaturated hydraulic conductivity from independently measured soil water retention data. Several examples illustrate the applicability of the model to different types of hydraulic data. The information in the report should be of interest to all those concerned with the development of improved methods for predicting or managing water and contaminant transport in partly saturated soils.

Keywords: *Hydraulic conductivity, *Vadose water, *Soil water, *Soil properties, Computerized simulation, Documentation, Retention, Unsaturated flow, Environmental transport, Path of pollutants, Land pollution, Chemical compounds, Water management.

PB92-131390/REB PC **A04**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Inside the Hotline: A Compilation of 1991 Monthly Hotline Reports. Annual rept.
Booz-Allen and Hamilton, Inc., Bethesda, MD.
Mar 92, 72p ISBN-0-16-036223-7, EPA/530/SW-91/093N
Contract EPA-68-W0-0039
Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.

The Resource Conservation and Recovery Act (RCRA)/Superfund (SF)/Office of Underground Storage Tanks (OUST) and Emergency Planning and Community Right-to-Know (EPCRA) Hotlines were established to respond to inquiries from the regulated community and the public concerning waste management and disposal regulations. The Hotline also serves as a referral point on the availability and distribution of program related documents and published materials. The document is a compilation of questions and answers, Federal Register summaries from individual Monthly Hotline Reports for the period of January to December 1991. It also contains user-friendly indices which are arranged according to subject matter, regulatory and statory citations. The document can be used by its reader to explore the application of the regulations in different scenarios or to shed light on complex issues. Neither the questions nor the FR summaries are intended to fully represent or be used in place of the regulations. For an understanding of the actual regulatory requirements in any given situation, the reader must consult the appropriate sections of Title 40 of the Code of Federal Regulations, pertinent FR and EPA guidance documents, as well as relevant State regulations.

Keywords: *Information management, *Waste management, *Regulations, US EPA, Public information, Superfund, Legal aspects, Law enforcement, Waste disposal, Underground storage, Storage tanks, Clean Air Act, Land pollution, Resource Conservation and Recovery Act, Emergency Planning and Community Right-to-Know Act.

PB92-139948/REB PC **A05**/MF **A01**
Environmental Monitoring Systems Lab., Las Vegas, NV.
Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV.
J. E. Pollard, and K. M. Perez. Jun 91, 77p EPA/600/4-91/019
Contract EPA-68-CO-0049
See also PB91-168518. Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV.

The document outlines the proposed implementation plan for the Environmental Monitoring and Assessment Program's Surface Waters Northeast Lakes Pilot Survey, to be conducted from July through September, 1991. The plan outlines the objectives of the field pilot activities and the questions which the authors expect to answer as a result of these activities. In addition, the plan contains a description of the indicators, the measurement variables included in each indicator, the design rationale, and details including site selection criteria and a list of selected sites. Very brief descriptions of quality assurance, logistical considerations, and the information management approach are also presented.

Keywords: *Water pollution sampling, *Aquatic ecosystems, *Surface waters, Surveys, Lakes, Biological effects, Hydrology, Biological indicators, Fishes, Sediments, Toxicity, Quality assurance, Information management, Sites, Design criteria, *Environmental Monitoring and Assessment Program, Eutrophication.

PB92-140789/REB PC **A05**/MF **A01**
Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.
Time Spent in Activities, Locations, and Microenvironments: A California-National Comparison. Project rept.
General Sciences Corp., Laurel, MD.
J. P. Robinson, and J. Thomas. Feb 91, 91p EPA/600/4-91/006
Contract EPA-68-01-7325
See also PB84-183516 and PB84-242551. Prepared in cooperation with Maryland Univ., College Park. Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.

In the report, the authors review data on the methodological background and results from the 1987-88 California Air Resources Board (CARB) time activity study and from a similar 1985 national study of Americans' Use of Time conducted at the University of Maryland, College Park. In order to facilitate comparisons, data from the study were recorded to be as compared as possible to the CARB code categories. In general, the data on average distributions of time in activities matched up rather well across the two samples. Despite some differences, the two data sets overall showed remarkably similar patterns of activity. That was less true for the locations codes, however. Several sources of discrepancy were found in the comparison of these data. A recording of location data from the national study provided some resolution of the differences that were found, but several differences remained. The strong similarities of the average time for the activity data indicate that the California data could be used to generate a better set of location codings for the national data. A major reason for analyzing time-diary data is to estimate time spent in various microenvironments. Microenvironments refer neither solely to activities nor solely to locations but to the combination of activities and locations that yield potential exposures of which 16 were defined for comparison. The analysis confirms Californians spent more time in transit and in outdoor environments.

Keywords: *California, *Air pollution monitoring, *Time studies, *Indoor air pollution, United States, Comparison, Site surveys, Pollution sources, Position(Location), Surveys, Motor vehicles, Public health, Travel time, Population(Statistics), *California Air Resources Board, Activity patterns, Microenvironments, Time diary.

PB92-145515/REB PC **A25**/MF **A06**
RCRIS Data Element Dictionary, Version 3.0.0. Data Tape Documentation.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
25 Nov 91, 577p
For system on magnetic tape see, PB92-592290.

The report is the data element dictionary for the Resource Conservation and Recovery Information System (RCRIS). The data includes each hazardous waste facility name, EPA identification number, address, owner and operator information, facility contact name and telephone number.

Keywords: *Solid waste management, *Hazardous materials, *Data dictionaries, Documentation, Facilities, Materials handling, Solid waste disposal, Waste treatment, Waste storage, Hazardous materials transportation, *Resource Conservation and Recovery Information System.

PB92-145564/REB PC **A06**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
Viar and Co., Alexandria, VA. Environmental Services Div.
Jan 92, 117p* EPA/SW/DK-92/031A
Contract EPA-68-D9-0135
For system on diskette see, PB92-501535. Sponsored by Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.

The OCCSS software is a version of a mainframe-based application developed for the EPA's National Contract Laboratory Program (CLP). OCCSS is designed to automate the determination of contractual compliance and completeness of data submitted to EPA under the RAS programs of CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) and SARA (Superfund Amendments and Reauthorization Act). The manual provides the user with instructions for running OCCSS software on the PC. Descriptions of and instructions for each menu are detailed in the following sections. The user should have a working knowledge of PC DOS prior to utilizing this system. The following sections present the OCCSS operating environment, describe system output (reports), provide instructions for running the system and generating reports, and specify input data requirements. Examples of reports are contained in Appendix A. Appendix B contains descriptions of sample suffix codes and report defect codes. Appendix C is a listing of defect statements by criterion, with associated SOW references. Appendix D contains data file formats from Exhibit H of the SOW. Since OCCSS PC software is implemented using Base SAS Software, the 'SAS Language Guide for Personal Computers' from The SAS Institute, Inc. in Cary, North Carolina may be helpful.

Keywords: *User manuals(Computer programs), *Environmental surveys, *Waste management, *Analytical chemistry, *Organic compounds, Documentation, Data base management, Laboratories, Data compilation, Information transfer, Hazardous materials, Superfund, US EPA, *Organic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-145572/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
Viar and Co., Alexandria, VA. Environmental Services Div.
P. Wiltshire. Mar 90, 174p EPA/SW/DK-92/032A
Contract EPA-68-D9-0135
For system on diskette see, PB92-501527. Sponsored by Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.

The Organic Contract Compliance Screening System (OCCSS) software is a version of a mainframe-based application developed for the U.S. Environmental Protection Agency's National Contract Laboratory Program (CLP). OCCSS is designed to automate the determination of contractual compliance and completeness of data submitted to EPA under the Routine Analytical Services (RAS) programs of CERCLA (Comprehensive Environmental Response Compensation and Liability Act) and SARA (Superfund Amendments and Reauthorization Act). The manual provides the user with instructions for running OCCSS software on the PC. Descriptions of and instructions for each menu are detailed in the following sections. The user should have a working knowledge of PC DOS prior to utilizing this system. The following sections present the OCCSS operating environment, describe system output (reports), provide instructions for running the system and generating reports, and specify input data requirements. Examples of reports are contained in Appendix A. Appendix B contains descriptions of sample suffix codes and report defect codes. Appendix C is a listing of defect statements by criterion with associated SOW references. Data Format A and the Agency Standard from the Organic RAS SOW (3/90) are included as Appendix D. Since OCCSS PC software is implemented using Base SAS Software, the 'SAS Language Guide for Personal Computers' from The SAS Institute, Inc. in Cary, North Carolina may be helpful.

Keywords: *User manuals(Computer programs), *Analytical chemistry, *Environmental surveys, *Organic compounds, *Waste management, Documentation, Data base management, Laboratories, Data compilance, Information transfer, Hazardous materials, Superfund, US EPA, *Organic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-145580/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
Viar and Co., Alexandria, VA. Environmental Services Div.
M. H. Carter. Jun 90, 159p EPA/SW/DK-92/034A
Contract EPA-68-D9-0135
For system on diskette see, PB92-501501. Sponsored by Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.

The Organic Contract Compliance Screening System (OCCSS) software is a version of a mainframe-based application developed by Viar and Company for the U.S. Environmental Protection Agency's National Contract Laboratory Program (CLP). OCCSS is designed to automate the determination of contractual compliance and completeness of data submitted to EPA under the Routine Analytical Services (RAS) programs of CERCLA (Comprehensive Environmental Response Compensation and Liability Act) and SARA (Superfund Amendments and Reauthorization Act). The manual provides the user with instructions for running OCCSS software on the PC. Descriptions of and instructions for each menu are detailed in the following sections. The user should have a working knowledge of PC DOS prior to utilizing this system. The following sections present the OCCSS operating environment, describe system output (reports), provide instructions for running the system and generating reports, and specify input data requirements. Examples of reports are contained in Appendix A. Appendix B contains descriptions of sample suffix codes and report defect codes. Appendix C is a listing of defect statements by criterion with associated SOW references. Data Formats A and B from the Organic RAS SOW (2/88) are included as Appendix D. Since OCCSS PC software is implemented using Base SAS Software, the 'SAS Language Guide for Personal Computers' from The SAS Institute, Inc. in Cary, North Carolina may be helpful.

Keywords: *Environmental surveys, *Waste management, *Analytical chemistry, *User manuals(Computer programs), *Organic compounds, Documentation, Data base management, Laboratories, Data compilation, Information transfer, Hazardous materials, Superfund, US EPA, *Organic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-145598/REB PC **A07**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Inorganic Contract Compliance Screening System Software for the PC (SOW March 1990 Version 1). User Manual.
Viar and Co., Alexandria, VA. Environmental Services Div.
A. Carasea. Mar 90, 143p EPA/SW/DK-92/033A
Contract EPA-68-D9-0135
For system on diskette see, PB92-501519. Sponsored by Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.

The Inorganic Contract Compliance Screening System (ICCSS) software is a version of a mainframe-based application developed for the U.S. Environmental Protection Agency's National Contract Laboratory Program (CLP). ICCSS is designed to automate the determination of contractual compliance and completeness of data submitted to EPA under the Routine Analytical Services (RAS) programs of CERCLA (Comprehensive Environmental Response Compensation and Liability Act) and SARA (Superfund Amendments and Reauthorization Act). The manual provides the user with instructions for running ICCSS software on the PC. Descriptions of and instructions for each menu are detailed in the following sections. The user should have a working knowledge of PC DOS prior to utilizing this system. The following sections present the ICCSS operating environment, describe system output (reports), provide instructions for running the system and generating reports, and specify input data requirements. Examples of reports are contained in Appendix A. Appendix B contains descriptions of report defect codes and text. Appendix C is a listing of defect statements by criterion with associated SOW references. Data Format A from the Inorganic RAS SOW (3/90) is included as Appendix D. Since ICCSS PC software is implemented using Base SAS Software, the 'SAS Language Guide for Personal Computers' from The SAS Institute, Inc. in Cary, North Carolina may be helpful.

Keywords: *Analytical chemistry, *Environmental surveys, *Inorganic compounds, *User manuals(Computer programs), *Waste management, Documentation, Data base management, Laboratories, Data compilation, Information transfer, Hazardous materials, Superfund, US EPA, *Inorganic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-146158/REB PC **A13**/MF **A03**
Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.
Guide to Site and Soil Description for Hazardous Waste Site Characterization. Volume 1. Metals.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV. Environmental Programs Office.
R. E. Cameron. Mar 92, 289p EPA/600/4-91/029
Contract EPA-68-C0-0049
See also PB89-132674 and PB90-249772. Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.

The guide is intended to assist field personnel who must identify, describe, and interpret site and soil characteristics of hazardous waste sites where metals contamination is suspected or known. The guide provides a general discussion (Section 2) of the elements of a background review and an on-site examination of site and soil characteristics essential to meeting the needs of these different data uses. This is followed by a catalogue of individual site (Section 3) and soil (Section 4) characteristics (e.g., climate and weather, texture and structure, hydraulic conductivity, slope, soil microorganisms) that should be investigated during site characterization. For each entry, the guide describes possible conditions of the characteristic (e.g., high, moderate, or low; prominent, distinct, or faint) and methods for assigning these conditions. References that provide more detailed information are given for each characteristic. Extensive definitions are provided for describing contaminated sites and soils. Supplemental information with site characterization data; a soil description form; and a summary of methods useful for determination of site and soil parameters accompanies Volume 1 and is available in 'A Pocket Field Guide'.

Keywords: *Hazardous materials, *Metals, *Site characteristics, *Soil surveys, *Land pollution, Expert systems, Guidelines, Waste disposal, Soil contamination, Remedial action, Field tests, Data processing, Natural resources, Landscaping.

PB92-146166/REB PC **A13**/MF **A03**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Reclamation and Redevelopment of Contaminated Land. Volume 2. European Case Studies.
Research Triangle Inst., Research Triangle Park, NC.
G. Kingsbury, and T. Bingham. Mar 92, 299p EPA/600/R-92/031
Contract EPA-68-03-3253
See also PB87-142121. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The Research Triangle Institute (RTI) began work in 1983 to investigate contaminated sites in the United States where cleanup measures have been carried out to enable specific redevelopment of a site. The work resulted in a report issued by the U.S. Environmental Protection Agency (EPA) in August 1986, documenting 16 uncontrolled hazardous waste sites. Case studies presented land use history and redevelopment objec-

tives, the nature of the contamination, descriptions of the remedial actions undertaken, the planned upgraded reuse of the property, and the criteria for cleanup. During the course of the study of U.S. sites, it became apparent that contaminated land reclamation and redevelopment were of international interest. Thus, the RTI study was extended to include experiences in certain European countries. The report presents highlights of the programs for dealing with contaminated land in England, Wales, The Netherlands, Sweden, and the Federal Republic of Germany. The report is a companion document to the August 1986 EPA report (PB87-14212) addressing reclamation and redevelopment in the United States.

Keywords: *Land reclamation, *Land development, *Remedial action, *Hazardous materials, *Waste management, Europe, Case studies, Land use, Land pollution, Pollution regulations, England, Sweden, Netherlands, Federal Republic of Germany, United Kingdom, *Foreign technology, Cleanup operations, Wales.

PB92-146943/REB PC **A05**/MF **A02**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Methodologies for Evaluating In situ Bioremediation of Chlorinated Solvents. Research rept. 21 Aug 89-14 Jun 91.
Stanford Univ., CA. Dept. of Civil Engineering.
L. Semprini, D. Grbic-Galic, P. L. McCarty, and P. V. Roberts. Mar 92, 97p EPA/600/R-92/042
See also PB89-219976 and PB89-219992. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

The report summarizes the behavior of and requisite conditions for a class of natural biological processes that can transform chlorinated aliphatic compounds. These compounds are among the most prevalent hazardous chemical contaminants found in municipal and industrial wastewaters, landfills and landfill leachates, industrial disposal sites, and groundwater. Biological degradation is one approach that has the potential for destroying hazardous chemicals so that they can be rendered harmless for all time. Methodologies are presented that are useful for evaluating the potential for biorestoration of groundwater contaminated with chlorinated aliphatic compounds. Section 1 provides an introduction and an overview of the problems with chlorinated aliphatic compounds in groundwater. Section 2 presents a review of the processes affecting the movement and fate of chlorinated aliphatics in the subsurface, including advection, dispersion, sorption and relative mobility, diffusional transport, and immiscible transport. Methodologies and results are presented for evaluating the presence of a native methantrophic community and its ability to degrade the contaminants of concern; determining the sorption of contaminants to the aquifer material; and preliminary designing of an in-situ treatment approach using the model previously described.

Keywords: *Hazardous materials, *Chlorine aliphatic compounds, *Biodeterioration, *Waste treatment, Aerobic processes, Industrial wastes, Municipal wastes, Earth fills, Water pollution, Ground water, Microorganisms control(Water), Sorption, Bacteria, Vinyl chloride, Alkenes, Oxidation reduction reactions, Environmental transport, Field tests, Models, In situ processes, Biotransformation, Remedial action, Ethylene/trichloro, Ethane/dichloro.

PB92-153881/REB PC **A03**/MF **A01**
Interlaboratory Study of Cellular Fluorescence Intensity Measurements with Fluorescein-Labeled Microbead Standards. Journal article.
Corvallis Environmental Research Lab., OR.
R. F. Vogt, G. D. Cross, D. L. Phillips, L. O. Henderson, and W. H. Hannon. c1991, 13p EPA/600/J-92/096
Pub. in Cytometry, v12 p525-536 1991. Prepared in cooperation with Centers for Disease Control, Atlanta, GA.

To determine the precision of cellular fluorescence intensity (FI) measurements derived from labeled microbead standards, FI results were compared from 43 different flow cytometers in 34 laboratories. All laboratories analyzed prepared aliquots of fluoresceinated calf thymocyte nuclei (Fluorotrol), human lymphocytes stained with fluoresceinated anti-CD4 antibody, and fluoresceinated microbeads used as both internal and external standards. Results for percent of events within the gates and the histograms returned by participants indicated that the samples had remained stable and that gated populations had been properly identified. All standard curves showed strong linearity, and the pooled results from all standards produced a best-fit curve that was in close agreement with the assigned values. Nonetheless, results for cellular FI were highly variable, with CVs of 20-34%. Agreement within lab/instrument was much better, with CVs ranging from 3.0 to 9.9%. The overall variability was not obviously attributable to differences in the types of cytometer, nor could it be explained by attributes of the standard curves or any other single variable examined.

Keywords: *Interlaboratory comparisons, *Fluorescence, *Cells(Biology), *Fluoresceins, T4 lymphocytes, Flow cytometry, Quality control, Humans, Reprints, *Microbeads.

PB92-154947/REB PC **A11**/MF **A03**
Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations. Technical rept.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
S. Garg. Mar 92, 242p EPA/530/R-92/011
See also PB91-120006.

The document provides permit writers and owners/operators of BIFs with technical guidance in implementing the BIF Rule requirements. The document specifically addresses certain precompliance and compliance certification activities, permitting, continued compliance with operating requirements, and associated planning and testing required for compliance with the rule. The document does not address every requirement or aspect of the BIF rule, nor does it discuss the rationale for the requirements. It does not supersede any of the BIF regulations promulgated under RCRA. Finally, it is not intended to address facility-specific and process-specific questions as they relate to the new rules. Owners and operators are advised to consult the Federal Register notices addressing BIF requirements.

Keywords: *Hazardous materials, *Combustion, *Regulations, *Waste treatment, Boilers, Furnaces, Manuals, Incinerators, Kilns, Exhaust gases, Monitoring, Chemical analysis, Combustion products, Compliance.

PB92-155381/REB PC **A06**/MF **A02**
Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
May 92, 116p EPA/700/C-92/004, EPA/700/C-92/036A
For system on magnetic tape, see PB92-501816.

Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as Title III) of the Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99-499) requires EPA to establish an inventory of toxic chemical emissions from certain facilities. Facilities subject to the reporting requirement are required to complete a Toxic Chemical Release Form (Form R) for specified chemicals. The form had to be submitted to EPA and those state officials designated by the governor, on or before July 1, 1988, and annually thereafter on July 1. The purpose of the reporting requirement is to inform the public and government officials about routine and accidental releases of toxic chemicals to the environment. It will also assist in research and the development of regulations, guidelines, and standards.

Keywords: *Toxic substances, *Hazardous materials, *Chemical compounds, Inventories, Pollution regulations, Facilities, Magnetic tapes, Emergency planning, Requirements, *Emergency Planning and Community Right to Know Act, *Superfund.

PB92-155399/REB PC **A04**/MF **A01**
Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Jan 92, 60p EPA/560/4-92/011, EPA/500/B-92/002, EPA/DF/DK-92/035A
For system on magnetic tape, see PB92-501774.

The consolidated chemical list includes chemicals subject to reporting requirements under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), also known as the Emergency Planning and Community Right-to-Know Act (EPCRA). It has been prepared to help firms handling chemicals determine whether they need to submit reports under sections 302, 304, or 313 of Title III and, for a specific chemical, what reports may need to be submitted. Separate lists are also provided of RCRA waste streams and unlisted hazardous wastes, and of radionuclides reportable under CERCLA. The lists should be used as a reference tool, not as a definitive source of compliance information. Compliance information is published in the Code of Federal Regulations, 40 CFR Parts 302, 355, and 372. The chemicals on the consolidated list are ordered by Chemical Abstract Service (CAS) registry number. Categories of chemicals, which do not have CAS registry numbers, but which are cited under CERCLA and section 313, are placed at the end of the list. For reference purposes, the chemicals (with their CAS numbers) are ordered alphabetically following the CAS-order list. Long chemical names may have been truncated to facilitate printing of the list.

Keywords: *Chemical compounds, *Waste management, Documentation, Listings, Superfund, Hazardous materials, Emergency planning, Toxic substances, Tables(Data), *Superfund Amendments and Reauthorization Act of 1986, *Emergency Planning and Community Right to Know Act, Comprehensive Environmental Response Compensation and Liability Act, CAS Registry Number.

PB92-155431/REB PC **A03**/MF **A01**
Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.
Protein Adducts for Exposure Monitoring: A Computerized Database. Software and User's Manual.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV.
F. C. Schnell. Jan 92, 43p* EPA/600/8-91/043, , EPA/SW/DK-92/037A
Contract EPA-68-CO-0049
For system on diskette, see PB92-501823. Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.

The user's manual contains directions for the installation and use of the computerized Protein Adducts Database (CPAD). Most of the documentation is also available on-screen in the form of CPAD's Readme files and program prompts. CPAD, a user-friendly, menu-driven, stand-alone DBASE application, was created to provide an efficient means of updating and disseminating information on protein adducts relating to their utility as dosimeters of exposure to environmental contaminants, especially genotoxic and/or carcinogenic compounds. The structure of the database as well as its initial contents were derived primarily from the document, Protein Adduct-Forming Chemicals for Exposure Monitoring: Chemicals for Further Study (EPA/600/4-89/035). Software for executing CPAD accompany the User's Guide on a single high density 3.5 in. diskette. The diskette contains (1) two versions of CPAD that run with DBASE III PLUS and DBASE IV, version 1.1, respectively, (2) the DBRUN files needed to run CPAD as a stand-alone DBASE III PLUS application, (3) a copy of the User's Manual (a WORDPERFECT 5.0 document file) which may be viewed on screen or printed out, and (4) the source code and unlinked object code files used to develop CPAD's main program.

Keywords: *Proteins, *Biological markers, *Exposure, *Environmental pollutants, Documentation, User manuals, Data bases, Carcinogens, Mutagens.

PB92-158542/REB PC **A03**/MF **A01**
Storage of Combined Sewage in a Marine Waterbody.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
K. Dunkers, R. Field, and A. Forndran. c1992, 20p EPA/600/A-92/060
Pub. in Urban Stormwater Quality Enhancement Conference Proceedings, p441-458. See also PB90-221706. Prepared in cooperation with Dunkers (Karl) Engineering Corp., Taby (Sweden), and New York City Dept. of Environmental Protection.

Instead of using conventional storage units, e.g., reinforced concrete tanks and lined earthen basins, which

are relatively expensive and require a lot of urban land area, the in-receiving water flow balance method (FBM) facilities use the receiving water body itself for storage volume. The FBM facilities receive and contain urban-storm-induced discharges between flexible plastic, e.g., fiberglass reinforced PVC (polyvinyl chloride) curtains suspended from floating wooden pontoons. The curtains are anchored to the receiving-water bottom by concrete weights. The Flow Balance Method of storage is low cost due to its low-cost materials of construction, i.e., plastic and wood; installation time, i.e., several days to weeks; and the absence of land requirements. Studies show that costs could be about 5 to 15 percent and 40 to 50 percent of conventional concrete tank costs for freshwater and saltwater applications, respectively (without including land costs). The FBM facilities have been operating successfully for approximately ten years for control of separate stormwater entering relatively quiescent freshwater lakes in Sweden, and are able to take ice and wind loads without adverse impact. The objective of the project which the paper discusses is to demonstrate a facility for Combined Sewer Overflow (CSO) storage in a harsh estuarine/marine site having tidal exchange, freezing, and coastal storm phenomena. The prototype demonstration facility located in Fresh Creek, a tributary of Jamaica Bay in Brooklyn, New York, U.S.A. started operation in November 1988. The evaluation includes CSO capturing efficiency under the impediments and flow saltwater and freshwater density differences and curtain leakage; structural ability to endure the harsh coastal marine environment; and floatables and settleable solids removal effectiveness. Interim data (including that from salinity profiling) from several storm-flow occurrences indicates that the salt-water-freshwater stratification phenomenon is enabling the facility to operate effectively and detailed results of the evaluation are presented.

Keywords: *Combined sewers, *Overflows, *Water storage, *Water pollution control, Storm sewers, Storm water drainage, Hydrology, Saline water-freshwater interfaces, Saline water intrusion, Coastal regions, Salinity, Storm water runoff, Reprints, *Flow balance method, *Water curtains.

PB92-161199/REB PC **A04/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Technical Aspects of Underground Storage Tank Closure. Final rept.
Camp, Dresser and McKee, Inc., Cambridge, MA.
A. N. Tafuri. Apr 92, 59p EPA/600/R-92/057
Contract EPA-68-03-3409
Prepared in cooperation with CDM Federal Programs Corp., Fairfax, VA. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The overall objective of the study was to develop a deeper understanding of UST residuals at closure: their quantities, origins, physical/chemical properties, ease of removal by various cleaning methods, and their environmental mobility and persistence. The investigation covered underground storage tanks containing: gasoline, diesel oil, and fuel oil. It obtained information in two phases. Phase I elicited data via telephone contacts with knowledgeable individuals including tank cleaning companies, from literature cited by these experts, on-site visits and from questionnaires completed by state representatives. Phase II monitored selected tank cleaning cases and made quantitative measurements of the amounts of residuals left in USTs before and after cleaning, characterizing the nature of the residuals and any rinses generated during the cleaning process. To support the objectives of the study, the following information was collected for each UST site included in the study: estimates of volumes of tank residuals and secondary wastes, hazardous characteristics and chemical composition of the residuals and secondary wastes, detailed descriptions of the cleaning methods used, and background information on the UST/site that relates to the nature of the residuals. The report documents the study findings in order to aid regulators and to assist those implementing/overseeing closure activities.

Keywords: *Underground storage, *Storage tanks, *Closures, *Remedial action, *Land pollution control, *Petroleum products, Waste management, Physicochemical properties, Information transfer, Residues, Field tests, Chemical analysis, Site surveys, Hazardous materials, Chemical composition, Surveys, Fuels.

PB92-161900/REB PC **A04/MF A01**
Reregistration Eligibility Document (RED): Silicon Dioxide and Silica Gel.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Sep 91, 63p EPA/540/RS-92/187
See also PB92-145432.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effects to people or the environment. The pesticide reregistration program is to be completed by the late 1990's. The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing silicon dioxide and silica gel do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration.

Keywords: *Pesticides, *Silicon dioxide, *Silica gel, *Standards, Marking, Labels, Tables(Data), Environmental exposure pathways, Lethal dose 50, Ecology, Occupational exposure, Diet, Toxicology, Risk assessment, *Reregistration, Federal Insecticide Fungicide and Rodenticide Act, CAS 63231-67-4.

PB92-161926/REB PC **A03/MF A01**
Reregistration Eligibility Document (RED): Carbon and Carbon Dioxide.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Sep 91, 47p EPA/540/RS-92/185
See also PB92-145424.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effects to people or the environment. The pesticide reregistration program is to be completed by the late 1990's. The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing carbon and carbon dioxide do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration.

Keywords: *Carbon, *Carbon dioxide, *Guidelines, Risk assessment, Marking, Labels, Storage, Tables(Data), Ecology, Toxicology, Diet, Occupational exposure, *Reregistration, Federal Insecticide Fungicide and Rodenticide Act, CAS 7440-44-0, CAS 124-38-9.

PB92-161934/REB PC **A03/MF A01**
Reregistration Eligibility Document (RED). Sodium Diacetate.
Environmental Protection Agency, Chamblee, GA. Office of Pesticides Programs.
Sep 91, 39p EPA/540/RS-92/186
See also PB92-145440.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effects to people or the environment. The pesticide reregistration program is to be completed by the late 1990's. The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing sodium diacetate do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration.

Keywords: *Pesticides, *Standards, Toxicology, Occupational exposure, Risk assessment, Tables(Data), Labels, Diet, Tolerances(Physiology), Metabolism, *Reregistration, *Sodium diacetate, Federal Insecticide Fungicide and Rodenticide Act, CAS 126-96-5.

PB92-161942/REB PC **A03/MF A01**
Reregistration Eligibility Document (RED): Dried Blood.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Sep 91, 29p EPA/540/RS-92/182
See also PB92-145465.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effect to people or the environment. The pesticide reregistration program is to be completed by the late 1990's. The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing dried blood do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration.

Keywords: *Pesticides, *Standards, Ecology, Toxicology, Risk assessment, Public health, Tables(Data), Regulations, *Reregistration, *Dried blood, Federal Insecticide Fungicide and Rodenticide Act, CAS 68911-49-9.

PB92-161959/REB PC **A05/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air Risk Information Support Center.
Health Effects and Dose-Response Assessment for Hydrogen Chloride Following Short-Term Exposure. Final rept.
Clement International Corp., Ruston, LA.
A. Shipp. Jan 92, 88p EPA/450/3-92/003
See also PB90-238890 and AD-A146 484. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air Risk Information Support Center.

A project investigated the development of dose-duration-response information for short-term exposure to hydrogen chloride. The approach is one alternative for providing the risk assessor/risk manager a readily available guide for decision making with respect to short-term exposure to hydrogen chloride. The objectives of the project were to provide a detailed analysis of the health effects associated with short-term exposure to hydrogen chloride and to propose an approach for evaluating the hazard to humans exposed to hydrogen chloride for short periods of time.

Keywords: *Hydrogen chloride, *Health hazards, *Toxicity, *Air pollution effects(Animals), *Air pollution effects(Humans), Dose-response relationships, Exposure, Injury severity score, Risk assessment, Laboratory animals, Malignant neoplasms, Inhalation.

PB92-161975/REB PC **A03/MF A01**
Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Sep 91, 36p EPA/540/RS-92/184
See also PB92-145473.

The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing a pesticide do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration. The document presents the Agency's decision regarding the reregistration case inorganic nitrate/nitrite, which covers products containing the active ingredients sodium and potassium nitrates. No registered pesticide products now contain nitrites. The document consists of five sections. Section I is the introduction. Section II describes sodium and potassium nitrates, their uses and regulatory history. Section III discusses the human health and environmental assessments based on the data available to the Agency. Section IV discusses the reregistration decision for sodium and potassium nitrates and Section V discusses product reregistration.

Keywords: *Pesticides, *Toxic substances, *Sodium nitrates, *Potassium nitrate, Standards, Regulations, Hazardous materials, Inorganic nitrates, Toxicology, Ecology, Path of pollutants, Environmental impact assessments, Risk assessment, Genetics, Agricultural

products, Labels, Public health, *Reregistration, Use patterns, CAS 7631-99-4, CAS 7757-79-1.

PB92-161983/REB PC **A03**/MF **A01**
Reregistration Eligibility Document (RED): Propionic Acid.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Sep 91, 34p EPA/540/RS-92/181
See also PB92-145891.

The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing a pesticide do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration. The document presents the EPA's decision regarding the reregistration eligibility of the active ingredient propionic acid. The document consists of five sections. Section I is the introduction. Section II describes propionic acid, its uses and regulatory history. Section III discusses the human health and environmental assessment based on the data available to the EPA. Section IV discusses the reregistration eligibility decision for propionic acid and Section V discusses product reregistration requirements.

Keywords: *Pesticides, *Toxic substances, *Propionic acid, Standards, Regulations, Hazardous materials, Toxicology, Ecology, Path of pollutants, Environmental impact assessments, Risk assessment, Genetics, Agricultural products, Labels, Public health, *Reregistration, Use patterns, CAS 79-09-4.

PB92-162551/REB PC **A09**/MF **A02**
Preliminary Use and Substitutes Analysis of Lead and Cadmium in Products in Municipal Solid Waste.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
27 Jan 92, 189p EPA/530/R-92/010
See also PB89-151039.

In 1989, EPA issued a report entitled 'Characterization of Products Containing Lead and Cadmium in Municipal Solid Waste in the U.S., 1970 to 2000.' The current report examines technologically feasible lead and cadmium substitutes for each of the products identified in the 1989 report. To provide perspective on the sources of lead and cadmium in MSW, Table SR-1 provides estimates for 1986 discards of both metals in each product use area. The report should be considered as a preliminary analysis due to the limitations of its scope. EPA has not performed primary research to identify the substitutes for lead and cadmium described in the report. Only substances identified in published sources or by industry contacts and that were known or considered to be potential substitutes have been included in the analysis.

Keywords: *Cadmium, *Solid waste disposal, *Lead(Metal), *Pollution control, Municipal wastes, Substitutes, Estimates, Industries, Cost analysis, Batteries, Disposal, Metal plates, Soldering, Feasibility studies, Plastics, Incinerators, Tables(Data), Heavy metals, Thermoplastics, Point sources, Nonpoint sources.

PB92-162569/REB PC **A07**/MF **A02**
Characterization of Products Containing Mercury in Municipal Solid Waste in the United States, 1970 to 2000.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Mar 92, 128p EPA/530/R-92/013

The purpose of the report is to identify the products in municipal solid waste that may contain mercury and to quantify, to the extent that data are available, the mercury present in these products. Since the data are presented in a time trend (1970 to 1989), the report helps to identify which products in MSW are making declining contributions of mercury and which are increasing. The information in the report can thus be used to identify opportunities for source reduction and removal of mercury from the municipal solid waste stream.

Keywords: *Consumer products, *Mercury(Metal), *Solid waste disposal, *Municipal wastes, Utilization, Batteries, Alkaline electrolytes, Electric batteries, Paints, Thermometers, Thermostats, Pigments, Trends, Heavy metals, Electric lighting.

PB92-164730/REB PC **A03**/MF **A01**
Radiological Survey of the Norfolk Naval Station, the Norfolk Naval Shipyard, and Newport News Shipbuilding. Final rept.
Office of Radiation Programs, Washington, DC.
E. L. Sensintaffar, and R. L. Blanchard. Sep 88, 29p EPA/520/5-88/017

The report presents results of the survey conducted by EERF personnel to assess levels of environmental radioactivity resulting from maintenance and operation of nuclear-powered warships at the Norfolk Naval Station, Norfolk Naval Shipyard and Newport News Shipbuilding. The purpose of the survey was to determine if activities related to nuclear-powered warships resulted in release of radionuclides which may contribute to significant population exposure or contamination of the environment.

Keywords: *Radiation monitoring, *Nuclear powered ships, *Radionuclide migration, Environmental monitoring, Public health, Cobalt 60, Radioecological concentration, Shipbuilding, Operations, Maintenance, Virginia, Sediments, Seawater, Norfolk(Virginia), Newport News(Virginia).

PB92-164748/REB PC **A03**/MF **A01**
Tiered Modeling Approach for Assessing the Risks Due to Sources of Hazardous Air Pollutants.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
D. E. Guinnup. Mar 92, 49p EPA/450/4-92/001
See also PB91-190983.

The document provides modeling guidance to support risk assessments as applied to stationary sources of hazardous air pollutants. The guidance focuses on procedures which may be used in support of the petition processes described in Title III of the Clean Air Act Amendments of 1990. The analysis approach described herein is a tiered one, in which each subsequent modeling tier requires additional site-specific information to produce a less conservative estimate of the risk associated with a given stationary source (or group of sources). The modeling approach begins with Tier 1 screening tables which require only source emission rates, stack heights, and nearest fenceline distances to estimate maximum cancer and/or noncancer risks. Tier 2 utilizes additional source parameters (including stack diameter, exit gas temperature and velocity, and nearby building dimensions) with the SCREEN computer program to develop more refined estimates of maximum risks. Tier 3 utilizes site-specific meteorological data, plant layout information, and release frequency data with the TOXST and TOXLT computer models to provide additional refinement to these assessments.

Keywords: *Air pollution control, *Computerized simulation, *Risk assessment, *Environmental health, *Atmospheric diffusion, Air pollution effects(Humans), Ecology, Clean Air Act, Pollution sources, Hazardous materials, Toxicity, Malignant neoplasms, Air quality dispersion models, Toxic substances, Stationary sources, Mathematical models, Exposure.

PB92-164797/REB PC **A06**/MF **A02**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Permeation of Multifunctional Acrylates through Three Protective Clothing Materials. Final rept.
Little (Arthur D.), Inc., Cambridge, MA.
R. Goydan, and T. Stolki. Apr 92, 109p EPA/600/R-92/049
Contract EPA-68-C9-0037
See also PB92-105691 and PB92-153915. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Permeation tests were conducted with trimethylolpropane triacrylate (TMPTA), 1,6-hexanediol diacrylate (HDDA), and two mixtures of 1,6-hexanediol diacrylate with 2-ethylhexyl acrylate (EHA) to better understand the permeation behavior of multifunctional acrylate compounds. The tests were conducted using the ASTM F739-85 permeation method with a silicone rubber sheeting material as the collection medium because of the low vapor pressure and low water solubility of the acrylate compounds. Permeation tests were performed at 20 C with butyl, nitrile, and natural rubber glove materials. None of the acrylate compounds nor mixtures was detected to permeate the butyl or nitrile rubber at the conditions and sensitivity of the method. Permeation of the natural rubber was detected in a test with pure HDDA, a 50% HDDA/50% EHA mixture, and a 25% HDDA/75% EHA mixture. TMPTA permeation through the natural rubber was also detected but only in one of the triplicate tests after the 360-480 min sampling interval. For pure HDDA, the breakthrough detection time was 30-60 min and the steady-state permeation rate was 0.92 microg/sq cm-min. For for HDDA/EHA mixtures, permeation of both mixture components was detected at the same time in each test. The breakthrough detection time was 30-60 min for the 50% HDDA/50% EHA mixture and was from 15-30 to 30-60 min for the 25% HDDA/75% EHA mixture. The HDDA steady-state permeation rates from the mixtures were somewhat higher than that measured for pure HDDA: 1.02 microg/sq cm-min for the 50% HDDA/50% EHA mixture and 1.35 microg/sq cm-min for the 25% HDDA/75% EHA mixture. The slight increase in permeation rate is attributed to the presence of the more rapidly permeating EHA carrier solvent, which has a permeation rate of 11.7 microg/sq cm-min from the 50% HDDA/50% EHA mixture and 20.0 microg/sq cm-min from the 25% HDDA/75% EHA mixture. Permeation tests with pure EHA, however, were not performed.

Keywords: *Protective clothing, *Permeating, *Diffusion barriers, *Hazardous materials, *Acrylates, Permeability, Performance prediction, Notification procedures, Notification procedures, Occupational safety and health, Natural rubber, Aliphatic acid esters, Chemical resistance, Synthetic elastomers, Premanufacture notification, Propane triacrylic acid/(methylolester), Hexanediol diacrylate, crylic acid/(ethylhexylester).

PB92-164805/REB PC **A04**/MF **A01**
Sensory Evoked Potentials: Measures of Neurotoxicity.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
W. K. Boyes. 1992, 57p EPA/600/A-92/065
See also PB88-104252.

There is a need for tests of sensory function to be incorporated in laboratory animal toxicity testing. It is clear that sensory dysfunction may frequently occur, but go undetected, in standard animal toxicological testing protocols. Sensory evoked potential technology can be employed to address this need, can provide information regarding perceptual deficits arising from toxic insults, and can yield information regarding possible mechanisms of action. In addition, sensory evoked potential changes in laboratory animals can be predictive of sensory changes in humans. Further research is needed to better define the neural substrates of evoked potentials and their perceptual correlates so that the implications of evoked potential changes for the cellular targets, mechanisms of actions, and perceptual correlates of evoked potential changes can be better understood. More extensive use of these tools in human and animal toxicology is needed to better understand the ability of this methodology to detect sensory changes, and to predict human toxicity from animal data.

Keywords: *Somatosensory evoked potentials, *Toxicology, *Nervous system, *Senses, Humans, Laboratory animals, CNS disorders, Species specificity, Toxic substances.

PB92-164813/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Evaluation of NOx Emissions from TVA Coal-Fired Power Plants.
Radian Corp., Research Triangle Park, NC.
J. W. Jones, and S. Stamey-Hall. 1991, 13p EPA/600/A-92/066
Contract EPA-68-D1-0031
See also PB-287 937. Presented at the AWMA Conference held in Durham, NC. on December 1-12, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper gives results of a preliminary evaluation of nitrogen oxide (NOx) emissions from 11 Tennessee Valley Authority (TVA) coal-fired power plants. Current EPA AP-42 emission factors for NOx from coal-fired utility boilers do not account for variations either in these emissions as a function of generating unit load, or in designs of boilers of the same general type, particularly wall-fired boilers. The TVA has compiled

short-term NOx emissions data from 30 units at 11 TVA coal-fired plants. These units include cyclone, cell burner, single wall, opposed wall, single tangential, and twin tangential boiler firing designs. Tests were conducted on 29 of the 30 units at high load; 18 were also tested at reduced load. NOx emissions rates were calculated for each test and compared to the calculated rate for each boiler type using AP-42. Preliminary analysis indicates that: (1) TVA cyclone-fired units emit more NOx than estimated using AP-42; (2) TVA cell burner units emit considerably more NOx than estimated; (3) most TVA single-wall-fired units emit slightly more NOx than estimated; (4) most TVA single-furnace tangentially fired units emit less NOx than estimated at high load, but the same as (or more than) estimated at reduced load; and (5) most TVA twin-furnace tangentially fired units, at high load, emit slightly more NOx than estimated using AP-42.

Keywords: *Nitrogen oxides, *Air pollution abatement, *Boilers, *Emission factors, *Coal, Design criteria, Coal fired power plants, Combustion products, Quality assurance, Quality control, Comparison, Stationary sources, Performance evaluation.

PB92-164821/REB PC **A03**/MF **A01**
Concentrations from Above-Roof Releases of Laboratory Exhausts: A Wind Tunnel Study. Rept. for Jan 90-Jan 91.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
R. S. Thompson. 1991, 12p EPA/600/A-92/067
See also PB81-201410. Presented at the ASHRAE Summer Symposium, Indianapolis, IN. in June 1991.

The aerodynamics of a building must be considered in selecting the location of the release point for laboratory exhaust. Releases too low may be entrained by the highly turbulent flow region and result in high concentrations on the building surface where building air intakes are located. Higher releases may result in high concentrations at ground level downwind of the building. Concentration measurements from a wind-tunnel study for several release locations above each of four rectangular buildings are presented and compared with some previous measurements and formulas. Both surface and ground-level values are presented. The ground-level concentrations are used to compute "building amplification factors," which are defined as the ratio of the maximum concentration from a source above the building to the maximum observed from the same source in the absence of the building. This simple measure of the influence of the building on the ground-level concentration showed the influence of the building to extend well above the building cavity.

Keywords: *Air pollution sampling, *Stacks, *Atmospheric diffusion, *Emission factors, Wind tunnels, Laboratories, Point sources, Concentration(Composition), Design criteria, Pollution sources, Buildings, Aerodynamics, Reprints.

PB92-164839/REB PC **A02**/MF **A01**
Stability and Transport of Inorganic Colloids through Contaminated Aquifer Material.
Robert S. Kerr Environmental Research Lab., Ada, OK.
R. W. Puls, R. M. Powell, and T. F. Rees. 1991, 6p EPA/600/A-92/068
Pub. in Geological Survey Toxic Substances Hydrology Program-Proceedings of the Technical Meeting, Monterey, CA., March 11-15, 1991, p507-510. See also PB91-168419 and PB92-158690. Prepared in cooperation with ManTech Environmental Technology, Inc., Ada, OK., and Geological Survey, San Diego, CA.

Laboratory columns using contaminated natural aquifer material from Globe, Arizona, were used to investigate the transport of inorganic colloids under saturated flow conditions. Fe2O3 radio-labeled spherical colloids of various diameters were synthesized and introduced into the columns under varying conditions of pH, ionic strength, electrolyte composition, and colloid concentration. Column influent and effluent were evaluated by photon correlation spectroscopy and scintillation-counting techniques. Effluent breakthrough concentrations of the colloid were as high as 57 percent of the influent concentration under conditions. In all cases where significant transport occurred, the colloids arrived at approximately the same time as a conservative tracer, tritium. Conditions favoring colloidal transport in the system were low ionic strength and a pH in the range where the colloids are stable. Arsenate was used as a model reactive contaminant to evaluate its facilitated transport on the Fe2O3 colloids. The calculated sorption capacity of the colloids from batch tests was 1 percent by weight for arsenate. Compared to dissolved arsenate transport in the same columns, the colloids were transported more than 21 times faster.

Keywords: *Colloids, *Water pollution, *Environmental transport, *Aquifer systems, *Inorganic compounds, Experimental design, Ground water, pH, Electrolytes, Ionic mobility, Porous media, Isotopic labeling, Tracer studies, Iron oxides, Arsenates, Chemical composition, Reprints, Globe(Arizona).

PB92-164847/REB PC **A03**/MF **A01**
Dosimetry of Localized Accumulations of Cigarette Smoke and Radon Progeny at Bifurcations. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
T. B. Martonen, and W. Hofmann. c1991, 11p EPA/600/J-92/114
Pub. in Radiation Protection Dosimetry, v38 n1 p81-89 Oct 91. See also PB89-130454. Prepared in cooperation with Salzburg Univ. (Austria). Dept. of Biophysics.

The work focuses upon deposition and clearance processes affecting cigarette smoke particles and radon progeny within surrogate airway models, replica casts and the human lung. As shall be demonstrated, 'cloud motion' for mainstream cigarette smoke can produce locations of enhanced deposition not experienced with dilute aerosols composed of like-sized particles. These sites of concentrated deposits occur at airway bifurcations, especially at the inclusive carinal ridges.

Keywords: *Radon, *Dosimetry, *Lung, Risk assessment, Trachea, Bronchi, Bronchial neoplasms, Reprints, *Cigarette smoke.

PB92-164854/REB PC **A03**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Developmental Toxicology Div.
Reversibility of Tributyltin-Induced Toxicity In vitro as a Function of Concentration and Duration of Exposure (C X T). Journal article.
NSI Technology Services Corp., Research Triangle Park, NC.
R. W. Zucker, E. J. Massaro, and K. H. Elstein. c1992, 12p EPA/600/J-92/115
Contract EPA-68-02-4450
Pub. in Environmental Research, v57 n1 p107-116 Feb 92. See also PB89-218192. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Developmental Toxicology Div.

The toxicity exhibited by murine erythroleukemic cells (MELC) exposed to tributyltin (TBT) is a function of both concentration (C) and duration of exposure (T). At or above a critical C x T product value (CPV), exposed MELC exhibit severe, irreversible toxicity: decreased membrane integrity (viability, measured by propidium iodide (PI) exclusion), grossly perturbed cell cycle distributions, and fixation of the plasma membrane/cytoplasm complex. Below the CPV, exposed cells exhibit retention of carboxyfluorescein (CF) fluorescence (indicative of decreased plasma membrane permeability) and decreased cell proliferation, a result of retardation of progression into, through, and out of the S (DNA synthetic) phase of the cell cycle. However, following washout and recovery, mean CF fluorescence, cell proliferative capacity, and cell-cycle kinetics return to control levels. These results suggest that the toxic changes induced by TBT exposure may be reversible if exposure conditions do not exceed the CPV.

Keywords: *Toxicity, *Dose-response relationships, Pesticides, Cell membrane permeability, Exposure, Cytoplasm, Fluorescence, S phase, Cell cycle, Acute erythroblastic leukemia, Deoxyribonucleic acids, Reprints, *Tributyltin.

PB92-164862/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Developmental Toxicology Div.
Developmental Effects of Methyl Benzimidazolecarbamate Following Exposure during Early Pregnancy. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
A. M. Cummings, M. T. Ebron-McCoy, J. M. Rogers, and B. D. Barbee. c1992, 8p EPA/600/J-92/116
Contract EPA-68-02-4450
Pub. in Fundamental and Applied Toxicology, v18 n2 p288-293 Feb 92. See also PB91-149765. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Developmental Toxicology Div.

Methyl 2-benzimidazolecarbamate (MBC) and its parent compound benomyl are used as agricultural fungicides. Both chemicals are embryotoxic if administered during organogenesis, and benomyl is teratogenic. Rats were administered MBC at 0, 100, 200, 400, or 600 mg/kg/day during Days 1-8 of pregnancy and killed on Day 11 or Day 20 of gestation. On Day 11, embryos were assessed for survival rate, growth parameters, and anomalies. On Day 20, standard developmental toxicity evaluations were performed. Doses of 200 to 600 mg/kg/day MBC reduced embryonic survival by Day 11; exposure to MBC at 100 to 600 mg/kg/day reduced the number of fetuses surviving on Day 20. Evidence of developmental delay was apparent on Day 11 at all doses, and fetal weight was reduced by Day 20.

Keywords: *Teratogenic compounds, *Pregnancy, *Fungicides, Benomyl, Dose-response relationships, Embryos, Ovum implantation, Mortality, Fetus, Reprints, *Methyl benzimidazolecarbamate.

PB92-164896/REB PC **A03**/MF **A01**
Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Genetic Toxicology Div.
T. V. Reddy, J. A. Stober, G. R. Olson, and F. B. Daniel. c1991, 13p EPA/600/J-92/119
Pub. in Cancer Letters 56, n3 p215-224 Mar 91. See also PB92-164938. Prepared in cooperation with Pathology Associates, Inc., West Chester, OH.

A selective list of polycyclic aromatic hydrocarbons (PAH) with varied carcinogenic and mutagenic potencies, which are identified as common contaminants at industrial sites and which often contaminate the neighboring ground water, are investigated for their ability to induce nuclear anomalies (NA) in the mouse gastrointestinal (G.I.) tract. These studies examined the hypothesis that a relationship between NA induction and carcinogenic potency of these PAH exists. Among the PAH tested, 7,12-dimethylbenzanthrene (DMBA) was most effective inducer of NA in all G.I. tract tissues examined, with the relative potency in duodenum of DMBA > > > benzo(a)pyrene (B(a)P) > > benzo(b)fluoranthene (B(b)F). The induction of NA by benzo(a)anthracene (B(a)A), pyrene (PY) and benzo(e)pyrene (B(e)P) was not different from that elicited by vehicle controls. MNU, a known potent inducer of NA in the mouse G.I. tract, yielded a high level of NA in duodenum and proximal colon but was less effective than DMBA in the forestomach. The data suggest that induction of NA by DMBA and B(a)P PAH are in approximate accordance with their relative carcinogenic potency in the gastrointestinal tract. When binary mixtures of some PAH were administered the yield of NA was less than that expected by simple additivity and closer to that expected by averaging the activities of the two PAH comprising the mixture. Thus, this short-term in vivo assay may be useful as a predictor of the genotoxic or carcinogenic strength of individual PAH and/or mixtures of these compounds. (Copyright (c) 1991 Elsevier Scientific Publishers Ireland Ltd.)

Keywords: *Toxicity, *Mutations, *Aromatic polycyclic hydrocarbons, *Cell nucleus, Carcinogens, Mutagens, Mice, Gastrointestinal system, Mixtures, Histology, Reprints.

PB92-164904/REB PC **A03**/MF **A01**
DNA Strand Breaks Induced in Cultured Human and Rodent Cells by Chlorohydroxyfuranones, Mutagens Isolated from Drinking Water. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
L. W. Chang, F. B. Daniel, and A. B. DeAngelo. c1991, 14p EPA/600/J-92/120
Pub. in Teratogenesis, Carcinogenesis, and Mutagenesis, v11 n2 p103-114 Mar 91.

Chlorohydroxyfuranones, by-products of chlorine disinfection and drinking water contaminants, are shown to produce DNA strand breaks in human and rodent cells. One chlorohydroxyfuranone, 3-chloro-4-dichloromethyl-5-hydroxy-2(5H)-furanone(MX), a potent bacterial mutagen, induces 232 + or - 89 DNA strand breaks/(cell-micromole) in human CCRF-CEM cells over a concentration range of 4.4 to 220 micromole. This constitutes a DNA damage potency comparable to dimethylsulfate (DMS). By comparison, 3,4-dichloro-5-hydroxy-2(5H)-furanone (MA), another chlorohydroxyfuranone which is approximately four orders of magnitude less mutagenic than MX in Salmonella typhimurium strain TA 100, is only about tenfold less potent as an inducer of DNA strand breaks in these cells, i.e., 18.2 + or - 3.1 strand breaks/(cell-micromole). The DNA strand-breaking potential of MX is inactivated by prior incubation with a rat liver S9 homogenate. In addition, both chlorohydroxyfuranones are ineffective at producing DNA strand breaks in primary rate hepatocytes (PRH) at concentrations below those which produce cytotoxicity as assessed by release of the cellular enzyme lactate dehydrogenase (LDH).

Keywords: *Toxicology, *DNA damage, *Mutagens, *Potable water, Cultured cells, Disinfection, Rats, Humans, Liver, Glutathione, Salmonella typhimurium, Cell survival, Lactate dehydrogenase, Metabolic activation, Reprints, *Chlorohydroxyfuranones.

PB92-164912/REB PC **A03**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Subacute and Subchronic Oral Toxicity of 1,3-Dichloropropane in the Rat. Journal article.
Hazleton Labs. America, Inc., Rockville, MD.
J. B. Terrill, M. Robinson, G. W. Wolfe, and L. H. Billups. c1991, 12p EPA/600/J-92/121
Contract EPA-68-03-4008
Pub. in Jnl. of the American College of Toxicology, v10 n4 1991. See also PB90-140831. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

1,3-Dichloropropane (DCP) was administered by gavage for 14 and 90 days to male and female Sprague-Dawley-derived rats (10/sex/group). Evaluations included body weight, food consumption, clinical signs, hematology, clinical chemistry, organ weights. and gross and microscopic pathology. In the 14-day study using levels of 200, 600 and 1800 mg/kg/day, all high-dose group animals died while none died in the other two treatment groups. Other signs associated with treatment in high-dose animals included languid behavior, salivation (also seen in mid-dose group animals), dyspnea and prostration. No differences were found between animals in the low or mid-dose groups compared to the control animals for body weight, food consumption, hematology, gross postmortem and histopathology data. Total protein and albumin blood levels were increased for low- and mid-dose females, and mid-dose females, respectively. The clinical chemistry findings appeared to be treatment-related as they were accompanied by significantly increased liver (absolute and relative: both sexes of mid-dose animals) and kidney weights (absolute and relative: mid-dose males).

Keywords: *Toxicity, Kidney, Rats, Food consumption, Body weight, Dose-response relationships, Hematology, Pathology, Organ weight, Blood chemical analysis, Males, Females, Reprints, *Dichloropropanes.

PB92-164920/REB PC **A03**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Comparative Subchronic Toxicity Studies of Three Disinfectants. Journal article.
Pathology Associates, Inc., West Chester, OH.
F. B. Daniel, L. W. Condie, M. Robinson, J. A. Stober, and R. G. York. cOct 90, 12p EPA/600/J-92/122
Pub. in Jnl. of the American Water Works Association, v82 n10 p61-69 Oct 90. See also PB86-229820. Prepared in cooperation with Computer Sciences Corp., Cincinnati, OH. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

In separate subchronic toxicity studies, male and female Sprague-Dawley rats received three water disinfectants in the drinking water for 90 consecutive days. The treatment levels were 25 mg/L, 100 mg/L and 175 mm/L and 250 mg/L for chlorine, and 25 mg/L, 50 mg/L, 100 mg/L and 200 mg/L for both monochloramine and chlorine dioxide. Controls received carbonated (ph buffered) drinking water. Water consumption for all three compounds decreased in a dose-related fashion with increasing concentration of disinfectant, most likely due to unpalatability. None of the disinfectants caused premature deaths in any concentration evaluated. The highest dose of chlorine tested (250 mg/L) was considered to be a no observable adverse effect level (NOAEL) as no body weight, absolute or relative organ weight, hematological, clinical or histopathological changes were observed in either sex. The monochloramine produced both decreased body and organ weights in both sexes (heart, liver, lung and spleen in males; liver, spleen and thymus in females) and a small decrease in red blood cell count and serum calcium in males, 200 mg/L. Thus, the concentration (circa 9-12 mg/kg-day) was considered the lowest observable effect level (LOAEL), while 100 mg/L was designated the NOAEL.

Keywords: *Toxicity, *Disinfectants, *Potable water, Tables(Data), Dose-response relationships, Rats, Chlorine, Body weight, Organ weight, Water consumption, Males, Females, Hematology, Pathology, Reprints, Chlorine dioxide, Monochloramine.

PB92-164938/REB PC **A02**/MF **A01**
Induction of Gastrointestinal Tract Nuclear Anomalies in B6C3F1 Mice by 3-Chloro-4-(Dichloromethyl)-5-Hydroxy-2(5H)-Furanone and 3,4-(Dichloro)-5-Hydroxy-2(5H)-Furanone, Mutagenic Byproducts of Chlorine Disinfection. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
F. B. Daniel, G. R. Olson, and J. A. Stober. c1991, 10p EPA/600/J-92/123
Pub. in Environmental and Molecular Mutagenesis 17, n1 p32-39 Jan 91. See also PB92-164896. Prepared in cooperation with Pathology Associates, Inc., Cincinnati, OH.

Two chlorinated hydroxylated furanones, 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone (MX) and 3,4-(dichloro)-5-hydroxy-2(5H)-furanone (MA), potent bacterial mutagens and by-products of chlorine disinfection, induce nuclear anomalies in the gastrointestinal tract of B6C3F1 mice. In this bioassay the two chlorohydroxyfuranones were approximately comparable to the epichlorohydrin (EPI), a known rodent gastrointestinal tract carcinogen but were much less potent than methylnitrosourea (MNU). The duodenum was the most sensitive tissue responding by both increased numbers of nuclear anomalies per mouse and increased incidence of animals presenting the aberrations 24 hours after a single oral dose of 0.38 and 0.46 mmol/kg of MX and MA respectively. The proximal colon responded to MX but not MA and neither compound produced increased nuclear anomalies in the forestomach. Although this is the first study demonstrating that chlorohydroxyfuranones are capable of inducing genotoxicity in vivo it is clear that their potency in the gastrointestinal tract nuclear anomalies assay is not comensurate with their extreme mutagenicity in Salmonella.

Keywords: *Gastrointestinal system, *Mutations, *Chlorine, *Disinfection, *Cell nucleus, Bioassay, Carcinogens, Mutagens, Salmonella, Epichlorhydrin, Methylnitrosourea, Micronucleus tests, Reprints, *Furanones.

PB92-164946/REB PC **A02**/MF **A01**
Subchronic Toxicity Study of Ozonated and Ozonated/Chlorinated Humic Acids in Sprague-Dawley Rats: A Model System for Drinking Water Disinfection. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
F. B. Daniel, M. Robinson, H. P. Ringhand, J. A. Stober, and N. P. Page. c1990, 8p EPA/600/J-92/124
Pub. in Environmental Science and Technology, v25 n1 p93-98 Jan 91. See also PB87-145629. Prepared in cooperation with Page Associates, Gaithersburg, MD., and Pathology Associates, Inc., West Chester, OH.

Male and female Sprague-Dawley rats were administered drinking water containing humic acids either non-disinfected or following ozonation (O3) or ozonation/chlorination (O3/CL2) for 90 consecutive days. Test animals drank either of two concentrations of humic acids, 0.25 and 1.0g/L total organic carbon (TOC), while controls received phosphate-buffered, distilled water. No consistent significant treatment-related effects were observed in body weight gain, organ weights, food or water consumption, or hematological and clinical chemistry parameters. No target organs were identified from the histopathological examination of the tissues. The most significant observation, an increase in liver to body weight ratio for the male animals in the 1.0g/LO3/CL2 humic acid group, was not observed in any other group, nor was it corroborated via any biochemical measurements or histopathological analysis. (Copyright (a) 1990 American Chemical Society.)

Keywords: *Potable water, Toxicity, Ozone, Chlorine, Disinfection, Rats, Body weight, Organ weight, Carbon, Humic acids, Food consumption, Water consumption, Tests, Reprints.

PB92-164961/REB PC **A03**/MF **A01**
VMT Forecasting and Tracking Guidance, Section 187.
Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.
Jan 92, 47p

The guidance is required by Section 187 (a) of the Clean Air Act Amendments of 1990. It offers the Environmental Protection Agency's (EPA's) recommendations on how to forecast and track vehicle miles traveled (VMT) in Moderate and Serious carbon monoxide (CO) non-attainment areas with design values greater than 12.7 ppm at the time of classification. The purpose of the guidance is to help states prepare State Implementation Plan (SIP) revisions that EPA can readily propose to approve as meeting the requirements of the Clean Air Act Amendments. If a state adheres to the guidance, EPA will propose approval of its SIP. A state intending to depart from the guidance, however, should show that the alternative approach it proposes is technically sound and adequate to meet the requirements of the Clean Air Act Amendments. EPA will review SIP submittals from such states on a case-by-case basis to determine whether they do in fact comply with the Clean Air Act Amendment requirements. States are encouraged to obtain EPA approval before using methods other than those specified in the guidance, in order to avoid later problems.

Keywords: *Pollution regulations, *Air pollution standards, *Exhaust emissions, *Tracking(Position), Motor vehicles, Carbon monoxide, Standards compliance, Clean Air Act, Forecasting, State implementation plans, Guidelines, Requirements, US EPA, Mobile pollutant sources, Concentration(Composition), *Vehicle Miles Traveled.

PB92-164979/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Phase Distributions of Airborne Polycyclic Aromatic Hydrocarbons in Two U.S. Cities. Rept. for Jun 91-Feb 92.
Battelle, Columbus, OH.
R. G. Lewis, T. J. Kelly, J. C. Chuang, P. J. Callahan, and R. W. Coutant. 28 Feb 92, 14p
Contract EPA-68-D0-0007
See also PB83-135426. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

Ambient air concentrations of 18 polycyclic aromatic hydrocarbons (PAHs) were monitored in Boston, Massachusetts and Houston, Texas. The PAHs were generated by fossil fuel and wood combustion, motor vehicle traffic, oil refineries, or other sources. Since PAHs may exist in air both as vapors and adsorbed on particles a denuder sampler that denudes the air of vapors and collects only particles was operated next to a traditional sampler at each site from August 27, 1990 to August 27, 1991. Phase distributions were determined on a seasonal basis. A significant proportion of each PAH was found to be in the vapor phase. The amount volatilized from the particles depended on vapor pressure, atmospheric concentration of the PAH, and ambient temperature.

Keywords: *Air pollution monitoring, *Aromatic polycyclic hydrocarbons, Mobile pollutant sources, Stationary sources, Urban areas, Air samplers, Particulates, Vapors, Seasonal variations, Boston(Massachusetts), Houston(Texas), Phase distribution.

PB92-164995/REB PC A02/MF A01
Clean Air Act Requirements for Trace Metals Information.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
D. Pahl, W. Hunt, and G. Evans. Jan 92, 8p EPA/600/A-92/069
See also PB84-245273.

The Clean Air Act Amendments of 1990 have expanded the requirements for trace metal and air toxics information in urban areas and added new requirements for this information in rural areas and ecosystems. Specific provisions germane to trace metals and other air toxics compounds are found in Title III, Section 112 and in Title IX, Section 901. In response to these provisions, the United States Environmental Protection Agency (EPA) plans to conduct research in atmospheric monitoring networks in urban areas, in the Great Lakes watershed, and in regional components of a national Clean Air Act status and trends network.

Keywords: *Trace elements, *Metals, *Air pollution, *Clean Air Act, Urban areas, Great Lakes, Air pollution monitoring, Regional analysis.

PB92-165000/REB PC A03/MF A01
Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.
Computer-Assisted Sperm Analysis of Rodent Epididymal Sperm Motility Using the Hamilton-Thorn Motility Analyzer.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
V. L. Slott, and S. D. Perreault. 1992, 25p EPA/600/A-92/070
Contract EPA-68-02-4450
See also PB92-124684. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.

Computer-assisted sperm motion analysis (CASA) can provide a comprehensive evaluation of sperm motility in an efficient and objective manner. The inclusion of CASA in reproductive toxicology studies on male rodents results in a more thorough characterization of adverse effects on spermatogenesis than the use of sperm counts or fertility data alone. Compared to human sperm, which CASA systems were developed for, rat sperm are considerably larger and the motion of the tracked images contains an added flagellar component due to the inclusion of the midpiece and tail in the digitized image. These differences must be taken into account when adapting CASA technology to assess rat sperm. Included in the chapter are techniques and recommendations for obtaining and maintaining quality sperm samples from the rat cauda epididymis, as well as procedures for handling, videotaping and analyzing the motility of these samples using the HTM-2000 Motility Analyzer (Hamilton-Thorn Research, Beverly, MA). Additionally, causes and remedies of possible sperm tracking errors for the machine and the utility of CASA technology are discussed.

Keywords: *Sperm motility, *Epididymis, Rats, Toxicology, Reproduction(Biology), Computer-assisted image analysis, Culture media, Videotape recording, *CASA(Computer-assisted sperm motion analysis).

PB92-166321/REB PC A03/MF A01
Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.
Isolation and Culture of Leydig Cells from Adult Rats.
Johns Hopkins Univ., Baltimore, MD. School of Hygiene and Public Health.
G. R. Klinefelter, W. R. Kelce, and M. P. Hardy. 1992, 28p EPA/600/A-92/071
Contract EPA-68-02-4450, Grant EPA-R-816056
See also PB91-191569. Prepared in cooperation with Population Council, New York. Center for Biomedical Research. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.

Testosterone is essential for quantitatively normal sperm production in the testis, normal sperm maturation in the epididymis, maintenance of the accessory sex organs, and effective sexual behavior. A variety of xenobiotics can result in a significant decrease in spermatogensis, sperm motility and fertility, libido, or simply the circulating level of testosterone. Thus, the ability to assess the steroidogenic capacity of the Leydig cell is pivotal to a complete characterization of toxicant-induced effects on reproductive function in the male. Previously, it was impossible to conduct definitive studies to identify direct toxicant-induced effects on Leydig cell function and viability since a method to provide viable, highly purified Leydig cell preparation was unavailable. Herein the authors describe such an isolation procedure as well as criteria for maintaining Leydig cells in primary culture. A primary culture of Leydig cells which maintains function over time, provides a model for those interested in addressing the more mechanistic issues in Leydig cell toxicology and permits the determination of the reversibility of toxicant-induced effects in vitro.

Keywords: *Leydig cells, *Cultured cells, Testosterone, Rats, Sperm motility, Cell survival, Culture media, Toxicology, Xenobiotics, In vitro analysis.

PB92-166339/REB PC A03/MF A01
Reflex Modification and the Assessment of Sensory Dysfunction.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
K. M. Crofton. 1992, 19p EPA/600/A-92/072
See also PB91-117036.

The chapter states, reflex modification of the startle response is a technique that can provide rapid, objective, and quantitative assessments of sensorimotor function. Advantages of the technique involve the ability to test animals rapidly, test without prior training, test without utilizing invasive procedures, and provide objective, independent estimates of both sensory and motor functioning. Reflex modification techniques hold great potential for use in neurotoxicology in both the identification and characterization of neurotoxic chemicals.

Keywords: *Senses, *Reflexes, *Toxicology, *Nervous system, Startle reaction, Sensory thresholds, Toxic substances, Audiometry, Mice, Hearing loss, Motor activity, Exposure.

PB92-166347/REB PC A03/MF A01
Neurobehavioral Toxicology. Chapter 2. Book chapter.
Health Effects Research Lab., Research Triangle Park, NC.
H. A. Tilson, and G. J. Harry. 1992, 47p EPA/600/A-92/073
Prepared in cooperation with National Inst. of Environmental Health Sciences, Research Triangle Park, NC.

The central nervous system (CNS) receives and integrates input and then responds to maintain bodily functions. The complex interaction of the nervous system with other organ systems suggests that it should be highly vulnerable to the deleterious effects of chemical and physical agents. The actual measurement of CNS dysfunction is made difficult since there are so many functions that might be assessed and there are few commonly accepted guidelines as to how to correlate many neurobehavioral changes with specific histopathological or neurochemical alterations.

Keywords: *Toxicology, *Central nervous system, *Behavior, Toxic substances, Neurobiology, Neurochemistry, Neuropsychological tests, Laboratory animals, Motor activity, Learning, Memory, Dose-response relationships, Signs and symptoms, Reflexes.

PB92-166354/REB PC A02/MF A01
Preliminary Results of a Pesticide Leaching Study at Plains, Georgia.
Environmental Research Lab., Athens, GA. Office of Research and Development.
C. N. Smith, and R. S. Parrish. 1992, 7p EPA/600/A-92/074
Pub. in Toxic Substances Hydrology Program, Proceedings of Technical Meeting, Monterey, CA., March 11-15, 1991. U.S. Geological Survey, Reston, VA., Report 91-4043, p605-609 1991. See also PB92-150473. Prepared in cooperation with Computer Sciences Corp., Athens, GA.

A comprehensive field data base is being developed for testing various chemical-transport models of pesticide leaching. Three Federal agencies (U.S. Environmental Protection Agency, U.S. Department of Agriculture, and U.S. Geological Survey) and the University of Georgia's Agricultural Experiment Station established a joint research team to investigate and model pesticide movement in a conventionally tilled corn field in the coastal plain of Georgia. The experimental study design, the monitoring procedures for unsaturated and saturated soil zones, and the data collection methods are presented in the context of a quantitative statistical model testing strategy. Compounds under study include carbofuran (2,3 dihydro-2,2-dimethyl-7-bezofuranyl methylcarbamate), atrazine (2-chloro-4-ethylamino-6-isopropylamino-1,3,5 triazine), alachlor (2-chloro-2'6'-diethyl-N-(methoxymethyl)-acetanilide), and a bromide tracer. Initial application losses were on the order of 15 to 39%. Of the three pesticides, only carbofuran persisted for 4 months and moved to levels as deep as 3 meters. Half-lives were estimated for all compounds on the basis of total mass in the soil profile.

Keywords: *Pesticides, *Environmental transport, *Environmental monitoring, Leaching, Statistical analysis, Environmental surveys, Field tests, Mathematical models, Georgia, Comparison, Performance evaluation, Aatrex, Carbofuran, Lasso, Chlorine organic compounds, Carbamates, Reprints, *Plains(Georgia).

PB92-166602/REB PC A02/MF A01
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
Environmental Research Lab., Athens, GA.
K. J. Novo-Gradac, and C. N. Smith. 1992, 6p EPA/600/A-92/075
See also PB91-183079. Prepared in cooperation with AScI Corp., Athens, GA.

The geochemical speciation model MINTEQA2 was applied to study the movement of highly acidic contaminants through a carbonate-bearing aquifer underlying a mine waste site at Globe, Arizona. The MINTEQA2 code was modified to allow the aquifer to be represented as a column through which a finite amount of contaminated water was allowed to pass. The distribution of contaminants among dissolved, adsorbed, and precipitated phases was tracked as a function of distance and the volume of acidic water that passed through the column. This type of modeling allows for an estimation of total contaminant loading within the column and forecasting of breakthrough events. This approach and its computer code may have further applications in the evaluation of in-situ remediation options.

Keywords: *Computerized simulation, *Geochemistry, *Water pollution, *Environmental transport, *Acidification, Sediments, Aquifers, Groundwater movement, Dissolving, Adsorption, Experimental design, Arizona, Precipitation(Chemistry), Remedial action, Waste management, Oxidation, Reprints, *MINTEQA2 model, Globe(Arizona).

PB92-166610/REB PC A02/MF A01
Treating Soil Solution Samplers to Prevent Microbial Removal of Analytes. Journal article.
Environmental Research Lab., Athens, GA.
D. L. Lewis, A. P. Simons, W. B. Moore, and D. K. Gattie. c1992, 7p EPA/600/J-92/126
Pub. in Jnl. Applied and Environmental Microbiology, v58 n1 p1-5 Jan 92. See also PB88-224928 and PB90-137084. Prepared in cooperation with Technology Applications, Inc., Athens, GA., Georgia Univ., Athens. Inst. of Ecology, Florida State Dept. of Agriculture and Consumer Services, Tallahassee, and Florida State Dept. of Environmental Regulation, Tallahassee.

Soil microorganisms colonizing soil water sampling devices (lysimeters) reduced concentrations of biodegradable organic chemicals, including 2,4-dichlorophenoxyacetic acid methyl ester, alachlor, methyl m-chlorobenzoate, and metolachlor as water entered through porous ceramic cups. In some cases, losses exceeded 99%. Additions of either a biocide (sodium hypochlorite) or a bacteriostat (copper salt) prevented microbial activity so that concentrations of test chemicals inside lysimeters equaled those outside. Field studies further indicated that treating lysimeters with a copper salt effectively prevented microbial activity. Thus, chemically treating soil water samplers could improve the accuracy of soil water data for a wide variety of analytes, including environmentally important organics, such as pesticides and industrial wastes, and inorganics, such as ammonia and nitrate. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Soil microbiology, *Biocides, *Pesticides, Microbial colony count, Field tests, Copper, Samplers, Water pollutants, Industrial wastes, Reprints.

PB92-166628/REB PC **A03**/MF **A01**
New Perspectives in Aquatic Redox Chemistry: Abiotic Transformations of Pollutants in Groundwater and Sediments. Journal article.
Environmental Research Lab., Athens, GA.
N. L. Wolfe, and D. L. Macalady. c1992, 20p EPA/600/J-92/127
Pub. in Jnl. of Contaminant Hydrology, v9 p17-34 1992. See also PB87-175659 and PB92-150481. Prepared in cooperation with Colorado School of Mines, Golden. Dept. of Chemistry and Geochemistry.

Presented is a review of recent advances in the chemistry of abiotic redox transformations of organic pollutants in anaerobic ecosystems. Particular attention is given to the types of functional groups that undergo reaction and the findings concerning physical and chemical parameters of ecosystems that govern the rates and products of redox transformations. Classes of compounds and structural features within these classes of compounds provide information about the intrinsic nature of the natural reductants. Further information is provided by studies that consider system variables such as sediment concentrations, organic carbon levels, pH, Eh, and temperature. While the identity of reducing agents that transform organic pollutants in anaerobic systems remains elusive, the reactivities of these agents are being characterized and compared with surrogate (model) reductants. It is apparent that chemical and biological reduction processes are strongly coupled, and there is increasing evidence for widespread mediation of reductive reactions by bio-organic molecules.

Keywords: *Oxidation reduction reactions, *Anaerobic processes, *Organic compounds, *Water pollution effects, Pesticides, Aquatic ecosystems, Ground water, Sediments, Chemical reactions, pH, Sediment - water interfaces, Degradation, Concentration(Composition), Physical properties, Chemical properties, Reaction Kinetics, Dissolved oxygen.

PB92-166636/REB PC **A02**/MF **A01**
Expert Systems Show Promise for Customer Inquiries. Management and Operations. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. M. Males, J. A. Coyle, H. J. Borchers, B. G. Hertz, and W. M. Grayman. c1992, 10p EPA/600/J-92/128
Pub. in Jnl. of American Water Works Association, v84 n2 p42-49 Feb 92.

The article describes results of a study to use expert systems technology in a water utility. The three-year study has resulted in the development of computerized expert systems whose basic principles should be broadly applicable to other water utilities. The system described in the article, called a customer query expert system, is designed to assist administrative personnel in handling customers' inquiries and complaints about water quality. The system has been developed as a prototype and will be placed in field operation for further testing and refinement in the near future. Significant effort, however, is expected to be necessary to move from prototype 'proof-of-concept' demonstrations to fully featured systems that are of practical use in the field.

Keywords: *Public utilities, *Water supply, *Expert systems, Water quality, Ground water, Consumer affairs, Public relations, Consumer problems, Knowledge bases(Artificial intelligence), Prototypes, Administration, Management, Reprints.

PB92-166644/REB PC **A03**/MF **A01**
Fluid Modeling Simulation of Stack-Tip Downwash for Neutrally Buoyant Plumes. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
W. H. Snyder, and R. E. Lawson. c1991, 16p EPA/600/J-92/129
Pub. in Atmospheric Environment, v25A n12 p2837-2850 1991. See also PB81-201410. Prepared in cooperation with National Oceanic and Atmospheric Administration, Research Triangle Park, NC. Atmospheric Sciences Modeling Div.

Downwash of neutrally buoyant effluent on the immediate lee side of a circular stack was modeled using a wind-tunnel simulation. Both subcritical and supercritical turbulent flows were simulated, where the criticality refers to Reynolds numbers below and above the critical Reynolds number, Re(sub c) (approximately equal to 2x10(5)), where the boundary layer on the cylinder becomes turbulent and the drag coefficient drops sharply. Subcritical Reynolds numbers are typically attained by small-diameter stacks in relatively light winds; supercritical ones are attained by large-diameter stacks in strong winds. The downwash characteristics differ markedly in the two regimes. In the subcritical regime, downwash begins when the ratio of effluent speed to wind speed (W/U) is about 1.5; in the supercritical regime, downwash begins at W/U approximately equal to 1.1. The downwash in the immediate lee of the stack at W/U = 0.3 extends to 7 diameters down from the stack top in the subcritical regime and to 4 diameters down in the supercritical regime. Graphs and simple formulas are presented describing the plume trajectories and plume widths for 0.3 < or = W/U < or = 2.0 and for downwind distances from the source to 30 stack diameters. Practical recommendations are made for modeling the downwash of neutrally buoyant plumes.

Keywords: *Fluid dynamics, *Air pollution, *Chimneys, *Plumes, Reynolds number, Simulation, Wind tunnels, Wind velocity, *Downwash, Reprints.

PB92-166651/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Evaluation of Gas Chromatography/Matrix Isolation Infrared Spectrometry for the Determination of Semivolatile Organic Compounds in Air Sample Extracts. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
J. W. Childers, N. K. Wilson, and R. K. Barbour. c1992, 11p EPA/600/J-92/130
Contract EPA-68-DO-0106
Pub. in Jnl. of Analytical Chemistry, 64, 1992. See also PB91-136317. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

The capabilities of gas chromatography/matrix isolation-infrared (GC/MI-IR) spectrometry for determination of semivolatile organic compounds (SVOCs) in air sample extracts were evaluated. Systematic experiments, using xylene isomers as test compounds, were conducted to determine the repeatability of the steps involved in GC/MI-IR measurements and to identify parameters that affect the precision in quantitation. The repeatability of MI-IR net absorbance measurements for single and replicate depositions was determined. The MI-IR net absorbance was nonlinear at concentrations higher than 52.1 ng/microliters, probably due to an increase in the sample spot size relative to the IR beam focus or a decrease in the matrix-to-solute ratio to less than acceptable matrix isolation conditions. The method detection limit for xylene isomers was between 1 and 2 ng/microliters injected on-column for routine measurements. Extensive signal averaging was required to obtain spectra at concentrations less than 1 ng/microliters. The method was tested by determining target SVOCs in ambient air sample extracts. The MI-IR quantitative results were compared to those from the system's flame ionization detector(FID). The FID response exhibited a high bias when unknown compounds coeluted with target analytes. The ability of GC/MI-IR to quantify target compounds in the presence of interferents and to discriminate between coeluting isomers is demonstrated.

Keywords: *Gas chromatography, *Infrared spectroscopy, *Volatile organic compounds, Air pollution, Xylenes, Isomers, Reprints, Air samples.

PB92-166669/REB PC **A02**/MF **A01**
Stability of Tropospheric OH during Ice Ages, Inter-Glacial Epochs and Modern Times. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
J. P. Pinto, and M. A. K. Khilil. c1991, 8p EPA/600/J-92/131

Hydroxyl (OH) radicals remove many man-made and natural gases from the atmosphere and therefore play a key role in global tropospheric chemistry. Recent increases in CH4 and CO have caused concern that the levels of OH may decrease, thus reducing the capacity of the atmosphere to remove and control man-made pollutants. The authors have modeled OH concentrations over a wide range of climatic conditions, to examine its long term stability and to determine the major factors causing changes in its levels. The authors used a one dimensional photochemical model based on measurements of CH4 and N2O from polar ice cores and current understanding of the sources and sinks of CO, H2, and NOY. The authors find that mean OH concentrations are strongly buffered against changes in the chemical and climatic state of the atmosphere. Their model calculations indicate that only a small part of the factor of five difference observed in methane concentrations between the present and the peak of the last ice age is due to changes in OH levels. It also appears that in the last 100-200 years human activities have more than doubled the atmospheric concentrations of CH4 and CO.

Keywords: *Troposphere, *Atmospheric chemistry, *Hydroxyl radicals, *Air pollution, *Natural emissions, Methane, Carbon monoxide, Concentration(Composition), Climates, Photochemical reactions, Nitrogen oxides(N2O), Chemical stability, Hydrogen, Nitrogen oxides, Pleistocene epoch, Glaciers, Man environment interactions, Reprints.

PB92-166677/REB PC **A02**/MF **A01**
Sampling and Analysis of PCDDs and PCDFs in Stationary Source Emission Air Samples. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
J. C. Pau, J. E. Knoll, and M. R. Midgett. 1992, 8p EPA/600/J-92/132
See also PB89-221311 and PB90-235847.

Polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzo-furans (PCDFs) are two classes of extremely toxic compounds produced and emitted into the environment as a result of combustion processes. Although no standard method for sampling or analysis of PCDDs and PCDFs currently exists, a method was drafted in 1984 for the purpose at an Environmental Standards Workshop sponsored by the American Society of Mechanical Engineers (ASME), Department of Energy, and U.S. Environmental Protection Agency (EPA). With the method, a Modified Method 5 (MM5) sampling train is used to collect samples for subsequent analysis by gas chromatography/mass spectrometry (GC/MS). The 'dioxin' method has been used during the U.S. EPA National Dioxin Study program for sampling and analysis of the combustion effluents from incineration processes. Validation of the stack sampling technique and the overall analytical method was needed to ensure the quality of the analytical data collected by use of the method. The overall method precision and accuracy also needed to be documented. The authors conducted a program to further develop and validate the method, and the authors evaluated the precision and accuracy in their study. The correct operational conditions and the QA criteria are presented in the article.

Keywords: *Air pollution sampling, *Air pollution detection, *Stationary sources, *Polychlorinated dibenzodioxins, *Polychlorinated dibenzofurans, Combustion products, Concentration(Composition), Gas analysis, Chemical analysis, Mass spectroscopy, X ray diffraction, Gas chromatography, Incineration, Quality assurance, EPA method S, Revisions, Samplers, Reprints, EPA method 23.

PB92-166685/REB PC **A03**/MF **A01**
Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
D. R. Scott. c1991, 13p EPA/600/J-92/133
Pub. in Jnl. Chemometrics and Intelligent Lab. Systems, v12 p189-200 1991. See also PB90-200676 and PB91-242990.

An improved method of estimating molecular weights of volatile organic compounds from their mass spectra has been developed and implemented with an expert system. The method is based on the strong correlation

of MAXMASS, the highest mass with an intensity of 5% of the base peak in a mass spectrum, with the true molecular weight. Linear corrections to MAXMASS, which yield molecular weight estimates, were derived empirically using the expert system. The system is based on a sequential modular design with a primary classifier linked to molecular weight estimators for the resulting six classes. These are non-halobenzenes; chlorobenzenes; bromoalkenes/alkenes; mono- and dichloroalkanes/alkenes; tri-, tetra- and pentachloroalkanes/alkenes; and others. Performance tests were made with the old and improved expert systems and the Self Training Interpretive and Retrieval System (STIRS) on NIST reference spectra of the 107 training compounds; on a set of 32 test NIST reference spectra of other compounds found in air samples; on a set of 100 randomly selected NIST reference spectra; and on 27 spectra taken from actual field gas chromatography/mass spectrometry samples.

Keywords: *Volatile organic compounds, *Molecular weight, *Spectrum analysis, *Mass spectroscopy, *Pattern recognition, *Expert systems, Performance evaluation, Air pollution, Error analysis, Reprints.

PB92-166693/REB PC **A02/MF A01**
Composition of Motor Vehicle Organic Emissions under Elevated Temperature Summer Driving Conditions (75 to 105 deg F). Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
F. D. Stump, K. T. Knapp, W. D. Ray, R. Snow, and C. Burton. c1992, 9p EPA/600/J-92/134
Pub. in Jnl. of Air Waste Management Association 42, p152-158. See also PB88-115001, PB88-169594 and PB91-146571. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

Emissions from seven late-model popular V-6 and V-8 motor vehicles were characterized at three test temperatures. The Urban Dynamometer Driving Schedule was used for vehicle tailpipe testing. Six vehicles fueled by port fuel injection (PFI) and one vehicle with a carbureted fuel system were tested at temperatures of 75, 90, and 105 F with unleaded regular summer grade gasoline. Tailpipe and evaporative emissions were determined at each test temperature. Measured emissions were the total hydrocarbons (THCs), speciated hydrocarbons, speciated aldehydes, carbon monoxide (CO), oxides of nitrogen (NOx), benzene, and 1,3-butadiene. In general, tailpipe emissions of THC, benzene, and 1,3-butadiene from the vehicles were not temperature sensitive, but the CO and NOx emissions showed some temperature sensitivity. Formaldehyde, acetaldehyde, and total aldehyde emissions from the PFI vehicles were also not temperature dependent, while formaldehyde emissions from the carbureted vehicle decreased slightly with increasing test temperature. Evaporative THC emissions generally increased with increasing test temperature. hydrocarbon emissions saturated and broke through the evaporative carbon canister of one PFI vehicle during the 105 F hot soak while the other six vehicles showed no hydrocarbon breakthrough.

Keywords: *Exhaust emissions, *Motor vehicles, *Unleaded gasoline, Summer, Carbon monoxide, Nitrogen oxides, Hydrocarbons, Aldehydes, Benzene, Carburators, Fuel injection, Evaporative emissions.

PB92-166701/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Polycyclic Aromatic Hydrocarbons and Their Derivatives in Indoor and Outdoor Air in an Eight-Home Study. Journal article.
Battelle, Columbus, OH.
J. C. Chuang, G. A. Mack, M. R. Kuhlman, and N. K. Wilson. c1991, 14p EPA/600/J-92/136
Contract EPA-68-02-4127
Pub. in Atmospheric Environment, v25B n3 p369-380 1991. See also PB87-129524 and PB88-242565. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

A pilot field study was performed in Columbus, Ohio during the winter of 1986-1987. The objectives were to determine the feasibility of the use of a newly developed quiet sampler in indoor air sampling for particles and semivolatile organic compounds (SVOCs), and to estimate the range of concentrations of polycyclic aromatic hydrocarbons (PAH), PAH derivatives, and nicotine in air in selected residences. Eight homes were chosen for sampling on the basis of these characteristics: electric/gas heat, electric/gas cookstove, and absence/presence of environmental tobaccos smoke (ETS). Fifteen PAH, five nitro-PAH, five oxygenated PAH, and three nitrogen heterocyclic compounds were determined. The sampler performed well and met all design expectations.

Keywords: *Residential buildings, *Indoor air pollution, *Air pollution sampling, Aromatic polycyclic hydrocarbons, Nicotine, Smoke, Tobacco, Natural gas, Design, Nitrogen heterocyclic compounds, Prototypes, Reliability, Ohio, Reprints, *Air samplers, Volatile organic compounds.

PB92-166719/REB PC **A01/MF A01**
Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
J. C. Pau, J. E. Knoll, and M. R. Midgett. c1991, 5p EPA/600/J-92/137
Pub. in Jnl. of Air and Waste Management Association, v41 n8 p1095-1099 Aug 91. See also PB87-109591 and PB89-151534.

A new Tedlar bag sampling system which consists of a 5-7-l bag and operates at a 50-ml/min sampling rate is proposed. The sampling system is much smaller than the traditional Tedlar bag sampling system, which consists of a 30-100-l bag and operates at 0.5 to 1 l/min. This proposed system simplifies field operation, transportation, and storage. The system was operated in the field side by side with the regular system to evaluate its performance in the sampling and analysis of carbon tetrachloride, chloroform, and butadiene. No bias was found in the new system relative to the regular system. The precision of the new system was also almost the same as that of the regular sampling system.

Keywords: *Samplers, *Organic compounds, *Air pollution sampling, Halohydrocarbons, Industrial wastes, Emission factors, Carbon tetrachloride, Concentration(Composition), Butadienes, Synthetic elastomers, Chloroform, Accuracy, Stability, Gas chromotography, Reprints, *Tedlar bag.

PB92-166727/REB PC **A02/MF A01**
High-Volume Impactor for Sampling Fine and Coarse Particles. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
V. A. Marple, B. Y. H. Liu, and R. M. Burton. c1990, 8p EPA/600/J-92/138
Pub. in Jnl. of Air Waste Management Association 40, n5 p762-767 May 90. Prepared in cooperation with Minnesota Univ., Minneapolis. Particle Technology Lab.

Final design, calibration, and field testing have been completed for a new 1.13 cu m/min (40 cfm) High-Volume Virtual Impactor (HVVI). Field tests have demonstrated that the new classifier/collector works well as an accessory to the existing PM(sub 10). Size Selective Inlet high-volume samplers. The HVVI provides two fractions of PM(sub 10) mass, both of which are collected by filtration. The fine fraction (0-2.5 micrometer aero. dia.) is collected on the standard 20.3 x 25.4 cm (8-x 10-in) high-volume filter; the coarse fraction (2.5-10 micrometer aero. dia.) is collected on a 5.1 x 15.2 cm (2- x 6-in) filter. Coarse flow through the receiver tubes is limited to 0.166 cu m/min (2 cfm), 5% of the total flow. The operating pressure drop across the HVVI stages is sufficiently high to make changes in pressure across the collection filters insignificant. The HVVI filter holder assembly facilitates loading/unloading samples in the laboratory, thus eliminating damage due to handling filters in the field. Size separation characteristics of the HVVI agree well with those for the 16.7 L/min commercially available dichotomous sampler with the 50% effectiveness (cut-point) occurring at 2.5 micrometer. (Copyright (c) 1990--Air and Waste Management Association.)

Keywords: *Impactors, *Particulates, *Air samplers, Particle size, Air pollution monitors, Filtration, Field tests, Reprints.

PB92-166735/REB PC **A02/MF A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Microbial Degradation of Toluene under Sulfate-Reducing Conditions and the Influence of Iron on the Process. Journal article.
Stanford Univ., CA. Dept. of Civil Engineering.
H. R. Beller, D. Grbic-Galic, and M. Reinhard. c1992, 10p EPA/600/J-92/139
Grant EPA-R-815721
Pub. in Applied and Environmental Microbiology, v58 n2 p786-793 Mar 92. See also PB91-212324. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

Toluene degradation occurred concomitantly with sulfate reduction in anaerobic microcosms inoculated with contaminated subsurface soil from an aviation fuel storage facility near the Patuxent River (Md.). Similar results were obtained from enrichment cultures in which toluene was the sole carbon source. Several lines of evidence suggest that toluene degradation was directly coupled to sulfate reduction in Patuxent River microcosms and enrichment cultures: (1) the two processes were synchronous and highly correlated, (2) the observed stoichiometric ratios of moles of sulfate consumed per mole of toluene consumed were consistent with the theoretical ratio for the oxidation of toluene to CO2 coupled with the reduction of sulfate to hydrogen sulfide, and (3) toluene degradation ceased when sulfate was depleted, and conversely, sulfate reduction ceased when toluene was depleted. Mineralization of toluene was confirmed in experiments with (ring-U-14C)toluene. The addition of millimolar concentrations of amorphous Fe(OH)3 to Patuxent River microcosms and enrichment cultures either greatly facilitated the onset of toluene degradation or accelerated the rate once degradation had begun. In iron-amended microcosms and enrichment cultures, ferric iron reduction proceeded concurrently with toluene degradation and sulfate reduction. Stoichiometric data and other observations indicate that ferric iron reduction was not directly coupled to toluene oxidation but was a secondary, presumably abiotic, reaction between ferric iron and biogenic hydrogen sulfide. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Land pollution control, *Microbial degradation, *Toluene, *Sulfate reducing bacteria, *Water pollution control, Anaerobic processes, Subsurface investigations, Aviation fuels, Biodeterioration, Environmental transport, Biocontrol, Iron, Oxidation, Chemical reactions, Storage tanks, Biochemistry, Aquifers, Patuxent River, Reprints.

PB92-166743/REB PC **A02/MF A01**
Personnel Protection through Reconnaissance Robotics at Superfund Remedial Sites. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
U. Frank, C. Esposito, and D. Sullivan. c1992, 6p EPA/600/J-92/140
Pub. in Jnl. of Air and Waste Management Association, v42 n3 p341-345 Mar 92. See also PB90-134164.

Investigation, mitigation, and clean-up of hazardous materials at Superfund sites normally require on-site workers to perform hazardous and sometimes potentially dangerous functions. Such functions include site surveys and the reconnaissance for airborne and buried toxic environmental contaminants. Workers conducting on-site air monitoring risk dermal, ocular and inhalation exposure to hazardous chemicals, while those performing excavations also risk in addition the potential exposure to fire, explosion, and other physical injury. EPA's current efforts to protect its workers and mitigate these risks include the use of robotic devices. Using robots offers the ultimate in personnel protection by removing the worker from the site of potential exposure. The paper describes the demonstration of a commercially-available robotic platform modified and equipped for air monitoring and the ongoing research for the development of a ground penetrating radar (GPR) system to detect buried chemical waste drums. These robotic devices can be ultimately routinely deployed in the field for the purpose of conducting inherently safe reconnaissance activities during Superfund/SARA remedial operations.

Keywords: *Superfund, *Robotics, *Occupational safety and health, *Air pollution monitoring, *Hazardous materials, Waste management, Occupational exposure, Inhalation, Reconnaissance, Computer aided

control systems, Robots, Remedial action, Site surveys, Environmental transport, Mitigation, Drums(Containers), Automatic control, Cleanup.

PB92-166750/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Use of Four-Dimensional Data Assimilation in a Limited-Area Mesoscale Model Part 2: Effects of Data Assimilation within the Planetary Boundary Layer. Journal article.
Pennsylvania State Univ., University Park. Dept. of Meteorology.
D. R. Stauffer, N. L. Seaman, and F. S. Binkowski.
c1991, 24p EPA/600/J-92/141
Grant EPA-R-814068-01-0
Pub. in Monthly Weather Review, v119 n3 p734-754 1991. See also N88-11239. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

A four-dimensional data assimilation (FDDA) scheme based on Newtonian relaxation or nudging has been developed and evaluated in the Pennsylvania State University/National Center for Atmospheric Research (PSU/NCAR) Limited-Area Mesoscale Model. It was shown in Part I of the study that continuous assimilation of standard-resolution rawinsonde observations throughout a model integration, rather than at only the initial time, can successfully limit large-scale model error growth (amplitude and phase errors) while the model maintains intervariable consistency and generates realistic mesoscale structures not resolved by the data. The purpose of the paper is to further refine the previously reported FDDA strategy used to produce 'dynamic analyses' of the atmosphere by investigating the effects of data assimilation within the planetary boundary layer (PBL). The data used for assimilation include conventional synoptic-scale rawinsonde data and mesoalpha-scale surface data. The main objective of the study is to determine how to effectively utilize the combined strength of these two simple data systems while avoiding their individual weaknesses. Ten experiments, which use a 15-layer version of the model, are evaluated for two midlatitude, real-data cases. (Copyright (c) 1991 American Meteorological Society.)

Keywords: *Numerical weather forecasting, Mesoscale phenomena, Planetary boundary layer, Atmospheric models, Atmospheric temperature, Atmospheric precipitation, Barometric pressure, Wind(Meteorology), Four dimensional, Reprints.

PB92-166768/REB PC **A02**/MF **A01**
Limited PCB Antagonism of TCDD-Induced Malformations in Mice. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
R. E. Morrissey, M. W. Harris, J. J. Diliberto, and L. S. Birnbaum. c1992, 9p EPA/600/J-92/142
Pub. in Toxicology Letters, v60 n1 p19-25 1992. Prepared in cooperation with Merck, Sharp and Dohme, West Point, PA.

Mice used to model induction of cleft palate and kidney malformations in offspring following maternal treatment with TCDD, were dosed on gestation day with hexachlorobiphenyl (HCB) and/or with tetrachlorodibenzo-p-dioxin (TCDD) to investigate the potential protective effects of HCB against TCDD-induced teratogenicity. At the doses used in the study, there was no effect of either compound on number of live or dead offspring. Fetal body weight was slightly decreased in all groups dosed with = or > 250 mg HCB/kg. HCB did not induce cleft palate at a dose of 1000 mg/kg, but did induce increases in hydronephrosis and hydroureter at 500 and 1000 mg/kg. Combinations of HCB and TCDD decreased the incidence of cleft palate induced by TCDD alone, but only at doses of 15 microgram TCDD/kg combined with 125-500 mg HCB/kg. The window for antagonism of hydronephrosis (incidence and severity) appeared narrower (15 microgram TCDD/kg + 500 mg HCB/kg). HCB induced increases (3 fold) in EROD activity at doses of 500 and 1000 mg/kg, suggesting that the limited antagonism of TCDD teratogenicity by HCB would be consistent with control by Ah receptor. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Teratogenic compounds, *Polychlorobiphenyl compounds, *Congenital abnormalities, *Tetrachlorodibenzodioxin, Cleft palate, Mice, Dose-response relationships, Hydronephrosis, Body weight, Fetus, Reprints.

PB92-166776/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Examination of the Anticonvulsant Properties of Voltage-Sensitive Calcium Channel Inhibitors in Amygdala Kindled Seizures. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
C. M. Mack, and M. E. Bilbert. c1992, 7p EPA/600/J-92/143
Pub. in Psychopharmacology, v106 n3 p365-369 Mar 92. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

Representatives from three different classes of voltage-sensitive calcium (VSC) channel inhibitors were assessed for their protection against amygdala kindled seizures. Adult male Long Evans rats (n=12) were implanted with electrodes in the amygdala and were stimulated once daily until generalized stage 5 seizures (GS) were observed. Subsequently a minimum stimulus intensity required to evoke a GS was determined. The Ca(sup 2+)-channel antagonists (nimodipine 0,5,25,50 mg/kg; nitrendipine 0,25,50,100 mg/kg; verapamil 0,10,20,40 mg/kg and flunarizine 0,20,40,80 mg/kg) were administered po 60-90 mins prior to amygdala stimulation at the established threshold. None of the drugs altered threshold for inducing a seizure. The phenylalkylamine, verapamil, and the dihydropyridines nimodipine and nitrendipine, were without effect on amygdala kindled seizures. The diphenylalkylamine flunarizine (80 mg/kg) produced a significant reduction in seizure severity (25%), AD duration (63%), and duration of clonic seizure activity (69%). It was concluded that non-NMDA Ca(sup 2+)-channel antagonists do possess anticonvulsant properties and do so in the absence of any overt signs of toxicity. The diphenylalkylamine flunarizine is the most efficacious. Thus voltage sensitive Ca(sup 2+)-channels, distinct from the NMDA mediated channel, may contribute to epileptiform activity induced by kindling. (Copyright (c) Springer-Verlag 1992.)

Keywords: *Anticonvulsants, *Calcium channel blockers, *Amygdala, *Kindling(Neurology), Nitrendipine, Verapamil, Nimodipine, Flunarizine, Dose-response relationships, *Pharmacology, Reprints.

PB92-166784/REB PC **A03**/MF **A01**
Advanced Emission Speciation Methodologies for the Auto/Oil Air Quality Improvement Research Program. 1. Hydrocarbons and Ethers. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
T. E. Jensen, W. O. Siegl, F. Lipari, J. F. Loo, and J. E. Sigsby. c1992, 31p EPA/600/J-92/144
Presented at International Congress and Exposition, Detroit, Michigan, February 24-28, 1992. Prepared in cooperation with Ford Motor Co., Dearborn, MI. Scientific and Research Lab., Society of Automotive Engineers, Inc., Warrendale, PA., and General Motors Proving Ground, Milford, MI.

An analytical method for the determination of hydrocarbon and ether emissions from gasoline-, methanol-, and flexible-fueled vehicles is described. This method was used in Phase I of the Auto/Oil Air Quality Improvement Research Program to provide emissions data for various vehicles using individual reformulated gasolines and alternate fuels. These data would then be used for air modeling studies. Emission samples for tailpipe, evaporative, and running loss were collected in Tedlar bags. Gas chromatographic analysis of the emissions samples included 140 components (hydrocarbons, ethers, alcohols and aldehydes) between C1 and C12 in a single analysis of 54-minutes duration. Standardization, quality control procedures, and interlaboratory comparisons developed and completed as part of this program are also described. (Copyright (c) 1992 Society of Automotive Engineers, Inc.).

Keywords: *Air pollution detection, *Exhaust emissions, *Air quality maintenance, *Hydrocarbons, *Ethers, Air quality data, Air pollution sampling, Gasoline, Fuel substitution, Mathematical models, Concentration(Composition), Gas chromatography, Alcohols, Aldehydes, Quality control, Interlaboratory comparisons, Reprints.

PB92-166792/REB PC **A03**/MF **A01**
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems. Journal article.
Environmental Research Lab., Athens, GA. Office of Research and Development.
W. J. G. M. Peijnenburg, M. J. 't Hart, H. A. den Hollander, D. van de Meent, and H. H. Verboom. c1991, 20p EPA/600/J-92/145
Pub. in Science of the Total Environment 109/110, p283-300 Dec 91. See also PB91-164939, PB92-166800 and PB92-166818. Prepared in cooperation with Rijksinstituut voor de Volksgezondheid en Milieuhygiene, Bilthoven (Netherlands). Lab. for Ecotoxicology, Environmental Chemistry and Drinking Water.

Quantitative structure-activity relationships (QSARs) are developed relating biotic and abiotic pseudo-first-order disappearance rate constants of halogenated hydrocarbons in anoxic sediments to a number of readily available molecular descriptors. Based upon knowledge of the underlying reaction mechanisms, four descriptors were selected: carbon halogen bond strength, the summation of the Hammett (aromatics) and Taft (aliphatics) sigma constants and the inductive constants (aromatics) of the additional substituents, carbon-carbon bond dissociation energy (aliphatics), and steric factors of the additional substituents. Comparison of the abiotic and biotic QSARs clearly showed the close similarities between both processes. By correlating the rate constants for reduction of a number of halocarbons obtained in a number of distinct sediment samples to the organic carbon content of the samples, the QSARs were made operative for predicting rates of reduction of given halocarbons in given sediment-water systems. The correlations were enhanced by taking into account the fraction of the compounds sorbed to the solid phase. (Copyright (c) 1991 Elsevier Science Publishers B.V.)

Keywords: *Structure activity relationships, *Reaction kinetics, *Water pollution, *Halogen organic compounds, Molecular structure, Abiotic environment, Biorhythms, Sediment water interfaces, Reduction(Chemistry), Physical properties, Environmental persistence, Bioaccumulation, Degradation, Reprints, *Quantitative Structure-Activity Relationship, Chemical reaction mechanisms.

PB92-166800/REB PC **A03**/MF **A01**
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems. Journal article.
Environmental Research Lab., Athens, GA. Office of Research and Development.
W. J. G. M. Peunenburg, M. J. 't Hart, H. A. den Hollander, D. van de Meent, and H. H. Verboom. c1992, 16p EPA/600/J-92/146
Pub. in Environmental Toxicology and Chemistry 11, n3 p301-314 Mar 92. See also PB91-164939, PB92-166818 and PB92-166792. Prepared in cooperation with Rijksinstituut voor de Volksgezondheid en Milieuhygiene, Bilthoven (Netherlands). Lab. for Ecotoxicology, Environmental Chemistry and Drinking Water.

Quantitative structure-activity relationships (QSARs) are developed relating initial and final pseudo-first-order disappearance rate constants of 45 halogenated aromatic hydrocarbons in anoxic sediments to four readily available molecular descriptors: the carbon-halogen bond strength, the summation of the Hammett sigma constants of the additional substituents, the summation of the inductive constants of these substituents, and the steric factors of the additional substituents. Comparison of the 'initial' and 'final' QSARs suggests that the same agent is involved as the reductant in both processes. The rate constants for reduction of seven haloaromatics obtained in 10 different sediment samples are correlated with the organic carbon content of the samples. The correlations are enhanced by taking into account the fraction of the compounds sorbed to the solid phase. (Copyright (c) 1992 SETAC.)

Keywords: *Structure activity relationships, *Reaction kinetics, *Water pollution, *Halogen aromatic hydrocarbons, Chemical bonds, Reduction(Chemistry), Chemical reactions, Microbial degradation, Tables(Data), Dehalogenation, Molecular structure, Halogen organic compounds, Reprints, *Quantitative Structure-Activity Relationships, Chemical reaction mechanisms.

PB92-166818/REB PC **A03**/MF **A01**
Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products. Journal article.
Environmental Research Lab., Athens, GA. Office of Research and Development.
W. J. G. M. Peijnenburg, M. J. 't Hart, H. A. den Hollander, and D. van de Meent. c1992, 14p EPA/600/J-92/147
Pub. in Environmental Toxicology and Chemistry 11, n3 p289-300 Mar 92. See also PB91-164939, PB92-166792 and PB92-166800. Prepared in cooperation with Rijksinstituut voor de Volksgezondheid en Milieuhygiene, Bilthoven (Netherlands). Lab. for Ecotoxicology, Environmental Chemistry and Drinking Water.

The degradation of several classes of halogenated aromatic hydrocarbons in methanogenic sediment-water systems was examined in laboratory studies. Several transformation processes were shown to occur, leading to formation of a variety of products. In the study a clear distinction could be made between transformation processes taking place immediately upon incubation of the compounds and processes taking place after a characteristic period of varying length. y-Irradiation was used to quench biological reactions and thus assess the impact of those processes on the overall rates of degradation of the studied compounds. The kinetics of both the initial and the final processes were pseudo-first-order, with half-lives ranging from <0.46 d to no detectable degradation for a number of multiple halogenated benzenes. Compounds were selected with the aim of obtaining a maximum variation in chemical reactivity and physical properties. The sediments were selected with the aim of assessing several environmental factors influencing the kinetics of reduction. (Copyright (c) 1992 SETAC.)

Keywords: *Halogen aromatic hydrocarbons, *Water pollution, *Anaerobic conditions, *Reaction kinetics, *Structure activity relationships, Oxidation reduction reactions, Sediment-water interfaces, Methane bacteria, Environmental persistence, Bioaccumulation, Microbial degradation, Reduction(Chemistry), Tables(Data), Hydrolysis, Reprints, *Quantitative Structure-Activity Relationship, *Chemical reaction mechanisms.

PB92-166826/REB PC **A05**/MF **A01**
Eastern Research Group, Inc., Arlington, MA.
Report of the EPA Peer Review Workshop on Alpha2U-Globulin: Association with Renal Toxicity and Neoplasia in the Male Rat. Held in Gaithersburg, MD. on November 13-14, 1990.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Aug 91, 93p EPA/625/3-91/021
Contract EPA-68-C8-0036
See also PB92-143668. Sponsored by Eastern Research Group, Inc., Arlington, MA.

The workshop report highlights issues and conclusions from a U.S. Environmental Protection Agency (EPA) workshop on the question of using certain rat kidney tumors for human risk assessment. The workshop was convened to acquire expert opinion on a draft EPA report entitled ALPHA (SUB 2u) -Globulin: Association with Chemically Induced Renal Toxicity and Neoplasia in the Male Rat (55 Federal Register 46994; November 8, 1990). The final Risk Assessment Forum (Forum) report, which is based in part on information described in the workshop report, is scheduled for publication in the fall of 1991. EPA is making the final Forum report and the workshop report available to the public through notices in the Federal Register.

Keywords: *Kidney neoplasms, *Meetings, Toxicity, Pollutants, Risk assessment, Rats, Adenoma, Kidney diseases, *Alpha 2 - microglobulins.

PB92-166834/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Environmental Criteria and Assessment Office.
Health Assessment Document for Vermiculite.
Dynamac Corp., Rockville, MD.
Sep 91, 33p EPA/600/8-91/037
Contract EPA-68-03-4140
See also PB85-183085 and PB88-123997. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Environmental Criteria and Assessment Office.

Vermiculite is a nonfibrous silicate mineral with multiple consumer uses that has been shown to contain various concentrations of asbestiform fibers. Vermiculite is a micaceous hydrate of magnesium-iron-aluminum silicates with the ability to exfoliate or expand up to 20 times its original size at high temperatures. It has high-cation-exchange capacity and a very low thermal conductivity. Most of the vermiculite mined and beneficiated is exfoliated and used in construction aggregates, insulation, and agricultural applications. Exposure to vermiculite occurs mainly via the inhalation route. Nonoccupational exposure to vermiculite is high. In 1979, approximately 13 million persons were estimated to have been exposed to vermiculite. The carcinogenicity classification for vermiculite is D. However, the weight of evidence for asbestos-contaminated vermiculite is sufficient to show a causal relationship for increased lung cancer in miners and millers.

Keywords: *Toxicology, *Vermiculite, *Air pollution, *Public health, Clay minerals, Insulation, Emission factors, Industrial production, Environmental transport, Humans, Exposure, Animals, Inhalation, Carcinogens, Workers, Mining.

PB92-166842/REB PC **A03**/MF **A01**
General Methods for Remedial Operations Performance Evaluations. Research rept.
Robert S. Kerr Environmental Research Lab., Ada, OK.
Jan 92, 46p EPA/600/R-92/002
See also PB89-184618, PB89-184626 and PB90-183583.

The document was developed by an EPA-funded project to explain technical considerations and principles necessary to evaluate the performance of groundwater contamination remediations at hazardous waste sites. This is neither a 'cookbook,' nor an encyclopedia of recommended field, laboratory, and data interpretation methods. Rather, the report presents and discusses suggested generic principles for formulating site-specific performance evaluation strategies for ground-water contamination remediations.

Keywords: *Water pollution control, *Ground water, *Remedial action, *Waste disposal, *Hazardous materials, Performance evaluation, Environmental transport, Base flow, Path of pollutants, Extraction, Plumes, Technology utilization, Factor analysis, Hydrogeology, *Cleanup operations.

PB92-166859/REB PC **A11**/MF **A03**
Annual Risk Reduction Engineering Laboratory Research Symposium (18th) Abstract Proceedings. Held in Cincinnati, Ohio on April 14-16, 1992.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Apr 92, 227p EPA/600/R-92/028
See also PB91-148379.

The document contains the extended abstracts (3 to 5 pages) of formal presentations scheduled for the 1992 Risk Reduction Engineering Laboratory to be held in April, 1992. These Proceedings are organized into two sections, Sessions A and B, which contain extended abstracts of the paper presentations. A list of poster displays is also included. Subjects include remedial action, treatment, and control technologies for waste disposal, landfill liner and cover systems, underground storage tanks, and demonstration and development of innovative/alternative treatment technologies for hazardous waste. Alternative technology subjects include thermal destruction of hazardous wastes, field evaluations, existing treatment options, emerging treatment processes, waste minimization, and biosystems for hazardous waste destruction.

Keywords: *Waste disposal, *Hazardous materials, *Waste treatment, *Meetings, Industrial wastes, Earth fills, Linings, Water pollution control, Ground water, Storage tanks, Underground storage, Incinerators, Kilns, Air pollution, Soils, Lead(Metal), Organic compounds, Ionizing radiation, Filtration, Waste recycling, Biodeterioration, *Remedial action, Waste minimization, Volatile organic compounds.

PB92-166867/REB PC **A03**/MF **A01**
Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.
Bioaccumulation of Contaminants in Crabs and Clams in Bellingham Bay.
Washington State Dept. of Ecology, Olympia.
J. Cubbage. Sep 91, 34p EPA/910/9-91/042
See also PB90-219049. Sponsored by Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.

Discharges to Bellingham Bay (WA) have led to high sediment concentrations of mercury and PCBs. The study sampled muscle tissue from crab (Cancer magister) and littleneck clams (Tapes japonica, Protothaca staminea) from the bay to evaluate potential levels of bioaccumulation of these and other contaminants. The muscle tissue was analyzed for PCBs, other organochlorine compounds, cadmium, arsenic, lead, and mercury. Clams were also tested for polycyclic aromatic hydrocarbons. Overall levels of contaminants examined were low compared with concentrations in tissue taken from areas with known sediment contamination.

Keywords: *Puget Sound, *Invertebrates, *Water pollution, *Estuaries, Bellingham Bay, Sampling, Crabs, Clams, Sediments, Tissue culture, In vitro analysis, Chlorine organic compounds, Mercury(Metal), Concentration(Composition), Toxicity, Lead(Metal), Pesticides, Tables(Data), Tests, Polychlorinated biphenyls, Cancer magister, Dungess crab, Protothaca staminea, Littleneck clams.

PB92-166875/REB PC **A04**/MF **A01**
Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.
Sampling and Analysis Design for Development of Everett Harbor Action Program. Draft rept.
Tetra Tech, Inc., Bellevue, WA.
Jul 86, 66p TETRAT-TC-3991-03, EPA/910/9-88/197
See also PB90-219072, PB90-227117, PB91-149567 and PB91-181800. Sponsored by Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.

The report is one component of an urban bay action program. This program identifies existing problems of toxic contamination and associated biological effects within the study area, identifies historic and ongoing sources of pollution, and identifies appropriate remedial actions and agency responsibilities for implementing defined corrective actions. The objective of this report is to provide the design for a sampling effort which will fill specific data and information gaps. This step was identified as being necessary for completing the interagency action plan. Specific components of this report include objectives for a sediment quality survey and biological effects studies (including bioassays, benthic invertebrate communities, bioaccumulation, and fish pathology), identification of sample variables, sampling methods, and laboratory analyses.

Keywords: *Water pollution effects, *Toxic substances, *Water pollution sampling, *Everett Bay, Pollution sources, Sediments, Biological effects, Bioassay, Bioaccumulation, Fishes diseases, Pathology, Sample preparation, Remedial action, Toxicity, Washington(State), *Everett Harbor Action Program, Puget Sound Estuary Program, Seattle(Washington).

PB92-166883/REB PC **A08**/MF **A02**
Beyond the Border: Environmental Management in Washington and British Columbia.
Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.
C. Nasser. 1 Jan 92, 156p EPA/910/9-91/038

The report provides an introduction to U.S. and Canadian systems of government as well as an overview of the major environmental agencies and laws in Washington and British Columbia. It summarizes the regulations and policies regarding different aspects of water quality and resource management, and highlights differences and similarities between the programs implemented. Final sections of the report feature existing transboundary cooperative agreements and recommend other areas in which additional cooperative efforts would benefit environmental management in both nations. This report provides comprehensive overviews of numerous environmental topics (i.e., point source discharges, dredging, wetlands protection and environmental monitoring, to name a few) and provides the names of contacts in both countries for those readers who may need additional information on specific topics. 'Beyond the Border' seeks to provide the reader with the appropriate background to investigate, understand and work toward solving regional environmental problems.

Keywords: *Environmental management, *Pollution laws, *Washington(State), Environmental protection, Environmental policy, Water quality management, Natural resources management, Comprehensive planning, Regional analysis, Federal agencies, Comparison, Government policies, United States, Canada, Environmental monitoring, Nonpoint sources, Point sources, Marine environments, *British Columbia, Puget Sound Estuary Program.

PB92-166891/REB PC **A03**/MF **A01**
Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.
Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
PTI Environmental Services, Bellevue, WA.
D. M. Johns, T. C. Ginn, and R. Ciammaichella. Jul 91, 28p EPA/910/9-91/026
Contract EPA-68-D8-0085
See also PB91-149591. Sponsored by Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.

The study reports the results of a long-term exposure of polychaete worms to contaminated sediments in the laboratory. The investigators sought to evaluate the relationship between juvenile worm growth rate and reproductive success in the same worms as adults. This relationship was considered critical in interpreting the significance of the Neanthes sublethal bioassay test. The results of this experiment and a related long-term exposure experiment indicate that there is a relationship between juvenile growth and reproductive success in Neanthes. A reduction in reproductive success was observed in the same sediments that reductions in juvenile growth were observed. The data from this study indicate that significant reductions in growth during the juvenile stage are associated with subsequent reproductive failure of adults during continued exposure to contaminated sediments.

Keywords: *Sediments, *Worms, *Toxicity, *Reproduction(Biology), *Growth, *Water pollution effects(Animals), Inorganic compounds, Organic compounds, Bioassay, Elliot Bay, Puget Sound, Dose-response relationship, Tests, Exposure, Tables(Data), Biomass, *Neanthes arenaceodentata, Puget Sound Estuary Program.

PB92-166917/REB PC **A08**/MF **A02**
Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.
Reference Area Performance Standards for Puget Sound.
PTI Environmental Services, Bellevue, WA.
Sep 91, 151p EPA/910/9-91/041
Contract EPA-68-D8-0085
See also PB85-238053. Sponsored by Environmental Protection Agency, Seattle, WA. Puget Sound Estuary Program.

Chemical and biological conditions in the sediments at sites in three areas of Puget Sound were analyzed as part of the study. Analysis of sediments from Samish Bay, Holmes Harbor, and Carr Inlet included chemical concentrations, total organic carbon, acid-volatile sulfides, total solids, grain size distribution, and sediment toxicity as measured by amphipod mortality, bivalve larvae mortality and abnormality, echinoderm embryo mortality and abnormality, juvenile polychaete mortality and biomass, and saline Microtox bacterial luminescence bioassays. The performance standards developed for Puget Sound sediment reference sites will provide a consistent basis for comparison and use of sediment data collected by various programs. Based on the performance standards developed, the report found specific stations in Carr Inlet, Holmes Harbor, and Samish Bay to be suitable as sediment reference areas.

Keywords: *Invertebrates, *Sediments, *Water pollution, *Puget Sound, *Samish Bay, Sampling, Chemical analysis, Metals, Lead(Metal), Carbon compounds, Organic compounds, Sulfides, Aromatic polycyclic hydrocarbons, Bioassay, Toxicity, Crustacea, Worms, Mortality, Sites, Standards, Polychlorinated biphenyls.

PB92-166925/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Controlling Odorous Emissions from Iron Foundries. Final rept.
Pechan (E.H.) and Associates, Inc., Durham, NC.
G. Gschwandtner, and S. Fairchild. Apr 92, 30p EPA/600/R-92/058
Contract EPA-68-D0-0120
See also PB90-266743 and PB91-223206. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report discusses the control of odorous emissions from iron foundries. The main process sources of odors in iron foundries are mold and core making, casting, and sand shakeout. The odors are usually caused by chemicals, which may be present as binders and other additives to the molding sand, or as breakdown products when these chemicals are subjected to molten iron as it is poured into molds. There are many binder formulations; typical formulations are based on using some form of an oil, urethane, formaldehyde, phenol, or furan. Common additives include coal, cereals, and starches, clays, and refractory minerals such as silica. A great many possible compounds can be formed when these chemicals are exposed to molten iron. Common particulate removal technologies may also reduce odors, although the odors are probably caused by vapor-phase compounds which are not well controlled by cyclones and bag filters. Carbon adsorption may be effective, but might also be very expensive. Wet scrubbers with special additives in the water may be more effective, but may have drawbacks such as generating a waste water treatment requirement and the potential for corrosion. Another technology, reportedly used in Europe, is biofiltration.

Keywords: *Air pollution control, *Odor control, *Iron and steel industry, *Chemical compounds, Foundaries, Shaking, Casting, Molds, Binders(Materials), Additives, Cores, Particles, Scrubbing, Adsorption, Biotechnology.

PB92-166933/REB PC **A03**/MF **A01**
Report of the Great Lakes Air Toxics Research Priorities Workshop. Held at Navarre, Minnesota on March 11-13, 1991.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
L. Cupitt, J. Ching, and J. Baker. Apr 92, 49p EPA/600/R-92/029
See also PB87-186292.

A three day workshop sponsored by EPA was held at the University of Minnesota in March, 1991. Nearly 40 scientists and environmental managers from both the U.S. and Canada representing a broad variety of disciplines participated. The objective of the workshop was to discuss the research program required to identify and assess the extent of atmospheric deposition of hazardous air pollutants to the Great Lakes in accordance with Annex 15 of the Great Lakes Water Quality Agreement (1987) and with the Clean Air Act Amendments of 1990. The report represents a consensus and prioritization of the research required to meet that objective by the workshop attendees.

Keywords: *Air pollution, *Water pollution, *Great Lakes, *Meetings, United States, Agreements, Canada.

PB92-166941/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Theoretical Evaluation of Stability of Volatile Organic Chemicals and Polar Volatile Organic Chemicals in Canisters.
Battelle, Columbus, OH.
R. W. Coutant. 18 Feb 92, 49p EPA/600/R-92/055
Contract EPA-68-DO-0007
See also AD-A192 435. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

A mathematical model was developed for describing loss by physical adsorption of volatile organic chemicals (VOCs) and polar volatile organic chemicals (PVOCs) in stainless steel canisters. The model incorporates compound specific properties such as polarizability, vapor concentration, temperature, and equilibrium vapor pressure. Experimental results show that the model correctly predicts the loss of VOCs in canisters from very dry samples. A listing which documents the software program that implements the model is included in the report. With the program, a user can predict the stability of VOCs and PVOCs in multicomponent mixtures including water vapor under user-specified conditions of temperature and pressure. Physicochemical data needed for the model are provided for more than sixty compounds.

Keywords: *Volatile organic compounds, *Air samplers, *Cans, *Desorption, *Mathematical models, Stability, Adsorption, Computer programs, Tables(Data).

PB92-166958/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Natural Basement Ventilation as a Radon Mitigation Technique. Final rept. Jun 89-Feb 91.
Princeton Univ., NJ. Center for Energy and Environmental Studies.
A. Cavallo, K. Gadsby, and T. A. Reddy. Apr 92, 44p EPA/600/R-92/059
See also PB90-262924 and PB92-124148. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report documents a study of natural basement ventilation in two research houses during both the summer cooling season and the winter heating season. (NOTE: Natural basement ventilation has always been recommended as a way to reduce radon levels in houses. However, its efficacy has never been documented. It has generally been assumed to be a very inefficient mitigation strategy since it was believed that dilution was the mechanism by which radon levels were reduced.) Ventilation rates, environmental and house operating parameters, and radon levels have been monitored; it can be concluded that natural ventilation can reduce radon levels two ways: (1) by simple dilution, and (2) although less obvious, by providing a pressure break that reduces basement depressurization and thus the amount of radon-contaminated soil gas drawn into the house. Thus, basement ventilation can be a much more effective mitigation strategy than was previously believed. It might be especially useful in houses with low radon concentrations (of the order of 10 pCi/L) or those with low levels that cannot be mitigated cost-effectively with conventional technology.

Keywords: *Radon, *Residential buildings, *Basements, *Ventilation, *Air pollution control, Indoor air pollution, Stationary sources, Feasibility, *Natural ventilation.

PB92-166966/REB PC **A11**/MF **A03**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Pilot-Scale Evaluation of the Thermal Stability POHC Incinerability Ranking.
Acurex Corp., Mountain View, CA. Environmental Systems Div.
J. W. Lee, W. E. Whitworth, and L. R. Waterland. Apr 92, 231p EPA/600/R-92/065
Contract EPA-68-C9-0038
See also PB84-128677 and PB91-182733. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

A test series were performed at the U.S. EPA Incineration Research Facility (IRF) to evaluate the thermal-stability-based principal organic hazardous constituent (POHC) incinerability ranking. Mixtures of twelve POHCs with predicted incinerabilities spanning the range of most- to least-difficult-to-incinerate classes were combined with a clay-based sorbent matrix and fed to the facility's pilot-scale rotary kiln incinerator. Kiln operating conditions were varied to include a baseline operating condition, three modes of attempted incineration failure, and a worst-case combination of the three failure modes. Kiln-exit POHC destruction and removal efficiencies (DREs) were in the 99.99% range for the volatile POHCs during the baseline, mixing failure and matrix failure tests. Semivolatile POHCs were not detected at the kiln exit for these tests; corresponding DREs were generally greater than 99.999%. The thermal failure and worst-case tests resulted in substantially decreased kiln-exit POHC DREs, ranging from less than 99% to greater than 99.999%. General agreement between measured and predicted relative kiln-exit POHC DREs was observed for those two tests.

Keywords: *Air pollution sampling, *Incinerators, *Hazardous materials, *Waste disposal, *Combustion efficiency, Failure, Pilot plants, Ranking, Volatile organic compounds, Thermal stability, Continuous sampling, Flue gases, Air pollution control, Concentration(Composition), Quality assurance, Kilns, Performance standards, Pollution regulations, *Principal organic hazardous constituent.

PB92-169358/REB PC **A04/MF A01**
Environmental Monitoring Systems Lab., Las Vegas, NV.
GIS Technical Memorandum 3: Global Positioning Systems Technology and Its Application in Environmental Programs.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV. Environmental Programs Office.
R. Puterski, J. A. Carter, M. J. Hewitt, H. F. Stone, and L. T. Fisher. Feb 92, 71p EPA/600/R-92/036
Contract EPA-68-C0-0050
Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV.

Global Positioning Systems (GPS) are a location determination technology that offers significant opportunities for obtaining highly accurate locational data at low cost. In order for the technology to perform up to its capabilities in Agency applications, Environmental Protection Agency (EPA) staff will need to develop a greater understanding of the technology itself, coordinate systems, surveying, and basic geodesy. EPA has been collecting expertise in the use of the technology over the last 3 years via pilot use of GPS systems to enhance locational control in Agency projects. In order to operationalize the use of the technology within EPA, there also exists a need to develop concise standard operational procedures and methodologies for its use. The document is a beginning toward fulfillment of these needs. It is intended to be an introductory reference that describes the technology and how it could be employed in EPA work. It provides an overview of survey methods from initial planning to data reduction and postprocessing. Ancillary but important issues such as reference datums and use with geographic information systems are covered in order to provide the reader additional context regarding the use of the spatial information in a project environment. Case studies performed by the Environmental Monitoring Systems Laboratory, Las Vegas, are also included in the document as auxiliary background that may provide helpful techniques.

Keywords: *Global positioning system, Geographic information systems, Technology utilization, Surveying(Geographic), Environment, US EPA, Uses.

PB92-169390/REB PC **A99/MF E08**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Proceedings on the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (6th). Held in Seattle, Washington on December 3-7, 1991.
Duxbury (Dana) and Associates, Andover, MA.
Dec 91, 788p* EPA/530/R-92/016
Grant EPA-T-901776-02-0
Prepared in cooperation with Governmental Refuse Collection and Disposal Association, Silver Spring, MD., and Washington State Dept. of Ecology, Olympia. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

The book captures the comments from real experts on household hazardous waste management. Topics include: Used Oil; Farm Pesticides Collection Programs; Cleaning Products; Urban Issues; Automotive Products; Household & Community Pesticides; Fluorescent Lights; State HHW Programs; Paint; Rural Issues; Health and Safety Concerns; Siting Permanent Facilities; Overview of Toxicity & Volume Reduction of HHW; Toxic Taxis; Permanent Mobile Facility Case Studies; Household Batteries; Educating the General Public; Educating the Student; and International Experiences.

Keywords: *Household wastes, *Meetings, *Waste management, Hazardous materials, US EPA, Pesticides, State programs, Cleaning agents, Toxicity, Fluorescent lamps, Electric batteries, Education, Public information, Case studies, Waste minimization, Source reduction, Small systems.

PB92-169523/REB PC **A05/MF A01**
EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
Sep 91, 86p EPA/DF/DK-92/040A
For system on diskette, see PB92-501972.

EPA has developed a database of sources of information on the chemicals listed in Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). The database is intended to assist users of the Section 313 Toxic Release Inventory (TRI) data to perform assessments of these chemicals. The Roadmaps system displays and/or prints out information for the EPCRA Section 313 chemicals on health and environmental effects, carcinogenicity and other properties, federal regulations, and state air and water regulations and monitoring data. It also includes lists of state contacts. The document describes the design of the EPCRA Section 313 Roadmaps Database microcomputer program, and provides instructions for using the system.

Keywords: *Risk assessment, *Chemical compounds, *Toxic substances, *Public health, *Environmental effects, *User manuals(Computer programs), Exposure, Federal law, Pollution regulations, Monitoring, Carcinogens, Sources, Information transfer, Documentation, *Roadmaps system, Superfund Amendments and Reauthorization Act, Toxic release inventory.

PB92-170166/REB PC **A15/MF A03**
Air Pollution Effects on Biodiversity.
Corvallis Environmental Research Lab., OR.
J. R. Barker, and D. T. Tingey. Apr 92, 328p EPA/600/R-92/056
See also PB91-148460. Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR.

To address the issues of air pollution impacts on biodiversity, the U.S. Environmental Protection Agency, Environmental Research Laboratory in Corvallis, OR, the U.S. Fish and Wildlife Service National Fisheries Research Center in Leetown, and the Electric Power Research Institute convened a workshop to evaluate current knowledge, identify information gaps, provide direction to research and assess policy issues. In order to obtain the most current and authoritative information possible, air pollution and biodiversity experts were invited to participate in a workshop and author the papers that make up this report. Each paper was presented and discussed, then collected in this document. The material has been organized into four parts: an introduction, an overview of air pollution exposure and effects, the consequences of air pollution on biodiversity, and policy issues and research needs.

Keywords: *Meetings, *Air pollution, *Species diversity, *Biological effects, *Ecosystems, Water pollution effects, Air pollution effects(Plants), Air pollution effects(Animals), Plants(Botany), Exposure, Environmental transport, Genetic effects, Reproduction, Biological communities, Terrestrial ecosystems, Aquatic ecosystems, Air water interactions, Environmental policy, Research and development.

PB92-170174/REB PC **A04/MF A01**
Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities. Draft rept.
Health Effects Research Lab., Research Triangle Park, NC.
J. Elder. 1 Jun 91, 54p EPA/600/9-91/016A, OHR-91-001
See also PB89-209985 and PB91-133231.

The document is a research strategy for electric and magnetic fields (EMF). Research discussed will provide information to allow better assessment of any health effects that might be found to be associated with EMF. The discussion is devoted to EMF in the range of 0 to 500,000 Hertz. The strategy evaluates research needs in four major areas: (1) animal and human studies to determine any possible health effects of EMF exposure; (2) investigation of biophysical mechanisms, including both physical and biological interactions, that underlie any observed effects; (3) improved assessment of human exposure to EMF, including source identification and characterization, instrumentation development, exposure measurement and modeling, EMF coupling to biological objects, and laboratory exposure systems; and (4) development of control technology to prevent and reduce human exposure to EMF.

Keywords: *Research and development, *Electric fields, *Magnetic fields, *Public health, *Occupational safety and health, Exposure, Laboratory animals, Risk assessment, Sources, Biological effects, Environmental research, Environmental protection, Mathematical models, Epidemiology.

PB92-170190/REB PC **A08/MF A02**
Environmental Protection Agency, Las Vegas, NV.
Superfund Innovative Technology Evaluation Program Demonstration Plan for Westinghouse Bio-Analytic Systems Pentachlorophenol Immunoassays.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV.
M. E. Silverstein, R. J. White, R. W. Gerlach, and J. M. Van Emon. 14 Apr 92, 157p EPA/600/4-91/028
Contracts EPA-68-03-3249, EPA-68-CO-0049
Prepared in cooperation with Environmental Monitoring Systems Lab., Las Vegas, NV. Sponsored by Environmental Protection Agency, Las Vegas, NV.

The plan provides a detailed design and description of the demonstration and evaluation program for the Westinghouse Bio-Analytic Systems immunoassay technologies specific for the analysis of pentachlorophenol. The immunoassays measure parts per billion concentrations of pentachlorophenol in water. The demonstration is being conducted under the Superfund Innovative Technology Evaluation (SITE) Program. It is expected that proper execution of the demonstration plan will provide information that enables data users and reviewers to assess the performance of the technology in terms of its usefulness and limitations for the Superfund Program. The main focus of the demonstration is to evaluate on site a semiquantitative immunoassay field analysis kit for its utility as a rapid field screening tool. The results obtained from the field kit analyses will be compared to those obtained from a quantitative high-sample-capacity plate immunoassay also developed by Westinghouse Bio-Analytic Systems. In addition, both immunoassay techniques will be compared to the standard gas chromatography/mass spectrometry procedure for pentachlorophenol determination. The quality assurance plan for the demonstration is provided in an appendix.

Keywords: *Superfund, *Pentachlorophenol, *Immunoassay, Field tests, Quality assurance, Monoclonal antibodies, *Westinghouse, *Chemical water pollutants, Mass fragmentography, *Superfund Innovative Technology Evaluation Program(SITE).

PB92-170562/REB PC **A05/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
Southwest Texas State Univ., San Marcos. Dept. of Chemistry.
P. E. Cassidy, M. W. Adams, and D. F. White. Apr 92, 88p EPA/600/R-92/069
See also PB92-136928. Prepared in cooperation with TRI Environmental, Inc., Austin, TX. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The overall objective of the project was to provide a technological base for determining the chemical resistance and long-term durability of geotextiles, geonet and pipe with waste solutions representative of those to which the products might be exposed in a waste containment facility. Experiments were performed to evaluate proposed testing procedures based on EPA Method 9090 with modifications to accommodate geotextiles, geonets and pipe. Analytical techniques standard to the chemical sciences were employed to study chemical degradation of selected geosynthetics. These results were compared to physical property data. Melt index, Method E of polypropylene geotextile was an effective index test. For PET geotextile, grab strength and permittivity yielded useful data. Elongation at break was found to be an acceptable index test for high density polyethylene geonet. Additionally, it was concluded that further work was needed for establishing index tests for pipe products. Fourier transform infrared spectroscopy (FTIR) was applied and found to require expertise in sample preparation and interpretation since accepted evaluation criteria are

lacking. Thermal methods provided a limited amount of useful data. Finally, it was concluded that although chemical analyses provide precise data, not all available methods are applicable to all materials.

Keywords: *Chemical resistance, *Waste management, *Environmental protection, *Hazardous materials, *Geotechnical fabrics, Environmental transport, Performance standards, Design criteria, Leaching, Long term effects, Chemical analysis, Chemical tests, Degradation, Physical properties, Polymers, Linings, *Geosynthetic materials, EPA method 9090.

PB92-170570/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance. Final rept.
Science Applications International Corp., Cincinnati, OH.
J. Rawe. Sep 91, 47p EPA/540/2-91/020A
Contract EPA-68-C8-0061
See also PB89-132674, PB89-212757 and PB90-249772. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Systematically conducted, well-documented treatability studies are an important component of the remedial investigation/feasibility study (RI/FS) process and the remedial design/remedial action (RD/RA) process under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The studies provide valuable site-specific data necessary to aid in the selection and implementation of the remedy. The manual focuses on soil washing treatability studies conducted in support of remedy selection prior to developing the Record of Decision. The manual presents guidance for designing and implementing a soil washing treatability study. The manual gives an overview of general information for determining whether soil washing technology may be effective guidance in designing and conducting soil washing treatability studies for remedy selection, assistance in interpreting data obtained from remedy selection treatability studies, and guidance to estimate costs associated with remedy design and full-scale soil washing remedial action. The manual is not intended to serve as a substitute for communication with reports or regulators nor as the sole basis for the selection of soil washing as a particular remediation technology. Soil washing must be used in conjunction with other treatment technologies since it generates residuals. The manual is designed to be used in conjunction with the Guide for Conducting Treatability Studies Under CERCLA; Interim Final.

Keywords: *Superfund, *Remedial action, *Land pollution control, *Soil treatment, Feasibility studies, Manuals, Soil contamination, Implementation, Technology transfer, Waste disposal, Cost estimates, Physical chemical treatment, Hazardous materials, *Comprehensive Environmental Response Compensation and Liability Act, *Soil washing, Cleanup operations, Record of Decision, Remedial design.

PB92-170588/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
Science Applications International Corp., Cincinnati, OH.
J. Rawe. Sep 91, 9p EPA/540/2-91/020B
Contract EPA-68-C8-0061
See also PB92-170570. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The fact sheet provides a summary of information to facilitate the planning and execution of soil washing remedy selection treatability studies in support of the RI/FS and the remedial design/remedial action (RD/RA) processes. The fact sheet follows the organization of the 'Guide for the 'Conducting Treatability Studies Under CERCLA: Soil Washing,' Interim Guidance, (PB92-170570) September 1991. Detailed information on designing and implementing remedy selection treatability studies for soil washing is provided in the guidance document.

Keywords: *Superfund, *Remedial action, *Land pollution control, *Soil treatment, Physical chemical treatment, Feasibility studies, Hazardous materials, Soil contamination, Implementation, Technology transfer, Waste disposal, Technical assistance, Cost estimates, *Comprehensive Environmental Response Compensation and Liability Act, *Soil washing, *Office of Solid Waste and Emergency Response, Cleanup operations, Record of Decision, Remedial design.

PB92-171370 Not available NTIS
Environmental Protection Agency, Washington, DC.
14C Source Apportionment Technique Applied to Wintertime Urban Aerosols and Gases for the EPA Integrated Air Cancer Project. Final rept.
National Inst. of Standards and Technology (NML), Gaithersburg, MD. Gas and Particulate Science Div.
G. A. Klouda, L. A. Currie, A. E. Sheffield, B. I. Diamondstone, and B. A. Benner. 1990, 5p
Sponsored by Environmental Protection Agency, Washington, DC.
Pub. in Emissions from Combustion Processes: Origin, Measurement, Control, Chapter 12, p153-157 1990.

The (sup 14)C source apportionment technique for tracing environmental carbon has been applied to fine (<2.5 micrometer diameter) atmospheric particles collected in Albuquerque, NM and Raleigh, NC, during the winter of 1984 to 85. The work was part of the EPA's Integrated Air Cancer Project (IACP). The major objective of the study was to quantify the impact of woodburning (living carbon source) and motor-vehicle ((sup 14)C = 0) emissions on these urban airsheds through (sub 14)C measurements. Additionally, (sup 14)C measurements were necessary for evaluation of the EPA's single-tracer multiple-linear regression model (MLR) for source apportionment. Good agreement was attained between (sup 12)C and MLR. Future work includes applying these two techniques to samples collected in Boise, ID.

Keywords: *Aerosols, *Urban areas, *Exhaust emissions, *Motor vehicles, *Air pollution monitoring, *Carbon 14, Pollution sources, Combustion products, Wood, Winter, Reprints, *Source apportionment, Integrated Air Cancer Project, Albuquerque(New Mexico), Raleigh(North Carolina).

PB92-171909/REB PC **A03**/MF **A01**
Environmental Protection Agency, New York. Region II.
Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites. Interim Final rept.
Environmental Quality Management, Inc., Durham, NC.
C. S. Mann. Jan 92, 30p EPA/450/1-92/002
Contract EPA-68-DO-0124
See also PB92-171917, PB92-171925 and PB92-143676. Sponsored by Environmental Protection Agency, New York. Region II.

The purpose of the project was to develop a guideline for using the preferred EPA-approved predictive models to estimate air pathway exposure point concentrations for input to Superfund site Baseline Risk Assessments. The document provides the sequential series of steps necessary to accomplish the baseline air pathway analysis by predictive means.

Keywords: *Air pollution sampling, *Superfund, *Waste management, *Remedial action, *Toxic substances, Mathematical models, Guidelines, Baseline measurements, Study estimates, Risk assessment, Toxicity, Path of pollutants, Environmental transport, US EPA, Exposure, Case studies, Public health, Applicable or Relevant and Appropriate Requirements, Cleanup operations, Air pathway analysis.

PB92-171917/REB PC **A04**/MF **A01**
Environmental Protection Agency, New York. Region II.
Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites. Final rept.
International Technology Corp., Durham, NC.
J. P. Carroll. Feb 92, 70p EPA/450/1-92/003
Contract EPA-68-02-4466
See also PB92-171925 and PB92-171909. Sponsored by Environmental Protection Agency, New York. Region II.

The purpose of the project was to develop screening procedures for estimating the air impacts of incineration at Superfund sites. The document outlines procedures for estimating uncontrolled and controlled emission rates of hydrocarbons, particulate matter, metals, acid gases and other contaminants as well as screening procedures for estimating ambient air concentrations of these contaminants. The document also provides screening evaluation procedures for compliance with applicable or relevant and appropriate requirements (ARARs) and for health effects.

Keywords: *Air pollution sampling, *Superfund, *Toxic substances, *Waste management, *Remedial action, Guidelines, Study estimates, Hydrocarbons, Incineration, Soil contamination, Acids, Metals, Soil treatment, Concentration(Composition), Compliance, Public health, Path of pollutants, Air pollution control, Particles, Applicable or Relevant and Appropriate Requirements, Cleanup operations.

PB92-171925/REB PC **A04**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Air Superfund National Technical Guidance Study Series. Estimation of Air Impacts for the Excavation of Contaminated Soil.
Radian Corp., Austin, TX.
B. Eklund, S. Smith, and A. Hendler. 18 Mar 92, 59p EPA/450/1-92/004
Contract EPA-68-D1-0031
See also PB92-171917 and PB92-171909. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

Analysis of the air impacts associated with cleaning up Superfund sites is frequently required prior to actual cleanup. Such analyses depend on estimates rather than on field measurements. This report provides procedures for estimating the emissions of volatile organic compounds (VOC) and the ambient air concentrations associated with the excavation of contaminated soil. Excavation is an integral part of any Superfund site remediation that involves removal or ex-situ treatment such as incineration, thermal desorption, bioremediation, or solidification/stabilization. The report contains procedures to evaluate the effect of the concentration of the contaminants in the soil and the excavation rate on the emission rates and on the ambient air concentrations at selected distances from the excavation site. Health-based ambient air action levels are also provided for comparison to the estimated ambient concentrations.

Keywords: *Superfund, *Air pollution sampling, *Toxic substances, *Waste management, *Remedial action, Guidelines, Volatile organic compounds, Soil contamination, Study estimates, Concentration(Composition), Excavations, Public health, Materials handling, Soil surveys, Soil treatment, Cleanup operations.

PB92-171958/REB PC **A02**/MF **A01**
RED Facts: Sodium and Calcium Hypochlorite Salts. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
Sep 91, 7p EPA/540/FS-92/189
See also PB92-171941 and PB87-125530.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effects to people or the environment. This pesticide reregistration program is to be completed by the late 1990's. The RED FACTS fact sheet summarizes EPA's conclusion, as set forth in the Reregistration Eligibility Document (or RED), that products containing a pesticide do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration. This fact sheet summarizes the information in the RED for sodium and calcium hypochlorite salts.

Keywords: *Pesticides, *Toxic substances, *Calcium hypochlorites, *Disinfectants, *Water pollution control, Inorganic salts, Hazardous materials, Toxicology, Ecology, Path of pollutants, Labels, Hypochlorites, Exposure, Fungicides, Water treatment, Agricultural products, *Sodium hypochlorite, *Chemical informa-

tion fact sheet, Federal Insecticide Fungicide and Rodenticide Act, Use patterns, Science findings, CAS 7681-52-9, CAS 778-54-3.

PB92-171966/REB PC **A09**/MF **A02**
Status of Selected Air Pollution Control Programs, February 1992.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Feb 92, 179p EPA/450/2-91/009
See also PB91-181826.

The collection of status reports has been prepared in order to provide a timely summary of selected EPA air pollution control activities to those individuals who are involved with the implementation of these programs. The report contains ozone/carbon monoxide (CO) programs; mobile sources programs; particulate matter nominally 10M and less (PM-10), sulfur dioxide (SO2) and lead programs; New Source Review (NSR); economics programs; emission standards programs; Indian activity programs; mobile sources programs; air toxics programs; acid rain programs; permits programs; chlorofluorocarbons programs; enforcement programs; and other programs.

Keywords: *Air pollution control, *Research programs, *Air pollution abatement, Air pollution standards, Permits, Freon, Air quality, US EPA, Law enforcement, Acid rain, Standards compliance, Chlorohydrocarbons, Radioactive materials, Toxic substances, Air pollution economics, Ozone, Carbon monoxide, Mobile pollutant sources, Particles, Sulfur dioxide, Lead(Metal), New Source Review.

PB92-173210/REB PC **A05**/MF **A01**
Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
L. Fiedler. Apr 92, 91p* EPA/540/2-91/001
Supersedes PB91-921290.

The twice-yearly report contains site-specific information on Superfund sites (both remedial and emergency response actions) where innovative treatment technologies have been or are being used. Innovative treatment technologies are treatment technologies for which a lack of data on cost and performance makes their selection and use at Superfund sites more difficult. The report documents the use of the following innovative treatment technologies to treat ground water in situ, soils, sediments, sludge, and solid-matrix wastes; bioremediation (ex situ), bioremediation (in situ), chemical treatment, dechlorination, in situ flushing, in situ vitrification, soil vapor extraction, soil washing, solvent extraction, thermal desorption, and other technologies. The report includes information on 210 applications of innovative treatment technologies for Superfund remedial actions and 18 applications for emergency response actions. The April 1992 issue updates the status of each project listed in the September 1991 report. Additions to the report include 70 innovative treatment technologies selected for remedial actions in Fiscal Year 1991 Superfund Records of Decision (RODs) and more detailed information on completed projects.

Keywords: *Superfund, *Remedial action, *Waste treatment, *Water pollution control, Substitutes, Biological treatment, Extraction, Dechlorination, Technology utilization, In-situ processing, Tables(Data), Soil treatment, Land pollution control, Vitrification, US EPA, Appropriate technology, Materials recovery, *Innovative treatment technologies, Soil washing, Record of Decision, Chemical treatment.

PB92-173293/REB PC **A05**/MF **A01**
Drinking Water Criteria Document for Antimony. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 96p
Supersedes PB90-215435.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve this objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for antimony. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Antimony, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, Mutagens, Alloys, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173301/REB PC **A08**/MF **A02**
Drinking Water Criteria Document for Beryllium. Final rept.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Sep 91, 170p ECAO-CIN-D003
Supersedes PB90-238437.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for beryllium. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1986; however, more recent data have been added during the review process, and final revisions updating the document were made.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Beryllium, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Air pollution, Inhalation, Risk assessment, Carcinogens, Public health, Mutagens, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173319/REB PC **A08**/MF **A02**
Drinking Water Criteria Document for Cyanide.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Jan 92, 156p ECAO-CIN-442
Supersedes PB86-117793.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for cyanide. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to March 1987; however, more recent data may have been added during the review process. Health effects and toxicokinetic data provided in the document are limited to HCN and free CN (CN(-)).

Keywords: *Potable water, *Water pollution effects, *Water quality, *Cyanides, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Free radicals, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, Mutagens, Air pollution, Inhalation, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173327/REB PC **A04**/MF **A01**
Drinking Water Criteria Document for Dalapon. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 70p
Supersedes PB90-215427.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the miology, and mechanisms of toxicity were evaluated for dalapon. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, Ingestion(Biology), Exposure, Herbicides, Chlorine organic compounds, Dose-response relationships, Toxicity, Biological effects, Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, Mutagens, *Maximum Contaminant Level Goals, *Dalapon, Propionic acid/dichloro, Safe Drinking Water Act, Pharmacokinetics.

PB92-173335/REB PC **A03**/MF **A01**
Quantification of Toxicological Effects for Dichloromethane. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 43p
Supersedes PB90-215443.

The document discusses the quantification of non-carcinogenic effects and carcinogenic effects for dichloromethane. The evaluation of non-carcinogenic effects includes a study of short and long term effects in animals and humans, as well as the development of the one-day, ten-day, and long term health advisories. The evaluation of carcinogenic effects includes a categorization of carcinogenic potential and risks estimates. There is a brief discussion on existing guidelines or standards and special considerations such as high risk groups.

Keywords: *Toxicology, *Chloromethanes, *Potable water, *Water pollution effects, *Water quality, Volatile organic compounds, Carcinogens, Long term effects, Laboratory animals, Exposure, Risk assessment, Biological effects, Public health, Standards, Chlorine organic compounds, *Maximum Contaminant Level Goals, Safe Drinking Water Act.

PB92-173343/REB PC **A05**/MF **A01**
Drinking Water Criteria Document for Di(2-Ethylhexyl) Adipate. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 84p
Supersedes PB90-215302.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for di(ethylhexyl) adipate. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cites in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, Ingestion(Biology), Plasticizers, Dose-response relationships, Toxicity, Biological effects, Exposure, Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, Mutagens, *Hexanedioic acid/bis(ethlhexyl)-ester, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act, CAS 103-23-1.

PB92-173350/REB PC **A05**/MF **A01**
Drinking Water Criteria Document for Dinoseb. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 85p

Supersedes PB90-215385.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for dinoseb. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Dinoseb, Nitrogen organic compounds, Herbicides, Dose-response relationships, Toxicity, Biological effects, Exposure, Phenol/butyldinitro, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Mutagens, Risk assessment, Carcinogens, Public health, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173368/REB PC **A05/MF A01**
Drinking Water Criteria Document for Diquat. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 94p
Supersedes PB90-215377.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for diquat. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Diquat, *Potable water, *Water pollution effects, *Water quality, Pyrazidinium dibromide/dihydrodipyrido, Laboratory animals, Pesticides, Dose-response relationships, Toxicity, Biological effects, Exposure, Risk assessment, Epidemiology, Mutagens, Inhalation, Ingestion(Biology), Bromine organic compounds, Public health, Carcinogens, Long term effects, *Maximum Contaminant Level Goals, Safe Drinking Water Act, Pharmacokinetics.

PB92-173376/REB PC **A05/MF A01**
Drinking Water Criteria Document for Endothall. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 85p
Supersedes PB90-215005.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for endothall. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Endothall, Herbicides, Carboxylic acids, Dose-response relationships, Toxicity, Biological effects, Air pollution, Mutagens, Public health, Exposure, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Inhalation, *Maximum Contaminant Level Goals, Dicarboxylic acid/oxabicycloheptane-(sodium-salt), Pharmacokinetics, Safe Drinking Water Act.

PB92-173384/REB PC **A10/MF A03**
Drinking Water Criteria Document for Endrin. Final rept.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Jan 92, 214p ECAO-CIN-423
Supersedes PB90-215096.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for endrin. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1987; however, more recent data may have been added during the review process. Editorial changes were also made in 1991 when the document was finalized.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Endrin, Public health, Insecticides, Chlorine organic compounds, Dimethanonaphthalenes, Dose-response relationships, Toxicity, Carcinogens, Risk assessment, Inhalation, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Air pollution, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173392/REB PC **A03/MF A01**
Drinking Water Criteria Document for Glyphosate. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 48p
Supersedes PB90-215369.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for glyphosate. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data may have been added during the review process.

Keywords: *Potable water, *Water pollution effects, *Water quality, Herbicides, Phosphorus organic compounds, Dose-response relationships, Toxicity, Biological effects, Exposure, Public health, Carcinogens, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Air pollution, Inhalation, Risk assessment, *Maximum Contaminant Level Goals, *Glyphosate, Glycine/N-(phosphonomethyl), Rodeo, Roundup, Pharmacokinetics, Safe Drinking Water Act.

PB92-173400/REB PC **A10/MF A03**
Drinking Water Criteria Document for Hexachlorobenzene. Final rept.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Jul 91, 219p ECAO-CIN-242
Supersedes PB86-117777.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for hexachlorobenzene. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1987; however, more recent data may have been added during the review process. Final revisions and editorial changes were made in 1991.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Benzene/hexachloro, Mutagens, Fungicides, Air pollution, Inhalation, Chlorine organic compounds, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173418/REB PC **A06/MF A02**
Drinking Water Criteria Document for Hexachlorocyclopentadiene.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Apr 91, 116p ECAO-CIN-D007
Supersedes PB90-214990.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for hexachlorocyclopentadiene. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1985; however, more recent data may have been added during the review process. Editorial changes were also made in 1991 when the document was finalized.

Keywords: *Potable water, *Water pollution effects, *Water quality, Dose-response relationships, Chlorine organic compounds, Pesticides, Fire resistant coatings, Air pollution, Inhalation, Standards, Ingestion(Biology), Toxicity, Biological effects, Pollution sources, Laboratory animals, Public health, Risk assessment, Carcinogens, Mutagens, Epidemiology, *Maximum Contaminant Level Goals, *Cyclopentadiene/hexachloro, CAS 77-47-4, Pharmacokinetics, Safe Drinking Water Act.

PB92-173426/REB PC **A05/MF A01**
Drinking Water Quantification of Toxicologic Effects for Nickel.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Jul 91, 91p ECAO-CIN-443
Supersedes PB90-215054.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve this objective, data on toxicokinetics, and acute, subchronic and chronic toxicity to animals and humans are evaluated for nickel. Specific emphasis is placed on data published in peer-reviewed literature providing dose-response information. Thus, while the literature search and evaluation performed in the development of the document have been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1990; however, more recent data may have been added during the review process. The risk assessment of nickel was reviewed by the Science Advisory Board in August, 1990. The document is consistent with their recommendations.

Keywords: *Potable water, *Water quality, *Water pollution effects, *Nickel, Metals, Toxicology, Air pollution, Inhalation, Ingestion(Biology), Dose-response relationships, Biological effects, Exposure, Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, Mutagens, *Maximum Contaminant Level Goals, Safe Drinking Water Act.

PB92-173434/REB PC **A05/MF A01**
Drinking Water Criteria Document for Oxamyl (VYDATE). Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

Jan 92, 77p
Supersedes PB90-214982.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for oxamyl. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, Insecticides, Sulfur organic compounds, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Laboratory animals, Risk assessment, Carcinogens, Public health, Mutagens, *Maximum Contaminant Level Goals, *Oxamyl, Vydate, Oxamimidate/S-methyl-N-N-dimethyl-N-(methylcarbamoyloxy)-thio, CAS 23135-22-0.

PB92-173442/REB PC **A14/MF A03**
Drinking Water Criteria Document for Phthalic Acid Esters (PAES). Final rept.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Aug 91, 321p ECAO-CIN-D009
Supersedes PB90-214974.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for phthalic acid esters. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1986; however, more recent data may have been added during the review process.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Phthalic acid esters, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Inhalation, Air pollution, Metabolism, Plasticizers, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, Mutagens, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173459/REB PC **A20/MF A04**
Drinking Water Criteria Document for Polycyclic Aromatic Hydrocarbons (PAHs). Final rept.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Dec 91, 475p ECAO-CIN-D010
Supersedes PB90-214966.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for Polycyclic aromatic hydrocarbons. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1985; however, more recent data may have been added during the review process.

Keywords: *Water pollution effects, *Potable water, *Water quality, *Aromatic polycyclic hydrocarbons, Mutagens, Combustion products, Air pollution, Inhalation, Air water interactions, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173467/REB PC **A04/MF A01**
Drinking Water Criteria Document for Picloram. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 62p
Supersedes PB90-215351.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for picloram. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, Herbicides, Dose-response relationships, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Chlorine organic compounds, Laboratory animals, Epidemiology, Mutagens, Risk assessment, Carcinogens, Public health, *Maximum Contaminant Level Goals, *Picloram, Picolinic acid/amino-trichloro, Pharmacokinetics, Safe Drinking Water Act, Tordon.

PB92-173475/REB PC **A05/MF A02**
Drinking Water Criteria Document for Simazine. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 100p
Supersedes PB90-215344.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for simazine. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to July 1989; however, more recent data may have been added during the review process.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Princep, Exposure, Herbicides, Triazine/chloro-bis(ethylamino), Chlorine organic compounds, Dose-response relationships, Toxicity, Ingestion(Biology), Biological effects, Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Carcinogens, Public health, Mutagens, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173483/REB PC **A06/MF A02**
Drinking Water Criteria Document for Thallium. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 107p
Supersedes PB90-214958.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for thallium. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Thallium, Heavy metals, Air pollution, Inhalation, Ore processing, Dose-response relationships, Public health, Carcinogens, Toxicity, Biological effects, Exposure, Ingestion(Biology), Pollution sources, Laboratory animals, Epidemiology, Risk assessment, Mutagens, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173491/REB PC **A05/MF A01**
Drinking Water Criteria Document for Trichlorobenzenes. Final rept.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
8 Jan 92, 95p ECAO-CIN-D012
Supersedes PB90-215336.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology and mechanisms of toxicity are evaluated for trichlorobenzenes. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document has been comprehensive, only the report considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to 1985; however, more recent data may have been added during the review process. Editorial changes were also made in 1991 when the document was finalized.

Keywords: *Potable water, *Water quality, *Water pollution effects, Chemical analysis, Chlorine organic compounds, Dose-response relationships, Toxicity, Biological effects, Exposure, Inhalation, Risk assessment, Carcinogens, Public health, Mutagens, Epidemiology, Air pollution, *Benzene/trichloro, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173509/REB PC **A05/MF A01**
Drinking Water Criteria Document for 1,1,2-Trichloroethane. Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 94p
Supersedes PB90-215328.

The document provides the health effects basis to be considered in establishing the MCLG. To achieve the objective, data on pharmacokinetics, human exposure, acute and chronic toxicity to animals and humans, epidemiology, and mechanisms of toxicity were evaluated for trichloroethane. Specific emphasis is placed on literature data providing dose-response information. Thus, while the literature search and evaluation performed in support of the document was comprehensive, only the reports considered most pertinent in the derivation of the MCLG are cited in the document. The comprehensive literature data base in support of the document includes information published up to April 1987; however, more recent data have been added during the review process and in response to public comments.

Keywords: *Potable water, *Water pollution effects, *Water quality, *Ethane/trichloro, Dose-response relationships, Toxicity, Volatile organic compounds, Chlorine organic compounds, Biological effects, Exposure, Laboratory animals, Ingestion(Biology), Pollution sources, Risk assessment, Carcinogens, Public health, Mutagens, Air pollution, Inhalation, *Maximum Contaminant Level Goals, Pharmacokinetics, Safe Drinking Water Act.

PB92-173525/REB PC **A03/MF A01**
Cost-Effectiveness Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
L. G. Tudor. Apr 92, 46p EPA/821/R-92/004

The report analyzes the cost-effectiveness of two alternative regulatory options: A Treated Discharge

Option and a Zero Discharge Option. The report compares the total annualized cost incurred for each of the two regulatory options to the corresponding effectiveness of that option in reducing the discharge of pollutants. The effectiveness measure used is poinds of pollutant removed weighted by an estimate of the relative toxicity of the pollutant. The study discusses the cost-effectiveness methodology employed in the report including the pollutants included in the analysis and the toxic weighting factors. The report lists the pesticide active ingredients (PAIs) proposed for regulation. Also included are details regarding pesticide manufacturing facilities which are excluded from the cost-effectiveness analysis and a sensitivity analysis of POTW removal efficiencies.

Keywords: *Pesticides, *Chemical industry, *Water pollution standards, *Cost effectiveness, Guidelines, Pollution regulations, Tables(Data), Water pollution effects(Humans), Water pollution control, Best technology, Water pollution abatement, Toxicity, Cost analysis, Publicly Owned Treatment Works.

PB92-173533/REB PC **A15**/MF **A03**
Economic Impact Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
L. G. Tudor. Apr 92, 345p EPA/821/R-92/003

The report details the economic impact of two alternative regulatory options; a Treated Discharge Option and a Zero Discharge Option on facilities that would have to comply with the regulations as part of the reproposal of effluent limitations and standards for the Pesticide Chemicals Manufacturing Subcategory. The report also discusses the effects of the regulation on the firms that own the facilities, the communities they are located in, foreign trade, and small business impacts.

Keywords: *Pesticides, *Chemical industry, *Economic impacts, *Water pollution standards, Guidelines, New Source Performance Standards, Water pollution control, Water pollution abatement, Water pollution economics, Standards compliance, Regulations, Pollution sources, Financing, Best technology, International trade, Capitalized costs, Operating costs, Publicly Owned Treatment Works.

PB92-173541/REB PC **A21**/MF **A04**
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
Environmental Protection Agency, Washington, DC. Engineering and Analysis Div.
W. K. Reilly, L. S. Wilcher, T. P. O'Farrell, M. B. Rubin, and T. E. Fielding. 31 Mar 92, 497p EPA/821/R-92/005

The document provides an overview of the pesticide chemicals manufacturing industry, describes EPA's study of that industry, and details the technical basis for proposed best available technology and best conventional technology effluent limitations guidelines, pretreatment standards for both existing and new sources, and new source performance standards.

Keywords: *Pesticides, *Chemical industry, *Water pollution control, *Water pollution abatement, Pollution regulations, New Source Performance Standards, Best technology, Guidelines, Water pollution sources, Clean Water Act, Industrial waste treatment, Environmental effects, Pretreatment process, Registration, Reregistration.

PB92-173566/REB PC **A19**/MF **A04**
Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.
Transportation Control Measure Information Documents.
Cambridge Systematics, Inc., MA.
Mar 92, 444p EPA/400/R-92/006
Contract EPA-68-D9-0073
Sponsored by Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.

The document, sponsored by the United States Environmental Protection Agency, is intended to provide information on Transportation Control Measures (TCMs) to transportation planning and air quality planning management and staff at all government levels. The document provides descriptions and examples of the TCMs listed in Section 108(f) of the Clean Air Act. Each TCM is described in terms of its objectives, variation in the ways it may be applied, expected transportation and emissions impacts, and other important implementation and policy considerations that State, regional, and local decision-making agencies will face.

Keywords: *Air pollution control, *Transportation management, *Motor vehicles, *Transportation planning, Emission factors, Vehicle usage, Air quality maintenance, Bibliographies, State government, Local government, Employers, Traffic flow, Pedestrians, Public transportation, Parking, Park and ride, Bicycles, Ridesharing, HOV lanes.

PB92-174051/REB PC **A20**/MF **A04**
New York State Energy Research and Development Authority, Albany.
Radon Reduction and Radon-Resistant Construction Demonstrations in New York State. Final rept.
Fleming Group, East Syracuse, NY.
Feb 91, 455p NYSERDA-91-11
See also PB90-274119. Sponsored by New York State Energy Research and Development Authority, Albany, and Environmental Protection Agency, Washington, DC. Office of Research and Development.

A survey of radon levels in New York State homes indicates that approximately 4.4 percent of the homes have long-term living area radon concentrations above the U.S. EPA guideline of four pCi/l. The project addressed the effectiveness of techniques to reduce the radon level in existing homes and to prevent the occurrence of high radon concentrations in new homes. The goal of the project was to demonstrate the effectiveness of radon reduction techniques in homes containing indoor radon concentrations of more than the current EPA guidelines of four pCi/l. At the same time, radon-resistant construction techniques were demonstrated in homes under construction to provide guidelines for houses being built in areas with a danger of high radon levels. The project demonstrated new radon mitigation techniques in homes containing indoor radon concentrations exceeding four pCi/l; assessed the value of previously installed radon reduction procedures, and demonstrated new radon-resistant construction methods.

Keywords: *Radon, *Indoor air pollution, *Houses, *Construction materials, Concrete slabs, New York, Air pollution monitoring, Weatherproofing, Pressurizing, *Radon mitigation.

PB92-174317/REB PC **A13**/MF **A03**
National Sea Grant Coll. Program, Silver Spring, MD.
Reactive Transport of Suspended Particles: Mechanisms and Modeling. Doctoral thesis.
Woods Hole Oceanographic Institution, MA.
R. S. Mercier. cJun 85, 276p WHOI-85-23
Grants NA81AA-D-00069, EPA-R-81181-01-01
Prepared in cooperation with Massachusetts Inst. of Tech., Cambridge. Sponsored by National Sea Grant Coll. Program, Silver Spring, MD., and Environmental Protection Agency, Washington, DC.

The goal of the thesis is to develop the capability to model simultaneously the transport and reaction of dissolved and solid constituents in rivers, lakes and coastal waterbodies. The computational modeling of the reactive transport of suspended particles is particularly challenging because particles settle differentially and they are involved in physiocochemical reactions that are often nonlinear and sometimes fast with respect to the fluid turbulence. Examples of such reactions are particle coagulation, precipitation/dissolution, adsorption, and secondary nucleations. The kinetics of coagulation are examined and it is concluded that in the aquatic environment particle number concentration correlations are significant and that particles of size greater than about 0.1 micron tend to collide most often with particles that are much smaller in size, contrary to the theory of Hunt (1982). An improved model for the collision frequency function for turbulent shear is proposed that takes into account the intermittency in the microscale shear rate. Extending the work of Daly (1984), a kinetic model of frazil ice growth is formulated and verified against experimental data. To incorporate fast, nonlinear reaction kinetics into a general transport model, the transport equation for the one-point, joint scalar probability density function (pdf) is employed. Pope's (1981) Monte Carlo technique for solving the pdf transport equation is extended to allow simulation over nonuniform grids. In addition, stochastic algorithms for simulating differential sedimentation and radial diffusion are developed.

Keywords: *Sediment transport, *Suspended sediments, Turbulent flow, Transport properties, Monte Carlo method, Nonlinear systems, Theses, Algorithms, Stochastic processes, Mathematical models, Ocean environments, Rivers, Lakes, Case studies.

PB92-174408/REB PC **A10**/MF **A03**
Environmental Protection Agency, Washington, DC.
Cape Cod Waste Water Renovation and Retrieval System, a Study of Water Treatment and Conservation First Year of Operation. Annual technical rept. 11 Jun 74-10 Jun 75.
Woods Hole Oceanographic Institution, MA.
W. B. Kerfoot, B. H. Ketchum, P. Kallio, P. Bowker, and C. Scolieri. Jun 75, 206p WHOI-75-32
Grant EPA-S802037
See also PB-229 589 and PB90-220941. Sponsored by Environmental Protection Agency, Washington, DC., and Massachusetts Water Resources Commission, Boston. Div. of Water Pollution Control.

The Cape Cod Wastewater Renovation and Retrieval System is evaluating alternative means of wastewater treatment and developing design criteria for the recharge of water of potable quality to the groundwater reservoir of the coastal outwash plains of Cape Cod and the Islands. The three-year plan involves investigation of the in situ performance of (1) the existing sand filter bed at Otis Air Force Base, (2) a rapid infiltration system designed to enhance biological denitrification, and (3) a spray irrigation-cropping program. The quantity and quality of the treated water, the receiving water, and the character of the soil is being carefully examined to project eventual water condition after many years of operation.

Keywords: *Sewage treatment effluents, *Waste water reuse, *Water conservation, *Cape Cod Bay, Massachusetts, Water management, Ground water recharge, Sewage disposal, Substitutes, Revisions, Metals, Microbiology, Surface irrigation, Sand filtration, Denitrification, Biological treatment, Microbial degradation, Pumping, Nitrification, *Spray irrigation.

PB92-174655/REB PC **E99**/MF **E99**
Environment Canada, Ottawa (Ontario).
Proceedings: 1989 International Conference on Municipal Waste Combustion. Held in Hollywood, Florida, on April 11-14, 1989.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Mar 92, 1825p-in 4v
Set includes PB92-174663 through PB92-174697. Sponsored by Environment Canada, Ottawa (Ontario).

No abstract available.

PB92-174663/REB PC **A19**/MF **A04**
Environment Canada, Ottawa (Ontario).
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 1. Sessions 0, 1, 2, and 3. Held in Hollywood, Florida, on April 11-14, 1989.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. G. Brna. Mar 92, 446p EPA/600/R-92/052A
See also Volume 2, PB92-174671. Sponsored by Environment Canada, Ottawa (Ontario).
Set also available in set of 4 reports PC E99/MF E99, PB92-174655.

The proceedings document presentations at the International Conference on Municipal Waste Combustion (MWC), held on April 11-14, 1989, in Hollywood, Florida. The objective of the Conference was to provide an effective international forum for the exchange and transfer of information on municipal solid waste incineration, ash disposal, and related economic, political, social, and technical issues. In addition to the papers presented in response to the Call for Papers, invited speakers made presentations in the keynote addresses, international overviews, and panel discussions (Residue Issues and Research Needs, and Challenges of the '90s). Topics addressed in the volume include:

municipal waste combustion planning and maintenance; ash characterization and leaching; risk and health effects; and municipal waste combustion performance.

Keywords: *Meetings, *Municipal wastes, *Waste disposal, *Incineration, Incinerators, Risk assessment, Leaching, Ashes, Public health, Performance evaluation, Maintenance, Waste management, Refuse derived fuels, Air pollution control, Performance evaluation, Residues, Combustion products.

PB92-174671/REB PC **A19/MF A04**
Environment Canada, Ottawa (Ontario).
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 2. Sessions 4, 5, and 6. Held in Hollywood, Florida on April 11-14, 1989.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. G. Brna. Mar 92, 431p EPA/600/R-92/052B
See also Volume 1, PB92-174663 and Volume 3, PB92-174689. Sponsored by Environment Canada, Ottawa (Ontario).
Also available in set of 4 reports PC E99/MF E99 PB92-174655.

The proceedings document presentations at the International Conference on Municipal Waste Combustion (MWC), held on April 11-14, 1989, in Hollywood, Florida. The objective of the Conference was to provide an effective international forum for the exchange and transfer of information on municipal solid waste incineration, ash disposal, and related economic, political, social, and technical issues. In addition to the papers presented in response to the Call for Papers, invited speakers made presentations in the keynote addresses, international overviews, and panel discussions (Residue Issues and Research Needs, and Challenges of the '90s). Topics addressed in the volume include: municipal waste combustion performance; ash treatment, utilization, and disposal; sampling and analysis; materials recovery; and residue issues and research needs.

Keywords: *Municipal wastes, *Waste disposal, *Incineration, *Meetings, Air pollution, Waste management, Refuse derived fuels, Performance evaluation, Ashes, Residues, Safety, Heavy metals, Air quality, Chemical analysis, Sampling, Waste utilization, Dioxins, Leaching, Materials recovery, Combustion.

PB92-174689/REB PC **A19/MF A04**
Environment Canada, Ottawa (Ontario).
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 3. Sessions 7 and 8. Held in Hollywood, Florida, on April 11-14, 1989.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. G. Brna. Mar 92, 450p EPA/600/R-92/052C
See also Volume 2, PB92-174671 and Volume 4, PB92-174697. Sponsored by Environment Canada, Ottawa (Ontario).
Also available in set of 4 reports PC E99/MF E99, PB92-174655.

The proceedings document presentations at the International Conference on Municipal Waste Combustion (MWC), held on April 11-14, 1989, in Hollywood, Florida. The objective of the Conference was to provide an effective international forum for the exchange and transfer of information on municipal solid waste incineration, ash disposal, and related economic, political, social, and technical issues. In addition to the papers presented in response to the Call for Papers, invited speakers made presentations in the keynote addresses, international overviews, and panel discussions (Residue Issues and Research Needs, and Challenges of the '90s). Topics addressed in the volume include: combustion technology; economic and social issues; and flue gas cleaning.

Keywords: *Municipal wastes, *Waste disposal, *Incineration, *Meetings, Combustion, Combustion products; Socioeconomic factors, Technology utilization, Air pollution control, Refuse derived fuels, Incinerators, Waste management, Materials recovery.

PB92-174697/REB PC **A21/MF A04**
Environment Canada, Ottawa (Ontario).
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 4. Sessions 9, 10, 11, and 12. Held in Hollywood, Florida on April 11-14, 1989.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. G. Brna. Mar 92, 498p EPA/600/R-92/052B
See also Volume 3, PB92-174689. Sponsored by Environment Canada, Ottawa (Ontario).
Also available in set of 4 reports PC E99/MF E99, PB92-174655.

The proceedings document presentations at the International Conference on Municipal Waste Combustion (MWC), held on April 11-14, 1989, in Hollywood, Florida. The objective of the Conference was to provide an effective international forum for the exchange and transfer of information on municipal solid waste incineration, ash disposal, and related economic, political, social, and technical issues. In addition to the papers presented in response to the Call for Papers, invited speakers made presentations in the keynote addresses, international overviews, and panel discussions (Residue Issues and Research Needs, and Challenges of the '90s). Topics addressed in the volume include: materials recovery and recycling; economic and social issues; flue gas cleaning; combustion technology; quality assurance; quality control; ash treatment, utilization, and disposal; and challenges of the 90s, as well as a list of attendees.

Keywords: *Municipal wastes, *Waste disposal, *Meetings, *Incineration, Waste management, Materials recovery, Waste recycling, Socioeconomic factors, Economic analysis, Public opinion, Heavy metals, Ashes, Performance evaluation, Quality control, Incinerators, Air pollution control, Refuse derived fuels, Household wastes, Injection, Quality assurance.

PB92-174721/REB PC **E99/MF E99**
Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
National Home and Garden Pesticide Use Survey.
Research Triangle Inst., Research Triangle Park, NC.
Mar 92, 536p-in 3v
Set includes PB92-174739 through PB92-174754. Sponsored by Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.

No abstract available.

PB92-174739/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
National Home and Garden Pesticide Use Survey Final Report. Executive Summary.
Research Triangle Inst., Research Triangle Park, NC.
R. W. Whitmore, J. E. Kelly, and P. L. Reading. Mar 92, 25p RTI/5100/17-03F, EPA/540/09-92/190
Contract EPA-68-WO-0032
See also Volume 1, PB92-174747. Sponsored by Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
Also available in set of 3 reports PC E99/MF E99, PB92-174721.

The document provides the findings of a national survey on pesticide use in and around the home, and is sponsored by EPA. The Agency's Office of Pesticide Programs (OPP) performs risk/benefit analyses for home and garden pesticide registrations that will be better informed using the survey data. Survey data on frequency of use and safety precautions will be used in risk assessments. Data on pests and sites treated and on consumer satisfaction will be used in benefit analyses. The survey is in three parts. The volume is the executive summary of the survey. It contains study objectives and target population; summary description of the sampling design; and overview of results.

Keywords: *Surveys, *Pesticides, *Toxic substances, Pest control, Households, Sampling, Tables(Data), Characteristics, Risk assessment, United States, Consumer products, Safety, Advantages and disadvantages, Storage, Waste disposal, Containers, Utilization, *National Home and Garden Pesticide Use Survey, Child resistant packaging.

PB92-174747/REB PC **A16/MF A03**
Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
Research Triangle Inst., Research Triangle Park, NC.
R. W. Whitmore, J. E. Kelly, and P. L. Reading. Mar 92, 373p RTI/5100/17-01F, EPA/540/09-92/191
Contract EPA-68-WO-0032
See also Executive Summary, PB92-174739 and Volume 2, PB92-174754. Sponsored by Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
Also available in set of 3 reports PC E99/MF E99, PB92-174721.

The document provides the findings of a national survey on pesticide use in and around the home, and is sponsored by EPA. The Agency's Office of Pesticide Programs (OPP) performs risk/benefit analyses for home and garden pesticide registrations that will be better informed using the survey data. Survey data on frequency of use and safety precautions will be used in risk assessments. Data on pests and sites treated and on consumer satisfaction will be used in benefit analyses. The survey is in three parts. The volume contains the executive summary, the results, and recommendations. It covers population characteristics, pesticide storage and disposal, pest control, safety, statistical analysis, sampling design, and data collection instruments.

Keywords: *Surveys, *Pesticides, *Toxic substances, Waste disposal, Pest control, United States, Sampling, Statistical analysis, Recommendations, Storage, Listings, Forecasting, Data processing, Forms(Paper), Households, Tables(Data), Questionnaires, Consumer products, *National Home and Garden Pesticide Use Survey, Child resistant packaging.

PB92-174754/REB PC **A07/MF A02**
Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
National Home and Garden Pesticide Use Survey. Final Report. Volume 2. Survey Design, Implementation, and Analysis Methods.
Research Triangle Inst., Research Triangle Park, NC.
R. W. Whitmore, J. E. Kelly, and P. L. Reading. Mar 92, 139p RTI/5100/17-02F, EPA/540/09-92/192
Contract EPA-68-WO-0032
See also Volume 1, PB92-174747. Sponsored by Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
Also available in set of 3 reports PC E99/MF E99, PB92-174721.

The document provides the findings of a national survey on pesticide use in and around the home, and is sponsored by EPA. The Agency's Office of Pesticide Programs (OPP) performs risk/benefit analyses for home and garden pesticide registrations that will be better informed using the survey data. Survey data on frequency of use and safety precautions will be used in risk assessment. Data on pests and sites treated and on consumer satisfaction will be used in benefit analyses. The survey is in three parts. The volume covers the survey design, implementation, and analysis methods. Contents include sampling design; developing survey instruments; field operations; data processing; sampling weights; and statistical analysis methods.

Keywords: *Surveys, *Pesticides, *Toxic substances, Sampling, Design criteria, Measuring instruments, Field tests, Data processing, Statistical analysis, Implementation, United States, Pest control, Households, Personnel, Training, Pests.

PB92-176221/REB PC **A05/MF A01**
Procedures for Establishing Emissions for Early Reduction Compliance Extensions. Volume 1. Synthetic Organic Chemical Manufacturing, Ethylene Oxide Sterilization, and Chromium Electroplating. Final rept.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Feb 92, 96p EPA/4503-91/012A
See also PB91-225706.

Regulations have been proposed governing compliance extensions for Early Reductions of Hazardous Air Pollutants (HAP). The regulations allow a six year MACT standard compliance extension for sources that achieve HAP reductions of 90% (95% for particulates) from a base year of 1987 (or more recent base year). The document includes acceptable emission estimat-

ing techniques that can be used when source testing is not feasible. The document includes techniques for synthetic organic chemical manufacturing, ethylene oxide sterilization, and chromium electroplating.

Keywords: *Air pollution standards, *Pollution regulations, *Air pollution abatement, Synthetic resins, Chemical industry, Standards compliance, Hazardous materials, Clean Air Act, Chromium, Water pollution, Equipment, Pollution sources, Leakage, Ethylene oxide, Sterilization, Fugitive emissions, Emission factors, Storage tanks, Waste water, Electroplating, *MACT standards.

PB92-176353/REB PC **E99**/MF **E99**
Air Quality Criteria for Oxides of Nitrogen.
Environmental Protection Agency, Research Triangle Park, NC. Environmental Criteria and Assessment Office.
Aug 91, 1628p-in 3v
Set includes PB92-176361 through PB92-176387.

No abstract available.

PB92-176361/REB PC **A20**/MF **A04**
Air Quality Criteria for Oxides of Nitrogen. Volume 1. Draft rept.
Environmental Protection Agency, Research Triangle Park, NC. Environmental Criteria and Assessment Office.
Aug 91, 454p EPA/600/8-91/049AA, ECAO-R-0082-VOL-1
See Volume 2, PB92-176379.
Also available in set of 3 reports PC E99/MF E99, PB92-176353.

The revised air quality criteria document for oxides of nitrogen (NOx) reviews and evaluates the scientific information on the health and welfare effects associated with exposure to concentrations of NO2 found in ambient air. Although the document is not intended to be an exhaustive literature review, it is intended to cover all the pertinent literature through early 1991. The set consists of 16 chapters which are divided into three volumes. The first volume contains the summary chapter for the entire set which is followed by a general introduction in Chapter 2. Chapters 3 through 8 then provide background information on physical and chemical properties of NO2 and related compounds; sources and emissions; atmospheric transport, transformation and fate of NO2; methods for the collection and measurement of NO2; and ambient air concentrations and factors affecting exposure of the general population.

Keywords: *Nitrogen oxides, *Air pollution, *Air quality, Nitrogen dioxide, Physical properties, Chemical properties, Nitrogen compounds, Pollution sources, Environmental transport, Atmospheric diffusion, Chemical analysis, Air pollution detection, Air pollution sampling, Concentration(Composition), Emission factors, Exposure, Public health, Path of pollutants, Nitrogen cycle, Emission inventories.

PB92-176379/REB PC **A99**/MF **A06**
Air Quality Criteria for Oxides of Nitrogen. Volume 2. Draft rept.
Environmental Protection Agency, Research Triangle Park, NC. Environmental Criteria and Assessment Office.
Aug 91, 647p EPA/600/8-91/049AB, ECAO-R-0082-VOL-2
See also Volume 1, PB92-176361 and Volume 3, PB92-176387.
Also available in set of 3 reports PC E99/MF E99, PB92-176353.

The revised air quality criteria document for oxides of nitrogen (NOx) reviews and evaluates the scientific information on the health and welfare effects associated with exposure to concentrations of NO2 found in ambient air. Although the document is not intended to be an exhaustive literature review, it is intended to cover all the pertinent literature through early 1991. The set consists of 16 chapters which are divided into three volumes. The second volume contains chapters 9-12. Chapter 9 evaluates NO2 effects on crops and natural vegetation, while chapter 10 discusses effects on terrestial and equatic ecosystems. Chapter 11 describes effects on visibility, and chapter 12 describes damage to materials attributable to NO2.

Keywords: *Nitrogen oxides, *Air pollution, *Air quality, Visibility, Air water interactions, Air land interactions, Aquatic ecosystems, Terrestrial ecosystems, Farm crops, Air pollution effects(Plants), Deposition, Wetlands, Nitrogen cycle, Air pollution effects(Materials), Corrosion, Water pollution, Land pollution, Vegetation, Plants(Botany), Exposure.

PB92-176387/REB PC **A23**/MF **A04**
Air Quality Criteria for Oxides of Nitrogen. Volume 3. Draft rept.
Environmental Protection Agency, Research Triangle Park, NC. Environmental Criteria and Assessment Office.
Aug 91, 527p EPA/600/8-91/049CA, ECAO-R-0082-VOL-3
See also Volume 2, PB92-176379.
Also available in set of 3 reports PC E99/MF E99, PB92-176353.

The revised air quality criteria document for oxides of nitrogen (NOx) reviews and evaluates the scientific information on the health and welfare effects associated with exposure to concentrations of NO2 found in ambient air. Although the document is not intended to be an exhaustive literature review, it is intended to cover all the pertinent literature through early 1991. The set consists of 16 chapters which are divided into three volumes. The third volume contains chapters 13-16. The volume evaluates information concerning the health effects of NO2. Contents include: Studies of the effects of nitrogen compounds on animals; Epidemiology studies of oxides of nitrogen; Controlled human exposure studies of oxides of nitrogen; Health effects associated with exposure to nitrogen dioxide; and a Glossary of terms and symbols.

Keywords: *Air pollution, *Air quality, *Nitrogen oxides, Nitrogen dioxide, Public health, Air pollution effects(Humans), Occupational safety and health, Laboratory animals, Toxicology, Air pollution effects(Animals), Epidemiology, Respiratory diseases, Inhalation, Exposure, Biochemistry.

PB92-178227/REB PC **A13**/MF **A03**
Environmental Protection Agency, Boston, MA. Waste Management Div.
Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs. Final rept.
Northeast Waste Management Officials Association, Boston, MA.
Jan 92, 295p EPA/901/B-92/001
Grant EPA-G-D001456-90-2
Prepared in cooperation with Camp, Dresser and McKee, Inc., Cambridge, MA. Sponsored by Environmental Protection Agency, Boston, MA. Waste Management Div.

This is a catalogue and directory of the environmental uses of geographic information system (GIS) technology in public agencies in the New England States. The directory contains GIS organizations, contacts, databases maintained, resources (hardware and software) and applications. Additionally, the report contains a needs assessment for these organizations for data, resources, applications and regional GIS cooperative efforts.

Keywords: *Geographic Information Systems, *Directories, *New England, *Environmental protection, *Organizations, Assessments, Natural resources, Forecasting, Connecticut, Maine, Massachusetts, State programs, Interagency cooperation, New Hampshire, Rhode Island, Vermont, Environmental management, Administrative procedures, EPA region 1.

PB92-178938/REB PC **A05**/MF **A01**
Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
Robert S. Kerr Environmental Research Lab., Ada, OK.
Feb 92, 80p EPA/600/R-92/030
See also PB91-195974.

Dense nonaqueous phase liquids (DNAPLs) in the subsurface are long-term sources of ground-water contamination, and may persist for centuries before dissolving completely in adjacent ground water. In response to increasing recognition among scientists and engineers that DNAPL contamination is widespread, a two-day workshop concerning DNAPL site characterization and remediation was held in Dallas, Texas on April 16-18, 1991. The workshop was sponsored and organized by EPA's Ground Water Forum, Robert S. Kerr Environmental Research Laboratory, and Office of Solid Waste and Emergency Response, and the University of Waterloo, Ontario, Canada. Professionals from government, academia, and private industry with experience in DNAPL contamination presented papers and participated in discussions concerning the options for characterization and remediation of DNAPL sites. The document was prepared to summarize the main observations and conclusions of the meeting, and draws freely from transcripts, papers, and comments prepared by the participants. A second meeting of the participants was held in Dallas on September 5-6, 1991 to review the draft summary. The summary is intended to be a nontechnical document of general interest to environmental scientists and engineers from Federal, State, and local agencies, universities, and private industry. Readers interested in more specific technical information should consult the extensive list of references compiled in Appendix C. The material presented here represents 'state-of-the-art' information, and, as such, can be expected to change as the science progresses.

Keywords: *Meetings, *Liquids, *Phase studies, *Hazardous materials, *Environmental transport, *Waste disposal, Subsurface investigations, Remedial action, Site characterization, Path of pollutants, State of the art, Water pollution, Soil contamination, Land pollution, *Dense nonaqueous phase liquids.

PB92-178946/REB PC **A07**/MF **A02**
Wetlands Research Plan FY92-96: An Integrated Risk-Based Approach.
Corvallis Environmental Research Lab., OR.
S. G. Leibowitz, E. M. Preston, L. Y. Arnaut, N. E. Detenbeck, and C. A. Hagley. Mar 92, 148p EPA/600/R-92/060
See also PB90-198201, PB91-169284 and PB86-158656. Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR., AScI Corp., Duluth, MN., and Western Aquatics, Inc., Durham, NC.

The document presents the research strategy developed by the U.S. Environmental Protection Agency's (EPA) Wetlands Research Program (WRP) for Fiscal Years 1992-1996. The purpose of the research is to address the technical needs that have been identified by the EPA programs within the Office of Water and the EPA Regions having legal authority over wetlands. The research plan is intended, therefore, for two main audiences: the EPA program offices and the wetlands research community. The objectives of the document are to describe the WRP research strategy so that (1) the program offices can evaluate whether their priorities are being met and (2) the wetlands research community can determine whether the proposed research is scientifically sound. Because this is a strategic planning document, specific studies are not described at the level of detail required for actual implementation. Detailed research plans will be prepared and peer reviewed before studies are initiated.

Keywords: *Wetlands, *Research programs, Natural resources management, Risk assessment, Natural resource conservation, United States, US EPA, Legal aspects, Landscaping, Quality assurance, Water quality, Implementation, Water pollution control, Environmental protection, Regulations, Remedial action, *Wetlands Research Program, Natural wetlands, Created wetlands, EPA Regions 1-10.

PB92-178953/REB PC **A09**/MF **A03**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Pilot-Scale Incineration of PCB-Contaminated Sediments from the New Bedford Harbor Hot Spot Superfund Site. Rept. for Feb-Sep 91.
Acurex Corp., Jefferson, AR. Incineration Research Facility.
W. E. Whitworth, and L. R. Waterland. Apr 92, 194p EPA/600/R-92/068
Contract EPA-68-C9-0038
See also PB84-128677, PB87-120291 and PB91-120006. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Testing was performed at the EPA's Incineration Research Facility (IRF) to determine the incinerability of contaminated marine sediment from the Hot Spot in

the New Bedford Harbor Superfund Site. The contaminants at the site were PCBs, at concentrations up to <200,000 mg/kg, and metals, chiefly cadmium, chromium, copper, and lead, at concentrations up to several hundred mg/kg. Sediments were incinerated without dewatering. Tests were run on sediments spiked with pure PCB transformer fluid and a brief period of operation with native sediment alone,.or unspiked. Kiln exit gas temperature was varied from 824 to 984C (1515 to 1803F). Greater than 99.9999% Destruction and Removal Efficiency was achieved at both kiln temperatures with the afterburner operated at 1200C (2206F), but the treated sediment was still PCB-contaminated. The kiln ash accounted for about 80 to 90% of the discharged amount of copper and chromium at both kiln temperatures. Kiln ash discharge accounted for 53% (low kiln temperature) and 20% (high kiln temperature) of the lead and 61% (low kiln temperature) and 10 to 20% (high kiln temperature) of the cadmium. Test results suggest that incineration would be an effective treatment option for the site sediments. However, sediment dewatering prior to incineration and/or incinerating for a longer kiln solids residence time might be required to produce a treated sediment not contaminated by PCBs.

Keywords: *Waste disposal, *Incineration, *Hazardous materials, *Superfund, *Sediments, Polychlorinated biphenyls, Metals, Waste treatment, Dewatering, Trace amounts, Air pollution control, Kilns, Furans, Dioxins, Quality assurance, Aromatic polycyclic hydrocarbons, Chemical analysis, Sampling, New Bedford Harbor.

PB92-178961/REB PC **A03/MF A01**
User's Guide and Data Dictionary for Kenai Lakes Investigation Project.
Corvallis Environmental Research Lab., OR.
A. D. Newell, and M. E. Mitch. Mar 92, 39p EPA/600/R-92/070
Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR., and Virginia Univ., Charlottesville. Dept. of Environmental Sciences.

In 1984, the U.S. Environmental Protection Agency (EPA) implemented the National Surface Water Survey (NSWS) as part of the Aquatic Effects Research Program (AERP). The AERP conducted several integrated studies in areas containing surface waters considered potentially sensitive to change as a result of acidic deposition. The NSWS focused its assessment on lakes and streams located in the contiguous United States. Since the majority of the systems examined in the NSWS receive moderate to high levels of acidic deposition, it is difficult to evaluate the role of natural factors in controlling the chemistry of aquatic ecosystems. Therefore, the EPA implemented a project to collect data on lakes in the Kenai Peninsula of Alaska, an area expected to receive low levels of acidic deposition. The database guide provides a brief overview of the survey and the KLIP database. Detailed information on KLIP results is found in Eilers et al. The document also summarizes the sampling and analytical methods, sources of geographic information, and precision and accuracy results from quality assurance (QA) analysis. The datasets are described in Section 3 and their formats in Section 6. The variables are defined in Section 5, and Appendix A contains a listof the lakes and their chemistry. Appendix B provides reference values taken from the Long Range Transport of Airborne Pollutants (LRTAP) Project audit samples.

Keywords: *Data dictionaries, *Surface waters, *Environmental surveys, *Waterpollution, *Acidification, Format, Data bases, Deposition, Air water interactions, Alaska, Water analysis, Data sets, Baseline measurements, Natural emissions, Aquatic ecosystems, Sampling, Quality assurance, Air pollution, Water chemistry, pH, Forecasting, *Kenai Lakes Investigation Project, National Surface Water Survey, Aquatic Effects Research Program.

PB92-178979/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Bench and Laboratory Studies. Conference proceedings.
Radian Corp., Research Triangle Park, NC.
M. D. Jackson, J. E. Knoll, M. R. Midgett, J. T. Bursey, and R. A. McAllister. Apr 92, 15p EPA/600/R-92/071
Contract EPA-68-D1-0010

See also PB89-148076 and PB91-216184. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

The Clean Air Act Amendments of 1990, Title III, present a need for stationary source sampling and analytical methods for the list of 189 compounds. EPA has used VOST and SemiVOST sampling and analytical methods for this type of sampling of organic compounds in the past, but these methodologies have been completely validated for only a few of the organic compounds. In the study, the applicability of VOST and SemiVOST techniques to the Clean Air Act halogenated compounds has been evaluated under laboratory conditions. The methods were evaluated first to determine whether the compounds could be analyzed successfully. For SemiVOST and VOST compounds, the analytes were analyzed by GC/MS techniques. Retention times for the analytes were determined, and reference spectra were generated so that primary quantitation ions could be selected. Recovery of the compounds from the sorbents was evaluated, and analytical detection limits were determined from spiked sorbents. Quadruple sampling trains were used to collect replicate samples for statistical evaluation of the dynamic spiking techniques for liquids (SemiVOST). The paper presents the results of the laboratory experiments.

Keywords: *Chlorine organic compounds, *Bromine organic compounds, *Air pollution, *Validation, *Gas chromatography, *Mass spectroscopy, Laboratory tests, Statistical analysis.

PB92-178987/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Statistical Issues in Environmental Monitoring and Assessment. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
D. L. Stevens, and A. R. Olsen. Apr 92, 13p EPA/600/R-92/073
Contract EPA-68-C8-0006
Pub. in Proceedings of the Section on Statistics and the Environment, American Statistical Association, Alexandria, VA., 1991. See also PB92-103449. Sponsored by Corvallis Environmental Research Lab., OR.

There are two classes of statistical issues: firm issues amenable to problem statement and technical resolution and soft issues that have qualitative dimensions and ideological implications. Firm issues are easy: defining and stating the problem is much of the solution. The soft issues are difficult: the problems are not easily stated, there may be no clear-cut answer, yet the approach taken can have profound impacts on the mode of operation. Environmental monitoring and assessment contains both kinds of issues. The paper briefly identifies some of the more pressing firm issues that have arisen in the Environmental Protection Agency's (EPA) Environmental Monitoring and Assessment Program (EMAP), a nation-wide program designed to monitor national ecological resources. Issues that are amenable to technical solution include trade-offs between status estimation and change/trend detection, interplay between probability sampling and spatial statistics, and the effects of three components on variation on assessment of population condition. Two specific issues that have qualitative aspects are discussed. The discussions concentrate on the statistical facets of what to monitor in the environment and how to monitor it.

Keywords: *Environmental monitoring, *Statistical analysis, Sampling, Statistical quality control, Population(Statistics), Probability theory, US EPA, Reprints, EMAP(Environmental Monitoring and Assessment Program).

PB92-178995/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Kinetic Properties of Malic Dehydrogenase from Three Cultivars of Rice.
Portland Univ., OR. Dept. of Physical and Life Sciences.
M. D. Snow, and R. R. Bard. Apr 92, 32p EPA/600/R-92/074
Sponsored by Corvallis Environmental Research Lab., OR.

Studies of enzymes such as malic dehydrogenase (MDH) and glutathione reductase (GR) from plant species suggest that thermal induced changes in kinetics may be indicators of the thermal regime to which the species are adapted. The investigation was undertaken to (1) gain knowledge of possible thermal induced changes in kinetics of MDH in cultivars of rice adapted to different climatic regimes, and (2) to assess the degree to which plant to plant variation contributes to variations seen in kinetic response. Among the results of the research were the following: (1) Plant extracts with significant MDH activity may be isolated from rice with conventional techniques developed for this enzyme in other species; (2) MDH activity shows some variation between plants within a cultivar; and (3) MDH from rice is responsive to temperature as indicated by the fact that apparent Km increased significantly with increasing temperature.

Keywords: *Rice plants, *Malic dehydrogenase, Kinetics, Temperature, Substrate specificity, Climate, Oxidation, NAD.

PB92-179001/REB PC **A20/MF A04**
Innovative Treatment Technologies: Overview and Guide to Information Sources.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
J. Quander, and J. Kingscott. Oct 91, 460p EPA/540/9-91/002

Content: The document is a compilation of information on innovative treatment technologies being used in the Superfund program and is intended to assist site project managers, consultants, responsible parties, and owner/operators in their efforts to identify current literature on innovative treatment technologies for hazardous waste remediation on corrective action. The technologies addressed in the guide include the following: Incineration, Thermal Desorption, Soil Washing, Solvent Extraction, Dechlorination, Bioremediation, Vacuum Extraction, Vitrification, and Ground Water Treatment. Also included in the guide for the user's reference are summary statistics of EPA's selection and application of innovative treatment technologies between 1982 and 1990. In addition the guide provides for each technology a detailed description, status of development and application, strengths, weaknesses and materials handling considerations. A comprehensive bibliography for each technology can be found within each chapter.

Keywords: *Superfund, *Hazardous materials, *Waste treatment, *Remedial action, *Waste disposal, Biological treatment, Technology utilization, Soil treatment, Waste management, Guidelines, Incineration, Desorption, Heat treatment, State programs, Solvent extraction, Dechlorination, In-situ processing, Vitrification, Ground water, Water pollution control, Land pollution control, Soil washing, On-scene coordinators, Remedial project managers.

PB92-179019/REB PC **A02/MF A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Reductive Dechlorination of Trichloroethylene in Anoxic Aquifer Material from Picatinny Arsenal, New Jersey. Water resources investigation.
Rice Univ., Houston, TX.
B. H. Wilson, T. A. Ehlke, T. E. Imbrigiotta, and J. T. Wilson. 1991, 7p EPA/600/A-92/076
Contract EPA-DW14934013
Pub. in U.S. Geological Survey Toxic Substances Hydrology Program, Proceedings of the Technical Meeting, Monterey, CA., March 11-15, 1991, USGS/WRI-91-4034, p704-707 Mar 91. See also PB92-179100 and PB90-178104. Prepared in cooperation with Geological Survey, Trenton, NJ. Water Resources Div. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

Ground water at Picatinny Arsenal, New Jersey, has been contaminated with chlorinated solvents released from the waste water-treatment system of a metalplating shop and from overflow from a degreasing vat. Trichloroethylene is the major contaminant, but 1,1,1-trichloroethane and tetrachloroethylene are also present. Cis-1,2-dichloroethylene and vinyl chloride were not original contaminants, but their accumulation in the ground water indicates reductive dechlorination of the trichloroethylene and tetrachloroethylene released to the aquifer. Laboratory microcosms were used to estimate the kinetics of reductive dechlorination at field scale. The microcosms were constructed with aquifer material collected from locations along the longitudinal extent of the plume and from outside the

area of contamination. To determine whether supplementary electron donors would enhance reductive dechlorination, three suites of electron donors were added to aquifer material: (1) butyrate, propionate, toluene, and p-cresol; (2) butyrate, propionate, formate, methanol, toluene, and p-cresol; or (3) formate and methanol.

Keywords: *Toxic substances, *Water pollution effects, *Aquifer systems, *Dechlorination, Chlorine organic compounds, Organic solvents, Reduction(Chemistry), Biodegradation, Biochemistry, Chemical reactions, Waste water, Munitions industry, Industrial waste treatment, Microorganisms, Water pollution control, Biological effects, Reprints, *Ethylene/trichloro, Picatinny Arsenal, Morris County(New Jersey), Ethylene/dichloro.

PB92-179027/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Pollution Impacts at the Stand and Ecosystem Levels. Book chapter.
Colorado State Univ., Fort Collins.
D. Binkley, T. D. Droessler, and J. Miller. 1992, 25p EPA/600/A-92/077
Pub. in The Response of Western Forests to Air Pollution, 1992. Sponsored by Corvallis Environmental Research Lab., OR.

The responses of forests to pollutants depend on the sensitivity of individual trees and species to the pollutants, and on complex interactions between trees, the environment and other organisms. Impaired growth in one individual or species may represent an opportunity for increased growth for other trees or species. An ecosystem perspective is necessary for a full assessment of pollutant impacts, but the response of forest to air pollutants remains poorly understood. In the chapter, the authors discuss important aspects of forests at the level of stands and ecosystems, as a foundation for the regional case studies presented in later chapters. Many key aspects of the effects of pollution at the stand and ecosystem level remain unexplored across the West; the chapter develops a framework for understanding pollution impacts, summarizes what is currently known, and provides some speculation where information is not available.

Keywords: *Air pollution effects(Plants), *Forests, *Environmental effects, *Ecosystems, Biological effects, Plant growth, Trends, Ozone, Regional analsis, Photosynthesis, Air pollution effects(Animals), Environmental impact assessment, Reprints, *Stand development, Western Region(United States).

PB92-179035/REB PC **A03**/MF **A01**
Methods Used in Determination of Cholinesterase Activity. Book chapter.
Corvallis Environmental Research Lab., OR.
P. Mineau. c1991, 38p EPA/600/A-92/078
Pub. in Cholinesterase-Inhibiting Insecticides, 1991. See also PB88-219282. Prepared in cooperation with ManTech Environmental Technology International, Inc., Corvallis, OR., and Clemson Univ., SC. Inst. of Wildlife and Environmental Toxicology.

The chapter provides an overview and historical perspective of the many available methods for cholinesterase (ChE) activity determination. Due to the almost universal use of the spectrophotometric assay in wildlife toxicology, the remainder of the chapter focuses on this technique. Sources of variability in the assay are discussed, including assay temperature, instrumentation, degree of solubilization of membrane-bound enzyme, and lipid concentration in serum samples. Methods to control these sources of error are offered. Consideration is given to methods of differentiating the activity of the various esterases (for example, acetylcholinesterase and butyrylcholinesterase). A brief review is provided of commercial kits available for field and/or laboratory testing of samples for ChE activity. The chapter includes a discussion of future innovations and refinements of the ChE assay, including the use of reactivation techniques and adaptation of the assay for use with 96-well microtitration plates. (Copyright (c) 1991 Elsevier Science Publishers B.V.)

Keywords: *Cholinesterase, Toxicology, Cholinesterase inhibitors, Test methods, pH, Temperature, Cations, Substrate specificity, Wildlife, Reprints.

PB92-179043/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Incineration Data on Arsenic and Lead Emissions.
Kennesaw State Coll., Marietta, GA.
L. R. Waterland. 1992, 14p EPA/600/A-92/079
Contract EPA-68-C9-0038
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Since 1988, nine test programs have been conducted at the Environmental Protection Agency Incineration Research Facility aimed at evaluating the fate of trace metals in the rotary kiln incineration of hazardous wastes and Superfund site materials. Results of six of those test programs have been reported to date. Of these six, two were parametric test series using a synthetic hazardous waste formulation and four were incineration treatability test programs using contaminated Superfund site materials. Results of these six text programs show remarkably consistent arsenic and lead partitioning behavior among the incinerator system discharge streams. Overall test programs lead exhibits relatively nonvolatile behavior over a kiln temperature range from nominally 815 C (1,500 F) to 980 C (1,800F) provided no chlorine is present in the feed material. Arsenic also exhibits relatively nonvolatile behavior over the same temperature range regardless of whether the feed contains chlorine at levels up to nominally 8 percent. Arsenic may be more volatile in the incineration of environmental samples such as Superfund site wastes than it is from a synthetic waste in which arsenic is introduced as As2O3 in aqueous solution. However, even with environmental samples, behavior is relatively nonvolatile. Lead volatility significantly increases at all kiln temperatures as feed chlorine content increases from 0 to as high as 8 percent.

Keywords: *Waste disposal, *Incineration, *Air pollution control equipment, *Arsenic, *Lead(Metal), Kilns, Heavy metals, Hazardous materials, Temperature dependence, Air pollution sampling, Superfund, Volatility.

PB92-179050/REB PC **A03**/MF **A01**
Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions. Journal article May 88-Jul 93.
Robert S. Kerr Environmental Research Lab., Ada, OK.
S. R. Hutchins, S. W. Moolenaar, and D. E. Rhodes. 1992, 27p EPA/600/A-92/080
Pub. in Ground Water: The Problem and Some Solutions. Proceedings, Annual Symposium (4th). The Gulf Coast Hazardous Substance Research Center, Beaumont, TX., April 2-3, 1992, p67-90. See also PB92-121227 and PB92-124262. Prepared in cooperation with Rice Univ., Houston, TX.

Two column tests were conducted using aquifer material to simulate the nitrate field demonstration project carried out earlier at Traverse City, Michigan. The objectives were to better define the effect nitrate addition had on biodegradation of benzene, toluene, ethylbenzene, xylenes, and trimethylbenzenes (BTEX) in the field study, and to determine whether BTEX removal can be enhanced by supplying a limited amount of oxygen as a supplemental electron acceptor. Columns were operated using limited oxygen, limited oxygen plus nitrate, and nitrate alone. In the first column study, benzene was generally recalcitrant compared to the alkylbenzenes (TEX), although some removal did occur. The average benzene breakthroughs were 74.3 + or - 5.8%, 75.9 + or - 12.1%, and 63.1 + or - 9.6% in the columns with limited oxygen, limited oxygen plus nitrate, and nitrate alone, respectively, whereas the corresponding average effluent TEX breakthroughs were 22.9 + or - 2.3%, 2.9 + or - 1.1%, and 4.3 + or - 3.3%. In the second column study, nitrate was deleted from the feed to the column originally receiving nitrate alone and added to the feed of the column originally receiving limited oxygen alone. Benzene breakthrough was similar for each column. Breakthrough of TEX decreased by an order of magnitude once nitrate was added to the microaerophilic column, whereas TEX breakthrough increased by 50-fold once nitrate as removed from the denitrifying column. Although the requirement for nitrate for optimum TEX removal was clearly demonstrated in these columns, there were significant contributions by biotic and abiotic processes other than denitrification which could not be quantified.

Keywords: *Water pollution control, *Biodegradation, *Denitrification, *Aquifers, *Petroleum products, *Microbial degradation, Ground water, Microorganisms, Underground storage, Storage tanks, Nitrates, Oxidation, Oil spills, Leakage, Environmental transport, Benzene, Toluene, Xylenes, Michigan, Experimental design, Reprints, Traverse City(Michigan), Benzene/trimethyl.

PB92-179068/REB PC **A03**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.
Monitoring of the Estrous Cycle in the Laboratory Rodent by Vaginal Lavage.
North Carolina State Univ. at Raleigh. Dept. of Zoology.
R. L. Cooper, J. M. Goldman, and J. G. Vandenbergh. 1992, 25p EPA/600/A-92/081
Contract EPA-68-02-4450
See also PB91-115964. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.

Ovarian cyclicity in a number of laboratory species can be monitored easily and noninvasively by observing changes in the vaginal cytology. The chapter describes the techniques used to collect data in the laboratory rat and mouse and how to interpret the lavages as they are obtained. The relationship between the various cell types and the fluctuation in serum hormones as they exist over the cycle is described. Finally, there is a discussion of how to interpret various changes in vaginal smear patterns as they occur in response to toxicant treatment.

Keywords: *Estrus, *Vaginal smears, Rats, Female, Mice, Toxicology, Hormones, Light, Circadian rhythms, Ovulation.

PB92-179076/REB PC **A03**/MF **A01**
Measuring Sexual Behavior in the Female Rat.
Health Effects Research Lab., Research Triangle Park, NC.
R. L. Cooper, J. M. Goldman, and T. E. Stoker. 1992, 22p EPA/600/A-92/082
See also PB89-237440. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

Because the neuroendocrine processes controlling both sexual behavior and ovarian function are subject to toxicant insult at several different levels (i.e., brain-pituitary-gonadal axis), it is frequently useful to examine the effect of exposure on the female's behavior. The chapter describes in detail the housing and methods used for evaluating sexual behavior in the female rat and discusses the use of these techniques in toxicology studies.

Keywords: *Animal sex behavior, *Toxicology, Test methods, Female, Rats, Estrogens, Progesterone, Ovariectomy.

PB92-179084/REB PC **A03**/MF **A01**
Collection of Interstitial Fluid and Seminiferous Tubule Fluid from the Rat Testis.
Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.
G. L. Rehnberg. 1992, 19p EPA/600/A-92/083

The chapter describes in detail the collection of interstitial and seminiferous tubule fluid from the rat testis. The collection and analysis of fluid from the interstitial spaces and the tubular compartment is a means of measuring changes in the testicular hormonal environment. It also provides a means of assessing the volume of extracellular extratubular fluid. Changes in the hormonal milieu and the volume of the fluid can provide an index of physiological alterations within the testis.

Keywords: *Testis, *Seminiferous tubules, *Body fluids, *Physiology, Rats, Test methods, Androgen-binding proteins, Sertoli cells, Transferrin, Body fluid collection methods.

PB92-179092/REB PC **A02**/MF **A01**
Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
Robert S. Kerr Environmental Research Lab., Ada, OK.
R. W. Puls, C. J. Paul, and D. A. Clark. 1992, 6p EPA/600/A-92/084

Presented at the American Chemical Society National Meeting (23rd), San Francisco, CA., April 5-10, 1992, v32 n1 p455-461. Prepared in cooperation with MantTech Environmental Technology, Inc., Ada, OK.

Knowledge of the chemical speciation and distribution of chromium at hazardous waste sites is essential for adequate site characterization and risk assessment. Contaminant speciation, whether dissolved or in association with solid surfaces, will affect the toxicity and mobility of most contaminants in subsurface systems. This is particularly true of chromium, which exists as Cr(VI) and Cr(III) species in subsurface systems. The chemical speciation and distribution of chromium on unsaturated contaminated soils, and saturated aquifer sediments was analyzed in the vicinity of a chrome plating operation. Sequential extractions and selective ion exchange experiments were performed to infer mineral fractions responsible for retention of the chromium on the solid phase, and the chemical form (speciation) of the retained chromium. Reduction of Cr(VI) to Cr(III) and subsequent precipitation as (Fe,Cr) (OH)3 is proposed as the primary attenuation mechanism in the unsaturated soils immediately beneath the shop. Chromium reduction in the saturated aquifer sediments is significantly less effective in attenuation of the delineated Cr(VI) ground-water plume. Scanning electron microscopy with energy dispersive X-ray analyses, and cursory modelling efforts with CHROMAT were also used to complement wet chemical methods in assessments of chromium transport and transformation.

Keywords: *Chromium, *Land pollution control, *Waste disposal, *Water pollution control, *Sediments, Electroplating, Path of pollutants, Environmental transport, Ground water, Aquifers, Sediment-water interfaces, Reduction(Chemistry), Extraction, Ion exchanging, Scanning electron microscopy, X ray analysis, Reprints.

PB92-179100/REB PC **A03/MF A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Biotransformation of CIS-1,2-Dichloroethylene in Aquifer Material from Picatinny Arsenal, Morris County, New Jersey. Water resources investigation.
Rice Univ., Houston, TX.
T. A. Ehlke, T. E. Imbrigiotta, B. H. Wilson, and J. T. Wilson. 1991, 12p EPA/600/A-92/085
Contract EPA-DW14934013
Pub. in U.S. Geological Survey Toxic Substances Hydrology Program, Proceedings of the Technical Meeting, Monterey, CA., March 11-15, 1991, USGS/WRI-91-4034, p689-697 Mar 91. See also PB92-179019. Prepared in cooperation with Geological Survey, Trenton, NJ. Water Resources Div. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

Soil cores were collected within and adjacent to a trichloroethylen plume that has contaminated the shallow aquifer at Picatinny Arsenal, New Jersey, to study the rate of cis-1,2-dichloroethylene biotransformation. Soil cores also were collected at a highly contaminated site within the plume to determine the effect of different electron donors on the rate of cis-1,2-dichloroetylene biotransformation under methanogenic conditions. Ground-water samples were analyzed for volatile organic compounds to study the relation between volatile-organic-compound concentrations and the biotransformation of cis-1,2-dichloroethylene. Biotransformation in microcosms from sites within the plume ranged from slight to more than 90 percent after an incubation period of 32 weeks. The most extensive biotransformation in soil microcosms occurred at a site near the highest in situ cis-1,2-dichloroethylene concentration measured at the arsenal (710 micrograms per liter). Biotransformation was negligible at an uncontaminated site. Amendment of soil microcosms with combinations of methanol, formate, toluene, p-cresol, propionate, and butyrate inhibited the biotransformation of cis-1,2-dichloroethylene. A combination of methanol and formate had the greatest inhibitory effect.

Keywords: *Toxic substances, *Water pollution effects, *Biodegradation, *Aquifer systems, *Bioconversion, Ground water, Munitions industry, Biochemistry, Industrial wastes, Microorganisms, Chlorine organic compounds, In-situ processes, Anaerobic processes, Reduction(Chemistry), Dechlorination, Porous materials, Methane bacteria, Reprints, *Ethylene/dichloro, Picatinny Arsenal, Morris County(New Jersey), Ethylene/trichloro.

PB92-179118/REB PC **A03/MF A01**
Modeling Contaminant Transport through Subsurface Systems.
Robert S. Kerr Environmental Research Lab., Ada, OK.
R. J. Charbeneau, and J. W. Weaver. 1992, 26p EPA/600/A-92/086
Proceedings of the Annual Symposium on Ground Water: The Problem and Some Solutions (4th), Beaumont, TX., April 2-3, 1992, p179-198. See also PB91-162669. Prepared in cooperation with Texas Univ. at Austin. Center for Research in Water Resources.

Modeling of contaminant transport through soil to groundwater to a receptor requires that consideration be given to the many processes which control the transport and fate of chemical constituents in the subsurface environment. These processes include volatilization, degradation, sorption and multiphase partitioning, leaching, advection and dispersion. Mathematical models for simulation of these processes may require significant data inputs. The paper reviews the important factors involved in modeling of subsurface transport as well as the data requirements and uncertainties. An application of a hydro-carbon spill screening model is presented.

Keywords: *Mathematical models, *Subsurface investigations, *Path of pollutants, *Water pollution, *Land pollution, Ground water, Environmental transport, Volatility, Hydrocarbons, Chemical spills, Oil spills, Immobilization, Soil contamination, Degradation, Sorption, Leaching, Advection, Dispersing, Reprints, Hydrocarbon Spill Screening Model.

PB92-179126/REB PC **A02/MF A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Spatial Variability of Geochemical and Hydrologic Properties of Subsurface Materials in a Sand and Gravel Aquifer, Cape Cod, Massachusetts. Water resources investigation.
Geological Survey, Menlo Park, CA. Water Resources Div.
C. C. Fuller, J. A. Coston, K. M. Hess, and J. A. Davis. 1991, 10p EPA/600/A-92/087
Pub. in U.S. Geological Survey Toxic Substances Hydrology Program: Proceedings of the Technical Meeting, Monterey, CA., March 11-15, 1991, p84-87. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

The effect of spatial variability in geochemical and hydrologic parameters on the transport of surface-reactive solutes in ground-water systems is being investigated in a shallow, sand and gravel aquifer on Cape Cod, Massachusetts. The focus of the study is to identify the geochemical properties controlling metal-ion sorption and to describe their spatial variability. The spatial variability of hydraulic conductivity estimated from grain-size distribution measurements also is being studied. The results will be used in conjunction with tracer-test studies of metal transport conducted at the site to develop coupled solute transport and reaction models that incorporate the observed spatial variability in geochemical properties used to estimate sorbent abundance, metal sorption coefficients, and hydraulic conductivity. The paper outlines the objectives and approach of the research study. Sixty meters of core have been collected and the initial laboratory phase of the research has recently begun.

Keywords: *Subsurface investigations, *Geochemistry, *Hydrology, *Aquifers, *Environmental transport, *Toxic substances, Hydraulic conductivity, Sorption, Spatial distribution, Heterogeneity, Metals, Water pollution, Ground water, Particle size distribution, Reprints, Cape Cod(Massachusetts).

PB92-179134/REB PC **A03/MF A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
Geological Survey, Menlo Park, CA. Water Resources Div.
J. A. Davis, D. B. Kent, B. A. Rea, S. P. Garabedian, and L. D. Anderson. 1991, 17p USGS/WRI-91-4034, EPA/600/A-92/088
Contract EPA-DW14934639
Pub. in U.S. Geological Survey Toxic Substances Hydrology Program, Proceedings of Technical Meeting, Monterey, CA., March 11-15, 1991, p53-62. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

An overview is presented of a field-based research program that is examining the significance of chemical reactions in heavy-metal transport in ground water. Both natural-gradient tracer tests and laboratory experiments with subsurface materials are being used to evaluate the relative importance of hydrologic and geochemical processes affecting metal transport. The experiments are being conducted in an uncontaminated recharge zone and in sewage-contaminated zones of the sand and gravel aquifer at the Cape Cod Toxic-Substance Hydrology Research Site. The results of tracer tests with zinc, chromium, and selenium showed that various chemical processes can have a dominant effect on metal transport; these processes include oxidation-reduction, adsorption-desorption, and aqueous complexation reactions. In some cases, significant speciation changes occurred as the injected tracers moved downgradient, and the changes generally had marked effects on the reactivity of the tracers with the porous medium. The experiments revealed that equilibrium geochemical models will be difficult to apply in modeling the transport of some redox-sensitive contaminants, such as chromium (VI) and selenium (VI), because of the specific nature of interactions of each element with reductants. A practical modeling approach for describing metal transport in ground water may require laboratory experiments designed specifically to identify and minimize the number of chemical reactions considered in a hydrogeochemical transport model.

Keywords: *Toxic substances, *Water pollution effects, *Geochemistry, *Heavy metals, *Ground water, Environmental transport, Chemical reactions, Hydrogeology, Aquifers, Tracer studies, Porous media, Mathematical models. Experimental design, Reprints.

PB92-179142/REB PC **A03/MF A01**
Toxicity of Ammonia, Nitrite, and Nitrate to Fishes. Book chapter.
Environmental Research Lab., Athens, GA.
R. C. Russo, and R. V. Thurston. 1991, 34p EPA/600/A-92/089
Pub. in Advances in World Aquaculture, v3 p58-95 1991. See also PB84-172444. Prepared in cooperation with Montana State Univ., Bozeman. Fisheries Bioassay Lab.

Ammonia and nitrite are highly toxic to fishes, with ammonia occurring in surface waters more commonly than nitrite. Nitrate is a related compound but is not significantly toxic to fishes. The acute toxicity of ammonia to aquatic organisms is affected by water pH, dissolved oxygen, temperature, concentration fluctuations, degree of salinity, presence of other chemicals, and prior acclimation. The acute toxicity of nitrite is known to be affected by water pH and the presence of chloride and calcium. More research is needed on the effects of these and other variables on the acute toxicity of both ammonia and nitrite, as well as the chronic effects of both of these toxins.

Keywords: *Toxicity, *Water pollution effects(Animals), *Ammonia, *Nitrates, *Nitrites, pH, Oxygen, Temperature, Chlorides, Calcium, *Fishes, Reprints.

PB92-179159/REB PC **A03/MF A01**
Use of Pilot Columns for Predicting Full-Scale GAC Performance.
Environmental Protection Agency, Cincinnati, OH. Drinking Water Research Div.
T. F. Speth, B. W. Lykins, and R. J. Miltner. 1992, 12p EPA/600/A-92/090
Pub. in Design and Use of Granular Activated Carbon. Practical Aspects Proceedings, Cincinnati, OH., May 9-10, 1989. See also PB83-121731 and PB89-110274.

The applicability of using pilot columns to predict the full-scale performance of granular activated carbon columns is evaluated. Pilot-scale data for total organic carbon and 1,2-dichloroethane are directly compared to full-scale data for sites at Jefferson Parish, LA and Cincinnati, OH. Pilot column results for atrazine and cis-1,2-dichloroethene are also presented. The applicability of model predictions and how they can be used to design pilot-column studies is also discussed.

Keywords: *Activated carbon treatment, *Water treatment, *Performance evaluation, *Forecasting, Water

pollution, Chlorine organic compounds, Atrazine, Adsorbents, Reprints, *Pilot columns.

PB92-179670/REB PC **A02**/MF **A01**
Demonstration of Waste Treatment Technologies.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
J. F. Martin. 1991, 7p EPA/600/A-92/091
Presented at the Engineering and Technology Conference (1st) on Waste Management Technology, Technology Transfer and Training, San Juan, PR., April 24-26, 1991. See also PB90-216516.

The need for long-term, permanent treatment schemes as alternatives to land disposal has been highlighted by legislation such as the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act (RCRA) and the Superfund Amendments and Reauthorization Act (SARA) of 1986. SARA directed the U.S. Environmental Protection Agency to establish an 'Alternative or Innovative Treatment Technology Research and Demonstration Program' to identify promising waste treatment technologies, assist with their evaluation, and promote their use at Superfund sites. In response to this directive the Superfund Innovative Technology Evaluation (SITE) Program was formed. Twenty technology demonstrations have been completed in the SITE Program to date. Those completed within the past year include microfiltration (DuPont and the Oberlin Filter Company), waste excavation and emissions control (EPA Region 9), integrated vapor extraction and steam vacuum stripping (AWD Technologies), solidification of contaminated soil (Silicate Technology Corporation), and flame reactor recovery of lead (Horsehead Resource Development Company).

Keywords: *Waste treatment, *Hazardous materials, *Remedial action, Substitutes, Waste disposal, Pollution regulations, Demonstration programs, Air pollution control, Stripping(Distillation), Solidification, Superfund, Materials recovery, Flame chamber process, Excavation, Filtration, Extraction, *Superfund Innovative Technology Evaluation Program, Cleanup operations, Microfiltration, Superfund Amendments and Reauthorization Act.

PB92-179688/REB PC **A03**/MF **A01**
U.S. Environmental Protection Agency Research Program on the Environmental Impacts and Control of Highway Deicing Salt Pollution. Book chapter.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. Field, and M. O'Shea. 1992, 20p EPA/600/A-92/092
Pub. in Chemical Deicers and the Environment, p117-133.

Deicing agents for removal of ice and snow from highways and streets are considered essential for wintertime road maintenance in most areas of the U.S.A. However, heavy usage of highway-deicing materials can result in injury and damage across a wide environmental spectrum. Salt-laden runoff from streets, highways, and storage facilities can result in damage to public water supplies, ponds, lakes and surface streams; roadside soil, vegetation and trees; highway structures and pavements; vehicles; and underground utilities. The total annual national cost of salt-related damage is estimated at 5.4 billion dollars. The paper outlines the results of several studies on highway-deicing impacts characterization and control conducted by the U.S. Environmental Protection Agency's (EPA's) research program on urban stormwater and combined sewer overflow pollution control in the 1970's. The widespread environmental impacts from roadway salting are reviewed and recommendations are provided for salt usage, storage, and equipment maintenance. In addition, various methods for anti-icing/deicing are presented. This includes the results of several studies evaluating and optimizing hydrophobic pavement coating materials. Recommendations for future research to reduce the adverse impact of highway deicing are described.

Keywords: *Highways, *Deicers, *Environmental effects, *Environmental protection, *Snow removal, Damage control, Environmental chemical substitutes, Deicing, Ice prevention, Pollution abatement, Pollution control, Storage, Water pollution, Roads, Runoff, Coatings, Storm water runoff, Ground water, Corrosion, Salts, Combined sewers, Reprints.

PB92-179696/REB PC **A02**/MF **A01**
Compliance Concerns with the New Coliform Regulation.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
E. E. Geldreich. 1992, 8p EPA/600/A-92/093
Pub. in Technology Conference Proceedings, Part 2, Sessions EB through ST6 - AWWA Water Quality Technology Conference, Orlando, FL., November 10-14, 1991, p1327-1331.

The search for the presence or absence of coliforms in the water supply has made the recognition of a biofilm more obvious than ever before. Sorting out the true coliform biofilm issue from the presence of hidden contamination is of utmost importance. Careful characterization of incipient and recurring seasonal biofilms needs to consider the record of the health status in the community, treatment operations at the water plant, evidence of fecal contamination in the distribution system, and identification of the coliforms detected. Repeat sampling requirements may present a 'Catch 22' situation for some water supplies whose samples yield growth but no detectable coliforms. Guidance is needed in these situations to encourage an appropriate action response involving flushing and disinfecting the pipe line rather than continuing useless reexamination of water samples from the site. The fear of fecal coliforms in every repeat sample analysis of positive coliforms is unfounded. Properly treated water with protected distribution of the treated water will yield less than one fecal coliform positive sample for every one thousand repeat samples examined.

Keywords: *Coliform bacteria, *Water supply, *Potable water, *Regulations, Compliance, Water treatment, Biofilms.

PB92-179704/REB PC **A03**/MF **A01**
Opportunistic Organisms and the Water Supply Connection.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
E. E. Geldreich. 1991, 22p EPA/600/A-92/094
Presented at the Technology Conference Proceedings, Part 2, Sessions EB through ST6, AWWA Water Quality Technology Conference, Orlando, FL., November 10-14, 1991, p823-842.

Organisms that become established in water supply may also be opportunistic pathogens. Representative opportunistic pathogens that are waterborne include acid-fast bacteria, fecal klebsiellae, Legionella and Pseudomonas aerugionosa. These organisms may be found in the heterotrophic bacterial population of treated drinking water and if appropriate conditions exist, may colonize and become part of the biofilm. Maintaining a high quality water supply requires careful treatment and a clean water distribution system. Users of the community water supply also have a responsibility to preserve the water quality from deterioration as it leaves the service meter and traverses the building supply lines. The goal is to minimize exposure to various heterotrophic bacteria that may pose a risk to those consumers of varying health status in the community of people.

Keywords: *Water supply, *Potable water, *Aquatic microbiology, Legionella, Pseudomonas aeruginosa, Klebsiella, Opportunistic infections, Feces, Water quality, Mycobacteria, Salmonella, Aeromonas, Escherichia coli.

PB92-179712/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Drinking Water Research Div.
Comparison of Methods for Determination of Dissolved Inorganic Carbon (DIC).
Technology Applications, Inc., Cincinnati, OH.
M. R. Schock, and G. K. George. 16 Dec 91, 26p EPA/600/A-92/092
Pub. in Proceedings, AWWA Water Quality Technology Conference, Orlando, FL., November 10-14, 1991, p299-323. See also PB85-165876. Sponsored by Environmental Protection Agency, Cincinnati, OH. Drinking Water Research Div.

The presentation reviews several approaches for determining dissolved inorganic carbon (DIC) in drinking water. Experimental studies compared the accuracy and precision of DIC determination obtained by either direct analysis using a coulometric titration technique, or by comutation from a complete water analysis using the WATEQX equilibrium chemical speciation model. The two methods gave equivalent DIC values at the 95% confidence level. However, pH and total alkalinity accuracy and precision must be optimized to achieve equivalence, or else direct analysis is better. Factors that can be controlled, and analytical method adjustments are discussed, to enable better DIC determination for laboratories.

Keywords: *Potable water, *Water analysis, *Water pollution detection, Comparison, Chemical analysis, Analytic chemistry, Volumetric analysis, Colorimetric analysis, Water treatment, Carbonates, Corrosion prevention, Error analysis, Chemical equilibrium, pH, Reprints, *Dissolved inorganic carbon.

PB92-179720/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Drinking Water Research Div.
Comprehensive Evaluation of a Field Test Kit for Lead.
Technology Applications, Inc., Cincinnati, OH.
G. K. George, M. R. Schock, and K. C. Kelty. 1991, 13p EPA/600/A-92/096
Pub. in Proceedings, American Water Works Association Water Quality Technology Conference, Orlando, FL., November 10-14, 1991 p263-273. Sponsored by Environmental Protection Agency, Cincinnati, OH. Drinking Water Research Div.

The Hach Lead-Trak test kit for lead in water was tested in a laboratory evaluation. Considered were: operator bias, precision, accuracy, linear calibration range, and potential drinking water interferences. Interferences tested were realistic levels of: Ca, Mg, Ni, Sb, Mn, Cd, Cu, Zn, Fe(II), Fe(III), Al, NO3(-), Cl(-), F(-), PO4(3-), P2O7(4-), P6O18(-6), and P3O10(5-). Interferences were tested individually in deionized water, using a linear regression slope technique to detect bias. Results of analyses of split spiked samples and actual drinking water samples were compared to GFAAS values. Agreement with GFAAS was generally good from 0 to 50 micrograms Pb/L, but the kit suffered from significant negative interferences from Fe(II), Zn(II), and all polyphosphates. Recoveries of Pb from 6 different tap waters ranged from 81 to 109%. No operator bias was found.

Keywords: *Lead(Metal), *Water pollution detection, *Water analysis, *Potable water, Comprehensive planning, Chemical analysis, Field tests, Corrosion, Water treatment, Experimental design, Comparison, Concentration(Composition), Reprints, Hach Lead-Trak test kits.

PB92-179738/REB PC **A02**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Abiotic Transformation of Carbon Tetrachloride in the Presence of Sulfide and Mineral Surfaces.
Stanford Univ., CA. Dept. of Civil Engineering.
M. R. Kriegman-King, and M. Reinhard. 1992, 8p EPA/600/A-92/097
Grant EPA-R-816776
Pub. in American Chemical Society, Division of Environmental Chemistry Preprints of Paper Presented at the ACS National Meeting (203rd), San Francisco, CA., April 5-10, 1992, v32 n1 p495-498. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

Abiotic transformations, such as reductive dehalogenation and nucleophilic substitution, can influence the fate of halogenated aliphatic compounds in aqueous environments. Sulfide, commonly found in hypoxic environments such as landfill leachate, hazardous waste plumes, and salt marshes, can act as an electron donor (Schreier, 1990; Kriegman-King and Reinhard, 1991) or as a nucleophile (Schwarzenbach, et al., 1985; Haag and Mill, 1988, Barbash and Reinhard, 1989a) to promote transformation of halogenated organics. In subsurface environments, transformation rates of halogenated organic compounds may be influenced by mineral surfaces, in addition to the aqueous chemistry (Estes and Vilker, 1989, Schreier, 1990; Kriegman-King and Reinhard, 1991; Curtis, 1991). The purpose of the work is to show the effect of mineral surfaces in the presence of sulfide on the carbon tetrachloride (CTET) transformation rate. Laboratory studies were conducted to identify and quantify the environmental parameters that govern the transformation rate of CTET. The parameters studied were temperature, pH, mineral surface area, and sulfide concentration.

Keywords: *Bioconversion, *Carbon tetrachloride, *Water pollution effects, *Sulfides, *Minerals, Leaching, Hazardous materials, Waste disposal, Halogen organic compounds, Surface chemistry, Water chemistry, Temperature, pH, Kinetics, Electron donors, Dechlorination, Reprints.

PB92-179746/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Vapor Pressures, Liquid Molar Volumes, Vapor Non-Idealities, and Critical Properties of Some Fluorinated Ethers: CF3OCF2OCF3, CF3OCF2CF2H, c-CF2CF2CF2O, CF3OCF2H, and CF3OCH3; and of CCl3F and CF2ClH. Journal article Aug 88-Aug 90.
Tennessee Univ., Knoxville. Dept. of Chemistry.
B. H. Wang, J. L. Adcock, S. B. Mathur, and W. A. Van Hook. c1991, 14p EPA/600/J-92/148
Grant EPA-R-815147
Pub. in Jnl. of Chemical Thermodynamics 23, p699-710 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

Vapor pressures, compressibilities, expansivities, and molar volumes of the liquid phase have been measured between room temperature and the critical temperature for a series of fluorinated ethers: CF3OCF2OCF3, CF3OCF2CF2H, c-CF2CF2CF2O, CF3OCF2H, and CF3OCH3. Vapor-phase non-idealities were measured for each compound, but only for samples of high vapor density. Critical temperatures and pressures and approximate melting and boiling temperatures are reported. Apparatus calibrations were checked with measurements on the well characterized materials: CFCl3, (R11) and CF2ClH(R22). (Copyright (c) 1991, Academic Press.)

Keywords: *Fluorine organic compounds, *Ethers, *Vapor pressure, *Thermodynamic properties, Air pollution control, Critical temperature, Refrigerants, Fluorohydrocarbons, Substitutes, Reprints, *Fluorinated ethers, Molar volume.

PB92-179753/REB PC **A02/MF A01**
Humic Substances and Contaminant Transport: A Review. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
S. Krishnamurthy. c1992, 8p EPA/600/J-92/149
Pub. in Northeastern Geology, v14 n1 p59-64 1992.

Humic substances are widely distributed in the environment, occurring in soils and waters. They are the products of microbial degradation of dead vegetable and animal matter. They account for the major portion of dissolved organic matter. They are water soluble and have the ability to fix persistent hydrophobic pollutants such as PCB's, halogenated aliphatics and aromatics and heavy metal ions, rendering them water soluble. Humic substances play a very important role in the mobilization and transport of persistent pollutants. The chemical nature of humic and fulvic acids is discussed fully. The nature of humic-contaminant interaction is dealt with according to current knowledge. The implications of an understanding of these interactions to environmental problems are discussed. Profitable lines of future enquiry are delineated. A full bibliography is provided.

Keywords: *Humus, *Path of pollutants, *Land pollution, *Water pollution sources, Fulvic acids, Organic matter, Humic acids, Biodeterioration, Polychlorinated biphenyls, Biochemistry, Halogen organic compounds, Heavy metals, Aromatic compounds, Environmental transport, Chemical properties, pH, Solubility, Colloids, Decomposing organic matter, Reprints.

PB92-179761/REB PC **A02/MF A01**
Combined Sewer Overflow: Balancing Flow for CSO Abatement. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
A. Forndran, R. Field, K. Dunkers, and D. Moran. c1991, 7p EPA/600/J-92/150
Pub. in Storm and Combined Sewer Overflow Pollution Control Program, p54-58 May 91. See also PB89-190151.

Instead of using conventional storage units, e.g., reinforced concrete tanks and lined earthen basins, which are relatively expensive and require a lot of urban land area, the in-receiving water flow balance method (FBM) facilities use the receiving water body itself for storage volume. The FBM facilities have been operating successfully for approximately ten years for control of separate stormwater entering relatively quiescent freshwater lakes in Sweden, and are able to take ice and wind loads without adverse impact. The objective of the project which the paper discusses is to demonstrate a facility for Combined Sewer Overflow (CSO) storage in a harsh estuarine/marine site having tidal exchange, freezing, and coastal storm phenomena. The prototype demonstration facility located in Fresh Creek, a tributary of Jamaica Bay in Brooklyn, New York, U.S.A. started operation in November 1988. The evaluation includes CSO capturing efficiency under the impediments and flow saltwater and freshwater density differences and curtain leakage; structural ability to endure the harsh coastal marine environment; and floatables and settleable solids removal effectiveness. Interim data (including that from salinity profiling) from several storm-flow occurrences indicates that the salt-water-freshwater stratification phenomenon is enabling the facility to operate effectively and detailed results of the evaluation are presented.

Keywords: *Combined sewers, *Overflows, *Water pollution abatement, *Runoff, *Water quality, Storm sewers, Water pollution control, Storm water runoff, Hydraulics, Hydrology, Storage tanks, Saline water-freshwater interfaces, Fresh Creek, New York, Design criteria, Performance evaluation, Water flow, Reprints, *Flow Balancing Method.

PB92-179779/REB PC **A03/MF A01**
Health Effects Research Lab., Research Triangle Park, NC.
Neuroendocrine Responses to Social Regulation of Puberty in the Female House Mouse. Journal article.
NSI Technology Services Corp., Research Triangle Park, NC.
K. J. Darney, J. M. Goldman, and J. G. Vandenbergh. c1992, 12p EPA/600/J-92/151
Contract EPA-68-02-4450
Pub. in Neuroendocrinology, v55 n4 p434-443 Apr 92. Prepared in cooperation with North Carolina State Univ. at Raleigh. Dept. of Zoology. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

First estrus is advanced in female house mice exposed to an adult male and delayed in those housed in groups. Experiments were conducted to explore possible mechanisms by which the hypothalamus integrates these puberty regulating social signals. Female mice weaned at 21 d of age were placed in: groups of 8 (G8JF) a juvenile female with a juvenile male (JFJM) or juvenile female with an adult male (JFAM). All females were ovariectomized on d 28 and sacrificed on d 29. Two way ANOVA (social treatment x estradiol treatment) revealed no differences or interactions in brain catecholamines as a result of estradiol injection. The G8JF treatment significantly increased NE, DA and DOPAC in the mediobasal hypothalamus (MBH), and the MHPG/NE ratio in the preoptic area (POA). In the final experiments, isolate prepubertal female mice were treated with either water or male urine (MU) on the oronasal groove. Eight d of MU treatment resulted in significant uterine growth, however there were no differences in serum LH, POA or MBH catecholamines or POA and median eminence LHRH. The results suggest that the mechanism by which male and grouped female exposure alters first estrus may not involve changes in sensitivity to estradiol negative feedback.

Keywords: *Puberty, *Animal sex behavior, *Neuroendocrinology, Mice, Estrus, Hypothalamus, Ovariectomy, Estradiol, Catecholamines, LH, Brain chemistry, Reprints.

PB92-179787/REB PC **A03/MF A01**
Health Effects Research Lab., Research Triangle Park, NC.
Applications of a Neurobehavioral Screening Battery. Journal article.
NSI Technology Services Corp., Research Triangle Park, NC.
V. C. Moser. c1991, 11p EPA/600/J-92/152
Contract EPA-68-02-4450
Pub. in Jnl. of the American College of Toxicology, v10 n6 p661-669 Dec 91. See also PB90-113192 and PB91-117101. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

With the growing awareness of the neurological effects of many environmental chemicals, there is considerable emphasis being placed on the detection of neurotoxic potential at the screening, or first-tier, level of testing. The authors have developed a neurobehavioral screening battery consisting of a functional observational battery (FOB) and an automated measure of motor activity which can be incorporated into neuropathological studies as well as general toxicity assessments of new and existing chemicals in rats. This approach has been recommended by several expert national and international panels, and has recently been recommended by the US Environmental Protection Agency for testing pesticides and industrial chemicals. The FOB consists of a series of home-cage, open-field, and interactive assessments of the rat's behavior and neurological functions. Motor activity provides an objective apical measure of the rat's neurobehavioral function. In order to assess validity, sensitivity, and specificity, the authors have utilized these test methods to determine dose-response and time-course characteristics of a wide variety of chemicals including pesticides, metals, solvents, and industrial compounds.

Keywords: *Nervous system, *Toxicology, *Toxic substances, *Behavior, Rats, Dose-response relationships, *Physiology, Reprints, *Neurobehavioral test battery.

PB92-179795/REB PC **A02/MF A01**
Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Carcinogenesis and Metabolism Branch.
J. R. Rabinowitz, and S. B. Little. c1992, 9p EPA/600/J-92/153
Pub. in Jnl. of Chemical Research in Toxicology, v5 n2 p286-292 Mar 92. See also PB88-218474. Prepared in cooperation with Environmental Health Research and Testing, Inc., Research Triangle Park, NC.

Polycyclic aromatic hydrocarbons (PAHs) are a pervasive class of anthropogenic chemicals found in the environment. Molecules within this chemical class show considerable variation in toxicity. Some class members are powerful mutagens and animal carcinogens while other molecules show no similar activity after considerable testing. For a series of cyclopenta-polynuclear aromatic hydrocarbons, epoxidated in the cyclopenta ring, semi-empirical AM1 calculations, and single point ab initio calculations using the 3-21g split valence basis set, have been performed for each carbocation that might be formed by the opening of the protonated epoxide ring. For all carbocations studied, the cationic charge is distributed throughout the molecule. If the protonated epoxide ring can open so that the nominal charge is on a CH group that is attached to the central ring in an anthrylenic core, that carbocation will be greatly favored. For carbocations of this type, the unoccupied alpha position has as much or more of the cation charge as the nominally charged CH position. The group charges, and other properties related to electrostatic reactivity clearly favor addition of nucleophiles at the unoccupied alph position for carbocations in this class. However, when the addition of small nucleophiles at both of these positions is modeled for two such examples, the results are equivocal. Modeling these molecular interactions by using a larger more polarizable target may have a significant effect on the electronic factors influencing the results.

Keywords: *Aromatic polycyclic hydrocarbons, *Molecular structure, *Toxic substances, *Toxicology, *Environmental surveys, Biological effects, Activity(Biology), Cations, Chemical bonds, Quantum theory, Metabolism, Mutagens, Carcinogens, Laboratory animals, Biochemistry, Epoxy compounds, Molecular energy levels, Reprints, Ab initio calculations, Cyclopenta rings.

PB92-179803/REB PC **A02/MF A01**
Remediation of Leaking USTs: A System for Accessing Case Histories and Related Documents. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. W. Hillger, and R. A. Griffiths. c1992, 7p EPA/600/J-92/154
Pub. in the Jnl. of Air Waste Management Association 42, n3 p298-302 Mar 92. See also PB91-136531.

The U.S. Environmental Protection Agency's regulations require corrective action to be taken in response to a leaking underground storage tank (UST). Increasingly active state-run programs and the introduction of new cleanup technologies make UST corrective actions a multidisciplinary effort. The diversity of experience among personnel involved with the type of work has increased. The EPA's Risk Reduction Engineering Laboratory has made its databases available to the public to help support the diverse audience. Its Computerized On-Line Information System (COLIS) allows for the quick and simple retrieval of data relating to UST incidents, as well as other hazardous-waste-related information. The paper describes the development and features of two important COLIS subsystems: the Case History File and the Library Search System. Sample search sessions are used to illustrate features of particular interest to personnel involved with UST sites. (Copyright (c) 1992--Air and Waste Management Association.)

Keywords: *Remedial action, *Underground storage, *Storage tanks, *Land pollution control, *Petroleum products, Pollution regulations, Case studies, State programs, Information retrieval effectiveness, Data bases, Fuels, Information systems, Hazardous materials, Leakage, Personnel, Waste management, Reprints, *Computerized On-Line Information System, Library Search System, Case History File, COLIS system, Cleanup operations.

PB92-179811/REB PC **A02**/MF **A01**
Sorption of Heavy Metals by the Soil Fungi 'Aspergillus niger' and Mucor rouxii. Journal article.
Environmental Research Lab., Athens, GA.
M. D. Mullen, D. C. Wolf, T. J. Beveridge, and G. W. Bailey. c1992, 9p EPA/600/J-92/155
Pub. in Soil Biology and Biochemistry, v24 n2 p129-135 Feb 92. Prepared in cooperation with Tennessee Univ. at Martin, Arkansas Univ., Fayetteville. Dept. of Agronomy, and Guelph Univ. (Ontario). Dept. of Microbiology.

Sorption of the nitrate salts of cadmium(II), copper(II), lanthanum(III) and silver(I) by two fungi, Aspergillus niger and Mucor rouxii, was evaluated using Freundlich adsorption isotherms and energy dispersive X-ray electron microscopy. The linearized Freundlich isotherm described the metal sorption data well for metal concentrations of 5 microM-1 mM metal. Differences in metal binding were observed among metals, as well as between fungal species. Calculated Freundlich K values indicated that metal binding decreased in the order La(3+) > or = Ag(+) > Cu(2+) > Cd(2+). However, sorption of Ag(+) was greater than that of La(3+) from solutions of 0.1 and 1 mM metal and likely due to precipitation at the cell wall surface. At the 1 mM initial concentration, there were no significant differences between the two fungi in metal sorption, except for Ag(+) binding. At the 5 microM concentration, there was no difference between the fungi in their sorption capacities for the four metals. Electron microscopy-energy dispersive X-ray analysis indicated that silver precipitated onto cells as colloidal silver. The results indicate that Freundlich isotherms may be useful for describing short-term metal sorption by fungal biomass and for comparison with other soil constituents in standardized systems. (Copyright (c) 1992 Pergamon Press plc.)

Keywords: *Heavy metals, *Sorption, *Soil microorganisms, *Land pollution, *Fungi, Cells(Biology), Immobilization, Biomass, Electron microscopy, Microbiology, Silver, Lanthanum, Inorganic salt, X ray analysis, Chemical bonds, Colloids, Isotherms, Cadmium, Copper, Reprints, Aspergillus niger, Mucor rouxii.

PB92-179829/REB PC **A03**/MF **A01**
Modelling Individuals Employing an Integrated Energy Response: Application to 'Daphnia'. Journal article.
Environmental Research Lab., Athens, GA.
T. G. Hallam, R. R. Lassiter, J. Li, and L. A. Suarez. c1990, 19p EPA/600/J-92/156
Pub. in Ecology 7, n3 p938-954 Mar 90. See also PB87-145975. Prepared in cooperation with Tennessee Univ., Knoxville. Dept. of Mathematics.

Motivated by problems where variation among individuals is necessary to explain properties of ecological systems, the authors develop a mathematical model of an individual organism. The model, based primarily upon energetics, is developed specifically for female daphnids, although with appropriate modifications it should be applicable to other aquatic animals such as fish. Mimicking the life history of an individual as it progresses from egg to juvenile to adult instars, the model consists of a coupled pair of nonlinear, nonautonomous ordinary differential equations. The growth of an individual is described through the dynamics of two compartments--lipid and structure--of the organism because of the importance of lipid dynamics in aquatic animals. Energy supply and demand are handled through an energy integrator compartment. Availability of energy is represented by potential flows from the lipid and structural compartments. Energy requirements of maintenance, activity, and reproduction are the sinks. An advantage of employing an individual-based technique is that ample information relating to the individual parameters--most of which are physiological in character--can usually be obtained, and reasonable estimates for model application found. (Copyright (c) 1990 by the Ecological Society of America.)

Keywords: *Daphnia, *Energy metabolism, Mathematical models, Lipids, Reproduction(Biology), Life cycles, Reprints.

PB92-179837/REB PC **A02**/MF **A01**
Spectroscopic Study of Surface Redox Reactions With Manganese Oxides. Journal article.
Environmental Research Lab., Athens, GA.
J. A. Risser, and G. W. Bailey. c1992, 10p EPA/600/J-92/157
Pub. in Soil Science Society America Jnl., v56 n1 p82-88 Jan-Feb 92.

Redox reactions involving soil minerals and materials are important processes in environmental chemistry, but unfortunately they only have been characterized in the solution phase. The lack of a suitable method has prevented investigations of the mineral surface component of redox reactions. The authors present a model system which ultraviolet-visible spectroscopy is employed to observe a surface redox reaction. A synthetic MnOx is reacted with Cr(III), resulting in Cr oxidation to the hexavalent state and the reduction of the MnOx mineral. A scattered transmission accessory allowed the authors to observe spectroscopically both the appearance of Cr(VI) and the attenuation of MnOx in a suspension. Loss of absorbance intensity by MnOx suspensions may be useful as a general method to follow redox reactions as a function of the solid phase rather than relative to a specific reactant. This spectroscopic approach provides the capability to monitor in situ reactions of solid-phase components and is useful for examining transformations of metallic and organic wastes and naturally occurring materials in the environment.

Keywords: *Surface chemistry, *Oxidation reduction reactions, *Environmental surveys, *Manganese oxides, *Spectrum analysis, Natural emissions, Organic matter, Minerals, Soil surveys, Chemical spills, Visible spectroscopy, Solid wastes, Chemical reactions, Path of pollutants, Sediments, Ultraviolet spectroscopy, Reprints, Chemical reaction mechanisms.

PB92-179845/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Behavior of Arsenic in a Rotary Kiln Incinerator (Journal Version).
Acurex Corp., Jefferson, AR.
R. C. Thurnau, and D. Fourneir. c1992, 8p EPA/600/J-92/158
Contract EPA-68-C9-0038
Pub. in Jnl. of Air and Waste Management Association, v42 n2 p179-184 Feb 92. See also PB91-131656. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

A series of pilot scale incineration tests were performed at EPA's Incineration Research Facility (IRF) to evaluate the fate of arsenic when fed to a rotary kiln incinerator. In addition to parametric tests, an arsenic-containing soil from a Superfund site was also fed to the same incinerator. The operation of the incinerator and the resulting test conditions were similar. The data showed that arsenic when incinerated tends to partition to the bottom ash. However, as the temperature in the kiln rises, the amount of arsenic partitioning to the ash decreases. With regard to the Superfund soil, the TCLP values for arsenic went down as the oxygen level in the kiln increased. Afterburner temperature and chlorine concentration in the waste did not appear to have any effect on the partitioning of arsenic.

Keywords: *Arsenic, *Waste disposal, *Incinerators, Hazardous materials, Superfund, Soil treatment, Kilns, Performance evaluation, Pilot plants, Combustion products, Air pollution control, Reprints.

PB92-179852/REB PC **A02**/MF **A01**
Visions of the Future in Drinking Water Microbiology. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
E. E. Geldreich. c1992, 10p EPA/600/J-92/159
Pub. in Jnl. of the New England Water Works Association, vCVI n1 p1-8 Mar 92.

Drinking water microbiology will have a tremendous impact on defining a safe drinking water in the future. There will be breakthroughs in realtime testing of process waters for pathogen surrogates with results made available within 1 hour for application to treatment adjustments if needed. Continuous monitoring by automated microbiology of filter effluents and effluent leaving the contact basin will provide a constant check for any pathogenic penetration of barriers. Using distribution system models, water quality changes in heterotrophic bacteria will be plotted throughout the network to signal times to flush and to define zones of HPC densities around hospitals and rest homes. The quest for better characterization of drinking water quality will not come into reality without expanding the laboratory's professional resources and dedicated instrumentation to define a new level of water quality conditions. The objective will require a reevaluation of financial support and staffing requirements on a par with the expanding chemistry laboratory.

Keywords: *Potable water, *Aquatic microbiology, Water quality, Disease outbreaks, Disinfection, Water supply, Cost analysis, Ground water, Standards, Monitoring, Reprints, Small systems.

PB92-179860/REB PC **A02**/MF **A01**
Underground Storage Tanks on Indian Lands. Education Moderates: An Environmental Treat. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. W. Hillger, and M. C. Small. 1992, 10p EPA/600/J-92/160
Pub. in Winds of Change, Spring 1992, p62-71.

The paper discusses many of the problems surrounding leaking underground storage tanks, the laws that govern them, and some ways in which they can be properly managed. Problems commonly encountered on Native American Lands such as UST abandonment, poor UST management practices, and lack of public awareness must be resolved if one is to have a safey and healthy environment. Recent studies indicate that the average age of an UST system on Native American lands is over 15 years, and that 90% of the identified tanks are bare steel and subject to corrosion and leaks. Nationally, over 25% of the 2 million USTs are leaking. Without question, these figures are most alarming. Since USTs will continue to be a part of one's daily life, it is encumbent upon UST owners and operators to take the necessary precautions to prevent releases. The number of future leaks can be reduced dramatically if proper management practices are adopted and owners and operators actively use leak detection. In addition, owners and operators of UST systems must keep up with the federal UST regulations, maintain and upgrade their systems properly, notify tribal authorities and EPA if there is a suspected leak or release, and assure financial responsibility for their USTs.

Keywords: *Land pollution abatement, *Underground storage, *Storage tanks, *Leakage, Land management, Pollution regulations, American Indians, Environmental protection, Soil contamination, Environmental management, US EPA, Notification procedures, Remedial action, Reprints.

PB92-179878/REB PC **A01**/MF **A01**
U.S. EPA's Research on Life-Cycle Analysis. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
M. A. Curran. c1992, 5p EPA/600/J-92/161
Pub. in Cosmetic and Toiletries, v107 n2(69) Feb 92.

Life-cycle analysis (LCA) consists of looking at a product, process or activity from its inception through its completion. For consumer products, this includes the stages of raw material acquisition, manufacturing and fabrication, distribution, consumer use/reuse and final disposal. Interest in using LCA to focus on energy use and conservation became more common in the mid-1970s, when oil supplies were limited due to the oil embargo and the subsequent energy crisis. Landmark studies have addressed the use of beverage containers, and the use of paper versus plastic shopping bags. Because LCA is relatively new, a lot of variance and inconsistencies exist in the methodologies that are currently used. In response to the lack of uniformity and growing concern about the adverse impact that products and processes have on the environment, the Environmental Protection Agency (EPA) has launched a research project that is aimed at producing guidelines for standardizing LCA in a non-regulatory mode.

Keywords: *Life cycles, *Consumer products, *US EPA, Environmental impacts, Pollution abatement, Methodology, Wastes, Reprints, *LCA(Life-Cycle Analysis).

PB92-179886/REB PC **A03/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Chemical Substitution for 1,1,1,-Trichloroethane and Methanol in an Industrial Cleaning Operation. Journal article.
APS-Materials, Inc., Dayton, OH.
L. M. Brown, J. Springer, and M. Bower. c1992, 12p EPA/600/J-92/162
Contract EPA-68-03-3389
Pub. in Jnl. of Hazardous Materials, v29 n2 p179-188 Jan 92. See also PB84-128677 and PB88-239223. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Hazardous wastes are generated from cold solvent degreasing operations used in many industrial processes. The spent solvents are managed under Subtitle C of the Resource Conservation and Recovery Act (RCRA). With the land ban of spent solvents, disposal has become increasingly difficult. As a result, industries have begun investigating ways to avoid using RCRA listed cleaning solvents. The U.S. Environmental Protection Agency's (EPA) Pollution Prevention Research Branch along with APS Materials, Inc., a small metal finishing company, participated in a joint research project to evaluate the substitution of a dilute, terpene-based cleaner for 1,1,1-trichloroethane (TCA) and methanol, hazardous wastes F001 and F003 respectively, in their degreasing operations. The paper presents the results of a study evaluating the waste reduction/pollution prevention that can be achieved by substituting dilute limonene solutions for TCA and methanol in the cleaning of orthopedic implants (e.g. metal knee and hip joint replacements). The paper describes the original cleaning process, the modifications made to the process in using the dilute limonene solution, and the sampling plan used in evaluating the effectiveness of the solution. The paper presents qualitative results of the sampling tests and an economic evaluation of plant modifications. (Copyright (c) 1992 Elsevier Science Publishers B.V.).

Keywords: *Environmental chemical substitution, *Land pollution abatement, *Cleaning agents, *Degreasing, *Waste management, Hazardous materials, Revisions, Substitutes, Industrial wastes, Ethane/trichloro, Methanol, Metal finishing, Reprints, *Source reduction, Waste minimization.

PB92-179894/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Capsule Report: Particulate Control by Fabric Filtration on Coal-Fired Industrial Boilers.
GCA Corp., Bedford, MA.
D. Roeck, and R. Dennis. Jul 79, 22p EPA/625/2-79/021
See also PB-285 393.Color illustrations reproduced in black and white. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

Interest in fabric filtration for boiler particulate control has increased due to the conversion of oil- and gas- to coal-fired boilers and the promulgation of more stringent particulate emission regulations. The report describes the theory, applications, performance, and economics of fabric filtration.

Keywords: *Air pollution control equipment, *Air filters, *Fabric filters, Particulates, Fly ash, Combustion products, Coal fired gas turbines, Field tests.

PB92-179902/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Capsule Report: Bahco Flue Gas Desulfurization and Particulate Removal System.
Research-Cottrell, Inc., Somerville, NJ.
R. J. Ferb. Jul 79, 27p EPA/625/2-79/022
See also PB-286 611.Color illustrations reproduced in black and white. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The capsule report describes a Research-Cottrell/Bahco scrubber moddule for sulfur dioxide and particulate emission control located at the central heat plant of Rickenbacker Air Force Base. The report also describes flue gas desulfurization technology using any fuel, including high sulfur oil or coal. Cost-effective and environmentally-acceptable ways to burn fuel are described.

Keywords: *Scrubbers, *Desulfurization, *Air pollution control equipment, Electric power plants, Sulfur dioxide, Fly ash, Lime-limestone wet scrubbing processes, Particulates.

PB92-179910/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Capsule Report: First Progress Report. Physical Coal-Cleaning Demonstration at Homer City, Pennsylvania.
PEDCo-Environmental, Inc., Cincinnati, OH.
R. D. Tems, and G. A. Isaacs. Aug 79, 18p EPA/625/2-79/023
See also PB-295 683.Color illustrations reproduced in black and white. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The theory, current testing program at Homer City, PA, and other applications of the physical coal cleaning process are examined in the report. The cleaning process allows the use of raw coals with a pyritic to organic sulfur content of 2:1 to 4:1, by removing enough pyrite sulfur to permit the cleaned coal to be burned while still meeting sulfur dioxide standards. Advantages of the process are also discussed.

Keywords: *Coal preparation, Air pollution control, Desulfurization, Pyrite, Fly ash, Deashing, Pennsylvania, Homer City(Pennsylvania).

PB92-179928/REB PC **A03/MF A01**
Industrial Environmental Research Lab.-Cincinnati, Edison, NJ.
Capsule Report: Acostic Monitoring to Determine the Integrity of Hazardous Waste Dams.
Centec Corp., Reston, VA.
Aug 79, 22p EPA/625/2-79/024
See also PB84-161819.Color illustrations reproduced in black and white. Sponsored by Industrial Environmental Research Lab.-Cincinnati, Edison, NJ.

Acoustic emission monitoring is a technique used to monitor the stability of earthen impoundments of hazardous wastes. This system is based on the phenomenon that soils emit sounds under stress and, when properly amplified and quantified, can be a valuable guide in evaluating the stability of hazardous waste dams. The capsule report describes in greater detail the theory, installation and costs of this system.

Keywords: *Hazardous materials, *Surface impoundments, *Dam failure, *Waste management, *Acoustic detection, Soil analysis, Failure, Shear strength, Soil mechanics, Earthworks, Performance evaluation.

PB92-179936/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Capsule Report: Disposal of Flue Gas Desulfurization Wastes. Shawnee Field Evaluation.
Aerospace Corp., Los Angeles, CA.
Oct 80, 22p EPA/625/2-80/028
See also PB81-212482.Color illustrations reproduced in black and white. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The capsule report describes activities and results of the Shawnee FGD Field Disposal Evaluation Project, located near Paducah, KY. Evaluated in the report are FGD wastes that were either chemically treated, left untreated, or force-oxidized to gypsum.

Keywords: *Shawnee steam plant, *Flue gas desulfurization, *Land disposal, Water quality, Lime-limestone wet scrubbing processes, Chemical treatment, Air pollution control, Solid waste disposal, Electric power plants, Leaching, Gypsum.

PB92-179944/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Capsule Report: Adipic Acid-Enhanced Lime/Limestone Test Results at the EPA Alkali Scrubbing Test Facility.
Bechtel Corp., San Francisco, CA.
D. A. Burbank, and S. C. Wang. Apr 82, 25p EPA/625/2-82/029
Contract EPA-68-02-3114
See also PB85-230624 and PB82-230632. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The fifth in a series of reports describing the results of the Shawnee Lime and Limestone Wet Scrubbing Test Program, the report describes the results of adipic acid-enhanced limestone wet scrubbing systems. A primary objective of the program was to enhance sulfur oxide removal and improve the reliability and economics of lime and limestone wet scrubbing systems by use of adipic acid as a chemical additive.

Keywords: *Air pollution control equipment, *Adipic acid, Flue gases, Sulfur dioxide, Particles, Lime-limestone wet scrubbing processes, Coal fired gas turbines, Electric power plants, Shawnee steam plant.

PB92-179993/REB PC **A03/MF A01**
Capsule Report: Benefits of Microprocessor Control of Curing Ovens for Solvent-Based Coatings.
Environmental Protection Agency, Cincinnati, OH. Hazardous Waste Engineering Research Lab.
Sep 84, 18p EPA/625/2-84/031
Color illustrations reproduced in black and white.

The capsule report highlights the results of a program that developed a microcomputer-based system to control curing oven ventilation by continually monitoring and controlling operating parameters (including solvent concentrations and pressure). Such a system also monitors the efficiency of pollution control equipment. The report describes the performance of a prototype system at Mack Trucks, Inc. in Allentown, PA and applications for other curing operations. The report includes a discussion of the microprocessor concept, the performance and cost savings of the system installed on the Mack Truck curing line, and applications to other systems in the coating industry.

Keywords: *Computer aided control, *Coatings, *Air pollution control equipment, *Ovens, *Drying apparatus, Curing agents, Organic solvents, Volatile organic compounds, Performance evaluation, Pollution regulations, Clean Air Act, Design criteria.

PB92-180009/REB PC **A09/MF A03**
Guideline Series: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry. Draft rept.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Nov 91, 198p EPA/450/4-91/031
Portions of this document are not fully legible.

Control Techniques Guidelines are issued for volatile organic compound (VOC) emissions from reactor and distillation operations processes within the synthetic organic chemical manufacturing industry. The document informs Regional, State, and local air pollution control agencies of reasonable available control technology (RACT) for development of regulations necessary to attain the national ambient air quality standards

for VOCs. The document is a draft and may be revised in response to comments from the public and industry.

Keywords: *Volatile organic compounds, *Air pollution control, *Recommendations, *Chemical industry, Distillation, Design criteria, Cost analysis, Air pollution economics.

PB92-180017/REB PC **A07**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Alternative Control Techniques Document: For PM-10 Emissions from Ferrous Foundries. Final rept.
Alliance Technologies Corp., Chapel Hill, NC.
P. J. Marsosudiro, and W. S. Snow. Apr 92, 150p EPA/450/3-92/012
Contract EPA-68-D9-0173
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The Alternative Control Techniques (ACT) document describes available control techniques for reducing PM-10 emission levels from ferrous (gray iron and steel) foundries. The document contains information on the formation of PM-10 and uncontrolled PM-10 emissions from foundries using electric induction furnaces for melting and sand molds for casting. The following PM-10 control techniques for ferrous foundries are discussed: fabric filters and wet venturi scrubbers. For each control technique, achievable controlled PM-10 emission levels, capital and annual costs, cost effectiveness, and environmental and energy impacts are presented.

Keywords: *Air pollution control equipment, *Particles, *Foundries, *Iron and steel industry, Substitutes, Casting, Fabric filters, Venturi scrubbers, Wet methods, Capitalized costs, Molding techniques, Cost analysis, Environmental effects, Pollution sources, Energy consumption, Foundry sands, *Alternative Control Techniques.

PB92-180025/REB PC **A02**/MF **A01**
In situ Soil Flushing. Engineering Bulletin.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Oct 91, 10p EPA/540/2-91/021
See also PB87-146007, PB90-155607, and PB90-274093.

In situ soil flushing is the extraction of contaminants from the soil with water or other suitable aqueous solutions. Soil flushing is accomplished by passing the extraction fluid through in-place soils using an injection or infiltration process. Extraction fluids must be recovered and, when possible, are recycled. The method is potentially applicable to all types of soil contaminants. Soil flushing enables removal of contaminants from the soil and is most effective in permeable soils. An effective collection system is required to prevent migration of contaminants and potentially toxic extraction fluids to uncontaminated areas of the aquifer. Soil flushing, in conjunction with in situ bioremediation, may be a cost-effective means of soil remediation at certain sites. Typically, soil flushing is used in conjunction with other treatments that destroy contaminants or remove them from the extraction fluid and groundwater.

Keywords: *In-situ processing, *Soil treatment, *Land pollution control, *Waste management, *Hazardous materials, Superfund, Water pollution control, Ground water, Aquifers, Extraction, Remedial action, Injection, Infiltration, Aqueous solutions, *Soil flushing, Soil washing, Remedial project managers, On-scene coordinators.

PB92-180033/REB PC **A02**/MF **A01**
Air Stripping of Aqueous Solutions. Engineering Bulletin.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Oct 91, 9p EPA/540/2-91/022
See also PB88-106166 and DE89015653.

Air stripping is a means to transfer contaminants from aqueous solutions to air. Contaminants are not destroyed by air stripping but are physically separated from the aqueous solutions. Contaminant vapors are transferred into the air stream and, if necessary, can be treated by incineration, adsorption, or oxidation. Most frequently, contaminants are collected in carbon adsorption systems and then treated or destroyed in this concentrated form. The concentrated contaminants may be recovered, incinerated for waste heat recovery, or destroyed by other treatment technologies. Generally, air stripping is used as one in a series of unit operations and can reduce the overall cost for managing a particular site. Air stripping is applicable to volatile and semivolatile organic compounds. It is not applicable for treating metals and inorganic compounds. The bulletin provides information on the technology applicability, the technology limitations, a description of the technology, the types of residuals produced, site requirements, the latest performance data, the status of the technology, and sources of further information.

Keywords: *Liquid wastes, *Waste treatment, *Air pollution control, *Water pollution control, Aqueous solutions, Stripping, Separation processes, Remedial action, Volatile organic compounds, Performance evaluation, Mass transfer, Activated carbon treatment, Hazardous materials, Superfund, *Air stripping, Remedial project managers, On-scene coordinators.

PB92-180041/REB PC **A02**/MF **A01**
Control of Air Emissions from Materials Handling during Remediation. Engineering Bulletin.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Oct 91, 9p EPA/540/2-91/023
See also PB85-124881 and PB90-113374.

The bulletin presents an overview discussion on the importance of and methods for controlling emissions into the air from materials handling processes at Superfund or other hazardous waste sites. It also describes several techniques used for dust and vapor suppression that have been applied at Superfund sites. The bulletin provides information on the applicability of air emission controls for materials handling at Superfund sites, limitations of the current systems, a description of the control methods that have found application to date, site requirements, a summary of the performance experience, the status of the existing techniques and identification of future development expectations, and sources of additional information.

Keywords: *Air pollution control, *Materials handling, *Remedial action, *Waste management, *Hazardous materials, Superfund, Path of pollutants, Dust control, Performance evaluation, Forecasting, Information transfer, Technology utilization, Particles, Vapor suppression, Air pathway analysis, Cleanup operations, Remedial project managers, On-scene coordinators.

PB92-180058/REB PC **A02**/MF **A01**
Granular Activated Carbon Treatment. Engineering Bulletin.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Oct 91, 9p EPA/540/2-91/024
See also PB87-110656 and PB89-132674.

Granular activated carbon (GAC) treatment is a physicochemical process that removes a wide variety of contaminants by adsorbing them from liquid and gas streams. The treatment is most commonly used to separate organic contaminants from water or air; however, it can be used to remove a limited number of inorganic contaminants. In most cases, the contaminants are collected in concentrated form on the GAC, and further treatment is required. Site-specific treatability studies are generally necessary to document the applicability and potential performance of a GAC system. The bulletin provides information on the technology applicability, technology limitations, a technology description, the types of residuals produced, site requirements, latest performance data, status of the technology, and sources for further information.

Keywords: *Waste treatment, *Granular activated carbon treatment, *Hazardous materials, *Water pollution control, *Remedial action, Physical chemical treatment, Superfund, Performance evaluation, Surface properties, Mass transfer, On-scene coordinators, Remedial project managers, Pretreatment process.

PB92-180066/REB PC **A02**/MF **A01**
Chemical Oxidation Treatment. Engineering Bulletin.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Oct 91, 10p EPA/540/2-91/025
See also PB90-198177.

Oxidation destroys hazardous contaminants by chemically converting them to nonhazardous or less toxic compounds that are ideally more stable, less mobile, and/or inert. However, under some conditions, other hazardous compounds may be formed. The oxidizing agents most commonly used for the treatment of hazardous contaminants are ozone, hydrogen peroxide, hypochlorites, chlorine, and chlorine dioxide. Current research has shown the combination of these reagents or ultraviolet (UV) light and an oxidizing agent(s) makes the process more effective. Treatability studies are necessary to document the applicability and performance of chemical oxidation systems technology for a specific site. The bulletin provides information on the technology applicability, limitations, a technology description, the types of residuals produced, site requirements, current performance data, status of the technology, and sources of further information.

Keywords: *Oxidation, *Waste treatment, *Hazardous materials, *Remedial action, *Water pollution control, *Superfund, Ultraviolet radiation, Chemical reactions, Performance evaluation, Cost analysis, Waste management, Pesticides, Oxidizers, Ground water, Ultrox treatment, Cleanup, Resource Recovery and Conservation Act, *Chemical treatment.

PB92-180074/REB PC **A03**/MF **A01**
Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
C. D. Palmer, and W. Fish. Jan 92, 22p EPA/540/S-92/001
See also PB86-122561, PB87-169090, PB90-274549 and PB92-114461. Prepared in cooperation with Oregon Graduate Inst. of Science and Technology, Beaverton. Dept. of Environmental Science and Engineering.

Conventional pump-and-treat technologies are among the most widely used systems for the remediation of contaminated ground-water. Within recent years it has become recognized that these systems can require protracted periods of time to make significant reductions in the quantity of contaminants associated with both the liquid and solid phases which constitute the subsurface matrix. Evaluating the effectiveness of pump-and-treat remediations at Superfund sites, as well as attempting to improve this effectiveness, are issues identified by the Regional Superfund Ground Water Forum as a concern of Superfund decision makers. The Forum is a group of ground-water scientists and engineers, representing EPA's Regional Superfund Offices, organized to exchange the most recent information related to ground-water remediation at Superfund sites. Recent research has led to a better understanding of the processes involved in the transport and transformation of contaminants in the subsurface. While some of these processes are not readily amenable to enhance removal by ground-water extraction, others suggest that there are available techniques to increase the efficiency of these types of remediation systems. The intent of the document is to explore the use of chemical enhancement to improve ground-water remediation efficiencies using pump-and-treat technologies, and point out arenas of contamination where such techniques are not practical.

Keywords: *Ground water, *Water pollution control, *Remedial action, *Superfund, Pumping, Chemical compounds, Subsurface investigations, Environmental transport, Solvent extraction, Waste disposal, Surfactants, Materials recovery, Aquifers, Oxidizers, Reduction(Chemistry), Chemical treatment, Cleanup operations.

PB92-180082/REB PC **A03**/MF **A01**
NEXRAD Precipitation Information Application Forum Climate and Global Change.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
S. LeDuc. Apr 92, 22p EPA/600/R-92/077
Prepared in cooperation with National Oceanic and Atmospheric Administration, Research Triangle Park, NC. Atmospheric Sciences Modeling Div.

The presentation reflects ongoing climate and global change research at one laboratory of the Environmental Protection Agency, the Atmospheric Research and

Exposure Assessment Laboratory. It should not be considered comprehensive, but represents the immediately perceived applications of the NEXRAD precipitation information. The applications which the author will bring to your attention are strong candidates on the list of possible applications of NEXRAD information for climate and global change. The number and sophistication of uses will expand as the data become available and are evaluated for specific applications.

Keywords: *Climatology, *Climatic changes, *Precipitation(Meteorology), US EPA, Hydrology, Environmental effects, Weather forecasting, Natural resources, Rainfall, Global aspects, Study estimates, Acid rain, Air pollution, *Next Generation Weather Radar, Atmospheric Research and Exposure Assessment Laboratory.

PB92-180090/REB PC **A21**/MF **A04**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Abstracts of Selected Precious Metal Mines' Permits.
South Carolina State Dept. of Health and Environmental Control, Columbia.
N. Weatherup. Dec 91, 500p EPA/530/R-92/009
Prepared in cooperation with South Carolina Land Resources Conservation Commission, Columbia. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

The report is a compilation of permit application requirements, permit limitations and permit conditions for selected precious metal mines located in the United States. Seven states with active precious metal mining participated in preparing the forty-six (46) questionnaires included in the report. The work was performed through a Mine Task Force special project grant established by the Western Governors' Association. The cooperative effort was designed to assist the development of effective approaches to reducing environmental problems and improving administrative procedures associated with the management of non-coal mineral industry wastes. One of the components of the funding agreement between EPA and WGA provided grant monies for special research projects with multistate interest. The questionnaires completed by the participating states provide a description of the selected mine projects and appropriate industry and regulatory contacts. An additional section is provided that summarizes each state's regulatory structure, associated duties and contact people.

Keywords: *Precious metals, *Permit applications, *Mining, Land management, United States, Questionnaires, Abstracts, State programs, Pollution regulations, Mining engineering, Forms(Paper), Air pollution abatement, Water pollution abatement, Administrative procedures, Requirements, Regulations, Mine wastes, Waste management, National Pollutant Discharge Elimination System, Western Governors' Association.

PB92-180108/REB PC **A06**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Directory of Mine Waste Characterization and Drainage Quality Contacts in Western Governors' Association Member States.
Western Governors' Association, Denver, CO.
Sep 91, 118p EPA/530/R-92/007
Prepared in cooperation with Minnesota Dept. of Natural Resources, St. Paul. Div. of Materials. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

Contained within the directory are contacts with access to information on metal mine waste characterization, metal mine drainage quality, and drainage quality prediction for each of the twenty-one Western Governors' Association (WGA) member states. Each state was contacted and asked to provide names, addresses, phone numbers of people with access to information on ten topics relevant to mine waste characterization and drainage quality. The request, in the form of a questionnaire, was sent to WGA contacts as well as other people in associated departments and the information received was compiled. Ten questions listed for each state are followed by the contacts used to get the information requested. When necessary, an explanatory paragraph precedes the contact list. In some cases, supplemental information such as a mine or reference list is placed in appendices.

Keywords: *Directories, *Mine wastes, *Mine drainage, Information transfer, Acid mine drainage, Drainage patterns, State programs, Listings, Controlled drainage, Quality control, Water pollution control, Water quality, *Western Region(United States), *Western Governors' Association.

PB92-180116/REB PC **A04**/MF **A01**
Reregistration Eligibiligy Document (RED): Sodium and Calcium Hypochlorites.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Feb 92, 62p EPA/540/RS-92/193
See also PB92-171958.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effects to people or the environment. The pesticide reregistration program is to be completed by the late 1990's. The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing a pesticide do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration.

Keywords: *Pesticides, *Toxic substances, *Calcium hypochlorites, *Sodium hypochlorite, Standards, Agricultural products, Regulations, Toxicology, Manufacturing, Ecology, Bactericides, Fungicides, Labels, Path of pollutants, Hazardous materials, Chemical properties, Chlorine inorganic compounds, Pesticide residues, Risk assessment, *Reregistration, Federal Insecticide Fungicide and Rodenticide Act, CAS 7681-52-9, CAS 7778-54-3.

PB92-180124/REB PC **A04**/MF **A01**
Questions and Answers about the Early Reductions Program. Final rept.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Jan 92, 57p EPA/450/3-92/005

Regulations have been proposed governing compliance extensions for early reductions of Hazardous Air Pollutants (HAPs). The regulations allow a six year MACT standard compliance extension for sources that achieve HAP reductions of 90% (95% for particulates) from a base year of 1987 (or more recent base year). The document is a compilation of questions and answers about the early reductions program, and is intended to assist companies interested in participating in the program and to assist Regulatory agencies responsible for implementing the program.

Keywords: *Air pollution standards, *Hazardous materials, Standards compliance, Implementation, Pollution regulations, Administrative procedures, Pollution sources, Baseline measurements, State government, Permits, Revisions, Law enforcement, Time intervals, Leakage, *MACT standards, *Early Reductions Program.

PB92-180132/REB PC **A07**/MF **A02**
Enabling Document for Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants. Draft rept.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Jul 91, 150p EPA/450/3-91/013

Regulations have been proposed governing compliance extensions for early reductions of hazardous air pollutants (HAPs). The regulations allow a six year MACT standard compliance extension for sources that achieve HAP reductions of 90% (95% for particulates) from a base year of 1987 (or more recent base year). The document provides practical information on implementation of the Early Reductions Program, including explanations of the requirements and procedures for early reduction demonstration submittals and review of the submittals.

Keywords: *Air pollution standards, *Hazardous materials, Standards compliance, Pollution regulations, Baseline measurements, Pollution sources, Permit applications, Law enforcement, Implementation, Forms(Paper), Requirements, Leakage, Emission factors, *Early Reductions Program, *MACT Standards, Industrial Toxics Project.

PB92-180157/REB PC **A12**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of Toxic Substances.
Chlorinated Dioxins and Furans in the General U.S. Population: NHATS FY87 Results. Final rept.
Midwest Research Inst., Kansas City, MO.
J. S. Stanley, and J. Orban. Dec 91, 270p EPA/560/5-91/003
Contracts EPA-68-02-4252, EPA-68-DO-0137
See also PB90-146523, PB90-148289 and PB90-220567. Prepared in cooperation with Battelle Columbus Div., OH. Sponsored by Environmental Protection Agency, Washington, DC. Office of Toxic Substances.

Population estimates of the average levels of polychlorinated dibenzo-p-dioxins (dioxins or PCDD) and polychlorinated dibenzofurans (furans or PCDF) were established using 865 human adipose tissue specimens collected in Fiscal Year 1987 through the U.S. Environmental Protection Agency's National Human Adipose Tissue Survey (NHATS). The specimens were composited into 48 unique samples prior to chemical analysis. Estimates of the national average concentrations of levels were made among subpopulations defined by the donors' geographic adipose tissue of the U.S. population was 5.38 pg/g (+ or - 0.32); however, the levels increase from 1.98 pg/g (+ or - 0.81) in children under 14 years of age to 9.40 pg/g (+ or - 0.38) in adults over 45 years old. Significant age effects were determined for all nine of the compounds which were present at quantifiable levels in greater than 90% of all samples. Statistically significant differences based on geographic regions were determined for estimated levels of 2,3,4,7,8-PCCDF with the highest levels in the northeast and the lowest levels in the west. There were no significant differences in the estimated levels from different sexes or race groups for any of the target analytes.

Keywords: *Public health, *Environmental surveys, *Polychlorinated dibenzodioxins, *Polychlorinated dibenzofurans, Biological effects, Bioassay, United States, Toxic substances, Human populations, Exposure, Demography, Statistical analysis, Connective tissue, Tissues(Biology), Chemical analysis, Study estimates, Sampling, Concentration(Composition), *National Human Adipose Tissue Survey.

PB92-180165/REB PC **A06**/MF **A02**
Pollution Prevention Case Studies Compendium.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
J. Springer. Apr 92, 110p* EPA/600/R-92/046
See also PB92-108133.

As a major part of the effort to disseminate the results of its research in the area of pollution prevention, EPA's Risk Reduction Engineering Laboratory has produced this compilation of case studies. The studies are the culmination of some of the major current research efforts being conducted in the area of pollution prevention. It is a compilation of summaries of pollution prevention demonstrations, assessments and research projects conducted with the Branch. The compendium highlights four programs: The Waste Reduction Innovative Technology Evaluations (WRITE) Program; The Waste Reduction Evaluations at Federal Sites (WREAFS) Program, The Waste Minimization Assessments Program; and The University-Based Assessments Program. An overview of each program is provided at the beginning of each section of the compendium. The case studies are cross referenced according to key words in an index at the end of the compendium. The Pollution Prevention Research Branch personnel roster is listed on page vii to facilitate contacting the EPA Project Officer. Information is also provided on availability of full reports and the EPA Project Officer who conducted the research. The authors hope that the compendium will facilitate the development and adoption of pollution prevention techniques throughout the United States and other countries.

Keywords: *Pollution abatement, *Case studies, *Waste management, *Hazardous materials, Information dissemination, Environmental protection, Research and development, Environmental impact assessments, Waste recycling, Environmental chemical substitutes, Hazardous materials transportation, Waste utilization, US EPA, *Waste minimization, Source reduction, Waste Reduction Innovative Tech-

nology Evaluations Program, Waste Reduction Evaluations at Federal Sites Program, Waste Minimization Assessments Program, University-Based Assessments Program.

PB92-180173/REB PC **A02**/MF **A01**
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. May, and J. S. Bridges. 1992, 10p EPA/600/A-92/098
See also PB89-187637. Prepared in cooperation with Du Pont de Nemours (E.I.) and Co., Wilmington, DE.

Pollution prevention is a term that describes approaches to environmental improvement that involve eliminating or reducing the quantity and/or toxicity of pollutants rather than treating pollutants for safer disposal. No longer can researchers be satisfied with providing support for regulations on pollution limits and control technologies without focusing their efforts on research to avoid producing the waste. Congress has declared a national policy on waste minimization as part of the 1984 Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act. Research Strategies for the 1990s' recommends that EPA shift the contour of its environmental protection strategy from end-of-pipe control technology to pollution prevention. The purpose of the paper is to describe the current pollution prevention research program assigned to the Risk Reduction Engineering Laboratory which incorporates multi-media direction in providing practical solutions to the complex problems of waste management through cooperation with industry and government.

Keywords: *Waste management, *Hazardous materials, *Pollution abatement, Environmental protection, Industrial wastes, Government policies, Research and development, Consumer products, Forecasting, Pollution regulations, Technology utilization, Reprints, *Waste minimization, *Cooperative agreements, Resource Conservation and Recovery Act.

PB92-180181/REB PC **A02**/MF **A01**
Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
J. S. Bridges. 1992, 10p EPA/600/A-92/099
See also PB91-108977.

The paper will attempt to provide a pollution prevention legislative overview of where the authors have been, where they are, and some thoughts on pollution prevention legislative trends for the future. Governments have an important role to play by setting the regulatory framework, but cleaner production cannot be decreed by law without the support of science and proper incentives. Pollution prevention must be an environmental priority and obligation for producers and consumers all over the world. International pollution prevention agreements and multi-national companies producing products all over the world to achieve comparative advantages will be the trend for pollution prevention targets of obligation. The base of any successful international environmental program will be the motivation for pollution prevention.

Keywords: *Pollution abatement, *Legislation, *Pollution laws, *International cooperation, *Waste management, Trends, Environmental protection, Law enforcement, Pollution regulations, Environmental management, Global aspects, Source reduction, Waste minimization, Cooperative agreements.

PB92-180199/REB PC **A02**/MF **A01**
Application of Modified Aluminon and GFAAS Methods to Beryllium Determination in Drinking Water.
Environmental Protection Agency, Cincinnati, OH. Drinking Water Research Div.
D. A. Lytle, G. K. George, and J. U. Doerger. 1992, 10p EPA/600/A-92/100
Pub. in Proceedings of the Water Quality Technology Conference, Part 1, Orlando, FL., November 10-14, 1991, p683-697. See also PB84-128677. Prepared in cooperation with Technology Applications, Inc., Cincinnati, OH.

On July 25, 1990, the USEPA proposed to establish a drinking water standard for beryllium of 1.0 micrograms/L. The proposed standard will require water utilities to demonstrate compliance through a set of monitoring requirements. The EPA has recommended three analytical techniques that can be used to detect beryllium in drinking water below the proposed maximum contaminant level (MCL). These techniques are: Atomic Absorption, Inductively-Coupled Plasma (ICP), and ICP Mass Spectrometry. High costs of ICP Instrumentation will make atomic absorption the choice for most water utility laboratories and many private laboratories measuring trace levels of beryllium in drinking water. The current beryllium atomic absorption methods are based on the method of standard additions. Other cheaper methods for measuring beryllium are available, however, require a preconcentration procedure in order to measure beryllium at levels below the proposed MCL. The paper develops a beryllium atomic absorption method that uses a matrix modifier to eliminate chemical interferences. It also develops a beryllium preconcentration procedure which allows beryllium levels below the proposed MCL to be measured by using a colorimetric method (aluminon method).

Keywords: *Water pollution detection, *Beryllium, *Water analysis, *Potable water, Water pollution standards, Standards compliance, Chemical analysis, Colorimetric analysis, Trace amounts, Absorption spectroscopy, Concentration(Composition), Water treatment, Reprints, Maximum Contaminant Level Goals, Atomic absorption spectroscopy.

PB92-180207/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Fuzzy Logic Control of AC Induction Motors.
Research Triangle Inst., Research Triangle Park, NC.
J. Cleland, W. Turner, P. Wang, T. Espy, and P. J. Chappell. 1992, 10p EPA/600/A-92/101
Grant EPA-R81-4169-03
Presented at the IEEE International Conference on Fuzzy Systems, San Diego, CA., March 8-12, 1992. Prepared in cooperation with Duke Univ., Durham, NC. Dept. of Electrical Engineering, and Tennessee Univ., Knoxville. Dept. of Electrical Engineering. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses the fuzzy logic control (FLC) of electric motors, being investigated under the sponsorship of the U.S. EPA to reduce energy consumption when motors are operated at less than rated speeds and loads. Electric motors use 60% of the electrical energy generated in the U.S. An improvement of 1% in operating efficiency of all electric motors could result in savings of 17 billion kWh per year in the U.S. New techniques are required to extract maximum performance from modern motors. One possibility, FLC, has recently demonstrated success in solving control problems of nonlinear, multivariable systems such as ac induction motors and adjustable motor-speed drives. Simulated results of a microprocessor-based fuzzy logic motor controller (FLMC) are described. The investigation includes a motor stator voltage control scheme to minimize motor input power at specified speed/torque conditions; simulation of ac motor performance; and development of a FLMC for optimized motor efficiency. Simulated FLMC results compare favorably with other motor control approaches. Potential energy savings are quantitated based on the preliminary predictions of FLMC performance.

Keywords: *AC motors, *Induction motors, *Fuzzy logic, *Control systems, Energy conservation, Pollution control, Stationary sources, Electric motors, Energy consumption, Efficiency.

PB92-180215/REB PC **A03**/MF **A01**
U.S. EPA's Global Climate Change Program: Landfill Emissions and Mitigation Research. Rept. for Aug 90-May 91.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
S. A. Thorneloe. 14 Oct 91, 20p EPA/600/A-92/102
See also PB91-149534. Presented at Sardinia '91, International Landfill Symposium (3rd), Cagliari, Italy, October 14, 1991.

The paper discusses the U.S. EPA's global climate change program, concentrating on global landfill methane (CH4) emissions and mitigation research. The EPA's Air and Energy Engineering Research Laboratory (AEERL) has begun research on developing more reliable emission estimates of the key greenhouse gas sources that are amenable to cost-effective control. Research has been initiated on biomass and CH4 utilization, tropospheric ozone, and evaluation of potential mitigation opportunities for emissions contributing to global climate change. The emissions program has begun to identify and quantify emission sources of greenhouse gases for anthropogenic sources including landfills, coal mines, natural gas production/distribution, cookstoves, and biomass burning. Development of enhanced emission estimates will improve the understanding of atmospheric chemistry and feedback effects, target mitigation opportunities, and ensure cost-effective mitigation strategies.

Keywords: *Earth fills, *Air pollution control, *Environmental transport, *Methane, *Climatic changes, US EPA, Study estimates, Pollution sources, Waste disposal, Greenhouse effect, Emission factors, Atmospheric chemistry, Ozone, Biomass, Gas production, Materials recovery, Refuse derived fuels, *Global Climate Change Program.

PB92-180223/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Potential Impacts of Increased Solar UV-B on Global Plant Productivity. Book chapter.
Maryland Univ., College Park. Dept. of Botany.
A. H. Teramura, and J. H. Sullivan. 1990, 12p EPA/600/A-92/103
Pub. in Photobiology: The Science and Its Application, 1990. See also PB91-146399. Sponsored by Corvallis Environmental Research Lab., OR.

Depletion of the ozone layer is of concern because the stratospheric ozone column is the primary attenuator of solar ultraviolet-B radiation (UV-B region, between 290 and 320 nm). A decrease in this ozone column would lead to increases in UV-B reaching the earth's surface. Ultraviolet-B radiation comprises only a small portion of the electromagnetic spectrum but has a disproportionately large photobiological effect. Both plants and animals are greatly affected by increases in UV-B radiation but there exists tremendous variability in the sensitivity of plant species to UV-B radiation. Approximately two out of three species tested appear sensitive and sensitivity also differs among cultivars of the same species. Plants have developed natural adaptations such as anatomical, morphological and biochemical changes which protect them from UV-B radiation. The extent of these natural adaptations may be related to the geographic origin of the species. It has been hypothesized that species originating from areas which receive high levels of UV-B radiation would be highly resistant to UV-B radiation. Plants collected along a 3000 m elevational gradient in Hawaii showed differences in sensitivity which were correlated with elevation. Most plants native to low elevations were sensitive to UV-B, but plants from the higher elevations, where UV-B is greatest, were very tolerant to UV-B radiation.

Keywords: *Plant growth, *Solar ultraviolet radiation, *Biological radiation effects, *Environmental effects, Forests, Plant morphology, Biochemistry, Ozone depletion, Photosynthesis, Air pollution, Global warming, Dose-response relationships, Lyman beta radiation, Crop production, Vegetation, Greenhouse effects, Reprints.

PB92-180231/REB PC **A04**/MF **A01**
Methods of Assessing Responses of Trees, Stands and Ecosystems to Air Pollution (Chapter 7). Book chapter.
Corvallis Environmental Research Lab., OR.
K. W. Stolte, D. M. Duriscoe, E. R. Cook, and S. P. Cline. 1992, 73p EPA/600/A-92/104
Pub. in Air Pollution and Western Forests, 1992. Prepared in cooperation with Southeastern Forest Experiment Station, Research Triangle Park, NC. Forestry Sciences Lab., Lamont-Doherty Geological Inst., Palisades, NY., Sequoia and Kings Canyon National Parks, Three Rivers, CA., and ManTech Environmental Technology International, Inc., Corvallis, OR.

The chapter focuses on three main types of assessments of pollution effects used in the case studies chronicled in Chapter 8 through 12 (Regional Studies of conifer forests in the west). These are measures of crown condition of individual trees; impacts on populations and communities; and temporal patterns in radial growth. The concepts behind the development of each

approach are introduced with references to previous work, leading to a discussion of the state of science. The importance of quality assurance techniques to the success of any assessment of air pollution effects is also discussed.

Keywords: *Air pollution effects(Plants), *Trees(Plants), *Ecosystems, *Environmental impact assessments, *Forests, Ecological succession, Dose-response relationships, Biological effects, Plant physiology, Biological indicators, Temporal distribution, Plant cells, Photosynthesis, Vegetation, Leaves(Botany), Acidification, Ozone, Exposure, Plant growth, Nutrients, Heavy metals, Reprints, Western Region(United States), Stands.

PB92-180249/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
What is the Potential of Forest Management to Slow the Increase of Atmospheric CO2.
ManTech Environmental Technology, Inc., Corvallis, OR.
P. Schroeder, J. K. Winjum, and R. K. Dixon. Feb 92, 19p EPA/600/A-92/105
Contract EPA-68-C8-0006
See also PB92-122787. Presented at the Annual Conference of National Association of Environmental Professionals (17th), Seattle, WA., May 5-8, 1992. Prepared in cooperation with National Council of the Paper Industry for Air and Stream Improvement, Inc., Corvallis, OR. Sponsored by Corvallis Environmental Research Lab., OR.

Forests are a major sink for carbon and play an important role in the global carbon cycle. Not only do forests contain huge amounts of carbon, they exchange it very actively with the atmosphere. On average the equivalent of the entire CO2 content of the atmosphere passes through the earth's terrestrial vegetation every 7 years, and about 70% of the entire exchange occurs through forest ecosystems. Because this exchange is so active, expanding the world's forests could present an opportunity to increase the terrestrial carbon sink, and slow the increase in atmospheric CO2 concentration. Average standing stock of carbon over a stand life cycle can range from less than 40 tons C/ha in boreal regions to over 100 tons C/ha in humid temperate regions. Values for tree plantations in the tropics are intermediate because they are often grown on short cycles that preclude high levels of biomass accumulation. Accumulation of biomass and carbon is controlled not only by growth rate, but also by the length of the rotation or life cycle. Costs varied from $99-637/ha and $3-10/ton of stored carbon. An important uncertainty in assessing the total potential of forest management to store atmospheric carbon is the area of land that is both suitable and available for establishing forests. Published estimates of suitable land area in the tropics, for example, vary by a factor of three.

Keywords: *Forest management, *Air pollution control, *Carbon dioxide removal, Carbon cycle, Ecosystems, Global aspects, Biomass, Air pollution effects(Plants), Plant growth, Vegetation, Atmospheric composition, Land management, Life cycles.

PB92-180256/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks. Symposium paper.
ManTech Environmental Technology, Inc., Corvallis, OR.
D. Bachelet, and H. U. Neue. 1992, 17p EPA/600/A-92/106
Contract EPA-68-C8-0006
Prepared in cooperation with International Rice Research Inst., Los Banos, Laguna (Philippines). Sponsored by Corvallis Environmental Research Lab., OR.

Methane concentrations in the atmosphere have increased from about 0.75 to 1.7 ppmv since preindustrial times. The authors have tried, in the chapter, to concisely summarize the discussions that took place at Timberline, October 8-10, 1991 to quantify the size of the global 'Methane Sources and Sinks' that may contribute to the atmospheric increase. Several 'specialty' groups emerged during the workshop and it is their conclusions that are presented here. Each paragraph is also the focus of an individual chapter and of usually several manuscripts that were submitted to Chemosphere. The authors have tried to cite these documents in the relevant sections and they refer the reader to these sources for detailed explanations of each source and sink.

Keywords: *Methane, *Air pollution, *Pollution sources, *Sinks, *Emission factors, Atmospheric chemistry, Stationary sources, Earth fills, Ruminants, *Global methane cycle.

PB92-180264/REB PC **A02/MF A01**
Corvallis Environmental Research Lab., OR.
Improvement of Performance of Variable Probability Sampling Strategies. Symposium paper.
Oregon State Univ., Corvallis. Dept. of Statistics.
W. S. Overton, and S. V. Stehman. 1992, 8p EPA/600/A-92/107
See also PB92-180272 and PB89-119606. Prepared in cooperation with State Univ. of New York Coll. of Environmental Science and Forestry, Syracuse. Sponsored by Corvallis Environmental Research Lab., OR.

Precision of estimators used with variable probability sampling may be improved either at the design stage or at the analysis stage following selection of the sample. Improvement at the analysis stage is obtained by employing a Horvitz-Thompson difference estimator, which may improve precision even when the response variable is negatively correlated with the inclusion probabilities. In general, optimization of the Horvitz-Thompson difference estimator is achieved by employing bootstrapping to facsimile populations constructed from the sample data; in some cases optimization can be achieved analytically. This strategy focuses sampling considerations on population description in order to improve the facsimile population representation of the real population under study.

Keywords: *Sampling, *Population(Statistics), Statistical samples, Probability theory, Estimating, Statistical analysis, Reprints, Horvitz-Thompson estimation, Environmental statistics.

PB92-180272/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Probability Sampling and Population Inference in Monitoring Programs. Symposium paper.
Oregon State Univ., Corvallis. Dept. of Statistics.
W. S. Overton. 1992, 19p EPA/600/A-92/108
Pub. in Proceedings of the International Conference (1st) on the Integration of GIS and Environmental Modeling, Boulder, CO., September 15-19, 1991. See also PB92-180264. Sponsored by Corvallis Environmental Research Lab., OR.

Sampling programs having the objective of describing specific real-world populations can utilize design protocols of probability sampling to ensure consistent estimation of the parameters of those real populations. Predictive models can often provide enhanced real population inference, but model-based methods are not required for rigorous inference, and are often unavailable. When model-based inference is planned, the probability sampling protocol is sometimes eliminated, with reliance more on the rigor provided by the model. Such an option is clearly feasible in certain circumstances. However, multipurpose monitoring programs are unlikely to provide those circumstances, and a probability sampling protocol is indispensable for population-scale sampling in all cases in which the properties of real-world populations are the program objective. The sampling design for EPA's Environmental Monitoring and Assessment Program (EMAP) is the illustrative example.

Keywords: *Sampling, *Population(Statistics), *Environmental monitoring, Mathematical models, Probability theory, Statistical samples, Variance(Statistics), Reprints, EMAP(Environmental Monitoring and Assessment Program), Horvitz-Thompson estimation.

PB92-180280/REB PC **A03/MF A01**
Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
W. E. Coleman, J. W. Munch, H. P. Ringhand, W. H. Kaylor, and D. E. Mitchell. c1992, 20p EPA/600/J-92/163
Pub. in Ozone Science and Engineering, v14 p51-69 1992. See also PB85-104909.

Experiments were performed to evaluated disinfection by-products in model humic acid solutions which were ozonated at three different ozone to carbon levels and then chlorinated. These experiments were conducted in order to help understand whether the ozone/post-chlorination process alters the amount and type of mutagenic by-products formed, from these produced by chlorination of humic acid alone. Disinfection by-products were identified by gas chromatography/mass spectrometry (GC/MS). Samples of clarified and sand-filtered Mississippi River water at a pilot-scale drinking water treatment plant in Jefferson Parish, Louisiana, that were ozonated and post-disinfected with chlorine, also were analyzed by GC/MS. A comparison of the by-products in the pilot plant study versus those in the laboratory study showed that similar compounds were produced. The effect of bormide ion in the pilot plant water on by-product formation also is discussed.

Keywords: *Potable water, *Water pollution detection, *Humic acids, *Byproducts, *Water treatment, *Water analysis, Chlorination, Ozonation, Chemical reactions, Gas chromatography, Mutagens, Concentration(Composition), Distillation, Sample preparation, Chemical analysis, Mass spectroscopy, Disinfection, Experimental design, Organic matter, Natural emissions, Reprints.

PB92-180298/REB PC **A01/MF A01**
Radon Prevention in the Design and Construction of Schools and other Large Buildings. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
K. W. Leovic, A. B. Craig, and D. B. Harris. 1991, 4p EPA/600/J-92/164
Pub. in Architecture/Research (AIA), v1 n1 p32-33 Oct 91. See also PB88-184908, PB89-205975 and PB90-160086.

The paper discusses radon prevention in the design and construction of schools and other large buildings. The U.S. EPA's Office of Research and Development (ORD) has started incorporating radon control measures into the design and construction of new schools and other large buildings. The goal of the new designs is twofold: (1) to prevent elevated radon levels in the completed building, and (2) to provide the protection at a fraction of the cost of retrofit systems. ORD's Air and Energy Engineering Research Laboratory (AEERL) has conducted the research necessary to develop viable designs. The Indoor Radon Abatement Act of 1988 set a national long-term goal for indoor radon of 0.5 picocurie per liter (pCi/L)--the same as that typically found in outdoor air. The EPA currently recommends that homeowners take action to reduce radon levels to below 4 pCi/L. To achieve the national goal set in the 1988 Act for new construction in radon-prone areas, AEERL research is using a combination of active subslab depressurization (ASD) and operation of the heating, ventilation, and air-conditioning (HVAC) system to pressurize buildings. These measures are described briefly, along with a case history of one building.

Keywords: *Radon, *School buildings, *Air pollution control, *Indoor air pollution, Mitigation, Buildings, Ventilation, Environmental engineering, Concrete slabs, Hospitals, Air conditioning, Case studies, Reprints, *Active slab depressurization.

PB92-180306/REB PC **A01/MF A01**
Serological Cross-Reactions between 'Escherichia coli' O157 and other Species of the Genus 'Escherichia'. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
E. W. Rice, E. G. Sowers, C. H. Johnson, M. E. Dunnigan, and N. A. Strockbine. c1992, 4p EPA/600/J-92/165
Pub. in Jnl. of Clinical Microbiology, v30 n5 p1315-1316 May 92. See also PB91-177394. Prepared in cooperation with Centers for Disease Control, Atlanta, GA., and Yale Univ., New Haven, CT. School of Medicine.

The antigenic relatedness of Escherichia coli O157 and four sorbitol-negative species of the genus Escherichia was examined. Isolates of Escherichia hermannii, E. fergusonii, E. vulneris, and E. blattae were tested in the tube agglutination assay by using polyclonal antisera and in the slide agglutination assay by using latex reagents. Only four isolates (17%) of E. hermannii exhibited serological cross-reactivity. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Cross reactions, *Escherichia coli, Immune sera, Hemagglutination tests, Cultured cells, Latex, Agents, Reprints, Escherichia hermannii, Escherichia fergusoni, Escherichia vulneris, Escherichia blattae.

PB92-180314/REB PC **A02**/MF **A01**
Effects of Sampling Design Parameters on Block Selection. Journal article.
Environmental Protection Agency, Las Vegas, NV.
E. Englund, D. Weber, and N. Leviant. c1992, 10p EPA/600/J-92/166
Pub. in Mathematical Geology, v24 n3 p329-343 1992. See also PB89-151252. Prepared in cooperation with Nevada Univ., Las Vegas. Environmental Research Center, and Computer Sciences Corp., Las Vegas, NV.

Cost-effective spatial sampling strategy requires balancing sampling costs with the expected benefits from improved information. A contaminated site numerical model was used to test various single-phase sampling schemes, which were evaluated based on the quality of block selections from interpolated values. Different sample set sizes, different sampling patterns, and two levels of sampling precision were used. The sample set size was the only one of these factors observed to be significant. Bias was also examined. Modest levels (< 20%) had minimal impact; the effects of higher levels of bias varied with the selection level concentration. (Copyright (c) 1992 International Association for Mathematical Geology.)

Keywords: *Soil tests, *Sampling, Statistical samples, Land pollution, Mathematical models, Sites, Bias, Quality, Reprints, *Geostatistics.

PB92-180322/REB PC **A03**/MF **A01**
Modification of an Index of Biotic Integrity Based on Fish Assemblages to Characterize Rivers of the Seine Basin, France. Journal article.
Corvallis Environmental Research Lab., OR.
T. Oberdorff, and R. M. Hughes. c1992, 16p EPA/600/J-92/167
Pub. in Hydrobiologia 228, p117-130 1992. See also PB89-134563 and PB91-146480. Prepared in cooperation with Museume National d'Histoire Naturelle, Paris (France). Lab. d'Ichtyologie, and ManTech Environmental Technology, Inc., Corvallis, OR.

The Index of Biotic Integrity (IBI) is a measure of fish assemblage 'health' that has been used to assess catchment and stream quality throughout North America. It reflects human perturbations on natural environmental structures and processes. While preserving the ecological foundation of the original North American metrics, the authors have modified and adapted the IBI to the mainstem Seine River and its major tributaries in France. This successful modification of the IBI to a considerably different fish fauna on a different continent further supports its wider use outside the midwestern United States. Using data collected in 1967, 1981, and 1988-1989 from a total of 46 sites, they show spatial and temporal variation in the Seine as indicated by IBI scores. Statistically significant relationships were found between IBI and catchment area but insignificant relationships existed between IBI and an independent Water Quality Index (WQI) based on water chemistry. Comparisons between the IBI and the WQI indicate that the former is a more sensitive and robust measure of water body quality. Their results demonstrate that the IBI, combined with a statistically designed national monitoring program, would offer a reliable means of assessing spatial patterns and temporal trends in water body improvement or degradation in France. The more primitive fish families in the Basin were affected first by perturbations. These families include all the diadromous species found in the Seine and suggest serious disruption of their life histories. (Copyright (c) 1992 Kluwer Academic Publishers.)

Keywords: *Fishes, *Aquatic ecosystems, *Seine River, France, Water pollution effects(Animals), Water quality, Life cycles, Species diversity, Reprints, *Index of Biotic Integrity.

PB92-180330/REB PC **A02**/MF **A01**
Formation of Transconjugants on Plating Media Following 'In situ' Conjugation Experiments. Journal article.
Corvallis Environmental Research Lab., OR.
M. V. Walter, L. A. Porteous, V. P. Fieland, R. J. Seidler, and J. L. Armstrong. c1991, 7p EPA/600/J-92/168
Pub. in Canada Jnl. of Microbiology 37, p703-707 1991. See also PB91-117580. Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR.

Conjugation on agar plates following mating trials can cause transconjugant numbers to be overestimated. Numbers of transconjugants detected after incubating donors and recipients together were compared with those observed when donors and recipients were incubated separately and then mixed immediately prior to plating on selective agar. Mating comparisons were conducted using broth, a soil slurry, and nonsterile soil. Nalidixic acid was added to selective agar plates to investigate its use as an inhibitor of plate mating. The number of transconjugants from broth matings did not significantly differ from the number of transconjugants produced by plate mating on selective media lacking nalidixic acid. Addition of nalidixic acid to selective media reduced the number of transconjugants from broth matings by 10-fold and the number of transconjugants from plate mating after incubation in broth by 100-fold. The number of transconjugants detected from mating experiments in soil slurries was significantly greater than the corresponding plate matings ($p=0.0073$). Furthermore, the addition of nalidixic acid to selective agar eliminated all plate matings. In nonsterile soil matings, transconjugants were detected immediately after the inoculation of donors and recipients into soil only when nalidixic acid was absent from the medium.

Keywords: *Genetic conjugation, *Culture media, *Pseudomonas apacia, Plasmids, Soil microbiology, Nalidixic acid, Reproduction(Biology), Reprints.

PB92-180348/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Oregon, USA, Ecological Regions and Subregions for Water Quality Management. Journal article.
Oregon State Univ., Corvallis. Dept. of Forest Science.
S. E. Clarke, D. White, and A. L. Schaedel. c1991, 12p EPA/600/J-92/169
Pub. in Environmental Management, v15 n6 p847-856 1991. Prepared in cooperation with NSI Technology Services Corp., Corvallis, OR., and Oregon State Dept. of Environmental Quality, Portland. Sponsored by Corvallis Environmental Research Lab., OR.

To aid in producing a protection and management strategy for the freshwater resources of Oregon, USA, the authors have defined an initial set of ecological regions and subregions of the state that organizes the spatial similarities and differences in water quality. They have delineated and mapped these subregions using existing maps of ecological regions, maps of selected environmental characteristics, remote sensing imagery, and descriptive literature. To help in interpreting the resulting map, a unique approach to mapping regions is used. They have described the relative widths of regional boundaries, and they ranked the characteristics used in determining them. Water quality managers in Oregon intend to apply these subregions as an organizational framework for data display and reporting, prioritizing monitoring and pollution control strategies, developing biological criteria for water quality standards, and developing other regional water quality management approaches. (Copyright (c) 1991 Springer-Verlag New York Inc.)

Keywords: *Water quality management, *Oregon, *Ecology, *Water pollution abatement, Region analysis, Environmental protection, Mapping, Water pollution control, Water pollution sampling, State programs, Water pollution standards, Freshwater, Biological effects, Reprints.

PB92-180355/REB PC **A02**/MF **A01**
Effects of Open-Top Chambers on 'Valencia' Orange Trees. Journal article.
Corvallis Environmental Research Lab., OR.
D. M. Olszyk, B. K. Takemoto, G. Kats, P. J. Dawson, and C. L. Morrison. c1992, 10p EPA/600/J-92/170
Pub. in Jnl. of Environmental Quality, v21 n1 p128-134 Jan-Mar 92. See also PB90-115148. Prepared in cooperation with California State Air Resources Board, El Monte, CA., and California Univ., Riverside. Statewide Air Pollution Research Center.

Young 'Valencia' orange trees (Citrus sinensis(L) Osbeck) were grown for four years in large open-top chambers with ambient (nonfiltered) air or in outside air to determine any effects of the chambers on the air pollutant susceptibility of the trees. Long-term ozone average concentrations (12 hours, growing season) were 8% lower, and cumulative ozone dose (hourly values >0.1 microL/L) was 29% lower in ambient chambers compared to outside air. Fruit yields were much higher (>39%) for ambient chamber trees than for outside trees over three harvests, due at least partly to less fruit drop during the growing season for ambient chamber trees. Ambient chamber trees were much larger than outside trees and produced over twice as much leaf material over four years of study. Leaves on ambient chamber trees were larger and less dense than on outside trees. Leaves on ambient chamber trees were under more stress than leaves on outside trees during summer months; with lower stomatal conductances (14% average) and transpiration rates (12%), and more negative leaf water pressure potentials (28%). In contrast, leaves on ambient chamber trees had higher net photosynthetic rates (13%) and higher leaf starch concentrations prior to tree flowering (31%), than leaves on outside trees. While these results indicated large long-term impacts on tree growth which must be considered when using open-top chambers, they did not indicate any net effect of chambers on the air pollutant susceptibility of trees which would limit the usefulness of chamber tree data for air quality impact assessment purposes.

Keywords: *Air pollution effects(Plants), *Citrus trees, *Air quality, Fruit crops, Plant physiology, Plant growth, Biological effects, Test chambers, Photosynthesis, Plant growth, Dose-response relationships, Exposure, Leaves(Botany), Ozone, Long term effects, Reprints, *Citrus sinensis.

PB92-180363/REB PC **A03**/MF **A01**
Teratogenesis, Toxicity, and Bioconcentration in Frogs Exposed to Dieldrin. Journal article.
Corvallis Environmental Research Lab., OR.
G. S. Schuytema, A. V. Nebeker, W. L. Griffis, and K. N. Wilson. c1992, 20p EPA/600/J-92/171
Pub. in Archives Environmental Contamination and Toxicology, v21 p332-350 1991. See also PB85-227049.

Tetratogenesis, acute and chronic toxicity, and bioconcentration were investigated in various like stages of African clawed frogs (Xenopus laevis), bullfrogs (Rana catesbeiana) and leopard frogs (Rana pipiens) exposed to aqueous dieldrin in static-renewal and continuous-flow tests. Tadpole 96-hr LC50s ranged from 40.4 to 49.5 microgram/L for Xenopus, from 8.7 to 30.3 microgram/L for bullfrogs and was 71.3 microgram/L for leopard frogs. The 24-day LC50 for Xenopus tadpoles was 5.5 microgram/L; the 28-day LC50 for leopard frog tadpoles was 8.3 microgram/L. Adult leopard frogs had a 28-day LC50 of 53.4 microgram/L. Terata in Xenopus embryo-larval tests occurred at concentrations as low as 1.3 microgram/L after 10 days. Mean steady-state bioconcentration factors (BCF) for tadpoles ranged from 430 for Xenopus and from 540 to 1,130 for leopard frogs. Mean steady-state BCFs for adult leopard frog skin, muscle and liver ranged from 40 to 310. Existing dieldrin water quality criteria values appear to protect frogs. The relative similarity of response of the frogs to dieldrin demonstrates the usefulness of Xenopus in assessing potential environmental hazards.

Keywords: *Teratogenic compounds, *Dieldrin, *Toxicity, Xenopus laevis, Rana pipiens, Rana catesbeiana, Dose-response relationships, Dimethyl formamide, Non-mammalian embryo, Reprints.

PB92-180371/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
How Much Acidification Has Occurred in Adirondack Region Lakes (New York, USA) since Preindustrial Times. Journal article.
Queen's Univ., Kingston (Ontario). Paleoecological Environmental Assessment and Research Lab.
B. F. Cumming, J. P. Smol, J. C. Kingston, D. F. Charles, and H. J. B. Birks. c1992, 18p EPA/600/J-92/172
Contract EPA-68-C8-0006
Pub. in Canada Jnl. of Fisheries and Aquatic Sciences, v49 n1 p128-141 1992. See also PB91-144709, PB91-176065 and PB91-177162. Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR., Bergen Univ. (Norway). Botanical Inst., and Camburn (K.E.), Charlotte, NC. Sponsored by Corvallis Environmental Research Lab., OR.

Preindustrial and present-day lake water pH, acid neutralizing capacity (ANC), total monomeric aluminum Al(sub m), and dissolved organic carbon (DOC) were inferred from the species composition of diatom and chrysophyte microfossils in the tops (present-day inferences) and bottoms (pre-1850 inferences) of sediment cores collected from a statistically selected set of Adirondack lakes. Results from the study lakes were extrapolated to a predefined target population of 675 low-alkalinity Adirondack region lakes. Estimates of preindustrial to present-day changes in lake water chemistry show that approximately 25-35% of the target population has acidified. The magnitude of acidification was greatest in the low-alkalinity lakes of the southwestern Adirondacks, an area with little geological ability to neutralize acidic deposition and receives the highest annual average rainfall in the region. The authors estimate that approximately 80% of the target population lakes with present-day measured pH = or < 5.2 and 30-45% of lakes with pH between 5.2 and 6.0 have undergone large declines in pH and ANC, and concomitant increases in Al(sub m). Estimated changes in (DOC) were small and show no consistent pattern in the acidified lakes. The study provides the first statistically based regional evaluation of the extent of lake acidification in the Adirondacks.

Keywords: *Acidification, *Lakes, *Hydrogeology, *Water pollution effects, *Paleolimnology, Regional analysis, Watersheds, Adirondack Mountain, New York, Water chemistry, Aquatic biology, Diatoms, Natural emissions, Mathematical models, Aluminum, Acid neutralizing capacity, Reprints, *Foreign technology, Dissolved organic carbon.

PB92-180389/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Cloning and Expression of a Lignin Peroxidase Gene from 'Streptomyces viridosporus' in 'Streptomyces lividans'. Journal article.
Idaho Univ., Moscow. Dept. of Bacteriology and Biochemistry.
Z. Wang, B. H. Bleakley, D. L. Crawford, G. Hertel, and F. Rafii. c1990, 16p EPA/600/J-92/173
Grants EPA-R-815200-01-0, DE-FG786ER13586
Pub. in Jnl. of Biotechnology 13, p131-144 1990. See also PB90-108184. Sponsored by Corvallis Environmental Research Lab., OR., Department of Energy, Washington, DC., and National Science Foundation, Washington, DC.

A lignin peroxidase gene was cloned from Streptomyces viridosporus T7A into Streptomyces lividans TK64 in plasmid pIJ702. Bg/II-digested genomic DNA (4-10 kb) of S. viridosporus was shotgun-cloned into S. lividans after insertion into the melanin (mel+) gene of pIJ702. Transformants expressing pIJ702 with insert DNA were selected based upon the appearance of thiostrepton resistant tsr(supr)/mel(sup-) colonies on regeneration medium. Lignin peroxidase-expressing clones were isolated from this population by screening of transformants on a tsr-poly B-411 dye agar medium. In the presence of H2O2 excreted by S. lividans, colonies of lignin peroxidase-expressing clones decolorized the dye. Among 1000 transformants screened, 2 dye-decolorizing clones were found. One, pIJ702/TK64.1(TK64.1), was further characterized. TK64.1 expressed significant extracellular 2,4-dichlorophenol (2,4-DCP) peroxidase activity (= assay for S. viridosporus lignin peroxidase). Under the cultural conditions employed, plasmidless S. lividans TK64 had a low background level of 2,4-DCP oxidizing activity. (Copyright (c) 1990 Elsevier Science Publishers B.V. (Biomedical Division).

Keywords: *Molecular cloning, *Gene expression, Lignocellulose, Plasmids, Recombinant DNA, Agar gel electrophoresis, Polyacrylamide gel electrophoresis, Substrate specificity, Southern blotting, Hydrogen peroxide, Reprints, *Streptomyces lividans, *Streptomyces viridosporus, *Lignin peroxidase.

PB92-180397/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Diatoms: Powerful Indicators of Environmental Change. Journal article.
Queen's Univ., Kingston (Ontario). Dept. of Biology.
S. S. Dixit, J. P. Smol, J. C. Kingston, and D. F. Charles. c1992, 13p EPA/600/J-92/174
Pub. in Canada Jnl. of Fisheries and Aquatic Sciences, v49 n1 p128-141 1992. See also PB91-226498. Prepared in cooperation with Indiana Univ. at Bloomington. Sponsored by Corvallis Environmental Research Lab., OR.

Diatoms are being used increasingly to assess short- and long-term environmental change, because they are informative, versatile, flexible, and powerful ecological indicators. Diatoms respond rapidly to changes in many ecological characteristics. Assemblages are usually diverse and therefore contain considerable ecological information. For this reason and because it is easy to obtain large numbers of individuals, robust statistical and multivariate procedures can be used to analyze assemblage data. Methods for collecting, analyzing, and presenting data have advanced rapidly in the past 5-10 years. Because of the power and versatility of diatoms, the future for their increased use as ecological indicators is bright. Improvements in techniques continue rapidly, and diatoms will no doubt be one of the main groups of aquatic organisms providing data to meet the growing need for information on environmental change in aquatic ecosystems.

Keywords: *Diatoms, *Biological indicators, *Environmental monitoring, *Water pollution effects, *Aquatic ecosystems, Surface waters, Air water interactions, Acidification, Air pollution, Climatic changes, Aquatic algae, Acid rain, Paleolimnology, Case studies, pH, United States, Canada, Reprints, Foreign technology.

PB92-180405/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Assessing Trends in Fishery Resources and Lake Water Aluminum from Paleolimnological Analyses of Siliceous Algae. Journal article.
Queen's Univ., Kingston (Ontario). Dept. of Biology.
J. C. Kingston, H. J. B. Birks, A. J. Uutala, B. F. Cummings, and J. P. Smol. c1992, 14p EPA/600/J-92/175
Pub. in Canada Jnl. of Fisheries and Aquatic Sciences, v49 p116-127. See also PB91-226498. Prepared in cooperation with Bergen Univ. (Norway). Sponsored by Corvallis Environmental Research Lab., OR.

Lake water aluminum concentrations have a significant influence on the composition of microfossil assemblages of diatoms and chrysophytes deposited in lake sediments. With the paleolimnological approach of multilake datasets in the Adirondack region of New York, USA, the authors use canonical correspondence analysis to describe past trends in lake water Al. Four lakes, previously investigated regarding acidification and fishery trends, are used to demonstrate that paleolimnological assessment can also provide direction, timing, and magnitude of trends for both toxic metals and fish resources. Additionally, the authors use weighted average regression and calibration to obtain quantitative reconstructions of past lake water Al concentrations. Such reconstructions provide further insight into fishery resource damage and can be compared with modelling results. According to paleolimnological reconstructions, some of the naturally most acidic lakes in the Adirondack region had preindustrial lake water concentrations of inorganic monomeric Al near 4/micromol times L. Although these high concentrations are surprising from a geochemical point of view, they may partially explain the preindustrial absence of fish, as has been independently determined by paleolimnological analysis of phantom midges (Chaoborus). Fishery resource deterioration in acidified Adirondack lakes was coincident with major increases in lake water Al concentrations.

Keywords: *Paleolimnology, *Water pollution effects(Animals), *Fishes, *Biological indicators, *Aluminum, New York, Adirondack Mountains, Acidification, Lakes, Toxic substances, Aquatic algae, Diatoms, Fossils, Aquatic ecosystems, Geochemistry, Trends, Paleoecology, Water chemistry, Sediments, Reprints.

PB92-180868/REB PC **A03/MF A01**
Development of a Core Combustion Research Program Plan for EPA. Final rept. Sep 89-Feb 90.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
G. B. Martin. May 92, 44p EPA-600/R-92/084
Contract EPA-68-02-3365

The report described a plan, evolving from a review of the state-of-the-art in combustion research, for a long-term research program in combustion and thermal destruction. A strawman plan was prepared and reviewed by a panel of representatives from industry, academia, and government organizations. The plan identifies four cornerstone areas where technology gaps are perceived to exist, and a keystone of basic and engineering research needed to generalize the technological developments to a variety of systems.

Keywords: *Combustion, *Air pollution abatement, *Air pollution control, *Research and development, Environmental protection, State of the art, US EPA, Waste disposal, Incineration, Fossil fuels, Long term effects, Steam generators, Fuel substitution, Thermal utilization, Flames, Pollution sources, Environmental effects, Biomass, Climatic changes, Pyrolysis, Area sources.

PB92-184969/REB PC **A03/MF A01**
Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
Environmental Protection Agency, Washington, DC. Office of Underground Storage Tanks.
Jan 92, 23p EPA/530/UST-91/018
See also PB87-168084.

The document summarizes the potential health effects associated with exposure to gasoline (as a whole product), with particular focus on its benzene constituent. A complete understanding of the potential health effects from exposure to gasoline requires the consideration of the other gasoline constituents as well, such as ethylbenzene, toluene, and xylene.

Keywords: *Underground storage, *Gasoline, *Public health, *Water pollution, *Hazardous materials, Exposure, Toluene, Xylenes, Leakage, Concentration(Composition), Path of pollutants, Toxicity, Aromatic hydrocarbons, Volatile organic compounds, Vaporizing, Measurement, Chromatographic analysis, Colorimetry, *Risk assessment, Ethylbenzene.

PB92-184977/REB PC **A14/MF A03**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Oil and Gas Field Emissions Survey. Final rept. Jun 91-Jan 92.
Radian Corp., Research Triangle Park, NC.
C. E. Burklin, M. A. Zarate, R. K. Smith, J. W. Sullivan, and L. N. Gerald. May 92, 313p EPA/600/R-92/083
Contract EPA-68-D1-0031
See also PB89-194286, PB87-198735, PB83-113563, PB-232 507, and PB-252 649. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report gives results of an oil and gas field emissions survey. The production segment of the oil and gas industry has been identified as a source category that requires the development of more reliable emissions inventory methodologies. The overall purpose of the project was to determine available activity and emission factor data that may be used to develop methodologies for states to use in estimating emissions inventories for oil and gas field operations at the county level. There were four objectives of the project: (1) To gather and compile available activity factors on oil and gas field operations; (2) To gather and compile available emissions data for total and speciated volatile organic compounds (VOCs) from all emissions sources associated with oil and gas field production activities; (3) To identify ongoing studies for the development of emissions data; and (4) To identify activity and emissions data gaps and to recommend future studies to develop necessary data and estimate methodologies.

Keywords: *Gas fields, *Oil fields, *Emission factors, *Air pollution sampling, State government, Volatile organic compounds, Study estimates, Concentration(Composition), Forecasting, Pollution sources, Natural gas industry, Field tests, Marine terminals, Maritime transport, *Emission inventories, *Activity factors.

PB92-184985/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Potential Impacts of Climate Change on Pacific Northwest Forest Vegetation.
ManTech Environmental Technology, Inc., Corvallis, OR.
G. A. King, and D. T. Tingey. May 92, 45p EPA/600/R-92/095
Contract EPA-68-C8-0006
See also PB91-104240. Sponsored by Corvallis Environmental Research Lab., OR.

Despite the limitations of the models used in the climate change analyses, some overall conclusions can

be made concerning climate change impacts on Northwest forests. The foremost of these is that the distribution and composition of forests in Washington and Oregon could change substantially under the GCM scenarios of regional climate change. The Holdridge, climate/forest correlations, and forest gap models (except for the CLIMACS results) all forecast shifts to forests better adapted to warmer and drier conditions. Temperate forests in the Holdridge scenarios are generally restricted to upper elevations and total forest acreage decreases by 5% to 25% depending on the climate scenario used. In central Oregon, total forested area is projected to decrease by almost half under a 5C warming. Oak woodlands and dry Douglas-fir dominated forests are likely to increase in areal extent, while the more productive western hemlock - Douglas-fir forest will undergo significant contraction. Subalpine and alpine vegetation are likely to be reduced substantially. Declines in moisture availability would decrease forest productivity and long-term timber production.

Keywords: *Vegetation, *Climatic changes, *Forestry, Mathematical models, Environmental impacts, Atmospheric temperature, Elevation, Precipitation(Meteorology), Oak trees, Fir trees, Moisture, Structureal timber, Losses, Oregon, Washington(State), *Pacific Northwest Region(United States), Western hemlock trees.

PB92-184993/REB PC **A13**/MF **A03**
Developmental Toxicology: Risk Assessment and the Future.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
R. D. Hood. May 90, 278p EPA/600/R-92/085, OHEA-R-285
See also PB91-242453.

The book is an outgrowth of the Guidelines for the Health Assessment of Suspect Developmental Toxicants. In that document, several general areas of research were identified that were needed to fill data gaps or to reduce uncertainties associated with estimating risks for human developmental effects due to exposure to hazardous substances. The book focuses on the research needs for risk assessment indicated in the Guidelines, and includes an update and review of each area. Each chapter focuses on the specific issues within a particular area that hold promise in addressing uncertainties for risk assessment and regulatory decision-making. The document addresses pharmacokinetics, behavior, epidemiology, structure-activity relationships, quantitative risk assessment, and statistical analysis. A comprehensive listing of relevant literature is included.

Keywords: *Teratogenic compounds, *Toxicology, *Risk assessment, Mothers, Fetus, Pharmacokinetics, Behavior, Fathers, Animal disease models, Structure-activity relationships, Mathematical models, Carcinogenesis, Maternal-fetal exchange, Physiology, Congenital abnormalities.

PB92-185818/REB PC **A01**/MF **A01**
Pesticide Fact Sheet Number 225: Dichlorvos (DDVP).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Feb 88, 5p EPA/540/FS-92/197
See also PB88-179981.

The document contains up-to-date chemical information for dichlorvas, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after issuance of each special review document has occurred.

Keywords: *Pesticides, *Toxic substances, *DDVP insecticide, Toxicology, Chemical properties, Hazardous materials, Phosphoric acid/(dichlorovinyl-ester)-(dimethyl-ester), Chlorine organic compounds, Insecticides, Regulations, Ecology, Path of pollutants, Agricultural products, *Chemical Information Fact Sheet, Use patterns, Science findings, CAS 62-73-7.

PB92-185826/REB PC **A02**/MF **A01**
Pesticide Fact Sheet Number 91.1: Arsenic Acid (H_3AsO_4).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Sep 91, 6p EPA/540/FS-92/199
See also PB87-108916.

The document contains up-to-date chemical information for arsenic acid, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred: (1) Issuance or reissuance of a registration standard, (2) Issuance of each special review document, (3) Registration of a significantly changed use pattern, (4) Registration of a new chemical, or (5) An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

Keywords: *Pesticides, *Toxic substances, *Arsenic acid, Hazardous materials, Chemical properties, Regulations, Toxicology, Ecology, Path of pollutants, Arsenic inorganic compounds, Desiccants, Agricultural products, *Chemical Information Fact Sheet, Use patterns, Science findings, CAS 7778-39-4, Desiccant L-10.

PB92-185834/REB PC **A01**/MF **A01**
Pesticide Fact Sheet Number 112.1: Lead Arsenate.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Jul 90, 5p EPA/540/FS-92/198
See also PB87-155206.

The document contains up-to-date chemical information for lead arsenate, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred: (1) Issuance or reissuance of a registration standard, (2) Issuance of each special review document, (3) Registration of a significantly changed use pattern, (4) Registration of a new chemical, or (5) An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

Keywords: *Pesticides, *Toxic substances, Insecticides, Herbicides, Fungicides, Growth regulators, Arsenic inorganic compounds, Hazardous materials, Chemical properties, Regulations, Toxicology, Ecology, Path of pollutants, *Lead arsenate, *Chemical Information Fact Sheet, Use patterns, Science findings, CAS 7778-40-9.

PB92-185842/REB PC **A03**/MF **A01**
Pesticide Fact Sheet Number 233: Ethylene Bisdithiocarbamates (EBDCs).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Dec 89, 13p EPA/540/FS-92/194
See also PB90-143025.

The document contains up-to-date chemical information for ethylene bisthiocarbamates, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after issuance of each special review document has occurred.

Keywords: *Pesticides, *Toxic substances, *Carbamic acid/ethylene-bis(dithio), Hazardous materials, Regulations, Path of pollutants, Sulfur organic compounds, Fungicides, Maneb, Toxicology, Chemical properties, Ecology, *Chemical Information Fact Sheet, Use patterns, Science findings, Maneozeb, Metiram, Zineb, Nabam, CAS 12427-38-2, CAS 8018-01-7, CAS 9006-42-2, CAS 12122-67-7, CAS 142-59-6.

PB92-185859/REB PC **A02**/MF **A01**
Pesticide Fact Sheet Number 234: Ethylene Oxide (EtO).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
31 May 90, 8p EPA/540/FS-92/195
See also PB85-119121.

The document contains up-to-date chemical information ethylene oxide, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred: (1) Issuance or reissuance of a registration standard, (2) Issuance of each special review document, (3) Registration of a significantly changed use pattern, (4) Registration of a new chemical, or (5) An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

Keywords: *Ethylene oxide, *Pesticides, *Toxic substances, Hazardous materials, Chemical properties, Regulations, Toxicology, Ecology, Path of pollutants, Fumigation, Sterilization, Agricultural products, Oxygen organic compounds, *Chemical Information Fact Sheet, Oxyfume, CAS 75-21-8, Use patterns, Science findings.

PB92-186246/REB PC **A08**/MF **A02**
Human Exposure Model-II: User's Guide.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Feb 91, 164p EPA/450/3-91/0100
See also PB87-168399.

The document is a guide to the HEM-II computer software. The HEM-II software is an effective tool for screening point sources of hazardous air pollutants; and ranking individual sources and source categories in terms of their relative carcinogenic risks.

Keywords: *Air pollution, *User manuals(Computer programs), *Computerized simulation, *Pollution sources, *Risk assessment, Exposure, Carcinogens, Public health, Mathematical models, Point sources, Humans, Ranking, Air pollution effects(Humans), *Human Exposure Model.

PB92-186410/REB PC **A01**/MF **A01**
Pesticide Fact Sheet Number 111.1: Calcium Arsenate (Tolerance Revocation).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Apr 91, 5p EPA/540/FS-92/196
See also PB87-155198.

The document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred. (1) Issuance or reissuance of a registration standard, (2) Issuance of each special review document, (3) Registration of a significantly changed use pattern, (4) Registration of a new chemical, or (5) An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

Keywords: *Pesticides, *Toxic substances, Hazardous materials, Chemical properties, Regulations, Toxicology, Ecology, Path of pollutants, Herbicides, Agricultural products, Calcium inorganic compounds, *Calcium arsenate, *Chemical Information Fact Sheet, Arsenic acid/(Calcium-salt), CAS 7778-44-1, Use patterns, Science findings.

PB92-186428/REB PC **A03**/MF **A01**
Chesapeake Bay Striped Bass Fishery Management Plan: Chesapeake Bay Program. Annual Progress Report from the Chesapeake Executive Council.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Apr 91, 17p
See also PB90-226713.

Growth of the Chesapeake Bay striped bass spawning population and improvements in the species' reproductive success from 1987 to 1989 resulted in the reopening of the Chesapeake rockfish fishery, on a very limited and controlled basis, in 1990. Before opening the fishery, states were required to meet certain minimum standards established by the Atlantic States Marine Fisheries Commission (ASMFC). Pennsylvania, Maryland, Virginia, the District of Columbia, and the Potomac River Fisheries Commission agreed to take a coordinated approach to striped bass management via the 1987 Chesapeake Bay Agreement. The Chesapeake Bay striped bass fishery was conducted during several periods in different locations from September 1990 through February 1991. Deliberations are underway for the 1991 - 1992 striped bass fishery.

Keywords: *Management, *Bass, *Fisheries, *Chesapeake Bay, Populations, Regulations, Reproduction(Biology), Fishing, Agreements, Requirements, Jurisdiction, Monitoring, Maryland, Virginia, District of Columbia, Law enforcement, *Rockfish.

PB92-186436/REB PC **A04/MF A01**
Chesapeake Bay Bluefish Fishery Management Plan. Chesapeake Bay Program Agreement Commitment Report.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Dec 90, 52p

The goal of the Chesapeake Bay Bluefish Management Plan is to protect and monitor the bluefish resource in the Chesapeake Bay, its tributaries, and state coastal waters, to provide for optimum long-term ecological, economic, and social benefits. In order to meet this goal, a number of objectives must be met. They include following the guidelines established by the Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fishery Management Commission (MAFMC) for coastwide management of the bluefish fishery, providing for fair allocation of the resource, promoting efficient harvesting practices, promoting biological and economic research, and pursuing standards of environmental quality and habitat protection. These objectives, management strategies, and related issues are reported.

Keywords: *Chesapeake Bay, *Fisheries, Resource management, Water quality, Animal behavior, Graphs(Charts), Economic analysis, Life cycles, *Bluefish, Pomatomus saltatrix, Fish management, Catch statistics.

PB92-186451/REB PC **A03/MF A01**
Chesapeake Bay Waterfowl Policy and Management Plan (Agreement Committment Report).
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Dec 90, 49p

The Waterfowl Policy of the Chesapeake Executive Council is 'to restore, protect, and enhance waterfowl populations and their habitats to derive the greatest long-term ecological, economic, and social benefits from the resource.' To achieve the Policy, the Plan defines the resource, life history characteristics, research priorities, and it outlines three major objectives which are: (1) Prevent loss or degradation of habitat, and restore or enhance habitats presently degraded or unsuitable for use by waterfowl; (2) Support responsible waterfowl management programs to restore waterfowl populations and habitats to at least 1970's levels by the year 2000; and (3) Improve public understanding of the waterfowl resource and its habitat needs.

Keywords: *Aquatic plants, *Birds, *Ecology, *Chesapeake Bay, Agreements, Protection, Habitats, Economic factors, Degradation, Water pollution, Government policies, Ducks, Populations, Animal migrations, Trends, Maryland, Virginia, *Waterfowl, Restoration, Swans, Geese.

PB92-186469/REB PC **A03/MF A01**
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Committed Obligated Expected Expenditures Plan (COEEP).
Pennsylvania Dept. of Environmental Resources, Harrisburg. Bureau of Soil and Water Conservation.
Mar 92, 43p CBP/TRS-69/92
Contract EPA-68-WO-0043
Sponsored by Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.

In a year of average rainfall, nonpoint sources contributed 67 percent of the nitrogen and 39 percent of the phosphorus entering the Chesapeake Bay. One effective method of control for these sources is the installation of Best Management Practices (BMPs) which help reduce agricultural pollutants. BMPs are farming methods and processes which when implemented will prevent or reduce water pollution. These include such practices as permanent vegetative cover, animal waste management systems, stripcropping and contour farming systems, conservation tillage systems, and fertilizer management. The US Environmental Protection Agency (EPA) works closely with the states and provides financial assistance to implement BMPs. The financial assistance which in the form of grants to the states, provides cost share funds for landowners to correct nonpoint source pollution. At the local levels, several controls are required for administering these cost share funds. Committed Obligated Expected Expenditures Plan (COEEP) was designed to assist in the reporting of funds used for BMPs. The COEEP is a personal computer (PC) based data entry and reporting software package which tracks BMP transactions.

Keywords: *Nonpoint sources, *Water pollution control, *Agricultural engineering, *Financial management, *Computer applications, US EPA, Water quality, Economic assistance, Grants, Contract administration, Data bases, Personal computers, *Chesapeake Bay, Best Management Practices.

PB92-186477/REB PC **A03/MF A01**
Maryland Dept. of Natural Resources, Annapolis. Tidewater Administration.
Chesapeake Bay Weakfish and Spotted Seatrout Fishery Management Plan: An Agreement Commitment Report from the Chesapeake Executive Council.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Dec 90, 50p
Prepared in cooperation with Virginia Marine Resources Commission, Newport News. VA. Sponsored by Maryland Dept. of Natural Resources, Annapolis. Tidewater Administration.

One of the strategies for implementing the Living Resources Commitments of the 1987 Chesapeake Bay Agreement is to develop and adopt a series of baywide fishery management plans (FMPs) for commercially, recreationally, and selected ecologically valuable species. The FMPs are to be implemented by the Commonwealth of Pennsylvania, Commonwealth of Virginia, District of Columbia, Potomac River Fisheries Commission, and State of Maryland as appropriate. Under a timetable adopted for completing management plans for several important species, the weakfish and spotted seatrout FMP was scheduled for completion in December 1990.

Keywords: *Natural resources management, *Fisheries, *Chesapeake Bay, Management planning, Recreation, Life cycles, Government policies, Economic analysis, Habitats, Graphs(Charts), *Weakfish, *Spotted seatrout, Cynoscion regalis, Cynoscion nebulosus, Catch statistics.

PB92-188515/REB PC **A06/MF A02**
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Technical Resource Document: Batch-Type Procedures for Estimating Soil Adsorption of Chemicals.
Illinois State Geological Survey Div., Champaign.
W. R. Roy, I. G. Krapac, S. F. J. Chou, and R. A. Griffin.
Apr 92, 105p EPA/530/SW-87/006F
See also PB87-146155. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.

The Technical Resource Document (TRD) contains laboratory procedures and guidelines for conducting experiments using batch-equilibrium techniques to study soil adsorption of chemicals dissolved in solution (solutes). The procedures were designed for routine use and can be used to generate data for constructing equilibrium adsorption isotherms or curves. Procedures are given for inorganic and organic solutes and volatile organic solutes. The scientific basis for each procedural step is discussed in detail. Procedures were based on the scientific literature and were developed and tested by the authors and cooperating laboratories. Examples are given that show how to apply major procedural steps and concepts. Several types of soil materials and solutes are featured, as well as the application of batch-adsorption data in calculations of solute movement through compacted landfill liners, which is needed for estimating the thickness of liner required for pollutant retention.

Keywords: *Waste management, *Soil mechanics, *Adsorption, *Chemical compounds, Geotechnical engineering, Leaching, Environmental transport, Linings, Land pollution control, Isotherms, Hazardous materials, Waste disposal, Earth fills, Experimental design, Solutes, pH, Temperature, Soil liners.

PB92-188663/REB PC **A04/MF A01**
Report to Congress on Ocean Dumping, 1987-1990.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Sep 91, 64p EPA/503/9-91/009
See also AD-A116 301.

The Report to Congress summarizes the Environmental Protection Agency's (EPA) activities in carrying out its responsibilities under Title I of the Marine Protection, Research, and Sanctuaries Act (MPRSA) and its 1988 amendment, the Ocean Dumping Ban Act (ODBA). ODBA makes the ocean dumping of industrial waste and municipal sewage sludge unlawful after December 31, 1991. EPA's Office of Water (OW) in conjunction with EPA Regional Offices have responsibilities under MPRSA to regulate and monitor ocean disposal of municipal sewage sludge, industrial waste, and dredged materials as well as incineration-at-sea. In addition to administering MPRSA and ODBA, OW: (1) continued its participation in the work of the London Dumping Convention (LDC), the international agreement that addresses the dumping of wastes into the marine environment; (2) continued monitoring and public education activities aboard the Ocean Survey Vessel PETER W. ANDERSON; and (3) collaborated in programs with other organizations involved in marine protection.

Keywords: *Ocean waste disposal, *Pollution regulations, *Environmental monitoring, *Water pollution abatement, Sludge disposal, Sewage sludge, Industrial wastes, Municipal wastes, Waste disposal, US EPA, Incineration, International agreements, Public information, Environmental protection, Marine Protection Research and Sanctuaries Act, Ocean Dumping Ban Act.

PB92-188713/REB PC **A06/MF A02**
Environmental Monitoring Systems Lab., Las Vegas, NV.
Superfund Innovative Technology Evaluation (Site) Report for the Westinghouse Bio-Analytic Systems Pentachlorophenol (PCP) Immunoassays.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV. Environmental Programs Office.
M. E. Silverstein, R. J. White, R. W. Gerlach, and J. M. Van Emon. May 92, 109p EPA/600/R-92/032
Contracts EPA-68-03-3249, EPA-68-CO-0049
Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV.

The results of the demonstration of two Westinghouse Bio-Analytic Systems (WBAS) immunoassay technologies are described in the report. The immunoassays measure parts per billion concentrations of pentachlorophenol in environmental water samples. The study was conducted under the Superfund innovative Technology Evaluation (SITE) Program and designed to evaluate the ruggedness and utility of a semiquantitative immunoassay field kit. Results obtained from the field kit were compared to those obtained from a quantitative, high-sample-capacity plate immunoassay. The results of the WBAS immunoassay demonstration support the conclusion that the field immunoassay is a useful screening tool. The demonstration verified that the method can provide qualitative or semiquantitative screening information. Although the results were more variable than had been anticipated, the incorporation of additional procedural precautions and carefully chosen quality control acceptance criteria for on-site analysis could improve performance substantially. Both immunoassays produced results biased high compared to the GC/MS results, but the tendency was not large and may have been partly due to loss during sample extraction (EPA Method 3510) prior to analysis by gas chromatography/mass spectrometry. The detection of structurally related compounds by the immunoassays may have also contributed to the high bias. The results indicate that the plate immunoassay is an accurate and precise method for quantitating pentachlorophenol in water.

Keywords: *Pentachlorophenol, Immunoassay, Quality control, Mass fragmentography, Chemical water pollutants, Cross reactions, Antibodies, SITE(Superfund Innovative Technology Evaluation).

PB92-188721/REB PC **A03/MF A01**
Environmental Monitoring Systems Lab., Las Vegas, NV.
Measurement of Polycyclic Aromatic Hydrocarbons in Soils and Sediments by Particle-Beam/High-Performance Liquid Chromatography/Mass Spectrometry. Rept. for Oct 90-Dec 91.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV. Environmental Programs Office.
C. M. Pace, D. A. Miller, and M. R. Roby. Dec 91, 50p
EPA/600/4-91/032
Contract EPA-68-CO-0049

Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV.

An analytical method was developed for the measurement of certain polycyclic aromatic hydrocarbons (PAHs) in soils and sediments by particle beam liquid chromatography/mass spectrometry. The method applies to PAHs with a molecular weight greater than 220. Samples are prepared by SW-846 Method 3540 with optional cleanup using SW-846 Method 3630. The sample extracts are then analyzed for PAHs using a particle beam liquid chromatography/mass spectrometry system. Method detection limits are within the range of 0.01 - 0.10 microg/g depending on the sample size. Mean method accuracy was greater than 75 percent for most of the target analytes with relative standard deviation values between 10 percent to 20 percent. An analysis of a standard reference material using this method agreed with certified values and with an analysis performed using high performance liquid chromatography (HPLC) with fluorescence detection (SW-846 Method 8310). The method shows potential as a means to measure high molecular weight PAHs not measured by current EPA methods.

Keywords: *Aromatic polycyclic hydrocarbons, *Liquid chromatography, *Mass spectroscopy, *Soils, *Sediments, Graphs(Charts), Toxic substances.

PB92-188739/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer of Automotive Air Conditioning Condensers and Evaporators.
University City Science Center, Philadelphia, PA.
G. P. Looby, and F. W. Kirsch. 29 May 92, 8p EPA/600/S-92/007
Grant EPA-R-814903
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of waste but who lack the expertise to do so. Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at the University of Tennessee performed an assessment at a plant manufacturing automotive air conditioning condensers and evaporators - approximately 400,000 units per year. To make condensers, extrusions and steel coil are machined, degreased, welded, and painted. To make evaporators, aluminum side sheet stock and coil and box extrusions are machined and degreased along with aluminum tube stock. The team's report, detailing findings and recommendations, indicated that the majority of waste was generated in the non-chromate waste water treatment facility but that the greatest savings could be obtained by converting to a powder coating technique in the condenser line to eliminate both contaminated paint solids and paint liquids.

Keywords: *Waste management, *Pollution abatement, *Environmental protection, *Hazardous materials, *Automotive industry, Manufacturing, Air conditioning, Condensers, Evaporators, Waste water, Environmental impact assessments, Painting, Water pollution control, Coating processes, Machining, Degreasing, Welding, *Waste minimization, SIC 20-39, Source reduction.

PB92-188747/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
University City Science Center, Philadelphia, PA.
F. W. Kirsch, and G. P. Looby. 29 May 92, 6p EPA/600/S-92/015
Grant EPA-R-814903
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of hazardous waste but who lack the expertise to do so. Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at Colorado State University performed an assessment at a plant that manufactures metal bands, clamps, retainers, and tooling--approximately 2 million lb/yr of product. Metal undergoes cutting, machining, cleaning, and electroplating as required. The specific processes are determined by the particular product being produced. The team's report, detailing findings and recommendations, indicated the most waste was generated by metal cleaning and that the greatest cost savings would result from using deionized water instead of tap water to make up and maintain the reagent baths in the metal cleaning and electroplating lines.

Keywords: *Environmental protection, *Pollution abatement, *Waste management, *Metal industry, *Hazardous materials, Industrial wastes, Cleaning, Electroplating, Cost analysis, Cutting, Machining, Liquid wastes, Solid wastes, Manufacturing, Environmental impact assessments, *Waste minimization, Source reduction, SIC 20-39.

PB92-188754/REB PC **A04**/MF **A01**
Corvallis Environmental Research Lab., OR.
Impacts of Climate Change on Rice Yield: Evaluation of the Efficacity of Different Modeling Approaches. Symposium paper.
ManTech Environmental Technology, Inc., Corvallis, OR.
D. Bachelet, J. Van Sickle, and C. A. Gay. 1991, 52p EPA/600/A-92/109
Contract EPA-68-C8-0006
Proceedings of the International Symposium on Systems Approaches for Agricultural Development, Bangkok, Thailand, December 2-6, 1991. Prepared in cooperation with Oregon State Univ., Corvallis. Dept. of Statistics, and Sveriges Lantbruksuniversitet, Uppsala. Inst. foer Ekologi och Miljoevaard. Sponsored by Corvallis Environmental Research Lab., OR.

Increasing concentrations of carbon dioxide (CO_2) and other greenhouse gases are expected to modify the climate of the earth in the next 50-100 years. Mechanisms of plant response to these changes need to be incorporated in models that predict crop yield to obtain an understanding of the potential consequences of such changes. The objectives of the paper are (1) review climate change predictions and their reliability, (2) review the major hypotheses and/or experimental results regarding rice sensitivity to climate change, and (3) evaluate the suitability of existing rice models for assessing the impact of global climate change on rice production in the rice-growing areas of Asia. A review of physiologically-based rice models (CERES-RICE, MACROS, RICESYS) illustrates their potential to predict possible rice responses to elevated CO_2 and increased temperature. Both MACROS and CERES responses to temperature and CO_2 agrees with recent experimental data from Baker et al. RICESYS is an ecosystem model which predicts herbivory and interspecies competition between rice and weeds but does not include CO_2 effects. Its response to increasing temperature also agrees with experimental findings. Models using empirical relationships between climate and yield have been used to predict country-scare changes following climate change. Their simplicity is an asset for continental-scale assessments but the climatic effects are often overshadowed by stronger technological or political effects. In conclusion, each modeling approach has its value. Researchers should choose or build the most appropriate model for their projects' objectives.

Keywords: *Climatic changes, *Crop response, *Rice, *Air pollution effects(Plants), *Computerized simulation, Carbon dioxide, Greenhouse effect, Reviews, Plant physiology, Atmospheric temperature, Forecasting, Asia, Crop production, CERES-RICE Model, MACROS Model, RICESYS Model.

PB92-188762/REB PC **A03**/MF **A01**
Clinical Biochemistry. Book chapter.
Corvallis Environmental Research Lab., OR.
A. Fairbrother. 1992, 48p EPA/600/A-92/110
Pub. in Nondestructive Biomarkers of Vertebrates, 1992.

Assessment of the health status of animals through measurement of cellular, biochemical, and macromolecular constituents in blood, secretions, and excretions has been variously referred to as clinical chemistry, clinical biochemistry, or clinical pathology. The genesis of this discipline occurred in the mid-1800's, although the applications to medical and veterinary practices did not blossom until after the second world war when automated equipment required for processing large numbers of samples became available. Clinical biochemistry has now become a standard part of all diagnostic protocols for investigating health problems in humans and domestic or captive animals. A suitable group of tests can be defined to evaluate the function of most major organs, the endocrine system, the immune system, and the nervous system. By using this approach, the affected organs and, potentially, the processes responsible for the observed disease syndrome can be identified and further diagnostic tests called into play to make a precise diagnosis. While clinical biochemistry panels have been applied to free-ranging vertebrates only infrequently, the chapter will show that studies of captive animals indicate that such methods are now available.

Keywords: *Clinical chemistry, *Biochemistry, Enzymology, Metabolism, Toxicology, Hematology, Endocrinology, Immunology, Diagnosis, Health status.

PB92-188770/REB PC **A02**/MF **A01**
Inspection Techniques for the Fabrication of Geomembrane Field Seams.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. E. Landreth. c1992, 9p EPA/600/A-92/111
Pub. in HMC-South Conference and Exhibition Proceedings, New Orleans, LA., February 26-28, 1992, p238-243.

The proper installation of geomembranes in waste management facilities is crucial to the successful performance of the containment system. It has been demonstrated with field data that the use of a QA/QC program during installation will decrease the amount of leakage in landfills. The U.S. EPA has recently published a technical guidance document to augment the numerous construction quality control and construction quality assurance (CQC and CQA) guidelines that are currently available for geomembrane installation and inspection. The document focuses on all current methods of producing seams of all types of geomembranes including HDPE and VLDPE, PVC, PVC-R, CSPE, CSPE-R, CPE, CPE-R, EIA and EIA-R. The manual presents six specific methods used for fabricating field seams of the types of geomembranes widely used for environmental control systems. They are extrusion fillet seams, extrusion flat seams, hot wedge seams, hot air seams, chemical fusion seams, and adhesive seams. Of special interest, a brief discussion on test or qualifying strips, discussed in the document, will be presented. Availability of the document and the development of the next generation of QA/QC procedures will be discussed.

Keywords: *Geotechnical fabrics, *Waste management, *Inspection, *Hazardous materials, *Seaming, Quality control, Quality assurance, Land pollution control, Field tests, Techniques, Earth fills, Thermoplastic resins, Reprints, *Geosynthetic materials.

PB92-188788/REB PC **A03**/MF **A01**
Health Research to Support Risk Assessment.
Health Effects Research Lab., Research Triangle Park, NC.
J. J. Vandenberg. 23 Apr 92, 12p EPA/600/A-92/112

The hazardous air pollutant provisions of the Clean Air Act Amendments of 1990 (CAAA) require assessment of public health risks remaining after application of technology-based emissions controls. These 'residual risk' assessments form the basis for health-based emissions controls, if warranted. The U.S. EPA has health research programs underway to support the specific needs of the CAAA and to address generic uncertainties in the risk assessment process. The outcome of the research will be an improved scientific foundation for risk assessment. The paper presents an overview of relevant health research programs with a focus on the Research to Improve Health Risk Assessments Program. The strategic directions and goals of the research program and example research projects are discussed.

Keywords: *Risk assessment, *Public health, *Air pollution effects(Humans), *Toxic substances, *Health services research, Research programs, Inhalation, Dose-response relationships, Exposure, Laboratory animals, Air quality, Physiology, Toxicity, Mathematical

models, Chemical compounds, Air pollution standards, RIHRA Program, Research to Improve Health Risk Assessments Program, Clean Air Act Amendments of 1990, Pharmacokinetics.

PB92-188796/REB PC **A03/MF A01**
Implementing 'In vitro' Models in the Hazard Identification and Risk Assessment Process.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
B. Veronesi, and L. Claudio. 1992, 28p EPA/600/A-92/113
Prepared in cooperation with Mount Sinai Medical Center, New York. Div. of Environmental and Occupational Medicine.

Concerns about the use of laboratory animals in biomedical research and testing and the relevance of animal data to the human condition are not new issues. Toxicologists have long been aware of the difficulties in interpreting and extrapolating data derived from animals to humans because of species-specific susceptibilities to toxic effects and differences in exposure magnitudes. Such difficulties are compounded by the possibility that data generated in young, healthy, single strain test animals may not apply to a human population that is old, diseased, malnourished, or diverse in its genetic makeup. Since the human population is more heterogeneous than experimental animal strains, it may be sensitive to a wider range of doses than animals. The chapter describes some of the above issues, discusses the potential of current in vitro neurotoxicity tests to address the needs of risk assessment and hazard identification, the advantages and limitations of such models, the scientific validation process, and finally, future directions that might be pursued to encourage their deployment in risk assessment.

Keywords: *Environmental health, *Risk assessment, *Health hazards, *Toxic substances, In vitro analysis, Species specificity, Dose-response relationships, Animal testing alternatives, Structure-activity relationships.

PB92-188804/REB PC **A02/MF A01**
Quality Assurance Planning for Stationary Source Field Sampling.
Environmental Protection Agency, Research Triangle Park, NC. Source Methods Research Branch.
M. D. Jackson, and M. R. Midgett. 1992, 7p EPA/600/A-92/114

Stationary source stack sampling procedures are used to determine the amount of emissions as required under the Resource Conservation Recovery Act, Appendices VIII and IX, and the Clean Air Act Amendments (CAAA) of 1990, Title III. Sampling procedures are costly and require much planning and time to complete. Most effort on implementing quality assurance (QA) in the past has centered on the analytical and laboratory portion of the test. However, the laboratory result, no matter how good, is only as good as the field sample that has been presented. Errors occurring during field sampling might not be discovered until after the sampling phase of the test is completed and after samples are in the analytical phase. This could result in another expensive sampling trip. One way to reduce the chance of errors is to have and follow a QA plan. The paper describes the planning phase for the field study, errors that may occur during the sampling phase, and how the QA plan might prevent or minimize errors during field sampling.

Keywords: *Quality assurance, *Air pollution sampling, *Flue gases, Stationary sources.

PB92-188812/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Stability of Air Toxic Gases Listed in Title III Clean Air Act Amendments.
Research Triangle Inst., Research Triangle Park, NC.
R. K. M. Jayanty, L. B. Jaffe, J. R. Albritton, M. D. Jackson, and M. R. Midgett. 1992, 12p EPA/600/A-92/115
Contract EPA-68-02-4550
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

A repository of 59 organic compounds has been established by the U.S. Environmental Protection Agency (EPA) for use as gas standards in performance audits during field validation of emission concentrations from stationary sources. These compounds are listed in Title III of the 1990 Clean Air Act Amendment. The compounds are prepared in compressed gas cylinders and recyclable aluminum containers. Three concentration ranges were selected: low (20 to 200 ppb), mid-level (0.5 to 5 ppm), and high (5 to 50 ppm). The recyclable aluminum containers were only prepared in the low range, and pressures were generally below 400 psig. The compressed gas cylinders contained pressures up to 2000 psig. In this program to ensure that the concentration of each gas standard had not changed, each standard was analyzed periodically for stability. The gas mixtures were analyzed by the manufacturer before shipment. They were then analyzed upon receipt, and reanalyzed periodically to determine any change in concentration. The stability data obtained to date indicates that many compounds are stable in the compressed gas cylinders; however, some of the compounds in the recyclable containers are not stable.

Keywords: *Volatile organic compounds, *Stability, *Standards, *Toxic substances, *Gas cylinders, Mixtures, Gases, Chemical analysis, Clean Air Act Amendments.

PB92-188820/REB PC **A03/MF A01**
Current and Future Environmental Role of Atmospheric Methane: Model Studies and Uncertainties. Book chapter.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
J. P. Pinto, C. H. Bruehl, and A. M. Thompson. 1992, 30p EPA/600/A-92/116

Concern over increasing levels of methane in the atmosphere centers on its radiative and chemical properties. Methane absorbs terrestrial infrared radiation and contributes to the greenhouse effect. Effects on other greenhouse absorbers (e.g., O3, H2O, and CO2) as the result of its oxidation must also be considered. These indirect effects have made the quantification of the total climatic effects of chemically active gases, such as CH4, much more difficult than if direct radiative effects are considered alone. The oxidation of methane also exerts a controlling influence on atmospheric OH levels and is a major source of carbon monoxide. The variations in OH induced by changing CH4 levels feed back onto the lifetime of methane and the abundance of CO. There is a shortage of intercompared model results documenting the effects of CH4 and nonmethane hydrocarbon (NMHC) additions on tropospheric OH levels. Most analyses to date have relied on analyses of gas phase reaction sequences for methane oxidation without considering the numerous feedbacks on atmospheric chemistry. More complete modeling studies are needed because OH levels also depend on the emissions of CO, NMHCs, and NOy (NOx + NO3 + 2N2O5 + CH3CO3NO2(PAN) + HNO3 + HNO4 + ClNO3 + NO3), where NOx is NO + NO2 and NOy and NX are interchangeable terms. Furthermore, analyses which simulate the role of climate in controlling CH4 emissions from various natural sources (e.g. wetlands) are critical for attempting to predict the response of atmospheric methane levels to future climate change.

Keywords: *Methane, *Greenhouse effect, Terrestrial radiation, Infrared radiation, Atmospheric chemistry, Air pollution, Environment effects, Climatology, Carbon dioxide.

PB92-188838/REB PC **A02/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator. Journal article.
Foster Wheeler Enviresponse, Inc., Livingston, NJ.
M. D. Ho, J. M. Perdek, J. P. Stumbar, and R. H. Sawyer. c1992, 10p EPA/600/J-92/176
Contract EPA-68-03-3255
Pub. in Jnl. of the Air and Waste Management Association, v42 n4 p493-499 Apr 92. Prepared in cooperation with Union Carbide Industrial Gases, Inc., Tarrytown, NY. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The paper summarizes the various system performance tests and the long-term operating experience of the LINDE Oxygen Combustion System (OCS) installed on the U.S. Environmental Protection Agency's (EPA) Mobile Incineration System (MIS) when it was in operation at the Denney Farm site in southwestern Missouri. The LINDE OCS was installed on the MIS as part of a major modification program in 1987. The modified system was first demonstrated for three months in 1987 when various system performance tests were conducted. Test burns of the modified MIS showed destruction and removal efficiencies (DRE) surpassing both Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA) standards. The system resumed operation in February 1988 to continue the incineration of dioxin-contaminated materials from sites in southwestern Missouri. This was the first application of an oxygen burner in a hazardous waste incineration system. The microprocessor-based controls of the oxygen system have exhibited excellent response, reducing the number of feed shutdowns due to low oxygen and high carbon monoxide contents in the stack gas which resulted from variations in the BTU content of the waste feed. It was also shown that nitrogen oxides emissions from the oxygen enriched operation compare favorably with the previous air-based operation.

Keywords: *Incinerators, *Waste disposal, *Hazardous materials, Missouri, Portable equipment, US EPA, Revisions, Design criteria, Performance evaluation, Dioxins, Air pollution control, Reprints, *LINDE Oxygen Combustion System, *Mobile incineration system, Southwest Region(Missouri).

PB92-188846/REB PC **A02/MF A01**
Effects of Low Dissolved Oxygen on Survival, Growth and Reproduction of 'Daphnia', 'Hyalella' and 'Gammarus'. Journal article.
Corvallis Environmental Research Lab., OR.
A. V. Nebeker, S. T. Onjukka, D. G. Stevens, G. A. Chapman, and S. E. Dominguez. c1992, 9p EPA/600/J-92/177
Pub. in Environmental Toxicology and Chemistry, v11 p373-379 1992. Prepared in cooperation with Oregon Dept. of Fish and Wildlife, LaGrande, and Oregon State Univ., Corvallis.

Daphnia magna, Daphnia pulex, Hyalella azteca, and Gammarus lacustris were exposed to low dissolved oxygen concentrations in the laboratory. Acute and chronic exposures were conducted to develop data for use in the U.S. Environmental Protection Agency's (EPA's) water quality criteria document for dissolved oxygen. Daphnia magna had two 48-h LC50s (50% mortality) of 0.6 and 0.7 mg/L, a highest-adverse-effect concentration of 0.6, and a lowest-no-adverse-effect concentration of 0.9 mg/L O2 (based on reproduction). Daphnia pulex had a 48-h LC50 of 0.5, two 96-h LC50s of 0.4 and 0.7, a highest-adverse-effect concentration of 1.6, and a lowest-no-adverse-effect concentration of 2.1 mg/L O2 (based on reproduction). Hyalella azteca had 96-h and 30-d LC50s of <0.3 mg/L, a highest-adverse-effect concentration of 1.2, and a lowest-no-adverse-effect concentration of >1.2 (based on reproduction). Gammarus lacustris had two 7-d LC50s of <0.2 mg/L, a highest-adverse-effect concentration of <0.2, and a lowest-no-adverse-effect concentration of 0.1 mg/L O2 (based on survival). Lack of access to the water surface increased mortality. Nitrogen-stripped and vacuum-degassed test water produced the same mortality. Results of the study indicate that dissolved oxygen concentrations adequate to avoid impairment of fish production, as outlined in the EPA's water quality criteria document, should provide reasonable protection for these four species.

Keywords: *Daphnia, *Oxygen, *Survival, *Reproduction(Biology), Water quality, Graphs(Charts), Body weight, Reprints, *Hyalella azteca, *Gammarus lacustris.

PB92-188853/REB PC **A03/MF A01**
Acidic Episodes in Surface Waters in Europe. Journal article.
Corvallis Environmental Research Lab., OR.
T. D. Davies, M. Tranter, P. J. Wigington, and K. N. Eshleman. c1992, 25p EPA/600/J-92/178
Pub. in Jnl. of Hydrology 132, p25-69 1992. Prepared in cooperation with University of East Anglia, Norwich (England). School of Environmental Sciences, Southampton Univ. (England). Dept. of Oceanography, and

Virginia Univ., Charlottesville. Dept. of Environmental Sciences.

Pronounced and short-term changes in freshwater chemistry ('acidic episodes') can have a significant biological impact. More attention has been paid to chronic acidification, and there has been no previous attempt to produce a regional summary of occurrence of episodes in Europe, to describe their chemical characteristics, or to synthesize what is known of their controlling processes. These are the objectives of the review. The basic characteristics of episodes are explained, along with the problems of establishing an adequate description. Because of the relative paucity of other information on water composition, the review is based largely on measurements of short-term pH depressions, although other data are considered where available. Most of the studies reported here were conducted in Norway, Sweden, Scotland and Wales. (Copyright (c) 1992 - Elsevier Science Publishers B.V.)

Keywords: *Surface waters, *Europe, *Acidification, *Water pollution effects, *Water chemistry, Snowmelt, Acid rain, Acid neutralizing capacity, Hydrology, pH, Regional analysis, Chemical composition, Water flow, Rainfall, Runoff, Precipitation(Meteorology), Air pollution, Air water interactions, Deposition, Reprints.

PB92-188861/REB PC **A03**/MF **A01**
Structural Characterization of Sulfonated Azo Dyes Using Liquid Secondary Ion Mass Spectrometry/Tandem Mass Spectrometry. Journal article.
Environmental Research Lab., Athens, GA.
S. D. Richardson, J. M. MiGuire, A. D. Thruston, and G. L. Baughman. c1992, 13p EPA/600/J-92/179
Pub. in Organic Mass Spectrometry, v27 n3 p289-299 Mar 92.

Methods are being sought to better characterize and identify these azo dyes and their transformation products, in order to predict their transport, transformation and potential fate and effects in receiving waters. Eight monosulfonated and disulfonated azo dyes were analyzed using liquid secondary ion mass spectrometry/tandem mass spectrometry, in the negative ion mode, under low-energy conditions (110-150 eV). Many structurally characteristic fragment ions were obtained, several of which have not been reported previously using other mass spectrometric techniques. Among the structurally important ions observed were those due to loss of SO2, SO3 and various aromatic substituents, such as NO2 and NHCOCH3. Losses of N2 also were proposed. In addition, product ions due to cleavage at the azo linkage were observed, and also SO3(-) and HSO3(-) ions. Several of the azo cleavage product ions detected did not contain sulfonate groups. Possible pathways for the formation of product ions are proposed. The structural information obtained should help to better characterize and identify sulfonated azo dyes in the future.

Keywords: *Azo dyes, *Mass spectroscopy, *Water quality, *Molecular structure, Toxic substances, Reprints.

PB92-188879/REB PC **A03**/MF **A01**
Environmental Protection Agency, Athens, GA.
Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models. Journal article.
Williams (Philip) and Associates, San Francisco, CA.
R. W. Schanz, and A. Salhotra. c1992, 11p EPA/600/J-92/180
Contract EPA-68-03-6304
Pub. in Water Resources Research, v28 n4 p1071-1079 Apr 92. Prepared in cooperation with Woodward-Clyde Consultants, Oakland, CA. Sponsored by Environmental Protection Agency, Athens, GA.

The use of contaminant transport modeling has become an integral component of the regulatory and decision process for the disposal and cleanup of hazardous wastes. Because many of the input parameters to these models are uncertain, analysis of the uncertainty and its impact on the decision process has become increasingly important. Many contaminant transport models are computationally intensive and require run times that make traditional Monte Carlo analysis impractical. The paper therefore evaluates and tests an approximate technique, the Rackwitz-Fiessler method, that can be used when computation time prohibits the use of Monte Carlo simulation. The accuracy and efficiency of the method is assessed and compared to Monte Carlo simulation for three contaminant transport models. (Copyright (c) 1992 by the American Geophysical Union.)

Keywords: *Environmental transport, *Path of pollutants, *Hazardous materials, *Mathematical models, *Waste management, Waste disposal, Remedial action, Pollution regulations, Probability theory, Monte Carlo method, Study estimates, Chemical compounds, Land pollution, Water pollution, Reprints, *Rackwitz-Fiessler method, Cleanup operations.

PB92-188887/REB PC **A01**/MF **A01**
Doing the Right Thing (Book Reviews). Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
D. M. DeMarini. c1991, 3p EPA/600/J-92/181
Pub. in Environmental and Molecular Mutagenesis, v17 n2 p139 1991.

The article is a book review of Genetics, The Clash Between the New Genetics and Human Values. The book (1) explains genetics and molecular biology to the nongeneticist and (2) generates a set of ethical principles to which geneticists/molecular biologists should adhere. The book's general theme covers moral principles and ethics and their relationship to scientific research, and concludes with the plea for scientists to be more aware of the consequences of their research.

Keywords: *Genetics, *Medical ethics, Research, Genetic engineering, Mutagens, DNA damage, Molecular biology, Reprints.

PB92-188895/REB PC **A03**/MF **A01**
Health Effects Research Lab., Cincinnati, OH.
Immunohistochemical Detection of P21 'ras' and P110 'myc' Oncogene Expression in Regenerating Rat Liver. Journal article.
Northern Kentucky Univ., Highland Heights. Dept. of Biological Sciences.
R. E. Richmond, A. B. DeAngelo, and F. B. Daniel. c1991, 13p EPA/600/J-92/182
Grant EPA-R-814803
Pub. in Toxicology Letters, v60 n2 p119-129 Feb 92. Sponsored by Health Effects Research Lab., Cincinnati, OH.

The expression of p21 ras and p110 myc oncogene proteins was examined in formalin-fixed paraffin-embedded sections of male Sprague-Dawley rat liver at various times after liver regeneration was induced by either a necrogenic dose of CCL4 or a 2/3 partial hepatectomy. Oncogene expression was detected with immunohistochemical (IHC) procedures in which either specific antibody for p21 ras or p110 myc was incubated with tissue sections and sites of antibody reaction visualized with an immunoperoxidase method using diaminobenzidine (DAB). The principle results of the study were as follows: (1) an increased p21 ras and p110 myc expression was detected in the tissue sections of regenerating liver at times comparable to those reported by others using either Northern or Western blot methods; (2) the increased oncogene expression was detected only in hepatocytes and occurred primarily in zones of the liver lobules known from previous studies to contain proliferating hepatocytes; and (3) the intensity of hepatocyte p21 ras or p110 myc staining did not increase greatly during regeneration but rather, a greater number of hepatocytes were positive for the oncogene proteins at times corresponding to increased oncogene expression in the Northern and Western blot methods.

Keywords: *Oncogene proteins, *Oncogene protein p21(ras), *Liver regeneration, *Gene expression, Immunohistochemistry, Rats, Hepatectomy, immunoenzyme techniques, Northern blotting, Western blotting, Reprints.

PB92-188903/REB PC **A03**/MF **A01**
Assessment of Spatial Variation of Risks in Small Populations. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
W. B. Riggan, K. G. Manton, J. P. Creason, M. A. Woodbury, and E. Stallard. c1991, 18p EPA/600/J-92/184
Pub. in Environmental Health Perspectives, v96 p223-238 1991. Prepared in cooperation with Duke Univ., Durham, NC. Center for Demographic Studies.

Often environmental hazards are assessed by examining the spatial variation of disease-specific mortality or morbidity rates. These rates, when estimated for small local populations, can have a high degree of random variation or uncertainty associated with them. If those rate estimates are used to prioritize environmental clean-up actions or to allocate resources, then those decisions may be influenced by this high degree of uncertainty. Unfortunately, the effect of this uncertainty is not to add random noise into the decision-making process, but to systematically bias action toward the smallest populations where uncertainty is greatest and where extreme high and low rate deviations are most likely to be manifest by chance. The authors present a statistical procedure for adjusting rate estimates for differences in variability due to differentials in local area population sizes. Such adjustments produce rate estimates for areas that have better properties than the unadjusted rates for use in making statistically based decisions about the entire set of areas. Examples are provided for county variation in bladder, stomach, and lung cancer mortality rates for U.S. white males for the period 1970 to 1979.

Keywords: *Epidemiology, *Populations, *Environmental health, Risk, Decision making, Random allocation, Morbidity, Mortality, Cohort studies, Bladder neoplasms, Stomach neoplasms, Pulmonary neoplasms, Reprints.

PB92-188911/REB PC **A02**/MF **A01**
Multifactor Potency Scheme for Comparing the Carcinogenic Activity of Chemicals. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
S. Nesnow. c1991, 7p EPA/600/J-92/185
Pub. in Jnl. Environmental Health Perspectives, v96 p17-21 1991.

A scheme for ranking the quantitative activity of chemical carcinogens is described. The activity scheme uses as its base, dose potency measured as TD50, which after conversion into an inverse log scale, a decile scale, is adjusted by weighting factors that describe other parameters of carcinogenic activity. These factors include positive or negative weightings for: the induction of tumors at tissues or organs associated with high historical control tumor incidences; the induction of tumors at multiple sites; the induction of tumors in both sexes of the species; and the induction of tumors in more than one species. These factors were chosen as they represented qualitative descriptions of the general specificity or non-specificity of chemicals with regard to the activity in rodents and have some bearing on the potential activity of chemicals in humans. In order to construct a measure to express the inactivity of chemicals towards the induction of cancer, a measure analogous to the TD50 has been developed: the highest average daily dose (HADD) in mg chemical/kg body weight administered in a chronic cancer study and that did not induce a statistical increase in tumors. HADD values were similarly converted to log decile units and adjusted by weighting factors according to lack of activity in both sexes of a species, and the lack of activity in more than one species.

Keywords: *Carcinogens, *Toxicity, Mice, Rats, Dose-response relationships, Tissue distribution, Sex factors, Reprints.

PB92-188929/REB PC **A03**/MF **A01**
Alterations in Rat Flash and Pattern Reversal Evoked Potentials after Acute or Repeated Administration of Carbon Disulfide (CS2). Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
D. W. Herr, W. K. Boyes, and R. S. Dyer. c1992, 17p EPA/600/J-92/186
Pub. in Fundamental and Applied Toxicology, v18 n3 p328-342 Apr 92.

Because solvents may selectively alter portions of visual evoked potentials, the authors examined the effects of carbon disulfide (CS2) on flash (FEPs) and pattern reversal (PREPs) evoked potentials. Long-Evans rats were administered (ip) carbon disulfide (CS2) either acutely or for 30 days. FEPs or PREPs were recorded prior to and 1, 2, 4, 8, or 24 hr after a single dose of CS2 (0, 100, 200, 400, or 500 mg/kg). Flash evoked potentials were also recorded 1, 2, 6, and 24 hr after the last of 30 doses of 200 mg CS2/kg/day. Acute exposure to CS2 consistently decreased

the amplitude of FEP peak N160 at 1 hr, depressed peak N30 amplitude over 2-4 hr, and increased the latency of peaks P21, N30, P46, N56, and N160 for up to 4 hr after treatment. Carbon disulfide decreased the amplitude of PREP peaks P65, N83, P88, and N122 4 hr after treatment. Colonic temperature was depressed up to 8 hr after treatment. Administration of 200 mg CS2/kg/day decreased the amplitude of FEP peak N30 and increased the latencies of peaks P21, N30, P46, N56, and N160 up to 24 hr after the last dose. The differential effects of CS2 on portions of FEPs indicates that FEP peaks can be independently modulated. (Copyright (c) 1992 Society of Toxicology.)

Keywords: *Visual evoked potential, *Carbon disulfide, *Patterns, *Toxicology, Drug administration schedule, Dose-response relationships, Body temperature, Reaction time, Flashing, Reprints.

PB92-188937/REB PC **A02/MF A01**
Physical and Chemical Characterization of Indoor Aerosols Resulting from the Use of Tap Water in Portable Home Humidifiers. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
V. R. Highsmith, R. J. Hardy, D. L. Costa, and M. S. Germani. c1992, 10p EPA/600/J-92/187
Pub. in Environmental Science and Technology, v26 n4 p673-680 Apr 92. Prepared in cooperation with Morrison-Knudsen Co., Inc., Boise, ID., and McCrone Associates, Inc., Westmont, IL.

An indoor air quality study was conducted in Boise, ID, residences to evaluate the range of aerosol concentrations that result from using tap water in portable home humidifiers and to characterize the physical and chemical properties of the humidifier aerosol. Aerosols having particles smaller than 10 micrometers (PM10) concentrations exceeded 650 microgram/cu m and 7000 microgram/cu m when an ultrasonic humidifier, charged with tap water containing 303 mg/L of dissolved impurities, was operated under whole-house and single-room conditions, respectively. Elements measured in high concentrations were uniformly present as soluble salts in both the fine and coarse particles with small differences observed between the ultrasonic and impeller humidifier-generated aerosols. In a separate study, nearly 50% of 39 samples of U.S. commercial bottled waters collected had dissolved mineral concentrations exceeding 10 mg/L while 4 samples exceeded 100 mg/L. The results of the limited-scale study suggest that personal exposures to ultrasonic and impeller humidifier-generated aerosols can be minimized by using water of low impurities.

Keywords: *Aerosols, *Water, *Air quality, *Houses, *Potable water, *Humidifiers, Inorganic salts, Water analysis, Indoor air pollution, Reprints, *Boise(Idaho), *Bottled water.

PB92-188945/REB PC **A03/MF A01**
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
Comparison of Subchronic Neurotoxicity of 2-Hydroxyethyl Acrylate and Acrylamide in Rats. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
V. C. Moser, D. C. Anthony, W. F. Sette, and R. C. MacPhail. c1992, 12p EPA/600/J-92/188
Contract EPA-68-02-4450
Pub. in Fundamental and Applied Toxicology, v18 n3 p343-352 Apr 92. Prepared in cooperation with Duke Univ. Medical Center, Durham, NC. Dept. of Pathology. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.

The comparative neurotoxicity of subchronic exposure to 2-hydroxyethyl acrylate (HEA) and acrylamide (ACR) was evaluated using a functional observational battery (FOB) and neuropathology. Three dose levels of each compound (HEA: 3, 20, 60 mg/kg; ACR: 1, 4, 12 mg/kg) were administered intraperitoneally to male and female Long-Evans rats (n = 10/sex/dose level), 5 days/week for 13 weeks. Two vehicle control groups were also included. There were clear differences between the effects of HEA and ACR. ACR produced time- and dose-related changes in FOB measures of muscle tone and equilibrium, and produced axonal degeneration in peripheral nerves and within long tracts of the spinal cord. HEA exposure was also associated with changes in muscular function on FOB testing, but the magnitude of the effects was not as great as with ACR and not dose related.

Keywords: *Toxicity, *Nervous system, *Acrylamides, Muscles, Dose-response relationships, Body weight, Axons, Comparisons, Brain, Spinal cord, Peripheral nerves, Reprints, *2-Hydroxyethylacrylates, Functional observational battery.

PB92-188952/REB PC **A02/MF A01**
Environmental Protection Agency, Research Triangle Park, NC.
Evaluation of High Volume Particle Sampling and Sample Handling Protocols for Ambient Urban Air Mutagenicity Determinations. Journal article.
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
R. R. Watts, A. J. Hoffman, M. C. Wilkins, L. R. Brooks, and S. H. Warren. c1992, 9p EPA/600/J-92/189
Contract EPA-68-02-4456
Pub. in Jnl. of the Air and Waste Management Association, v42 n1 p49-55 Jan 92. See also PB91-213603. Sponsored by Environmental Protection Agency, Research Triangle Park, NC.

An investigation of high volume particle sampling and sample handling procedures was undertaken to evaluate variations of protocols being used by the U.S. Environmental Protection Agency. These protocols are used in urban ambient air studies which collect ambient and source samples for subsequent mutagenicity analysis of the organic extracts of the aerosol fraction. Specific protocol issues investigated include: (1) duration of sampling period, (2) type of filter media used to collect air particles, (3) necessity for cryogenic field site storage and dry ice shipping of filter samples, and (4) sample handling at the receiving laboratory. Results indicate that the sample handling variations and collection period variables had no significant effect on recovery of organics or mutagens. However, a filter type difference was observed. The recovery of organics and mutagens was significantly greater for Teflon impregnated glass fiber (TIGF) filters than for glass fiber or quartz. Results from a second phase of study indicated differences in extraction efficiencies for these filter types.

Keywords: *Air pollution sampling, *Urban areas, Sample preparation, Mutagens, Air filters, Performance evaluation, Organic compounds, Materials recovery, Particles, Reprints, *High volume particle sampling.

PB92-188960/REB PC **A03/MF A01**
Embryonic Palatal Responses to Teratogens in Serum-Free Organ Culture. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Developmental Toxicology Div.
B. D. Abbott, and A. R. Buckalew. c1992, 17p EPA/600/J-92/190
Pub. in Teratology, v45 n4 p369-382 Apr 92. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

The study examines development of rat, mouse, and human embryonic palates in submerged, serum-free organ culture. The concentration-response profiles for retinoic acid (RA), triamcinolone (TRI), hydrocortisone (HC), dexamethasone (DEX), and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) were examined and the mechanisms of clefting in vitro were compared to observed in vivo responses. The present study demonstrates that serum-free organ culture supports development of mouse, rat, and human palatal explants. The present study also demonstrates the capacity of this organ culture system to model palatogenesis for several species, and to distinguish between various mechanisms of clefting as presented through selected model compounds. This model should be useful for exploring mechanisms of activity at a cellular and molecular level.

Keywords: *Teratogenic compounds, *Organ culture, *Palate, Embryo, Serum-free media, Dose-response relationships, In vivo analysis, In vitro analysis, Tretinoin, Triamcinolone, Tetrachlorodibenzodioxins, Hydrocortisone, Dexamethasone, Reprints.

PB92-188978/REB PC **A02/MF A01**
Health Effects Research Lab., Research Triangle Park, NC.
Characteristics of the U.S. EPA's Office of Pesticide Programs' Toxicity Information Databases. Journal article.
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
K. L. Dearfield, J. A. Quest, R. J. Whiting, H. F. Stack, and M. D. Waters. c1991, 6p EPA/600/J-92/191
Pub. in Environmental Health Perspectives, v96 p53-56 Nov 91. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

The United States Environmental Protection Agency's (USEPA's) Office of Pesticide Programs (OPP) requires that data from toxicity testing be submitted to the OPP to support the registration of pesticide chemicals. Once these data are submitted, they are entered into various toxicity data bases. The studies themselves are cataloged in an archival data base to allow retrieval of the study for review. Reviews of toxicity studies are then placed into a separate data base which can be retrieved to support a regulatory position. Toxicity information for health effects other than cancer and gene mutations from chronic exposure is reviewed through a reference dose (RfD) approach and these decisions and supporting data are entered into an RfD data base. Carcinogenicity data are reviewed by a Peer Review Process and these decisions will be entered into a newly developed data base to show the regulatory decision with supporting data. The mutagenicity data are reviewed and acceptable data are entered into the Genetic Activity Profile system to catalog and display the submitted information. These data bases contain the information used for hazard evaluations as part of the OPP review of pesticide chemicals.

Keywords: *Data bases, *Pesticides, *Toxicity, Health hazards, Mutation, Carcinogens, Peer review, Mutagens, Reprints.

PB92-188986/REB PC **A01/MF A01**
Istituto Nazionale per la Ricerca sul Cancro, Genoa (Italy).
Introduction and Summary. Genotoxicity and Carcinogenicity Databases: An Assessment of the Present Situation. Journal article.
Environmental Protection Agency, Research Triangle Park, NC.
S. Parodi, and M. D. Waters. c1991, 4p EPA/600/J-92/192
Pub. in Environmental Health Perspectives, v96 p3-4 1991. Sponsored by Istituto Nazionale per la Ricerca sul Cancro, Genoa (Italy).

The paper is an introduction to the Proceedings of the Intl. Symp. on Data Bases of Genotoxicity and Carcinogenicity and their Usefulness for Hazard Evaluations, held in Genova, Italy, January 1991. The purpose of the meeting was to review the present status of genotoxicity and carcinogenicity data bases, to analyze and discuss the current level of development of these data bases and to determine whether they are considered satisfactory for the assessment of chemical hazard. Discussed were the data bases of the International Agency for Research on Cancer (including the EPA/IARC Genetic Activity Profile Data Base), the EPA Gene-Tox Data Base, the data base of the National Cancer Institute/National Toxicology Program, the TD50 Carcinogenicity Data Base maintained by Lois Gold at Lawrence Berkeley Laboratory, and data base related activities such as SAR research, statistical analyses, and experimental studies.

Keywords: *Data bases, *Mutagens, *Carcinogens, Health hazards, Risk assessment, Peer review, Bioassay, Structure-activity relationship, Reprints.

PB92-188994/REB PC **A02/MF A01**
Kinetochore-Staining of Spermatid Micronuclei: Studies of Mice Treated with X-Radiation or Acrylamide. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Genetic Toxicology Div.
B. W. Collins, D. R. Howard, and J. W. Allen. c1992, 10p EPA/600/J-92/193
Pub. in Mutation Research, v281 n4 p287-294 1992. Prepared in cooperation with Environmental Health Research and Testing, Inc., Research Triangle Park, NC.

The rodent spermatid micronucleus (MN) assay was used in conjunction with immunofluorescent techniques to distinguish kinetochores in MN following ex-

posure of mice to X-radiation or acrylamide. After either treatment, modest increases in kinetochore-positive MN were observed. Spermatids which had been exposed during meiotic prophase to X-rays (400 cGy) had approximately 10-fold increases in MN compared to controls; up to 15% of the MN observed were kinetochore-positive. Following acrylamide treatment of meiotic prophase cells, there was a doubling of spermatid MN over baseline levels, approximately one-third of which were kinetochore-positive. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *X rays, *Acrylamides, *Spermatozoa, *Micronuclei, Mice, Fluorescent antibody technique, Meiosis, Staining, Reprints, *Kinetochores.

PB92-189000/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
Proconvulsant Activity of Endosulfan in Amygdala Kindling. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
M. E. Gilbert. c1992, 9p EPA/600/J-92/194
Pub. in Jnl. of Neurotoxicology and Teratology, v14 p143-149 1992. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.

The proconvulsant properties of the chlorinated hydrocarbon insecticide, endosulfan, were investigated using electrical kindling of the amygdala. Male rats were implanted with electrodes in the amygdala and stimulated once daily with a standard kindling stimulus 60-90 min following endosulfan (0, 2.5, 5.0 mg/kg, PO). No alterations were observed in either the threshold to induce an afterdischarge (AD) or the duration of clonus upon seizure generalization. Endosulfan significantly reduced the number of stimulations required to produce Stage 5 generalized seizures. Seizures prior to stimulation were evident in a subset of animals from both dosage groups and were never observed in controls. The presence of kindled seizures was maintained in the absence of further dosing, as amygdala stimulation 2-4 weeks after the last endosulfan treatment resulted in generalized seizures in all animals. The results suggest that faster kindling rates induced by endosulfan are not readily attributable to transient toxicant-related increases in excitability of the nervous system. It was concluded that endosulfan has proconvulsant properties that may be related to an action on GABA within the central nervous system. (Copyright (c) 1992 Pergamon Press Ltd.)

Keywords: *Kindling(Neurology), *Seizures, *Endosulfan, *Amygdala, *Organochlorine insecticides, *Toxicology, Dose-response relationships, GABA, Reprints.

PB92-189018/REB PC **A02**/MF **A01**
Exposure of Humans to a Volatile Organic Mixture. 1. Behavioral Assessment. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.
D. A. Otto, H. K. Hudnell, D. E. House, L. Moelhave, and W. Counts. c1991, 10p EPA/600/J-92/195
Pub. in Archives of Environmental Health, v47 n1 p23-30 Jan 92. See also PB92-164888. Prepared in cooperation with Aarhus Univ. (Denmark). Inst. for Miljoeog Arbejdsmedicin, and Northrop Services, Inc., Research Triangle Park, NC.

Exposure to a low-level mixture of volatile organic compounds, typical of those found in new buildings, has been reported to impair neurobehavioral function in persons who have experienced sick building syndrome (SBS). Sixty-six healthy young males who had no history of chemical sensitivity were exposed for 2.75 h to a complex mixture of volatile organic compounds at 0 and 25 mg/cu m. Even though subjects reported more fatigue and more mental confusion following exposure to volatile organic compounds than to clean air, performance on 13 neurobehavioral tests was not affected. Practice or learning effects were observed if administration of many behavioral tests were repeated. Further studies are needed to clarify the relationship of exposure to volatile organic chemicals, neurobehavioral performance, and subject characteristics, e.g., age, gender, and chemical sensitivity.

Keywords: *Indoor air pollution, *Behavior, *Toxicology, Humans, Air quality, Expore, Reprints, *Volatile organic compounds, Neurobehavioral tests, Sick building syndrome.

PB92-189026/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH.
Measurement of the Biotransfer and Time Constant of Radon from Ingested Water by Human Breath Analysis. Journal article.
Maine Univ. at Orono. Dept. of Physics and Astronomy.
W. L. Brown, and C. T. Hess. c1992, 11p EPA/600/J-92/196
Contract EPA-R-815156
Pub. in Health Physics, v62 n2 p162-170 Feb 92. Sponsored by Environmental Protection Agency, Cincinnati, OH.

Forty-one tests were performed on 38 volunteers to measure elimination rates of (222)Rn in expired breath. Participants ranged from ages 9 to 85 y, with 16 males and 22 females. The levels of physical activity of the subjects ranged from very inactive to marathon level. Calibration of the flow-through scintillation cell was accomplished using a medical ventilator and (222)Rn reservoir for 5-15 L/min flow rates. The authors found a wide range of percent elimination (12-68%) in 30 min. The percent elimination has a mild correlation with the predicted forced expiratory volume in 1 s and with time passed since eating. Their observations of bio-retention half-times range from 17-400 min. The whole-body dose calculations yield a mean of 2.70 + or - 3.43 nGy/Bq, and the stomach dose calculations yield a mean of 276 + or - 186 nGy/Bq. These means range beyond those previously reported. (Copyright (c) 1992 Health Physics Society.)

Keywords: *Radon 222, *Breath tests, Scintillation counting, Pharmacokinetics, Dosimetry, Potable water, Questionnaires, Stomach, Reprints.

PB92-189034/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Potential of Carp to Bioactivate Benzo(a)pyrene to Metabolites That Bind to DNA. Journal article.
Institut Rudjer Boskovic, Zagreb (Yugoslavia). Center for Marine Research.
B. Kurelec, S. Krca, A. Garg, and R. C. Gupta. c1991, 8p EPA/600/J-92/197
Grant EPA-R-816185
Pub. in Jnl. Cancer Letters, v57 p255-260 1991. Prepared in cooperation with Kentucky Univ., Lexington. Graduate Center for Toxicology. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

The authors have investigated the formation of DNA adducts in starved, fed, and 5,6-benzoflavone-pretreated carp following i.p. administration of benzo(a)pyrene. (32)P-postlabeling analysis of the liver DNAs showed the presence of one predominant (>92%) adduct in all three groups. Cochromatography experiments revealed that the main adduct was identical to authentic BPDEI-dG (10(beta)-(deoxyguanosin-N2-yl)-7(beta), 8(alpha), 9(alpha)-trihydroxy-7,8,0,10-tetrahydrobenzo(a)pyrene). The formation of the adduct was evident as early as 1.5 h post-treatment and the levels increased steadily up to 7 days, reaching about 125, 110, and 102 attomole/microgram DNA in starved, fed, and benzoflavone-pretreated carp, respectively. During this period, the benzo(a)pyrene-induced benzo(a)pyrene monooxygenase activity increased from the uninduced, natural level of about 3 pmol/mg per min to levels of 35, 62, and 79 pmol/mg per min in starving, fed, and 5,6-benzoflavone pretreated fish, respectively. A slow but steady formation of the diolepoxide-dG adduct was also observed in the liver DNA of carp following p.o. treatment. (Copyright (c) 1991 Elsevier Scientific Publishers Ireland Ltd.)

Keywords: *Benzo(a)pyrene, *Carp, *Metabolic activation, *Deoxyribonucleic acids, Benzoflavones, Mixed function oxidases, Liquid chromatography, Phosphorus 32, Aromatic polycylic hydrocarbons, Toxic substances, Reprints.

PB92-189042/REB PC **A03**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
Comparison of Screening Approaches, 1992. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
H. A. Tilson, and V. C. Moser. c1992, 15p EPA/600/J-92/198
Pub. in NeuroToxicology, v13 p1-14 1992. See also PB91-199851. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.

Neurobehavioral techniques have been used extensively in animal toxicology studies because, in many cases, such procedures are designed to evaluate neurobiological functions thought to be affected in chemical-exposed humans, e.g., changes in sensorimotor function. Procedures used to identify or screen for the presence of neurotoxicity are usually designed to test large numbers of animals and are not considered to be as sensitive to subtle effects as more specialized tests for neurobiological dysfunction. For purposes of screening, the use of a functional observational battery (FOB) is now generally accepted. In general, FOB evaluations in animals are similar to clinical neurological examinations in humans in that they rate the presence and, in some cases, the severity of behavioral and neurological signs. A number of batteries containing different observations and measurements have been developed in several laboratories for rodents, dogs, and non-human primates. (Copyright (c) 1992 Intox Press, Inc.)

Keywords: *Toxicology, *Nervous system, Animal behavior, Evoked potentials, Locomotion, Dose-response relationships, Reprints, Functional observational battery.

PB92-189059/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
Characterization of Chemical Kindling with the Pesticide Endosulfan. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
M. E. Gilbert. c1992, 10p EPA/600/J-92/199
Contract EPA-68-02-4450
Pub. in Neurotoxicology and Teratology, v14 p151-158 1992. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.

The present report evaluated the chemical kindling properties of endosulfan. Repeated administration (3X/wk for 21 doses) of endosulfan was found to induce behavioral seizures in rats. Low dosages (5 & 10 mg/kg in corn oil, po) that were without overt toxicity in the majority of animals upon acute administration, began to elicit signs of seizure (myoclonic jerks and clonic seizures) upon repetition. Heightened seizure responsiveness was maintained following a 2-week wash out period, arguing against cumulative toxicity as a mechanism for seizure induction. Electrical kindling induced by once daily stimulation of the amygdala beginning approximately 4 weeks after the final dose of endosulfan, and in excess of 2 weeks, after the challenge dose revealed a significant facilitation in kindling rate. Thus, prior treatment with endosulfan promoted the development of kindled seizures in the absence of further dosing. A history of endosulfan treatment failed to affect threshold for inducing an afterdischarge (AD), but equivocal effects upon the development of AD. Pretreatment with a single high dose of endosulfan 2 weeks prior to electrical kindling was without effect upon development of the kindled response. Chemical kindling with endosulfan may result from the interaction of this pesticide with GABA-mediated neurotransmission in the central nervous system.

Keywords: *Kindling(Neurology), *Organochlorine insecticides, *Endosulfan, *Toxicology, GABA, Seizures, Amygdala, Rats, Reprints.

PB92-189067/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Metabolism of Benzo(a)Pyrene and Persistence of DNA Adducts in the Brown Bullhead 'Ictalurus nebulosus'. Journal article.
State Univ. of New York Coll. at Buffalo. Div. of Environmental Toxicology and Chemistry.
H. C. Sikka, A. R. Steward, C. Kandaswami, J. P. Rutkowski, and J. Zaleski. c1991, 6p EPA/600/J-92/200
Grant EPA-R-813799
Pub. in Jnl. Comp. Biochem. Physiol., v100C n1/2 p25-28 1991. Sponsored by Health Effects Research Lab., Research Triangle Park, NC., Kentucky Univ., Lexington. Medical Center, and Rutgers - The State Univ., Piscataway, NJ. Dept. of Pharmacology and Toxicology.

The in vitro metabolism of ((3)H)benzo(a)pyrene (BP) and ((14)C)benzo(a)pyrene-7,8-dihydrodiol (BP-7,8-diol) by liver of brown bullhead (Ictalurus nebulosus) was characterized, as was the formation and persistence of BP-DNA adducts in vivo. Compared to rat liver microsomes, bullhead liver microsomes produced relatively larger amounts of BP-7,8-diol (predominantly the (-) enantiomer) and smaller amounts of BP-4,5-diol. BP phase I metabolites were efficiently converted by freshly isolated bullhead hepatocytes to conjugates, predominantly glucuronides. BP-7,8-diol was metabolized by hepatocytes 4-fold more rapidly than was BP and was converted to approximately equal amounts of glucuronides, glutathione conjugates and sulfates. BP-DNA adducts formed in bullhead liver with a lag time of several days and maximum adduct formation at 25-30 days. The major adduct was anti-BPDE-deoxyguanosine. (Copyright (c) 1991 Pergamon Press.)

Keywords: *Benzo(a)pyrene, *Metabolism, *DNA adducts, *Toxicology, Liver microsomes, Thin layer chromatography, Stereochemistry, Glutathione, Glucuronates, Reprints, *Brown bullhead, *Ictalurus nebulosus, Benzo(a)pyrene dihydrodiol.

PB92-189075/REB PC **A02/MF A01**
Kentucky Univ., Lexington. Graduate Center for Toxicology.
Carcinogen-DNA Adducts in Cultures of Rat and Human Hepatocytes. Journal article.
Indiana Univ.-Purdue Univ. at Fort Wayne. Dept. of Biological Sciences.
D. K. Monteith, and R. C. Gupta. c1992, 9p EPA/600/J-92/201
Pub. in Jnl. of Cancer Letters, v62 p87-93 1992. Sponsored by Kentucky Univ., Lexington. Graduate Center for Toxicology, and Health Effects Research Lab., Research Triangle Park, NC.

Exposure to chemical carcinogens can often be identified by detection of DNA adduct lesions. Primary cultures of isolated rat and human hepatocytes were exposed to 2-acetyl-aminofluorene (AAF), 4-aminobiphenyl (ABP), or benzo(a)pyrene (BP). The isolated DNA (32)P-postlabeling assay. A greater total of carcinogen-DNA adducts, 2-12-fold, were observed in human hepatocytes than rate hepatocytes at the same concentrations. The predominant DNA adducts for each carcinogen were the same between rat and human cells. The N-(deoxyguanosin-8-yl)-2-aminofluorene (dG-C8-AF) was the major AAF-DNA adduct. The N-(deoxyguanosin-8-yl)-4-aminobiphenyl (dG-C8-ABP) was the major ABP-DNA adduct. In the rat N2-(10 beta, 8 alpha, 9 alpha-trihydroxy-7,8,9,10-tetrahydrobenzo(a)pyrene)yl)deoxyguanosine (dG-N2-BP) and two unidentified adducts were nearly equivalent in amount, while the major BP-DNA adducts in the humans was the dG-N2-BP. The rat hepatocyte in vitro results are comparable to the predominant adducts found with rats exposed in vivo. The two different cultures of human hepatocytes demonstrated qualitative and quantitative differences in specific DNA adducts from rat hepatocytes.

Keywords: *Carcinogens, *DNA adducts, *Liver, Rats, Humans, Cells(Biology), 2-acetylaminofluorene, Aminobiphenyl compounds, Benzo(a)pyrene, Autoradiography, Reprints.

PB92-189083/REB PC **A02/MF A01**
Health Effects Research Lab., Research Triangle Park, NC.
Cigarette Smoke-Induced DNA Adducts in the Respiratory and Nonrespiratory Tissues of Rats. Journal article.
Kentucky Univ., Lexington. Graduate Center for Toxicology.
C. G. Gairola, and R. C. Gupta. c1991, 7p
Grant EPA-R-816185
Pub. in Environmental and Molecular Mutagenesis, v17 p253-257, 1991. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

Formation of DNA adducts is regarded as an essential initial step in the process of chemical carcinogenesis. To determine how chronic exposure to cigarette smoke affects the distribution of DNA adducts in selected respiratory and nonrespiratory tissues, the authors exposed male Sprague-Dawley rats daily to fresh mainstream smoke from the University of Kentucky reference cigarettes (2RI) in a nose-only exposure system for 32 weeks. Blood carboxyhemoglobin, total particulate matter (TPM) intake, and pulmonary aryl hydrocarbon hydroxylase values indicated effective exposure of animals to cigarette smoke. DNA was extracted from three respiratory (larynx, trachea, and lung) and three nonrespiratory (liver, heart, and bladder) tissues and analyzed for DNA adducts by (32)P-postlabeling assay under conditions capable of detecting low levels of diverse aromatic/hydrophobic adducts. Data showed that the total DNA adducts in the lung, heart, trachea, and larynx were increased by 10- to 20-fold in the smoke-exposed group. Five-fold increase was observed in the bladder tissue, but differences were not present in the liver DNA of control and smoke-exposed groups. (Copyright (c) 1991 Wiley-Liss, Inc.)

Keywords: *DNA adducts, *Toxicology, *Smoke, *Tobacco, Rats, Carboxyhemoglobin, Aryl hydrocarbon hydroxylases, Lung, Trachea, Heart, Larynx, Chromatography, Reprints.

PB92-189091/REB PC **A02/MF A01**
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
Genetic Activity Profile Database. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Genetic Toxicology Div.
M. D. Waters, H. F. Stack, N. E. Garrett, and M. A. Jackson. c1991, 7p EPA/600/J-92/203
Pub. in Environmental Health Perspectives, v96 p41-45 1991. See also PB91-177014. Sponsored by Environmental Health Research and Testing, Inc., Research Triangle Park, NC.

The report provides an update on the status of the genetic activity profile (GAP) data base which now consists of more than 400 chemicals. The data base is available in a personal computer software package which is described in the report. The report also describes several of the ways in which the data base and associated methodology are currently being utilized by international and U.S. governmental agencies and by industry. These include: (1) Evaluation of genetic and related effects of suspected human carcinogens, (2) Comparative evaluation of genetic activity profiles using computer-based profile matching techniques, (3) Testing and evaluation of complex mixtures, and (4) Weight-of-evidence ranking schemes. The fundamental techniques and computer programs devised for the GAP data base may be used to develop similar data bases in genetic toxicology and in other disciplines.

Keywords: *Mutagens, *Carcinogens, *Toxicology, Data bases, Microcomputers, Comparative study, Reprints, *Genetic Activity Profile Database, Weight-of-evidence ranking.

PB92-189141/REB PC **A14/MF A03**
National Toxicology Program: Review of Current DHHS, DOE, and EPA Research Related to Toxicology, Fiscal Year 1991.
National Toxicology Program, Research Triangle Park, NC.
Jun 91, 308p
See also PB91-158295.

The report represents responses by agencies of DHHS, and by DOE and EPA, to requests by the Director of NTP for information on agency programs in basic toxicology research, toxicology testing, and toxicology methods development. Information on dollar and manpower support for agency activities in basic toxicology research, toxicology testing, and toxicology methods development, by DHHS, DOE and EPA, is summarized on pages 4 to 10. All agencies were requested to provide summary information on their programs related to toxicology methods development, whether essential or peripheral to their missions. The information provided in response to the request is summarized in tables on pages 48 to 81. Information was provided on chemical compounds currently being studied for their toxicological properties in intramural laboratories, or on contracts, or through grants.

Keywords: *Toxicology, *Research programs, *National government, Toxic substances, Technical reports, Financing, US DOE, US EPA, Tables(Data), US DHHS.

PB92-189158/REB PC **A11/MF A03**
National Toxicology Program: Annual Plan for Fiscal Year 1991.
National Toxicology Program, Research Triangle Park, NC.
Jun 91, 239p
See also PB92-189141 and PB91-158287.

The NTP Board of Scientific Counselors reviewed and reports on research programs of the NIEHS Experimental Toxicology Branch including both contract efforts and inhouse research and methods development activities for work groups in chemical disposition, general toxicology, toxicologic pathology, mutagenesis, and clinical pathology. The Board reviewed and approved seven concept proposals for collaborative studies having to do testing, methods development or validation activities in general or reproductive toxicology or germ cell mutagenesis. The Board also reviewed and made recommendations for further action on 13 chemicals nominated for NTP study.

Keywords: *Toxicology, *Research programs, Animal testing alternatives, Carcinogenesis, Superfund, Pathology, Immunology, Teratogens, Tables(Data), Mutagenicity tests, Dose-response relationships, Pesticides, Fertilizers, Reproduction(Biology).

PB92-189315/REB PC **A10/MF A03**
Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.
Health Advisory for 2,4- and 2,6-Dinitrotoluene (DNT). Final rept.
Dynamac Corp., Rockville, MD.
M. E. Brower, W. C. Roberts, and W. R. Hartley. Apr 92, 205p
Contract EPA-68-03-3417
Sponsored by Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div., and Army Medical Research and Development Command, Fort Detrick, MD.

The Health Advisory (HA) provides information on the health effects, analytical methodology and treatment technology that would be useful in dealing with 2,4- and 2,6-Dinitrotoluene contamination of drinking water. The Dinitrotoluenes are classified as Group B2, probable human carcinogens, with a potency factor of 0.68/mg/kg/day. A .000001 estimated cancer risk is associated with DNT concentrations in drinking water of 0.05 microgram/L. Health Advisories describe non-regulatory concentrations of drinking water contaminants at which adverse health effects would not be anticipated to occur over specific exposure durations. The HAs, developed by the US Environmental Protection Agency, Office of Water (OW), are not legally enforceable Federal standards and are subject to change as new information becomes available. Health Advisories are developed for One-day, Ten-day, Longer-term and Lifetime exposures based on data describing noncarcinogenic end points of toxicity. For those substances that are known or probable human carcinogens, according to the EPA classification scheme, Lifetime HAs are not recommended. The chemical concentration values for carcinogens are correlated with carcinogenic risk estimates by employing a cancer potency (unit risk).

Keywords: *Dinitrotoluene, *Potable water, *Water quality, *Water pollution effects(Humans), *Toxicology, Risk assessment, Exposure, Environmental effects, Water pollution effects(Animals), Carcinogenicity tests, Mutagenicity tests, Chemical analysis, Water treatment, Pharmacokinetics, Health hazards, CAS 121-14-2, CAS 606-20-2.

PB92-189695/REB PC **A02/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts. Environmental research brief.
University City Science Center, Philadelphia, PA.
F. W. Kirsch, and J. C. Maginn. May 92, 6p EPA/600/S-92/011
Grant EPA-R-814903
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of hazardous waste but who lack the expertise to do so. Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at Colora-

do State University performed an assessment at a plant producing galvanized steel parts - approximately 10,000 tons/yr. The major process operations are degreasing and rinsing, acid pickling and rinsing, prefluxing, and galvanizing. All these operations, except galvanizing, result in the formation of waste streams requiring off-site disposal. Bottom dross from the galvanizing kettle and zinc oxide skimmed from the surface of the molten zinc are sold as usable products. The team's report, detailing findings and recommendations, indicated that most waste was generated in acid pickling and rinsing and that the greatest savings could be obtained by continuous air agitation to extend the life of the pickling acid and rinse by enabling more complete removal of dissolved iron when those solutions are treated.

Keywords: *Waste management, *Pollution abatement, *Hazardous materials, *Environmental protection, *Metal industry, Manufacturing, Industrial wastes, Galvanized materials, Steels, Degreasing, Rinsing, Chemical cleaning, Water pollution control, Sludge disposal, Environmental impact assessments, *Waste minimization, Prefluxing, SIC 20-39, Source reduction.

PB92-189703/REB PC **A02/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks. Environmental research brief.
University City Science Center, Philadelphia, PA.
G. P. Looby, and F. W. Kirsch. May 92, 6p EPA/600/S-92/019
Grant EPA-R-814903
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of waste but who lack the expertise to do so. Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at the University of Tennessee performed an assessment at a plant manufacturing metal-plated display racks. Steel wire, tubing, and sheets undergo machining operations, and the resulting parts are then nickel and brass-plated, nickel-plated, zinc-plated, nickel and chrome-plated, or painted. The various finished parts are assembled into display racks. The team's report, detailing findings and recommendations, indicated that the majority of waste was generated by the plating lines and that the greatest waste reduction would result from utilizing a Zero Discharge Recovery system in the nickel-plating baths.

Keywords: *Waste management, *Environmental protection, *Pollution abatement, *Metal finishing, *Hazardous materials, Electroplating, Manufacturing, Machining, Painting, Waste water, Metal industry, Industrial wastes, Water pollution control, Environmental impact assessments, Materials recovery, *Waste minimization, Source reduction, SIC 20-39.

PB92-190107/REB PC **E99/MF E99**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Inactive and Abandoned Noncoal Mines.
Western Interstate Energy Board, Denver, CO.
Aug 91, 888p-in 3v
Set includes PB92-190115 through PB92-190123.
Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste, and Western Governors' Association, Denver, CO.

No abstract available.

PB92-190115/REB PC **A07/MF A02**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Inactive and Abandoned Noncoal Mines. Volume 1. A Scoping Study.
Western Interstate Energy Board, Denver, CO.
Aug 91, 142p EPA/530/R-92/005A
See also Volume 2, PB92-190123. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste, and Western Governors' Association, Denver, CO.
Also available in set of 3 reports PC E99/MF E99, PB92-190107.

This volume of the three-volume report outlines the environmental, health and safety problems at IAMS, remediation technologies, remediation costs, the methodology states used in preparing state reports, and state summary tables. It also describes the broad range of policy options for remediation of problems associated with IAMS.

Keywords: *Mine wastes, *Abandoned sites, *Remedial action, *Waste management, United States, Tables(Data), Environmental surveys, Occupational safety and health, Environmental policy, Law enforcement, Cost analysis, State programs.

PB92-190123/REB PC **A19/MF A04**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Inactive and Abandoned Noncoal Mines. Volume 2. State Reports.
Western Interstate Energy Board, Denver, CO.
Aug 91, 438p EPA/530/R-92/005B
See also Volume 1, PB92-190115 and Volume 3, PB92-190131. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste, and Western Governors' Association, Denver, CO.
Also available in set of 3 reports PC E99/MF E99, PB92-190107.

State reports for inactive and abandoned coal mines for the following states: Alaska, Arizona, California, Colorado, Florida, Idaho, Minnesota, Missouri, Montana, Nevada, New Mexico, Oregon, South Carolina, South Dakota, Utah, Washington, Wisconsin and Wyoming.

Keywords: *Mine wastes, *Abandoned sites, *Remedial action, *Waste management, *State programs, United States, Environmental surveys, Occupational safety and health, Environmental policy, Law enforcement, Cost analysis.

PB92-190131/REB PC **A14/MF A03**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Inactive and Abandoned Noncoal Mines. Volume 3. Appendix: State Reports.
Western Interstate Energy Board, Denver, CO.
Aug 91, 308p EPA/530/R-92/005C
See also Volume 2, PB92-190123. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste, and Western Governors' Association, Denver, CO.
Also available in set of 3 reports PC E99/MF E99, PB92-190107.

The report lists the State reports for the inactive and abandoned noncoal mines for the following states: Alabama, Arkansas, Illinois, Indiana, Iowa, Louisiana, Maine, Maryland, Mississippi, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Texas, and Virginia.

Keywords: *Mine wastes, *Abandoned sites, *Remedial action, *Waste management, *State programs, United States, Environmental surveys, Occupational safety and health, Environmental policy, Law enforcement, Cost analysis.

PB92-190149/REB PC **E99**
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
21 Dec 91, 1157p-in 3v
Set includes PB92-190156 through PB92-190172. Prepared in cooperation with Western Governors' Association, Denver, CO.

No abstract available.

PB92-190156/REB PC **A04/MF A01**
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
21 Dec 91, 57p EPA/530/R-92/008A
See also Volume 2, PB92-190164. Prepared in cooperation with Western Governors' Association, Denver, CO.
Also available in set of 3 reports PC E99, PB92-190149.

The purpose of the document is to provide a preliminary assessment of the effects that EPA's Strawman-II draft regulatory approach for mining waste would have on existing State programs for environmental control and management of mine waste. The EPA Strawman-II program is not a proposed regulation, although it represents the most recently published thinking on Federal RCRA Subtitle D regulation of mine waste.

Keywords: *Mine wastes, *Pollution control, *Waste management, *Environmental policy, *State programs, Pollution regulations, US EPA, Environmental effects, State implementation plans, Economic impacts, Requirements, Administrative procedures, *Strawman 2 Program, Resource Conservation and Recovery Act, Western Governors' Association.

PB92-190164/REB PC **A99**
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
21 Dec 91, 782p EPA/530/R-92/008B
See also Volume 1, PB92-190156 and Volume 3, PB92-190172.Portions of this document are not fully legible. Prepared in cooperation with Western Governors' Association, Denver, CO.
Also available in set of 3 reports PC E99, PB92-190149.

The document contains State reports of the WGA on the Mine Waste Task Force States and how the impact of Strawman-II will affect these States.

Keywords: *Mine wastes, *Pollution control, *Waste management, *Environmental policy, *State programs, US EPA, Pollution regulations, Environmental effects, Economic impacts, Administrative procedures, Tables(Data), State implementation plans, Requirements, *Strawman 2 Program, Western Governors' Association.

PB92-190172/REB PC **A14**
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix: State Reports Interstate Coalition on Mine Waste.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
21 Dec 91, 318p EPA/530/R-92/008C
See also Volume 2, PB92-190164. Prepared in cooperation with Western Governors' Association, Denver, CO.
Also available in set of 3 reports PC E99, PB92-190149.

The document contains reports that were developed by 15 States participating as the Interstate Coalition on Mine Waste under the auspices of the IMCC. All States submitting their reports used EPA's Strawman-II as a refernce points for their reports. Topics included: scope of the program; environmental impacts; nature of existing State regulatory programs; coordination among agencies; and inactive and abandoned mines.

Keywords: *Mine wastes, *Pollution control, *Waste management, *Environmental policy, *State programs, US EPA, Environmental effects, Pollution regulations, Abandoned sites, Interagency cooperation, Intergovernmental cooperation, Listings, Tables(Data), Administrative procedures, *Strawman 2 Program, Interstate Mining Compact Commission, Resource Conservation and Recovery Act, Cooperative agreements.

PB92-190230/REB PC **A09/MF A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Control of VOC Emissions from Ink and Paint Manufacturing Processes. Final rept.
Alliance Technologies Corp., Chapel Hill, NC.
B. W. McMinn, and P. J. Marsosudiro. Apr 92, 185p
EPA/450/3-92/013
Contract EPA-68-D0-0121

See also PB87-195624. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The document presents the results of a study to collect and report information on processes used to manufacture paint and ink, volatile organic compound (VOC) emissions generated during these operations, emission control techniques and their effectiveness, and costs associated with process changes and emission control options.

Keywords: *Air pollution abatement, *Air pollution control, *Volatile organic compounds, *Paints, *Inks, *Coatings, Manufacturing, Industrial wastes, Pollution regulations, Permits, Cleaning, Pigments, Solvents, Resins, Materials recovery, Cost analysis, Environmental chemical substitutes, Cleanup operations, SIC 2851, SIC 2893.

PB92-190248/REB PC **A03**/MF **A01**
Air Quality Atlas.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
May 92, 30p EPA/500/K-92/002
See also PB91-106229 and PB92-141555.Color illustrations reproduced in black and white.

An atlas with maps that show the nation's air quality monitoring network and how air quality varies across the country is presented in the pamphlet. The atlas focuses on air concentrations that are direct measurements of pollutant concentrations at monitoring sites throughout the country. Pollutant emission values are based on best engineering estimates of the total tonnage of these pollutants released into the air annually.

Keywords: *Air quality, *Air quality data, *Air pollution monitoring, *United States, Carbon monoxide, Lead, Nitrogen dioxide, Particulates, Ozone, Sulfur dioxide, Emission factors, Maps.

PB92-190263/REB PC **A05**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
Computer Sciences Corp., Research Triangle Park, NC. Applied Technology Div.
25 Nov 91, 91p EPA/450/4-91/032
Contract EPA-68-01-7365
See also PB91-206268. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The Gridded Model Information Support System (GMISS) is a data base management system for selected Regional Oxidant Model (ROM) input data and species concentrations produced by gridded photochemical air pollution models. The Model Concentration Data Retrieval Subsystem allows State and local air pollution control agencies to retrieve these hourly data for use in support of their regulatory programs. These hourly data may be used to calculate initial and boundary conditions for the Empirical Kinetics Modeling Approach (EKMA). They may be used for other modeling application needs as well as to support evaluation of regional emission controls strategies. Both temporal and spatial subsets of the data may be retrieved. The document describes how to invoke and execute the Model Concentration Data Retrieval Subsystem using the full screen menus.

Keywords: *User manuals(Computer programs), *Air pollution, Data base management systems, Information systems, Information retrieval effectiveness, Pollution regulations, Input/output routines, Computerized simulation, *Gridded Model Information Support System, *Regional Oxidant Model, *Model Concentration Data Retrieval Subsystem.

PB92-190271/REB PC **A07**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Measurement Solution: Using a Temporary Total Enclosure for Capture Efficiency Testing. Final rept.
Midwest Research Inst., Cary, NC.
S. W. Edgerton, J. Kempen, and T. W. Lapp. Aug 91, 146p EPA/450/4-91/020A
Contract EPA-68-DO-0137
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The document presents guidance for determining VOC capture efficiency with the gas/gas protocal using a temporary total enclosure. Permanent total enclosure criteria also are presented. Appendices present sample calculations, the test methods, information on health and safety considerations, and an example case study.

Keywords: *Volatile organic compounds, *Air pollution control, *Ventilation, Exhaust hoods, Performance evaluation, Recommendations, Emission factors, *Capture efficiency, *Temporary total enclosure.

PB92-190289/REB PC **A99**/MF **E08**
Environmental Protection Agency, Washington, DC. Engineering and Analysis Div.
Methods for the Determination of Nonconventional Pesticides in Municipal and Industrial Wastewater.
Viar and Co., Alexandria, VA. Environmental Services Div.
T. E. Fielding, and W. A. Telliard. Apr 92, 823p EPA/821/R-92/002
Contract EPA-68-C9-0019
See also PB83-176636. Sponsored by Environmental Protection Agency, Washington, DC. Engineering and Analysis Div.

The document is a compendium of methods for the determination of pesticides in wastewater. Those methods are proposed under the authority of the Clean Water Act, Section 304(k), for the determination of pesticides regulated under the pesticides manufacturing effluent guidelines.

Keywords: *Pesticides, *Water analysis, *Water pollution detection, Chemical analysis, Industrial wastes, Municipal wastes, Manufacturing, Clean Water Act, Waste water, Quality control, Quality assurance.

PB92-190438/REB PC **A14**/MF **A03**
Status of Pesticides in Reregistration and Special Review.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Mar 92, 313p EPA/540/09-92/201
Supersedes PB90-185414.

The 'Status of Pesticides in Special Review and Reregistration' (also known as the 'Rainbow Report') lists those pesticides that are undergoing or have completed EPA's Special Review process, or the reregistration process mandated by FIFRA 88. It summarizes the current status of each pesticide.

Keywords: *Pesticides, *Toxic substances, Listings, Chemical compounds, Tables(Data), Toxicity, Special review process, Registration status, Reregistration.

PB92-190446/REB PC **A17**/MF **A03**
Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper. Final rept.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
D. J. McKee, P. M. Johnson, T. M. McCurdy, and H. M. Richmond. Jun 89, 382p EPA/450/2-92/001
See also PB87-142949 and PB89-135123.

The revised staff paper evaluates and interprets the available scientific and technical information that the EPA staff believe is most relevant to the review of primary (health) and secondary (welfare) national ambient air quality standards (NAAQS) for ozone (O3) and presents staff recommendations on alternative approaches to revising the standards. The staff reviewed scientific and technical information on the known and potential health effects of O3. On the basis of the review, the staff derives the following conclusions. (1) Inhaled O3 may pose health risks as a result of (a) penetration of O3 into various regions of the respiratory tract and (2) The risks of adverse effects associated with absorption of O3 in the tracheobronchial and alveolar regions of the respiratory tract are much greater than for absorption in the extrathoracic region (head). The staff has also reviewed the scientific and technical information on the known and potential effects of O3 on vegetation, natural ecosystems and materials.

Keywords: *Ozone, *Air quality, *Air pollution effects(Humans), *Air pollution effects(Plants), Air pollution monitoring, Air pollution standards, Lung diseases, Ecology, Signs and Symptoms, Risk assessment, Environmental effects, Health hazards, Exposure.

PB92-191097/REB PC **A15**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Acid Aerosol Measurement Intercomparison Workshop. Held in Research Triangle Park, North Carolina on April 10-11, 1991.
Research and Evaluation Associates, Inc., Chapel Hill, NC.
H. M. Barnes, and E. Smolko. Jun 92, 350p EPA/600/R-92/107
Contract EPA-68D10111
See also PB92-191154 and PB90-212572. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

The report documents the discussions and results of the U.S. Environmental Protection Agency's (EPA's) Acid Aerosol Measurement Method Intercomparison Workshop, held April 10-11, 1991 in Research Triangle Park, NC. The workshop was designed to achieve two objectives: (1) to report on recent method intercomparisons for strong acid measurements, and (2) to report on recent acid aerosol characterization studies and to discuss plans for future urban studies. The EPA investigators reported on two laboratory intercomparisons, made by three participants, sampling relatively simple mixtures or pure acidic compounds; the outcome of an outdoor smog chamber intercomparison was also reported on. The investigators concluded that hydrogen ion could be measured with a precision of 10-25%. Ten additional presentations related to these intercomparisons were also given. Three presentations on acid aerosol characterization studies were also given. These studies concluded that sulfate cannot be used to predict acidity. Future characterization studies implemented by EPA were also discussed.

Keywords: *Aerosols, *Acidity, *Interlaboratory comparisons, *Air pollution sampling, *Meetings, Acid rain, pH, Hydrogen ions, Urban areas, Quality assurance, Sulfuric acid, Ammonium sulfate, Nitrogen oxides, Sulfur dioxide, Graphs(Charts), Tables(Data), Sulfate ions.

PB92-191105/REB PC **A06**/MF **A02**
Reregistration Eligibility Document (RED): Heptachlor.
Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
Mar 92, 102p EPA/540/RS-92/202
See also PB87-175808.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effects to people or the environment. The pesticide reregistration program is to be completed by the late 1990's. The Reregistration Eligibility Document (or RED) discusses the scientific data and other information supporting EPA's regulatory conclusion that products containing a pesticide do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration.

Keywords: *Pesticides, *Toxic substances, *Heptachlor, Insecticides, Methanoindene/heptachloro-tetrahydro, Chlorine organic compounds, Path of pollutants, Hazardous materials, Toxicology, Ecology, Agricultural products, Packaging, Standards, Labels, Public health, Regulations, *Reregistration, CAS 76-44-8, Federal Insecticide Fugicide and Rodenticide Act.

PB92-191113/REB PC **A04**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Toxic Substances.

Comparison of Airborne Asbestos Levels Determined by Transmission Electron Microscopy (TEM) Using Direct and Indirect Transfer Techniques. Final rept.
Chesson Consulting, Washington, DC.
J. Chesson, and J. Hatfield. Mar 90, 59p EPA/560/5-89/004
Contract EPA-68-02-4294
See also PB90-171778. Prepared in cooperation with Battelle, Arlington, VA. Sponsored by Environmental Protection Agency, Washington, DC. Office of Toxic Substances.

A subset of air samples from a 1988 EPA study was reanalyzed for asbestos by TEM using an indirect transfer technique. The samples were originally analyzed using a direct transfer technique. The document presents the results of the reanalysis and extends the discussion to include data from six other studies. The development of the two techniques and their respective advantages and disadvantages are described. The data support the general opinion that TEM analysis of air samples using indirect transfer methods tends to provide estimates of total airborne asbestos structure concentration that are higher than those obtained using direct transfer methods. There is no single factor that can be used to convert measurements made by one method to a value that is comparable with measurements made by the other because the quantitative relationship is expected to depend on details of the sampling and analytical protocols and the nature of the asbestos in the air. The ratio of indirect measurements to direct measurements ranges from 3.8 to 1,700 for the studies considered. Additional research is needed to determine which transfer technique more accurately reflects biologically meaningful airborne asbestos concentrations. Breakdown of larger structures into smaller ones during indirect preparation does not appear to be sufficient to explain the difference in measured concentrations.

Keywords: *Asbestos, *Air pollution detection, *Transmission electron microscopy, *Indoor air pollution, School buildings, Air pollution monitoring, Occupational safety and health, Air pollution abatement, Comparison, Reliability.

PB92-191121/REB PC **A03**/MF **A01**
Surfactant-Enhanced Solubilization of Tetrachloroethylene and Degradation Products in Pump and Treat Remediation. Book chapter.
Robert S. Kerr Environmental Research Lab., Ada, OK.
C. C. West. 1992, 12p EPA/600/A-92/117
Pub. in American Chemical Society, Chapter 12, ACS Symposium Series 491, p149-158 1992.

Experiments were conducted to investigate the enhanced solubilization of tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,2-dichloroethylene (DCE) in nonionic surfactant solutions of Triton X-100, Brij-30, Igepal CA-720, and Tergitol NP-10 (alkylpolyoxyethylenes). Surfactant solubilization is being considered as a means to enhance mobile phase solubilities of ground-water contaminants for the purpose of improving the efficiency of pump and treat remediation. The primary objectives of the study were to observe the solubilization of relatively hydrophilic organic solutes at system temperatures similar to groundwater conditions and to determine if solubilization can be linearly correlated to the octanol/water partition coefficient, as has been observed by others for hydrophobic organic solutes. The results of the study show that surfactant solubilization of hydrophilic solutes is highly correlated with their octanol/water partition coefficient when corrected for temperature effects. It was also observed that there appears to be little difference in solubilizing efficiency between the four surfactants.

Keywords: *Environmental transport, *Water pollution control, *Remedial action, *Surfactants, *Degradation, *Solubility, Ground water, Subsurface investigations, Tetrachloroethylene, Ethylene/trichloro, Ethylene/dichloro, Separation, Pumping, Solutes, Temperature effects, Experimental design, Reprints, *Cleanup operations.

PB92-191139/REB PC **A03**/MF **A01**
Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991. Symposium paper.
Robert S. Kerr Environmental Research Lab., Ada, OK.
R. W. Puls, and R. M. Powell. 1992, 18p EPA/600/A-92/118
Pub. in American Chemical Society, ACS Symposium Series 491, p40-54 1992. Prepared in cooperation with ManTech Environmental Technology, Inc., Ada, OK.

Batch and column experiments using natural aquifer material investigated the specific adsorption of anions onto charged inorganic colloidal surfaces in terms of enhanced colloid stability and transport in subsurface model systems. Variables in the study included flow rate, pH, ionic strength, aqueous chemical composition, colloid concentration and size. Specific adsorption of some anions resulted in enhanced colloid stability and transport of Fe2O3 particles due to increases in charge repulsion between the particles in suspension and between the particles and the immobile column matrix minerals. Extent of particle breakthrough was dependent upon a complex variety of parameters; however, the highest statistical correlation was observed with particle size and ionic composition of the supporting electrolyte.

Keywords: *Subsurface investigations, *Environmental transport, *Colloids, *Inorganic compounds, *Water pollution, Ground water, Particle size distribution, Remedial action, pH, Chemical composition, Electrolytes, Concentration(Composition), Flow rate, Electrophoresis, Surface chemistry, Iron oxides, Reprints.

PB92-191147/REB PC **A03**/MF **A01**
Exposure Assessment Modeling for Hydrocarbon Spills Into the Subsurface: Sensitivity to Soil Properties. Book chapter.
Robert S. Kerr Environmental Research Lab., Ada, OK.
J. W. Weaver, B. K. Lien, and R. J. Charbeneau. c1992, 19p EPA/600/A-92/119
Pub. in American Chemical Society, ACS Symposium Series 491, p217-231. See also PB90-183583. Prepared in cooperation with Oklahoma Univ., Norman, and Texas Univ. at Austin. Center for Research in Water Resources.

Hydrocarbons which enter the subsurface through spills or leaks may create serious, long-lived groundwater contamination problems. Simplified models of the separate phase flow of the hydrocarbon and its dissolution into ground water may be appropriate for gaining insight into the significant phenomena, emergency response, or generic simulation for regulatory development. The paper outlines the components of a set of screening models for this problem and focuses on parameter sensitivity. Tabulated values of soil properties are used to model releases in typical soil materials. The availability of standard deviations of parameter values allows assessment of model response with regard to typical parameter variability. This knowledge has important consequences for emergency response applications which tend to rely on tabulated data instead of site specific data. Ultimate interest usually lies with dissolved aqueous concentrations, so the parameter sensitivity is assessed through concentrations predicted for down-gradient wells, as well as other significant aspects of the model results.

Keywords: *Hydrocarbons, *Environmental transport, *Land pollution, *Soil properties, *Hazardous materials spills, *Computerized simulation, Subsurface investigations, Exposure, Water pollution, Remedial action, Underground storage, Storage tanks, Ground water, Leakage, Oil pollution, Chemical spills, Emergency planning, Reprints, Hydrocarbon Spill Simulation Model.

PB92-191154/REB PC **A02**/MF **A01**
Acid Aerosol Measurement Methods: Studies of Extraction and Analytical Effects.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
T. G. Ellestad, L. L. Hodson, S. J. Randtke, G. D. Thurston, and P. Koutrakis. 1992, 8p EPA/600/A-92/120
See also PB92-191097. Prepared in cooperation with Research Triangle Inst., Research Triangle Park, NC., Kansas Univ., Kansas City, New York Univ. Medical Center, Tuxedo Park, and Harvard School of Public Health, Boston, MA.

Following a major intercomparison of acid aerosol measurement methods, an additional study was held to investigate the sources of variability among labs. In addition, it was felt important to do this comparison with atmospheric aerosol. The first test was of spiked filters in triplicate at six different levels; each lab had to extract and analyze its filters. The second test was of atmospheric samples collected under carefully controlled sampling conditions; two or more filters for three sampling periods were extracted and analyzed by each lab. The third test was of atmospheric samples that were all extracted by one lab with the resulting extract solutions for each day combined, spiked, and divided among the labs for analysis. All labs reported hydrogen, ammonium, and sulfate ion for each sample. Results indicate that atmospheric aerosols gave a precision comparable to spiked samples, that interlaboratory precision was about 10 percent for H+, and that a minimum sample of about 400 nanomoles of H+ is required to obtain good interlaboratory results.

Keywords: *Aerosols, *Acidity, *Interlaboratory comparisons, *Quality assurance, *Air pollution sampling, Acid rain, Statistical analysis, Hydrogen ions, Precision.

PB92-191162/REB PC **A02**/MF **A01**
Customer/Supplier Accountability and Quality Assurance (QA) Program Implementation.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
R. K. Patterson. 1992, 7p EPA/600/A-92/123

Quality assurance (QA) and quality control (QC) are the basic components of a QA program, which is a fundamental quality management tool. The quality of outputs and services strongly depends on the caliber of the communications between the 'customer' and the 'supplier.' A clear understanding of customer needs and expectations is essential to selecting and applying suitable QA and QC. Planning, implementation, and assessing all play a major part in the quality of final outputs. A clear understanding of the customer/supplier relationship and the functional roles played by each is essential to a successful QA program. The paper identifies, clarifies, and simplifies the quality management responsibilities of the customer and the supplier. The ideas presented are applicable in all work environments, including research and development (R&D).

Keywords: *Quality assurance, *Quality control, *Management methods, Programs, Clients, Supplying, Accountability, Programs, Project planning.

PB92-191170/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Closure of a Dioxin Incineration Facility. Journal article.
Foster Wheeler Enviresponse, Inc., Edison, NJ.
J. M. Perdek, F. J. Freestone, D. Sandifer, and A. Sherman. c1991, 13p EPA/600/J-92/204
Contract EPA-68-03-3255
Pub. in Chemosphere, v23 n8-10 p1295-1305 1991. See also PB90-260449 and PB91-176818. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency Mobile Incineration System, which was operated at the Denney Farm site in southwestern Missouri between October 1985 and June 1989, treated almost six million kilograms of dioxin-contaminated wastes from eight area sites. At the conclusion of operations, the site soils, equipment, and buildings were decontaminated following approved closure plans. The closure operation and closure certification process are described in the paper.

Keywords: *Incineration, *Remedial action, *Dioxins, *Waste management, *Portable equipment, Decontamination, Hazardous materials, Closures, US EPA, On-site investigations, Buildings, Soil contamination, Reprints, *Cleanup operations, Southwest Region(Missouri).

PB92-191188/REB PC A03/MF A01
Solidification/Stabilization: Is It Always Appropriate. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
C. C. Wiles, and E. G. Barth. c1992, 18p EPA/600/J-92/205
Pub. in Stabilization and Solidification of Hazardous, Radioactive, and Mixed Wastes, v2 STP1123 p18-32. See also PB91-182741 and PB90-116773. Prepared in cooperation with American Society for Testing and Materials, Philadelphia, PA.

The increasing use of solidification/stabilization (S/S) technologies in the United States, especially for remediation of sites under the Superfund program, has raised several questions about the overall appropriateness of S/S. For many types of hazardous waste, notably for heavy metals, S/S usually gives excellent results for long-term immobilization, as measured by existing physical and chemical protocols. However, results of several studies, as well as data from remediation of several Superfund sites, have raised concerns about whether S/S is a valid technology for treating organic-bearing wastes. Furthermore, studies also provide evidence that tests other than the regulatory extraction tests (for example, toxicity characteristic leaching procedure (TCLP)) will be required to evaluate the effectiveness of S/S, especially when applied to organic wastes. Suggestions are offered for improving treatability studies used for evaluating S/S applied to selected metals. Approaches are also provided for determining the appropriateness of S/S applied to organic contaminants. The paper will focus on evaluating chemical leaching behavior as a measure of S/S effectiveness. A decision tree is presented for determining the suitability of S/S treatment for wastes containing organic contaminants, which can be more difficult than metals to immobilize.

Keywords: *Hazardous materials, *Solidification, *Stabilization, *Waste treatment, *Remedial action, Superfund, Immobilization, Waste forms, Performance standards, Organic compounds, Technology utilization, Leaching, Volatile organic compounds, Extraction, Reprints.

PB92-191196/REB PC A03/MF A01
Development of Predictive Structure-Biodegradation Relationship Models with the Use of Respirometrically Generated Biokinetic Data. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
H. H. Tabak, C. Gao, S. Desai, and R. Govind. c1992, 12p EPA/600/J-92/206
Pub. in Water Science Technology, v26 n3-4 p763-772 1992. Prepared in cooperation with Cincinnati Univ., OH. Dept. of Chemical Engineering.

Biodegradation is an important mechanism determining the fate of chemicals in the aquatic environment. In the paper, experimental data, determined from electrolytic respirometry, for 27 compounds were analyzed using first order and Monod kinetics. Additional data from the literature were also used in the analysis. A method based on group contribution to predict first-order and Monod kinetic rate constants was developed and validated. The group contribution approach gave reasonable results for a variety of compounds. More kinetic data are required to extent the group contribution approach. (Copyright (c) 1992 IAWPRC.)

Keywords: *Kinetics, *Biodeterioration, *Water pollutants, *Biodegradation, Oxygen, Aquatic ecosystems, Reprints, *Electrolytic respirometry.

PB92-192137/REB PC A02/MF A01
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer of Aluminum Extrusions. Environmental research brief.
University City Science Center, Philadelphia, PA.
F. W. Kirsch, and G. P. Looby. Apr 92, 6p EPA/600/S-92/010
Grant EPA-R-814903
See also PB91-234575. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of hazardous waste but who lack the expertise to do so. Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at the University of Louisville performed an assessment at a plant manufacturing aluminum extrusions--over 10 million lb/yr. Aluminum parts are extruded and tempered followed by electrostatic painting, anodizing, or shipping. The team's report, detailing findings and recommendations, indicated that the most waste was generated by the painting process and that the greatest savings could be obtained by replacing the currently used paints with electrostatic powder coatings.

Keywords: *Hazardous materials, *Waste management, *Pollution abatement, *Extrusions, *Aluminum industry, Research and development, Industrial wastes, Extrusion coating, Manufacturing, Painting, Insulation, Anodizing, Waste recycling, Waste utilization, Electrostatic coating, Water pollution control, *Waste minimization, Source reduction, SIC 20-39.

PB92-192145/REB PC A02/MF A01
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer of Metal-Cutting Wheels and Components. Environmental research brief.
University City Science Center, Philadelphia, PA.
F. W. Kirsch, and J. C. Maginn. Apr 92, 6p EPA/600/S-92/006
Grant EPA-R-814903
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of hazardous waste but who lack the expertise to do so. Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual. (EPA/625/7-88/003, July 1988). The WMAC team at the University of Tennessee performed an assessment at a plant manufacturing metal-cutting wheels and components--approximately 6,000,000 units/yr. Tungsten carbide inserts for metal cutting are pressed, sintered, shaped by grinding, and ultrasonically cleaned. About half are coated with titanium nitride by chemical vapor deposition. Premolded ceramic inserts are ground to specifications and ultrasonically cleaned. The team's report, detailing findings and recommendations, indicated that most waste, other than treated wastewater, consists of sludge filtered from machine coolant, and that the greatest savings could be obtained by recycling treated water from the plant's wastewater treatment facility to the gas/water separators of the chemical vapor deposition units.

Keywords: *Hazardous materials, *Industrial plants, *Pollution abatement, Manuals, Assessments, Manufacturers, Metal finishing, Cutters, Carbide tools, Ultrasonic cleaning, Titanium nitrides, Sulfuric acid, Waste recycling, Sludge disposal, Waste water, Industrial waste treatment, Separators, Cost effectiveness, Waste Minimization Assessment Centers, Nickel plating, Trichlorane, Chromates, Chemical vapor deposition.

PB92-192152/REB PC A02/MF A01
Spatial and Temporal Analysis of Non-Urban Ozone Concentrations over the Eastern United States Using Rotated Principal Component Analysis.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
B. K. Eder. 1992, 8p EPA/600/A-92/124
Presented at the Conference on Probability and Statistics in the Atmospheric Sciences (12th), Toronto, Canada, June 22-26, 1992. Prepared in cooperation with National Oceanic and Atmospheric Administration, Research Triangle Park, NC. Atmospheric Sciences Modeling Div.

The spatial and temporal variability of O3 concentrations over the eastern United States during the period 1985 through 1990 was examined through the use of a multivariate statistical technique called Principal Component Analysis. The original data set, which contained 77 correlated variables (monitors) was reduced to six uncorrelated principal components, while still explaining almost two-thirds (64.02) of the total variance. Application of Kaiser's Varimax rotation led to the identification of six separate, contiguous subregions which each exhibit statistically unique O3 concentration characteristics. The results have provided a statistically and physically based rationale for choosing distinctive geographical areas for interpreting O3 air quality distributions and trends. Since data from stations within subregions exhibit homogeneous variability, the authors have been able to develop regionwide O3 indicators which have provided meaningful insight into the seasonal and annual concentration trends of the six subregions. The analysis has also suggested that trends analyses for determining general progress in improving O3 air quality could be based on aggregate statistics from clusters of monitors rather than from individual stations.

Keywords: *Air pollution sampling, *Ozone, Spatial distribution, Temporal distribution, Concentration(Composition), Statistical analysis, Regional analysis, Trends, Air quality, *Eastern Region(United States), *Rotated principal component analysis, Kaiser's Varimax rotation.

PB92-192160/REB PC A02/MF A01
Open Path Ambient Measurements of Pollutants with a DOAS System. Symposium paper.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
C. P. Conner, B. W. Gay, W. E. Karches, and R. K. Stevens. 1992, 9p EPA/600/A-92/125
See also PB91-176966. Presented at the EPA/A and WMA International Symposium on the Measurement of Toxic and Related Air Pollutants, Durham, NC., May 7, 1992.

A differential optical absorption spectrometer (DOAS) has been in operation since August 1991 at the U.S. EPA in RTP, NC. The analyzer unit is located in an environmentally-controlled shelter in the EPA parking lot. Four separate open optical paths have been established, ranging from 202 to 816 meters in length. The longest path crosses a highway while all the shorter paths are located near parking lots. Semi-continuous measurements of SO2, O3, NO, and NO2 were made. The measurement cycle involves measurements on each path in sequence. The total of all measurements on all paths requires approximately 20 minutes to complete, thus there are three values for each unique gas-path combination per hour. The instruments were measuring the same gases. Their results are also reported as hourly averages. Comparison of the long-path DOAS measurements with the FRM point measurements indicates a high level of correlation. Considering the potential problem of comparing a long-path measurement to a point measurement, the high correlation is encouraging. The shorter DOAS paths yielded the highest correlations with the point measurements, as expected.

Keywords: *Air pollution detection, *Gas analysis, Absorption spectroscopy, Continuous sampling, Graphs(Charts), Concentration(Composition), Air pollution sampling, Sulfur dioxide, Ozone, Nitrogen oxide(NO), Nitrogen dioxide, *Differential optical absorption spectrometers.

PB92-192178/REB PC A03/MF A01
Environmental Protection Agency, Research Triangle Park, NC. Aerosol Physics and Methods Branch.
Performance of Automated Ambient SO2 Analyzers with Respect to a Proposed 5-Minute Ambient Air Quality Standard.
Research Triangle Inst., Research Triangle Park, NC. Center for Environmental Measurements and Quality Assurance.
W. C. Eaton, C. D. Parker, E. E. Rickman, and F. F. McElroy. Nov 91, 14p EPA/600/A-92/126
Contract EPA-68-02-4550
See also PB84-120401 and PB82-156793. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Aerosol Physics and Methods Branch.

The U. S. Environmental Protection Agency is considering an additional ambient air quality standard for SO2 that would be based on average SO2 concentration over a 5-minute period. The paper investigates the speed-of-response characteristics of currently used SO2 continuous monitoring instruments and their adequacy for monitoring 5-minute averages. Two analyz-

ers were laboratory-tested to determine their time-response characteristics. Mathematical models of instrument performance were then developed to study measurement accuracy for various short-duration SO2 concentration pulses. These brief experiments indicated that the response of the analyzers tested, which meet the current reference and equivalent method response specifications, was not adequate for monitoring 5 minute averages accurately.

Keywords: *Sulfur dioxide, *Air pollution monitors, *Performance evaluation, Electric devices, Accuracy, Air quality, Air pollution standards, US EPA.

PB92-192186/REB PC **A02/MF A01**
Environmental Monitoring Systems Lab., Las Vegas, NV.
Gas Chromatographic Elution Patterns of Chlorinated Dioxins versus Column Polarity. Journal article.
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV.
J. R. Donnelly, and G. W. Sovocool. c1992, 7p EPA/600/J-92/223
Contract EPA-68-C0-0049
Pub. in Jnl. of Chromatography 594, p269-273 1992. Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV.

A model has been developed which successfully predicts the order of elution and relative retentions of tetra-, penta- and hexachloro-dibenzo-p-dioxins for gas chromatography (GC) columns of different polarity. These congeners include the most toxic 2,3,7,8-substituted isomers, and contain numerous difficult-to-separate isomers. The model allows the correlation of GC retention time to dioxin substitution pattern. The model also allows the prediction of dioxin elution order and relative retention time spacing for GC columns of different polarity. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Gas chromatography, *Environmental monitoring, *Chemical analysis, *Dioxins, *Mathematical models, Chlorine organic compounds, Potychlorinated dibenzodioxin, Dibenzodioxin/tetrachloro, Polarity, Elution, Separation, Columns(Process engineering), Reprints, Dibenzodioxin/pentachloro, Dibenzodioxin/hexachloro.

PB92-192194/REB PC **A04/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings. Final rept. May 90-Aug 91.
Princeton Univ., NJ. Center for Energy and Environmental Studies.
A. Cavallo, K. Gadsby, and T. A. Reddy. Jun 92, 74p EPA/600/R-92/102
Grant EPA-R-817013
See also PB90-262924 and PB92-166958. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report gives, for the first time, results of an extensive study of the effect of ventilation on radon concentrations and radon entry rate in a single-family dwelling. Measurements of radon concentrations, building dynamics, and environmental parameters made in Princeton University research houses over several seasons and under different building operating conditions show the functional dependence of radon entry rate on basement depressurization. The work clarifies the role of natural ventilation in reducing indoor radon concentrations. The work shows conclusively that natural ventilation can decrease radon levels two ways: (1) by simple dilution, and (2) by providing a pressure break (defined as any opening in the building shell that reduces the outdoor/indoor differential pressure). This reduces building depressurization and thus the amount of radon-contaminated soil gas that is drawn into the building.

Keywords: *Radon, *Ventilation, *Residential buildings, *Pollution control, Basements, Concentration(Composition), Indoor air pollution, Pressure reduction, Dilution, Measurement, Heating, Cooling, Soil gases.

PB92-192202/REB PC **A10/MF A03**
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
S. J. Roselle. Jun 92, 212p EPA/600/R-92/067
See also PB91-233528.

The study examines the sensitivity of regional ozone (O3) modeling to uncertainties in biogenic emissions estimates. The United States Environmental Protection Agency's (EPA) Regional Oxidant Model (ROM) was used to simulate the photochemistry of the northeastern United States for the period July 2-17, 1988. An operational model evaluation showed that ROM had a tendency to underpredict O3 when observed concentrations were above 70-80 ppb and to overpredict O3 when observed values were below this level. On average, the model underpredicted daily maximum O3 by 14 ppb. Spatial patterns of O3, however, were reproduced favorably by the model. Several simulations were performed to analyze the effects of uncertainties in biogenic emissions on predicted O3 and to study the effectiveness of two strategies of controlling anthropogenic emissions for reducing high O3 concentrations. Biogenic hydrocarbon emissions were adjusted by a factor of 3 to account for the existing range of uncertainty in these emissions. The impact of biogenic emission uncertainties on O3 predictions depended upon the availability of NOx. In some extremely NOx-limited areas, increasing the amount of biogenic emissions decreased O3 concentrations. Two control strategies were compared in the simulations: (1) reduced anthropogenic hydrocarbon emissions, and (2) reduced anthropogenic hydrocarbon and NOx emissions. The simulations showed that hydrocarbon emission controls were more beneficial to the New York City area, but that combined NOx and hydrocarbon controls were more beneficial to other areas of the Northeast. Hydrocarbon controls were more effective as biogenic hydrocarbon emissions were reduced, whereas combined NOx and hydrocarbon controls were more effective as biogenic hydrocarbon emissions were increased.

Keywords: *Ozone, *Mathematical models, *Natural emissions, *Air pollution, Air pollution control, Biosphere, Concentration(Composition), Hydrocarbons, Nitrogen oxides, Data covariances, Spatial distribution, Meteorology, Study estimates, Air quality, Regional analysis, *Northeast Region(United States), Regional Oxidant Model.

PB92-192764/REB PC **A05/MF A01**
Implementing Protective Actions for Radiological Incidents at Other Than Nuclear Power Reactors. Proceedings of a Workshop. Held in Montgomery, Alabama on September 25-26, 1991.
Office of Radiation Programs, Washington, DC.
1991, 91p

The report is the proceedings of a workshop that provided a forum for the States to identify and discuss issues regarding implementation of protective actions following a radiological accident involving a Federal or commercial nuclear facility, with emphasis on source terms other than power reactors. It summarizes the key issues based on the formal presentations on specific topics, the associated discussions, and discussions of the work that went on in the four working groups.

Keywords: *Radiation protection, *Meetings, *State implementation plans, *Nuclear facilities, *Radiation accidents, Source terms, Federal agencies, Emergency planning, Fission product release, Path of pollutants, Field tests, US EPA, Fallout, Risk assessment, Radiation hazards, Public health, Protective Action Guides.

PB92-192798/REB PC **A02/MF A01**
RED Facts: Heptachlor. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Mar 92, 6p EPA/540/FS-92/203
See also PB92-191105.

EPA is directed by the Federal Insecticide, Fungicide, and Rodenticide Act as amended in 1988 (FIFRA '88) to review all pesticide products containing active ingredients initially registered before November 1, 1984, and to reregister those products that have a substantially complete data base and do not pose unreasonable adverse effects to people or the environment. The pesticide reregistration program is to be completed by the late 1990's. The RED FACTS fact sheet on heptachlor summarizes EPA's conclusion, as set forth in the Reregistration Eligibility Document (or RED), that products containing a pesticide do not pose unreasonable risks when used as directed by Agency-approved labeling, and are eligible for reregistration.

Keywords: *Pesticides, *Toxic substances, *Heptachlor, Hazardous materials, Chemical properties, Regulations, Toxicology, Ecology, Path of pollutants, Methanoindene/heptachloro-tetrahydro, Agricultural products, Labels, Chlorine organic compounds, *Chemical Information Fact Sheet, *Reregistration, Use patterns, Science findings.

PB92-192806/REB PC **A01/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors. Environmental research brief.
University City Science Center, Philadelphia, PA.
F. W. Kirsch, and G. P. Looby. May 92, 5p EPA/600/S-92/020
Grant EPA-R-814903
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of waste but who lack the expertise to do so. Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at the University of Tennessee performed an assessment at a plant manufacturing exterior motor vehicle mirrors--approximately 3 million mirrors per year. Galvanized steel and stainless steel stock undergo stamping, pressing, and cutting operations followed by degreasing. Stainless steel mirror housings are buffed, assembled, packaged, and shipped. Galvanized steel, zinc die-cast, and plastic mirror parts are washed then electrostatically primed and painted. Parts are assembled, packaged, and shipped. The team's report, detailing findings and recommendations, indicated that the majority of the waste was generated in the cleaning and washing areas but that the greatest savings could be obtained by installing an electrostatic powder coating system to reduce primer/paint overspray (100%) solvent evaporation (55%), cleaning solvent evaporation (80%), and still bottoms (80%).

Keywords: *Hazardous materials, *Pollution abatement, *Waste management, *Mirrors, Research and development, Motor vehicles, Stainless steels, Electrostatic coating, Galvanized materials, Solvents, Waste water, Manufacturing, Washing, Water pollution control, Degreasing, Environmental chemical substitutes, Cleaning, *Waste minimization, SIC 20-39, Source reduction.

PB92-192889/REB PC **A12/MF A03**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
Entropy Environmentalists, Inc., Research Triangle Park, NC.
K. R. Hazel, S. J. Plaisance, and J. W. Peeler. Apr 92, 266p EPA/450/4-92/010
Contract EPA-68-D1-0009
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The manual contains monitor-specific performance audit procedures and data forms for use in conducting audits of installed continuous opacity monitoring systems (COMS's). General auditing procedures and acceptance criteria for various audit criteria are delineated. Practical considerations and common problems encountered in conducting audits are discussed, and recommendations are included to optimize the successful completion of performance audits. Performance audit procedures and field data forms were developed for the following opacity monitors: (1) Lear Siegler Measurement Controls Corporation Dynatron 1100M and MC2000; (2) Lear Siegler Measurement

Controls Corporation Model RM-41; (3) Lear Siegler Measurement Controls Corporation Model RM-4;(4) Dynatron Model 1100; (5) Thermo Environmental Instruments, Inc. Model 400; (6) Thermo Environmental Instruments, Inc. Model 1000A; (7) Thermo Environmental Instruments, Inc. Model D-R280AV; (8) Enviroplan Model CEMOP-281; (9) United Sciences, Inc. Model 500C; (10) Land Combustion Model 4500; and (11) DataTest Models 900A and 900RM.

Keywords: *Air pollution monitors, *Opacity, *Optical measuring instruments, Continuous sampling, Performance evaluation, Design criteria, Auditing, Portable equipment, Calibrating, Field tests, Forms(Paper).

PB92-194000/REB PC **A06**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
Colorado State Univ., Fort Collins. Natural Resource Ecology Lab.
D. S. Bigelow. Jun 92, 106p EPA/600/R-92/106
See also PB90-187162. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

The report summarizes the quality assurance activities of the NADP/NTN Quality Assurance Manager in 1990 and 1991. The report documents the accomplishments of the cooperative agreement and makes recommendations for the future operation of the NADP/NTN network. The report summarizes the progress being made by the NADP/NTN monitoring program in implementing its quality assurance plan. The report discusses the validation of field pH measurements, nuances of utilizing the networks PO4(-3) measurements and NADP/NTN siting criteria. Results of a laboratory audit and a compendium of network documentation are also presented. Recommendations emphasize the continued support of the quality assurance manager's role in coordinating quality assurance activities and the need for more support for the gathering and interpretation of quality assurance data.

Keywords: *Air pollution sampling, *Quality assurance, *Environmental monitoring, *Precipitation(Meteorology), Chemical analysis, pH, Phosphorus oxides, Implementation, Field tests, Experimental design, Auditing, Site surveys, Quality control, Performance evaluation, Deposition, *National Atmospheric Deposition Program, *National Trends Network.

PB92-195635/REB PC **A05**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Simplified Modeling of Air Flow Dynamics in SSD Radon Mitigation Systems for Residences with Gravel Beds. Final rept. Aug 89-Feb 91.
Princeton Univ., NJ. Center for Energy and Environmental Studies.
T. A. Reddy, K. J. Gadsby, H. E. Black, D. T. Harrje, and R. G. Sextro. May 92, 81p PU/CEES-246, EPA/600/R-92/090
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

In an attempt to better understand the dynamics of subslab air flow, the report suggests that subslab air flow induced by a central suction point be treated as radial air flow through a porous bed contained between two impermeable disks. (NOTE: Many subslab depressurization systems, those now considered most effective for mitigating residences for radon, do not perform entirely satisfactorily, even when designed and installed by professionals). The report shows that subslab air flow is most likely to be turbulent under actual field situations in houses with subslab gravel beds, but remains laminar when soil is present under the slab. The physical significance of a model is discussed, and simplified closed-form equations are derived to predict pressure and flows at various distances from a single central depressurization point. A laboratory apparatus was built to verify the model and experimentally determine the model coefficients of the pressure drop vs. flow for commonly encountered subslab gravel materials. These pressure drop coefficients can be used in connection with the simplified model as a rational way to assess subslab communication in houses. Preliminary field verification results in a house with gravel under the basement slab are presented and discussed.

Keywords: *Air pollution control, *Air flow, *Radon, *Residential buildings, *Mathematical models, Gravels, Soil gases, Mitigation, Field tests, Experimental design, Radionuclide migration, Aerodynamics, Forecasting, Porous media, Pressure tests, Performance evaluation, Radioactive isotopes, *Subslab depressurization systems.

PB92-195643/REB PC **A03**/MF **A01**
Water Quality Model for a River Receiving Paper Mill Effluents and Conventional Sewage. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
J. K. Summers, P. F. Kazyak, and S. B. Weisberg. c1991, 32p EPA/600/J-92/207, CONTRIB-706
Pub. in Ecological Modelling, v58 p25-54 1991. Prepared in cooperation with Versar, Inc., Columbia, MD.

During low flow periods in summer, portions of the Pigeon River, North Carolina, have experienced depressed dissolved oxygen concentrations. The Pigeon River receives multiple point source effluents from several wastewater treatment facilities and a large kraft paper mill located in Canton, NC, which contribute the oxygen-demanding and nutrient loads on the river. A water quality model was constructed to examine processes and sources contributing to the observed oxygen declines and to evaluate the specific management alternatives. Simulations showed that relatively little of the CBOD materials released by the mill were degraded within the river and were subsequently 'deposited' in the reservoir at the end of the modeled river segment. Reductions in CBOD concentrations could be generally accounted for by tributary dilution. However, nitrogenous oxygen demanding materials released by the mill (e.g., NH3) created a considerable demand for oxygen within the modeled segment of the river.

Keywords: *Water quality management, *Water pollution control, *Sewage disposal, *Industrial wastes, Mathematical models, *Pigeon River, Nutrients, Dissolved oxygen, Point sources, North Carolina, Paper industry, Water allocation(Policy), Degradation, Chlorides, Nitrogen cycle, Tributaries, Concentration(Composition), Biochemical oxygen demand, Water flow, Reprints, *Pigeon River Allocation Model, Canton(North Carolina), Phosphorus cycle.

PB92-195650/REB PC **A02**/MF **A01**
Disease Incidence and Potential Mechanisms of Defense for MSX-Resistant and -Susceptible Eastern Oysters Held in Chesapeake Bay. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
M. M. Chintala, and W. S. Fisher. c1991, 7p EPA/600/J-92/208
Pub. in Jnl. of Shellfish Research, v10 n2 p439-443 1991. Prepared in cooperation with Maryland Univ., Cambridge. Horn Point Environmental Labs.

A disease of eastern oysters, Crassostrea virginica (Gmelin, 1791), caused by a protistan, Haplosporidium nelsoni, has caused great losses in the oyster fisheries of the northern Atlantic coast of North America. Certain oyster stocks have been selectively bred to survive infection by H. nelsoni (often called MSX disease) but mechanisms of resistance are not known and potential resistance to another protistan parasite, Perkinsus marinus, is not clear. Oysters from MSX-resistant stocks and from unselected (susceptible) stocks were compared over one year (1988-89) at an estuarine site in Chesapeake Bay where MSX disease and P. marinus ('dermo' disease) are both known to occur. Prevalence of MSX disease was 0%-4% for the resistant stock and 36%-60% for the susceptible stock, whereas prevalence of P. marinus was similar for both resistant (58%) and susceptible (67%) stocks. Comparison of putative defense mechanisms revealed no differences in hemocyte capacity to spread, respond to salinity changes or locomote in vitro. The susceptible stock exhibited higher serum protein concentrations and higher lysozyme concentrations during spring and summer. Serum agglutination titers for Vibrio cholerae CA401 were consistently higher for the resistant stock during summer; serum lectins could be related to disease resistance or affected by H. nelsoni infection.

Keywords: *Chesapeake Bay, *Oysters, *Disease susceptibility, Lysozyme, Hemolymph, Diagnosis, Hemocytes, Vibrio cholerae, Seasonal variations, Reprints, *Shellfish diseases, *Crassostrea virginica, *MSX disease, Haplosporidium nelsoni, Perkinsus marinus.

PB92-195668/REB PC **A02**/MF **A01**
Comparative Acute Sensitivity of Larval Topsmelt, 'Atherinops affinis', and Inland Silverside, 'Menidia beryllina', to 11 Chemicals. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
M. J. Hemmer, D. P. Middaugh, V. Comparetta, and V. Chason. c1992, 10p EPA/600/J-92/209, CONTRIB-718
Pub. in Environmental Toxicology and Chemistry, v11 p401-408 1992.

Larval topsmelt (Atherinops affinis) and inland silversides (Menidia beryllina) were exposed in 96-hr static acute toxicity tests to eleven chemicals to determine the relative sensitivity of the two atherinid species. High to low LC50 ratios for endosulfan, methoxychlor, carbophenothion, chlorpyrifos, terbufos, fenvalerate, permethrin, 4-nitrophenol, and sodium lauryl sulfate were within a factor of <2 for the two species. A. affinis was more sensitive to both azinphos-methyl and 2,4-dinitrophenol by factors of 6.7 and 4.4, respectively. Comparison of the relative sensitivity of A. affinis with three freshwater fish species (Lepomis macrochirus, Oncorhynchus mykiss, Pimephales promelas) and one estuarine fish species (Cyprinodon variegatus) are also presented. Sensitivities were similar between A. affinis and the two most sensitive freshwater species, L. macrochirus and O. mykiss. A. affinis is easily transported, cultured and maintained in the laboratory, and readily adaptable for use in toxicological studies.

Keywords: *Water pollution effects(Animals), *Toxic substances, *Fisheries, Species diversity, Larvae, Comparison, Insecticides, Freshwater fishes, Marine fishes, Reprints, *Atherinops affinis, *Menidia beryllina, Topsmelt, Inland silversides, Dose response relationships.

PB92-195676/REB PC **A03**/MF **A01**
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
G. E. Walsh, D. E. Weber, L. K. Esry, M. T. Nguyen, and J. Noles. c1992, 12p EPA/600/J-92/210, CONTRIB-713
Pub. in Pedobiologia, v36 p1-10 1992.

A method for formulation of synthetic substrata (soils and sediments) is given. Submersed, wetland, and terrestrial plants, earthworms, crustaceans, and vertebrates were maintained on synthetic substrata composed of various amounts of commercially available sand, clay, silt, and particulate and dissolved organic matter. Organic contents of the synthetic substrata were 3, 5, 7.5, and 10% by weight. All test species survived and grew well in the substrata. It is suggested that synthetic substrata have some advantages over natural substrata in tests with plants and animals. Among the advantages are: synthetic sediments may be formulated for specific studies, differences in texture and chemical characteristics between batches are minimized, and the substrata are not contaminated by anthropogenic substances as are many natural soils and sediments.

Keywords: *Sediments, *Soils, *Terrestrial ecosystems, *Wetlands, *Aquatic ecosystems, Plant(Botany), Crustacea, Vertebrates, Oligochaeta, Clays, Silts, Sands, Organic compounds, Growth, Reprints, *Synthetic substrata.

PB92-195692/REB PC **A03**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Mixed-Species Colonization of Solid Surfaces in Laboratory Biofilms. Journal article.
Center of Marine Biotechnology, Baltimore, MD.
M. M. Cowan, T. M. Warren, and M. Fletcher. c1991, 14p EPA/600/J-92/212
Pub. in Biofouling, v3 p23-24 1991. Sponsored by Environmental Research Lab., Gulf Breeze, FL.

Colonization of glass substrata by populations of three or four bacterial species over periods of four weeks or more was investigated using recirculating, model laboratory systems. Numbers of coryneform, Aeromonas hydrophila, Pseudomonas fluorescens, and Xanthomonas maltophilia on surfaces and in the liquid phase

were monitored to determine whether any species inhibited or facilitated the colonization by another organism. The system was 800 ml of culture in a peptone/yeast/extract/artificial lakewater medium, pulse-fed every three days, and recirculated 12 ml/min. Species numbers were determined by viable counts on differential media, and biofilm coverage was evaluated by computer-enhanced microscopy. The coryneform quickly colonized the surfaces, and there was little change in suspended or attached numbers over the experimental period. Colonization by A. hydrophila increased in the presence of P. fluorescens. The results indicated that the ability of bacteria to colonize surfaces is to a large extent related to their ability to colonize the liquid phase.

Keywords: *Marine microorganisms, *Microbial colony count, Laboratories, Pseudomonas fluorescens, Bacterial adhesion, Species diversity, Reprints, *Biofilms, Xanthomonas maltophilia, Aeromonas hydrophia.

PB92-195700/REB PC **A03**/MF **A01**
Spongiosis Hepatis: Chemical Induction, Pathogenesis, and Possible Neoplastic Fate in a Teleost Fish Model. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
J. A. Couch. c1991, 16p EPA/600/J-92/213
Pub. in Toxicologic Pathology, v19 n3 p237-250 1991.

Spongiosis hepatis (SH), first reported as a distinct lesion associated with certain forms of hepatic neoplasia in rats, has also been induced with chemicals, in a predictable fashion, in small teleost fishes being studied as carcinogenesis research models. The sheepshead minnow (Cyprinodon variegatus), exposed to N-nitro-sodiethylamine (DENA) in sea water, provided the model for the study. The fish developed SH and presented a spectrum of developmental or progressive stages of the lesion over a 140 week holding period following a 6 week exposure to about 57 mg/L DENA. The origin of SH in the fish model is homologous to that in the rat model, both species having the perisinusoidal cell (stellate cells of Ito) in the space of Disse as the cell of origin. Light (LM) and electron microscopy (EM) studies characterized the different pathogenetic stages of SH in liver of the sheephead minnow and revealed a possible late transition of SH to putative polymorphic cell neoplasms. The possible preneoplastic or neoplastic nature of SH from its time of origin in chemically exposed fish to time of appearance of associated presumptive neoplasms is discussed. SH may be a bioindicator of exposure to certain chemicals in some vertebrate species, from fishes to mammals. (Copyright (c) 1991 by the Society of Toxicologic Pathologists.)

Keywords: *Dimethylnitrosamine, *Animal disease models, *Liver neoplasms, *Toxicology, Minnows, Microscopy, Pathology, Carcinogenesis, Reprints, *Spongiosis hepatis, Cyprinodon variegatis.

PB92-195718/REB PC **A02**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Characterization of Stress-Responsive Behavior in 'Pseudomonas aeruginosa' PAO: Isolation of Tn3-lacZYA Fusions with Novel Damage-Inducible (din) Promoters. Journal article.
Stritch School of Medicine, Maywood, IL.
A. L. Warner-Bartnick, and R. V. Miller. c1992, 9p
EPA/600/J-92/215
Pub. in Jnl. of Bacteriology, v174 n6 p1862-1868 Mar 92. Prepared in cooperation with Oklahoma State Univ., Stillwater. Dept. of Botany and Microbiology. Sponsored by Environmental Research Lab., Gulf Breeze, FL.

Although the pervasive soil and water microorganism Pseudomonas aeruginosa demonstrates heightened sensitivity to UV radiation, the species possesses a recA gene that, based on structural and functional properties, could mediate a DNA damage-responsive regulon similar to the SOS regulon of Escherichia coli. To determine whether P. aeruginosa encodes such stress-inducible genes, the response of P. aeruginosa to DNA-damaging agents including far-UV radiation (UVC) and the quinolone antimicrobial agent norfloxacin was investigated by monitoring the expression of fusions linking P. aeruginosa promoters to a beta-galactosidase reporter gene. These fusions were obtained by Tn3-HoHol insertional mutagenesis of a P. aeruginosa genomic library. Eight different damage-inducible (din) gene fusions were isolated which lack homology to the P. aeruginosa recA gene. Expression of the three gene fusions studied, dinA::lacZYA, dinB::lacZYA, and dinC::lacZYA, increased following UVC and quinolone exposure but not following heat shock. Similar to E. coli SOS genes, the din genes were induced to different extents and with dissimilar kinetics following UVC irradiation. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Pseudomonas aeruginosa, *Promotor regions(Genetics), *Repressor proteins, *Recombinant fusion proteins, *DNA damage, Restriction mapping, Beta-galactosidase, Genomic library, SOS response(Genetics), Kinetics, Ultraviolet rays, Escherichia coli, Norfloxacin, Plasmids, Reprints.

PB92-195734/REB PC **A02**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Preparation and Regeneration of Protoplasts of 'Colletotrichum gloeosporioides' f. p. 'Aeschynomene'. Journal article.
Arkansas Univ., Fayetteville. Dept. of Plant Pathology.
D. O. TeBeest, and G. J. Weidemann. c1992, 8p EPA/600/J-92/216
Grant EPA-R-814402
Pub. in Mycologia, v82 n2 p249-255 1992. Sponsored by Environmental Research Lab., Gulf Breeze, FL.

Protoplasts were produced from conidia of Collectotrichum gloespoiodes f. sp. aeschynomenc, a fungal plant pathogen of Aeschynomene virginica, during treatment with Novozym 234 or a mixture of chitinase and beta-glucuronidase after pretreatment with 2-mercaptoethanol. Protoplasts were optimally stabilized in 1.2 M mannitol after release from conidia but regenerated and reverted to hyphae optimally on 0.7 M sucrose. Approximately 84% of the protoplasts regenerated cell walls and reverted to hyphal colonies on 0.7 M sucrose. The osmotic stabilizer and molarity of the stabilizer affected regeneration and reversion to colonies. Microscopic studies of the nuclear content of conidia protoplasts showed that the number of nuclei in protoplasts was similar to the number of nuclei in conidia from which they were produced. Of the 209 colonies grown from reverted protoplasts, all were as pathogenic to A. virginica as the wild-type parent, and all resembled the wild-type strain from which they were produced. The development of an efficient technique to produce protoplasts enables future research on the genetics of the fungus. (Copyright (c) 1990, by The New York Botanical Garden, Bronx, NY.)

Keywords: *Protoplasts, *Plant diseases, Virulence, Spores, Cultured cells, Beta-glucuronidase, Chitinase, Osmolar concentration, Reprints, *Colletotrichum gloesporioides, *Aeschynomene virginica.

PB92-195759/REB PC **A02**/MF **A01**
Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
D. P. Middaugh, B. S. Anderson, and M. J. Hemmer. c1992, 7p EPA/600/J-92/218
Pub. in Environmental Toxicology and Chemistry, v11 p393-399 1992. Prepared in cooperation with California Univ., Santa Cruz. Inst. of Marine Sciences, and California State Dept. of Fish and Game, Monterey. Marine Pollution Studies Lab.

Topsmelt (Atherinops affinis) were spawned repeatedly in the laboratory from May to July 1989. A periodic 'temperature spike' from the holding temperature of approximately 18 up to approximately 20.5 C, introduced at 7- to 9-d intervals, resulted in maximum production of viable embryos on the fourth morning after the spike. Examination of embryonic stages and comparison to known developmental rates for Atherinops affinis embryos revealed that spawning was generally nocturnal, occurring between 1900 and 0500 h. Survival of embryonic and larval Atherinops affinis cultured at 21 + or - 1 C and 20 + or - 2 0/00 salinity was excellent (>80 percent). A larval growth curve was developed for the first 24 d post-hatch.

Keywords: *Reproduction(Biology), *Larvae, *Growth, *Laboratories, Temperature, Embryos, Mortality, Salinity, Reprints, *Topsmelt, *Atherinops affinis.

PB92-195767/REB PC **A02**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Detection of Horizontal Gene Transfer by Natural Transformation in Native and Introduced Species of Bacteria in Marine and Synthetic Sediments. Journal article.
University of South Florida, St. Petersburg. Dept. of Marine Science.
G. J. Stewart, and C. D. Sinigalliano. c1990, 9p EPA/600/J-92/219
Grants EPA-R-813589, NSF-OCE88-17172
Pub. in Applied and Environmental Microbiology, p1818-1824 Jun 90. Sponsored by Environmental Research Lab., Gulf Breeze, FL., and National Science Foundation, Washington, DC.

Both naturally occurring marine sediments and artificial sediments were used as supports for natural transformation of marine bacteria. While transformation was not detected in cells of Pseudomonas stutzeri strain ZoBell suspended in artificial seawater, when recipient cells and rifampin resistant DNA were loaded onto sterile sediment columns, transformation could be detected at frequencies four to twenty times that for spontaneous resistance. Treatment of these columns with Dnase I reduced transformation frequencies to levels comparable to spontaneous resistance frequencies. Transformation was also detected when recipient cells and DNA were loaded on columns prepared from non-sterile sediments, although the frequencies of transformation were lower in these cases than when sterile sediments were employed. Results indicate that marine sediments facilitate the uptake and expression of exogenous DNA by transformable marine bacteria, and that sediments are a more likely niche for natural transformation than the water column in the marine environment.

Keywords: *Gene transfer, *Marine microorganisms, Deoxyribonucleic acids, Genetic transformation, Rifampicin, Drug resistance, Sediments, Reprints, *Pseudomonas stutzeri.

PB92-195775/REB PC **A03**/MF **A01**
Reproductive Ecology of the Inland Silverside, 'Menidia beryllina', (Pisces: Atherinidae) from Blackwater Bay, Florida. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
D. P. Middaugh, and M. J. Hemmer. c1992, 11p EPA/600/J-92/220, CONTRIB-724
Pub. in COPEIA, n1 p53-61 1992.

The reproductive ecology of the inland silverside, Menidia beryllina, was studied during February 1988-March 1989 at Robinson Point, Blackwater Bay, Florida. Environmental variables including pH, rainfall, salinity, water temperature and dissolved oxygen were measured weekly or biweekly. Fish were sampled weekly with a seine designed to catch adult, juvenile and young-of-the-year (YOY) individuals. Most reproductive activity occurred during February-April 1988. The maximum mean weekly female gonadosomatic index (GSI) of 12.5 occurred in April. Fecundity ranged from 63 to 419 hydrated eggs per female. The maximum mean weekly male GSI of 6.1 occurred in early March. Catches of YOY individuals 7.6-37.5 mm SL was greatest in May. These YOY individuals matured in July-September and spawned. The reproductive activity resulted in recruitment of a second group of YOY fish into the population during August-October. Growth rates of YOY in May-July, calculated by regression methods from weekly frequency distributions of standard length, was 0.34 mm/day for females and 0.31 mm/day for males. (Copyright (c) 1992 by the American Society of Ichthyologists and Herpetologists.)

Keywords: *Ecology, *Reproduction(Biology), Fecundity, Seasonal variations, Environmental monitoring, Life cycles, Temperature, Growth, Reprints, *Inland silversides, *Menidia beryllina, Blackwater Bay(Florida).

PB92-195783/REB PC **A02**/MF **A01**
National Science Foundation, Washington, DC.
Abundant Males in Populations of a Selfing Hermaphrodite Fish, 'Rivulus marmoratus', from Some Belize Cays. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
B. J. Turner, W. P. Davis, and D. S. Taylor. c1992, 6p EPA/600/J-92/221
Grant NSF-BSR85-06417
Pub. in Jnl. of Fish Biology 40, p307-310 1992. Prepared in cooperation with Virginia Polytechnic Inst. and State Univ., Blacksburg. Dept. of Biology, and Brevard Mosquito Control District, Titusville, FL. Sponsored by

National Science Foundation, Washington, DC., and Smithsonian Institution, Washington, DC.

The killifish Rivulus marmoratus is the only known selfing hermaphroditic vertebrate, and males of the species are usually exceedingly rare or non-existent in nature. Collections on several Belize cays in 1988 and 1989 yielded 13.5-24% males. Factors responsible for this unusually high proportion of males are currently not understood. Likewise, the biological significance of males in populations which otherwise consist of selfing hermaphrodites (with internal fertilization) is problematic and awaits further study. (Copyright (c) 1992 The Fisheries Society of the British Isles.)

Keywords: *Marine fishes, *Abundance, *Hermaphroditism, *Killifish, Belize, Males, Reproduction(Biology), Reprints, *Rivulus marmoratus.

PB92-195791/REB PC **A03**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Selection of Surrogates for a Genetically Engineered Microorganism with Cellulolytic Capability for Ecological Studies in Streams. Journal article.
Academy of Natural Sciences of Philadelphia, Avondale, PA. Stroud Water Research Center.
T. L. Bott, and L. A. Kaplan. c1991, 12p EPA/600/J-92/222
Pub. in Canadian Jnl. of Microbiology, v37 p848-857 1991. Sponsored by Environmental Research Lab., Gulf Breeze, FL.

Aerobic cellulolytic bacteria were ranked according to ability to degrade cellulose azure and to clear cellulose agar. Cellulomonas uda NRRL B404 and Cellulomonas sp. NRC 2406 showed greater clearing of cellulose agar than other isolates, but differences in cellulose azure decomposition were not statistically significant. Cellulomonas uda NRRL B404 was the slowest growing isolate, although growth rates of isolates did not differ statistically. Cellulomonas uda NRRL B404, Cellulomonas sp. NRC 2406, Cellulomonas fimi NRRL B402, Cellulomonas flavigena NRC 2403, and Cellvibrio gilvus ATCC 13127 were selected as the best candidates for larger scale experiments. Persistence of Cellulomonas uda, Cellulomonas sp. NRC 2406, and Cellulomonas sp. CS1-1 in stream-bed sediments was studied in flowing-water microcosms, using fluorescent antibodies and epifluorescence microscopic counts to assess densities of target cells. Isolate densities declined from postinoculation maxima, but organisms were detected 2-4 weeks later in three different experiments.

Keywords: *Genetic engineering, *Aquatic microbiology, *Aquatic ecosystems, Cellulose, Fluorescence microscopy, Hydrolysis, Biodeterioration, Leaves(Botany), Sediments, Microbial colony count, Fluorescent antibody technique, Reprints, *Cellomonas.

PB92-195809/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Effects of Operating Variables on PAH Emissions and Mutagenicity of Emissions from Woodstoves (Journal Article).
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
R. C. McCrillis, R. R. Watts, and S. H. Warren. c1992, 6p EPA/600/J-92/226
Contract EPA-68-02-4277
Pub. in Jnl. of the Air Waste Management Association, v42 n5 p691-694 May 92. See also PB90-262908. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses studies in instrumented woodstove test laboratories to quantify woodstove emissions during operations typical of in-house usage. (The studies parallel field source sampling to identify the potential mutagenic impact of residential wood burning on ambient and indoor air.) Three woodstoves were operated over a range of burnrates, burning eastern oak, southern yellow pine, or western white pine. Two conventional stoves were tested at an altitude of 90 m. One of the conventional stoves and a catalytic stove were tested at an altitude of 825 m. For one study, tests were started after a fire had been established and encompassed several wood additions over a 6-8 hr period. The other tests were started with kindling a fire in a cold stove and continued for about 8 hours, including several wood additions. For one test, emissions were collected using a modified EPA Method 5 sampling train. For the other tests, the woodstove dilution sampling system (WSDSS) was used. As anticipated, results showed wide variability, a common problem with woodstove testing. Total particulate emissions showed the expected inverse correlation with burnrate for the conventional stoves and nearly flat for the catalytic stove. While there seemed to be little or no correlation of total particulate emissions with altitude, the sum of the PAHs quantified showed an inverse correlation with altitude.

Keywords: *Air pollution control, *Stoves, *Wood burning furnaces, Residential buildings, Mutagens, Combustion products, Aromatic polycyclic hydrocarbons, Wood fuels, Pine wood, Oak wood.

PB92-195817/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Sorbent/Urea Slurry Injection for Simultaneous SO2/NOx Removal. Journal article Oct 90-Jan 92.
Acurex Corp., Research Triangle Park, NC.
B. K. Gullett, K. R. Bruce, W. F. Hansen, and J. E. Hofmann. c1992, 10p EPA/600/J-92/227
Contract EPA-D0-0141
Pub. in Environmental Progress, v11 n2 p155-192 May 92. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses an investigation of the combination of sorbent injection and selective non-catalytic reduction (SNCR) technologies for simultaneous SO2/NOx removal. A slurry of a urea-based solution and various Ca-based sorbents was injected at a range of temperatures and reactant/pollutant stoichiometries. Testing on a natural-gas pilot-scale reactor with doped pollutants achieved up to 80% reduction of SO2 and NOx at reactant/pollutant stoichiometric ratios of 2 and 1, respectively. SO2 emission reductions from slurry injection were enhanced compared with dry Ca(OH)2 sorbent injection methods, possibly due to sorbent fracturing to smaller, more reactive particles. Emissions from NH3 slip and N2O formation were reduced in comparison with others' published results while similar NOx reductions were obtained. The injection of the urea-based solution enhanced the SO2 removal, likely due to the formation of a (NH4)2Ca(SO4)2 (center dot) H2O compound. The results of the pilot-scale study have shown high reduction of both SO2 and NOx, suggesting the need for full-scale studies to further assess the combined sorbent/urea-based slurry injection technology.

Keywords: *Air pollution control, *NOXSO process, *Injection, Combustion products, Sorbents, Urea, Sulfur dioxide, Performance evaluation, Ammonia, Pilot plants, Slurries, Calcium carbonates, Additives, Comparison, Chemical reactions, Reprints, *Selective noncatalytic reduction.

PB92-195825/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Methods for Assessing Rat Sperm Motility. Journal article.
National Toxicology Program, Research Triangle Park, NC.
R. E. Chapin, R. S. Filler, D. Gulati, J. J. Heindel, and D. F. Katz. c1992, 9p EPA/600/J-92/229
Contract EPA-68-02-4450
Pub. in Reproductive Toxicology, v6 n3 p267-273 May 92. Prepared in cooperation with American Cyanamid Co., Pearl River, NY. Lederle Labs. Div., Environmental Health Research and Testing, Inc., Lexington, KY., and California Univ., Davis. School of Medicine. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

Computer-assisted sperm analysis (CASA) systems are becoming more widely used. With this spread of technology come more data from toxicology studies, designed to determine if treatment with putative toxicants affects sperm motion parameters. While these CASA methods provide us with more ways to evaluate toxicity, and thus perhaps increase the chances of successfully protecting human health, there is also a greater likelihood that different laboratories will use different methods of collecting data on sperm motility. Different systems and different methods will produce data that are difficult to compare. In a prospective attempt to address this issue of comparability and limit the problems, a group of individuals using CASA systems to analyze rat sperm motility convened to discuss methodologic issues, share data, and tried to reach a consensus about methods for performing these studies. The manuscript shares those meetings and data in the hope that common methods will enhance inter-laboratory comparisons. (Copyright (c) 1992 Pergamon Press Ltd.)

Keywords: *Sperm motility, Rats, Tests, Microcomputers, Interlaboratory comparisons, Epididymis, Toxicology, Reprints, *Computer-assisted sperm analysis.

PB92-195833/REB PC **A02**/MF **A01**
Comparative Immunosuppression of Various Glycol Ethers Orally Administered to Fisher 344 Rats. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
R. J. Smialowicz, W. C. Williams, M. M. Riddle, D. L. Andrews, and R. W. Luebke. c1992, 9p EPA/600/J-92/230
Pub. in Fundamental and Applied Toxicology 18, n4 p621-627 May 92. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

Oral dosing of adult male F344 rats with the glycol ether 2-methoxyethanol (ME) or its principal metabolite 2-methoxyacetic acid (MAA) results in the suppression of the primary plaque-forming cell (PFC) response to trinitrophenyl-lipopolysaccharide (TNP-LPS). In the present study, the PFC response to TNP-LPS was used to evaluate the immunotoxic potential of ethylene glycol (EG) as well as the glycol ethers 2-methoxyethyl acetate (MEA), 2-(2-methoxyethoxy) ethanol, bis(2-methoxyethyl) ether, 2-ethoxyethanol and its principal metabolite 2-ethoxyacetic acid, 2-ethoxyethyl acetate, and 2-butoxyethanol relative to ME and MAA. Rats were immunized with TNP-LPS and then exposed 4 and 28 hr later to 50, 100, 200, or 400 mg/kg of glycol ether or EG. Three days following immunization, the PFC response to TNP-LPS was determined. In addition to ME and MAA, only MEA, which was as effective as ME, suppressed the PFC response to TNP-LPS. Concomitant administration of the alcohol dehydrogenase inhibitor 4-methylpyrazole with ME or MEA prevented suppression of the PFC response by these glycol ethers. (Copyright (c) 1992 by the Society of Toxicology.)

Keywords: *Toxicology, *Immunosuppression, Antibody formation, Lipopolysaccharides, Rats, Alcohol dehydrogenase, Enzyme inhibitors, Ethylene glycol, Reprints, *Glycol ethers, 4-methylpyrazole.

PB92-195841/REB PC **A03**/MF **A01**
Induction of Prophage Lambda by Chlorinated Organics: Detection of Some Single-Species/Single-Site Carcinogens. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Genetic Toxicology Div.
D. M. DeMarini, and H. G. Brooks. c1992, 16p EPA/600/J-92/231
Pub. in Environmental and Molecular Mutagenesis 19, n2 p98-111 Mar 92.

Twenty-eight chlorinated organic compounds were evaluated for their ability to induce DNA damage using the Microscreen prophage-induction assay in Escherichia coli. Comparison of the performance characteristics of the prophage-induction and Salmonella assays to rodent carcinogenicity assays showed that the prophage-induction assay had a somewhat higher specificity than did the Salmonella assay (70% vs. 50%); sensitivity, concordance, and positive and negative predictivity were similar for the two microbial assays. The Microscreen prophage-induction assay failed to detect eight carcinogens, perhaps due to toxicity or other unknown factors; five of these eight carcinogens were detected by the Salmonella assay. However, the prophage-induction assay did detect six carcinogens that were not detected by the Salmonella assay, and five of these were single-species, single-site carcinogens, mostly mouse liver carcinogens. (Copyright (c) 1992 Wiley-Liss, Inc.)

Keywords: *Carcinogens, *Phage lambda, *DNA damage, Escherichia coli, Salmonella, Mutagenicity tests, DNA repair, SOS response(Genetics), Plaque assay, Carcinogenicity tests, Tables(Data), Dose-response relationships, Reprints, *Organochlorine compounds.

PB92-195858/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.
Reliability of Selected Tests from the Neurobehavioral Evaluation System. Journal article.
North Carolina Univ. at Chapel Hill. Dept. of Psychology.
E. Arcia, and D. A. Otto. c1992, 9p EPA/600/J-92/232
Pub. in Neurotoxicology and Teratology, v14 n2 p103-110 Mar 92. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.

The Neurobehavioral Evaluation System (NES) is a computerized set of tests designed for assessing the neurobehavioral effects of chemical exposure. It is a set of perceptual-motor, memory, learning, attention, and reaction time tests that have been used extensively in field and laboratory studies. Despite its widespread use, information on the reliability of the tests is limited. The article reviews the importance of test reliability and presents the results of analyses which were undertaken to examine the reliability of 11 tests and a mood rating scale contained in the NES. The NES tests were administered to 66 subjects on two testing days separated by a minimum of seven days. Seven tests were administered twice on each test day with a 3-hour interval between testing, and four of the tests were presented only once each test day. Test reliabilities were estimated for various summary measures for each test. Suggestions are made on the appropriate selection of tests and use of these. (Copyright (c) 1992 Pergamon Press Ltd.)

Keywords: *Neuropsychological tests, Reliability, Attention, Affect, Memory, Reaction time, Learning, Vision, Psychomotor performance, Computer applications, Exposure, Reprints, *Neurobehavioral Evaluation System.

PB92-195866/REB PC **A03**/MF **A01**
Prophage Induction by DNA Topoisomerase II Poisons and Reactive-Oxygen Species: Role of DNA Breaks. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Genetic Toxicology Div.
D. M. DeMarini, and B. K. Lawrence. c1992, 19p EPA/600/J-92/233
Pub. in Mutation Research 267, n1 p1-17 May 92.

The following compounds induced prophage lambda in the Escherichia coli WP2(s)Lambda Microscreen assay: adriamycin, m-AMSA, ellipticine, nalidixic acid, oxolinic acid, paraquat, hydrogen peroxide, and sodium azide. Actinomycin D, novobiocin, teniposide, and potassium superoxide did not induce prophage lambda. An inhibitor of DNA gyrase subunit B (novobiocin) does not induce prophage. In contrast, poisons of DNA gyrase subunit A (nalidixic acid and oxolinic acid) were the most potent inducers of prophage among the agents examined here. The next most potent agents were the mammalian DNA topoisomerase II poisons that are reactive intercalators and generators of active-oxygen species (adriamycin and ellipticine). Agents that produce reactive-oxygen species only (hydrogen peroxide and paraquat) were next in potency. The mammalian DNA topoisomerase II poison m-AMSA was the weakest inducer. The results illustrate the relative effectiveness of agents that induce prophage by various mechanisms. Nonetheless, these agents may induce prophage and SOS response by producing essentially the same type of DNA damage, i.e., DNA strand breaks. The study and a review of the literature suggest that certain agents may induce their genotoxic effects in bacteria by mechanisms that are different than those by which they induce their genotoxic effects in mammalian cells.

Keywords: *DNA topoisomerase II, *DNA damage, *Mutagens, *Toxicology, *Phage lambda, *Enzyme inhibitors, Oxygen, Free radicals, SOS response(Genetics), Intercalating agents, Hydrogen peroxide, Ellipticine, Doxorubicin, Paraquat, DNA gyrase, Reprints.

PB92-195874/REB PC **A03**/MF **A01**
Drinking Water from Agriculturally Contaminated Groundwater. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
J. A. Goodrich, B. W. Lykins, and R. M. Clark. c1991, 12p EPA/600/J-92/234
Pub. in Jnl. of Environmental Quality, v20 n4 p707-717 Oct-Dec 91.

Sharp increases in fertilizer and pesticide use throughout the 1960s and 1970s along with generally less attachment to soil particles may result in more widespread contamination of drinking water supplies. The purpose of the study was to highlight the use of agricultural chemicals and their occurrence in groundwater while focusing on the engineering processes available for removing them to acceptable limits for consumers. Through various case studies and field-scale research projects, several different drinking water treatment technologies have been evaluated for their capability removing various groundwater contaminants. Both central treatment and individual household point of entry devices were studied. Treatment options vary depending on the types of contaminants to be removed. Best available technology consists of ion exchange or reverse osmosis for removing nitrates, granular activated C for removing non-volatile synthetic organics, and air stripping for volatile synthetic organics. Since there is no single treatment for all contaminants, a homeowner or individual community will have to evaluate their particular situation and possibly select a treatment scheme or combination of technologies to provide the best cost-effective solution. (Copyright (c) 1991, ASA, CSSA, SSSA.)

Keywords: *Water treatment, *Potable water, *Ground water, *Consumptive use, *Agricultural chemicals, Water supply, Fertilizers, Water pollution sources, Households, Water users, Stripping, Nitrates, Water quality standards, Pesticide removal, Water distribution(Applied), Granular activated carbon treatment, Ion exchanging, Reverse osmosis, Best technology, Reprints.

PB92-195882/REB PC **A03**/MF **A01**
Use of Marsh Plants for Toxicity Testing of Water and Sediment. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
G. E. Walsh, D. E. Weber, T. L. Simon, L. K. Brashers, and J. C. Moore. c1992, 17p EPA/600/A-92/121, CONTRIB-694
Pub. in Plants for Toxicity Assessment: Second Volume, ASTM STP 1115, p341-354 1991.

The freshwater wetland plants, Echinochloa crusgalli crusgalli and Echinochloa crusgalli zelayensis, and the saltmarsh plant Spartina alterniflora were exposed to the herbicides metolachlor and norflurazon in two types of toxicity tests: (1) seed germination and early seedling growth in water, and (2) seedling survival and growth in natural and synthetic sediments. The synthetic sediments were formulated to be similar to the natural sediments with regard to particle size distribution and organic content. The herbicides did not affect rate of germination, but significantly inhibited rate of early growth and survival and rate of growth of older seedlings in sediments. Echinochloa was more sensitive than Spartina to both herbicides. Inhibition of the growth rates of the two varieties of E. crusgalli was similar in natural and synthetic sediments, but inhibition of growth of S. alterniflora was greater in synthetic than in natural sediment. It is concluded that the species tested may be used for estimation of potential effects of toxicants on wetland plants and that synthetic sediments of known composition may be used in sediment toxicity tests.

Keywords: *Swamps, *Wetlands, *Plants(Botany), *Toxicity, *Water pollution effects(Plants), *Herbicides, *Sediments, Aquatic plants, Growth, pH, Cations, Survival, Reprints, Echinochloa crusgalli crusgalli, Echinochloa crusgalli zelayensis, Spartina alterniflora, Norflurazon, Metolachlor.

PB92-195890/REB PC **A02**/MF **A01**
Mosquito Control Pesticides: Adverse Impacts to Freshwater Aquatic and Marine Organisms. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
J. R. Clark. 1991, 9p EPA/600/A-92/122
Pub. in Mosquito Control Pesticides: Ecological Impacts and Management Alternatives, p33-39 1991.

Most toxicity information available for evaluating potential effects of mosquito control chemicals on nontarget aquatic biota comes from acute lethality tests of 24- to 96-hr duration. These studies generally show that insecticides are more toxic to aquatic invertebrates than fishes. Crustaceans, in particular, are extremely sensitive to mosquito control insecticides, perhaps a result of their close phylogenetic relationships with insects. Effects of longer-term exposures on survival and growth or studies that quantify other sublethal effects are available only for selected, standard laboratory test species for some chemicals. Field studies conducted by the author's laboratory following operational insecticide applications have shown that exposure can be shorter duration and of lesser concentration than those used for worst-case scenarios in screening level environmental risk assessments. However, long-term effects of repeated applications of the same chemical or cumulative effects of multiple-chemical treatments have not been adequately assessed in the field.

Keywords: *Freshwater biology, *Marine biology, *Pesticides, *Culicidae, *Toxicology, *Water pollution effects(Animals), Invertebrates, Fishes, Crustacea, Field tests, Malathion, Fenthion, Species diversity, Reprints, Dibrom, Temephos.

PB92-195908/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Predictions of Azeotropes Formed from Fluorinated Ethers, Ethanes, and Propanes. Rept. for Jan-Mar 92.
Acurex Environmental Corp., Research Triangle Park, NC.
C. L. Gage, and G. S. Kazachki. 1992, 15p EPA/600/A-92/128
Contract EPA-68-D0-0141
Presented at the 1992 Purdue Refrigeration Conference, West Lafayette, IN., July 20-23, 1992. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The synthesis of new non-chlorinated refrigerants expands the base of alternatives for replacing ozone-depleting chlorofluorocarbons (CFCs) and their first-generation replacements, hydrochlorofluorocarbons (HCFCs). Besides the direct use of these refrigerants, there is also the potential to combine them with other compounds to form blends. In the work, the potential for azeotrope formation and performance was evaluated for fluorinated ethers, ethanes, and propanes. Azeotrope formation was predicted using an interaction parameter for the mixture which was based on the dipole moments and volumes of the components. Dipole moments for the new compounds were predicted from the molecular structure. Of 20 fluorinated ether and hydrocarbon pairs tested, seven were found to form azeotropes. Results from the work predicted azeotropes with boiling points between -46 C (-52 F) and -19 C (-2 F), indicating potential replacements for CFC-12 and R-502, an azeotrope of HCFC-22 and CFC-115. Azeotrope performance in vapor-compression cycles was then evaluated.

Keywords: *Azeotropes, *Fluorine organic compounds, *Fluorohydrocarbons, *Substitutes, *Refrigerants, *Air pollution control, Dipole moments, Boiling points, Binary mixtures, Performance evaluation, Predictions.

PB92-195916/REB PC **A03**/MF **A01**
Landfill Gas Utilization: Options, Benefits, and Barriers.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
S. A. Thorneloe. 1992, 14p EPA/600/A-92/129
Presented at the U.S. Conference on Municipal Solid Waste Management (2nd), Arlington, VA., June 3-5, 1992.

Of the more than 6,000 active municipal solid waste landfills in the United States (U.S.), there are 114 landfill gas (LFG) to energy projects. The paper describes the different options for LFG to energy projects and provides statistics on the U.S. LFG industry. The paper also provides an overview of the benefits associated with LFG utilization and identifies some of the current barriers in the U.S. that affect LFG utilization. The support for the research is from the U.S. Environmental Protection Agency's (EPA's) Global Climate Change Program on emissions and mitigation from landfills and other waste management facilities that produce greenhouse gases. EPA's Air and Energy Engineering Research Laboratory (AEERL) has responsibility for EPA's research on emissions and mitigation for the major sources contributing to global climate change.

Keywords: *Earth fills, *Air pollution control, *Energy source development, *Gas fuels, Waste disposal, Methane, Pollution sources, Ground release, Munici-

pal wastes, Heat rate, Refuse derived fuels, Clean Air Act.

PB92-195924/REB PC A03/MF A01
Analysis of Emissions from Residential Oil Furnaces and Comparison with Woodstove Emissions. Rept. for Mar 88-Mar 89.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
R. C. McCrillis, and R. R. Watts. 1992, 12p EPA/600/A-92/130
Presented at the International Conference of the Clean Air Society of Australia and New Zealand (11th), Brisbane, Australia, July 5-10, 1992.

The paper gives results of a series of emission tests on a residential oil furnace to determine emissions from two types of burners. A number of analyses were performed on the emissions, including total mass, filterable particulate, total extractable organics, and mutagenicity. Preliminary results are also presented on oil furnaces tested by the EPA in Roanoke, VA, during the 1988-89 winter under the Integrated Air Cancer Project field study. These data are compared to data in the literature.

Keywords: *Furnaces, *Residential buildings, *Fuel oil, *Wood burning furnaces, Stoves, Particulates, Mutagens, Carcinogens, Stationary sources, Integrated Air Cancer Project.

PB92-195932/REB PC A02/MF A01
Novel Method of Reducing Transient Emissions from Rotary Kiln Incinerators through Modified Waste Packaging. Rept. for Mar 90-May 92.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
P. M. Lemieux, W. P. Linak, and J. O. L. Wendt. 1992, 7p EPA/600/A-92/131
Presented at Annual Incineration Conference (11th), Albuquerque, NM., May 12-15, 1992. Prepared in cooperation with Arizona Univ., Tucson. Dept. of Chemical Engineering.

The paper gives results of tests on a 73 kW pilot-scale rotary kiln incinerator simulator to examine the effect of modified waste packaging on the ability of the incineration system to respond to transients imposed due to batch charging of volatile liquid surrogate hazardous wastes bound on corncob sorbents. Normally, the waste container ruptures soon after its introduction into the kiln, rapidly releasing any contained volatile materials. This rapid release of combustibles has the potential to locally deplete available oxygen supplied by the main burner. This can lead to a transient puff of unburned material that must be dealt with by downstream equipment, such as an afterburner. Innovative waste packaging methods were used to delay the time required for waste vaporization, which significantly decreased the measured amount of unburned material exiting the kiln. This concept has advantageous implications for rotary kiln incinerators as a way to both reduce transient emissions and increase the feed rate of containerized liquids.

Keywords: *Air pollution control, *Containers, *Liquid waste disposal, *After burning, *Incinerators, Emission factors, Packaging, Combustion efficiency, Vaporizing, Absorbers(Materials), Kilns, Organic materials, Performance evaluation.

PB92-195940/REB PC A03/MF A01
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Parametric Evaluation of Powdered Activated Carbon Injection for Control of Mercury Emissions from a Municipal Waste Combustor. Rept. for Oct 91-Jan 92.
Radian Corp., Research Triangle Park, NC.
D. M. White, K. L. Nebel, T. G. Brna, and J. D. Kilgroe. 1992, 18p EPA/600/A-92/132
Contract EPA-68-D9-0054
Presented at the AWMA Annual Meeting, Kansas City, MO., June 21-26, 1992. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper gives results of a study at the Stanislaus County (California) municipal waste combustor (MWC) to determine the effects of carbon type, feed location, and feed rate on mercury (Hg) removal. Based on the test results and statistical analysis of the data, varying carbon type and feed location did not influence the results significantly. The statistical analysis did indicate, however, that carbon feed rate had a significant impact on Hg removal for all carbon feed locations and types. As expected, increased feed rate increased Hg removal and lowered stack Hg concentrations. Higher feed rates also decreased the variability of Hg control performance. Low carbon feed rates resulted in both lower Hg control efficiency and greater run-to-run variability in Hg reduction performance. The impact of ammonia (NH_3) injection on Hg removal, both with and without carbon injection, appears to be minor. However, the limited data obtained for these conditions did not permit statistical verification of this finding. Lastly, no correlation was observed between Hg removal and lime feed rate (as indicated by sulfur dioxide removal), and fabric filter temperature, within the range tested, did not affect Hg removal.

Keywords: *Air pollution control, *Activated carbon treatment, *Injection, *Mercury(Metal), Municipal wastes, Waste disposal, Incineration, Performance evaluation, Statistical analysis, Powders, Flue gases, Air pollution sampling, Stanislaus County(California).

PB92-195957/REB PC A07/MF A02
Minnesota Pollution Control Agency, St. Paul.
Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
Environmental Research Lab.-Duluth, MN.
G. E. Glass, J. A. Sorensen, G. R. Rapp, K. W. Schmidt, and J. K. Huber. Apr 92, 150p EPA/600/A-92/133
Prepared in cooperation with Minnesota Univ.-Duluth. Coll. of Science and Engineering. Sponsored by Minnesota Pollution Control Agency, St. Paul.

Recent surveys of mercury contamination in fish have led to an increasing awareness of the problem and have prompted widespread fish consumption advisories in 26 states (including Minnesota) and in several other countries (e.g., Canada and Sweden). Consequently, these findings have spawned a number of research questions; efforts in these states and countries have endeavored to investigate and determine sources and causes of mercury contamination and the mechanisms associated with mercury bioaccumulation in fish. The report contains Mercury Cycling in Lakes: Development of Analytical Capabilities for Ultra-Trace Mercury Measurements; Mercury Sources and Distribution in Minnesota's Aquatic Resources: Surface Water, Sediments, Plants, Plankton, Fish, Remediation, and Methods; and Mercury Sources and Distribution in Minnesota's Aquatic Resources: Deposition.

Keywords: *Mercury(Metals), *Water pollution effects, *Surface waters, *Environmental surveys, Distribution(Property), Minnesota, Pollution sources, Fishes, Saint Louis River, Mississippi River, Crane Lake, Ecosystems, State programs, Deposition, Water resources, Sand Point Lake, Bioaccumulation, Trace amounts, Sediments, Plants(Botany), Remedial action, Air water interactions.

PB92-195973/REB PC A03/MF A01
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Design and Optimization of a Refrigeration System.
Purdue Univ., Lafayette, IN. Ray W. Herrick Labs.
M. G. McKellar, D. R. Tree, and J. F. Hamilton. 1992, 11p EPA/600/A-92/135
Grant EPA-R-816201-02
Presented at the International Congress of Refrigeration (18th), Montreal, Quebec, August 10-17, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses the design and optimization of a refrigeration system, using a mathematical model of a refrigeration system modified to allow its use with the optimization program. The model was developed using only algebraic equations so that it could be used with the optimization program and keep the computer run time to reasonable values. The paper describes the changes to the model, describes the optimization program strategy, and gives some preliminary results of some of the optimization studies. Although not reported in the paper, the model results, where possible, were compared to experimental data.

Keywords: *Refrigerating machinery, *Computerized simulation, Mathematical models, Optimization, Stationary sources, Refrigerants, Compressors, Refriferators.

PB92-195981/REB PC A03/MF A01
Analysis of Emissions from Residential Oil Furnaces. Rept. for Mar 88-Mar 89.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
R. C. McCrillis, and R. R. Watts. 1992, 11p EPA/600/A-92/136
Presented at the AWMA Annual Meeting (85th), Kansas City, MO., June 21-26, 1992.

The paper gives results of a series of emission tests on a residential oil furnace to determine emissions from two types of burners. A number of analyses were performed on the emissions, including total mass, filterable particulate, total extractable organics, and mutagenicity. Preliminary results are also presented on oil furnaces tested by the EPA in Roanoke, VA, during the 1988-89 winter under the Integrated Air Cancer Project field study. These data are compared to data in the literature.

Keywords: *Furnaces, *Residential buildings, *Fuel oil, *Air pollution, Particulates, Mutagens, Carcinogens, Stationary sources, Integrated Air Cancer Project.

PB92-195999/REB PC A03/MF A01
Meteorological and Site Influences Affecting the Comparison of Nephelometer and Photographic Determinations of Light Extinction at Rural Sites in the Eastern United States.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
E. G. Evans, R. J. Tropp, and T. Fitz-Simons. 1992, 19p EPA/600/A-92/139
Prepared in cooperation with Alliance Technologies Corp., Chapel Hill, NC.

The level of agreement and the degree of linear correlation between nephelometer and photographic determinations of light extinction were examined from data obtained as part of the Eastern Fine Particle and Visibility Network (EFPVN). Information about the relative equivalence of the two methods was used (along with site-specific topographic features and meteorological factors affecting slide codes and visual range determinations) to assess the significance of various sources of inaccuracy affecting each method. For the EFPVN measurements, significant seasonal and inter-site variation were found in both the level of agreement between seasonal averages and the degree of correlation between short-term (hour to daily) nephelometer and photographic measurements. These differences are examined in terms of seasonal changes, intersite differences, and coding and treatment of photographic measurements for meteorological conditions.

Keywords: *Haze detection, *Extinction, *Air pollution monitoring, *Fines, *Light transmission, Atmospheric optics, Nephelometers, Photography, Rural areas, Eastern region(United States).

PB92-196005/REB PC A03/MF A01
Guide for Using the Empirical Kinetics Modeling Approach Interface (EKMAI).
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
M. D. Bouley. 22 Apr 92, 24p EPA/450/4-92/009

The Empirical Kinetics Modeling Approach Interface (EKMAI) is a computer program which uses species concentration data from previous runs of the Regional Oxidant Model (ROM) to create input boundary conditions for the EKMA model. The manual describes how a user may extract the ROM data using the Gridded Model Information Support System (GMISS) Model Concentration Data Retrieval Subsystem and use EKMAI to produce boundary concentrations aloft of ozone, carbon monoxide, nitrogen oxides, and nonmethane organic compounds for input to EKMA.

Keywords: *Computerized simulation, *Guidelines, *User manuals(Computer programs), *Air pollution control, *Boundary conditions, Ozone, Carbon monoxide, Nitrogen oxides, Non-methane hydrocarbons, Concentration(Composition), Study estimates, Fore-

casting, State implementation plans, *Empirical Kinetics Modeling Approach Interface program, *EKMAI computer program, Regional Oxidant Model, Gridded Model Information Support System.

PB92-196021/REB PC **A03**/MF **A01**
Environmental Guidance: For Very Small Communities.
Environmental Protection Agency, Seattle, WA. Region X.
Feb 92, 40p EPA/910/9-92/003

Prepared by Region 10 of the U.S. Environmental Protection Agency for use by very small local units of government (communities with service populations of 1,000 or less). The handbook provides brief, straightforward descriptions of environmental programs which affect small communities. After highlighting services available from EPA Region 10, the handbook explores Cross Media Programs, Air Programs, Land Programs, and Water Programs. Definitions of key terms are provided at the end of the handbook. References, resources, and contacts are also included for each program area to help the reader locate additional information.

Keywords: *Environmental policy, *Local government, *Communities, *Handbooks, Guidelines, Land pollution, Water pollution, Air pollution, Radon, Environmental protection, Pollution abatement, Waste management, Hazardous materials, Underground storage, EPA region 10.

PB92-196047/REB PC **A03**/MF **A01**
Oil Tanker Waste Disposal Practices: A Review.
Environmental Protection Agency, Seattle, WA. Region X.
Jan 92, 47p EPA/910/9-91/046

In the spring of 1991, the Environmental Protection Agency, Region 10 (EPA), launched an investigation into tanker waste disposal practices for vessels discharging ballast water at the Alyeska Pipeline Services Company's Ballast Water Treatment (BWT) facility and marine terminal in Valdez, Alaska. It had been alleged that the Exxon Shipping Company was transferring 'toxic wastes originating in California' to Valdez. In response, EPA decided to examine all waste streams generated on board and determine what the fate of these wastes were in addition to investigating the Exxon specific charges. An extensive Information Request was generated and sent to the shipping companies that operate vessels transporting Alaska North Slope Crude. Findings included information on cargo and fuel tank washings, cleaning agents, and engine room waste.

Keywords: *Waste disposal, *Tanker ships, *Investigations, Reviews, Alaska, Pollution regulations, Water pollution, Ocean waste disposal, Marine engines, Ballast tanks, Clean Water Act, Crude oil, Washing, Cleaning agents, Fuel tanks, Exxon Company, EPA region 10, Valdez(Alaska), Engine rooms.

PB92-196054/REB PC **A06**/MF **A02**
Office of Radiation Programs, Washington, DC.
Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
Cohen (S.) and Associates, Inc., McLean, VA.
May 92, 117p EPA/402/R-92/002
Contract EPA-68D90170
Sponsored by Office of Radiation Programs, Washington, DC.

The report contains an introduction, a general description of the fertilizer industry, a discussion of the physical and radiological characteristics of phosphogypsum, a discussion of the uses of phosphogypsum, analyses of the radiological risks associated with various uses of phosphogypsum, and an analysis of the availability and costs of substitute materials.

Keywords: *Radioactive isotopes, *Risk assessment, *Phosphate rock slime, *Waste utilization, *Public health, Land reclamation, Ore processing, Biological radiation effects, Phosphoric acid plants, Phosphate fertilizer industry, Exposure, Chemical composition, Tables(Data), Uranium, Radium 226, *Mines(Excavations), Substitutes, Physical properties, Roads, Concretes, Materials recovery, Wet methods, *Phosphogypsum.

PB92-196351/REB PC **A02**/MF **A01**
Waste Minimization Assessment for a Manufacturer of Commercial Ice Machines and Ice Storage Bins. Environmental research brief.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
F. W. Kirsch, and G. P. Looby. May 92, 7p EPA/600/S-92/012

Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at Colorado State University performed an assessment at a plant that manufactures commercial ice machines and ice storage bins. The surface treatment of fabricated steel parts, parts washing, and treatment of waste-water generate the majority of the plant's waste. The team's report, detailing findings and recommendations, indicated that the greatest waste reduction would result from reusing rinse water in the plant's five-stage washer for fabricated parts.

Keywords: *Manufacturing, *Waste minimization, *Ice makers, Hazardous materials, Manuals, Waste water reuse, Industrial waste treatment, Washing, Assessments, Reduction, Liquids, Recommendations.

PB92-198258/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Using a Flame Ionization Detector (FID) Continuously Measure Toxic Organic Vapors in a Paint Spray Booth. Rept. for Jul 91-Jan 92.
Research Triangle Inst., Research Triangle Park, NC.
J. K. Whitfield, G. B. Howe, B. A. Pate, and J. D. Wander. 1992, 12p EPA/600/A-92/145
Grant EPA-R-815169-03
See also AD-A198 092 and AD-A242 508. Prepared in cooperation with Air Force Civil Engineering Lab., Tyndall AFB, FL. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper reports the demonstration of linear and similar responses of a Ratfisch RS-55CA flame ionization detector (FID) to a solvent mixture identical to the volatile organic compounds (VOCs) in the coating and catalyst (NSN 8010-01-336-3036) and to the calibrating gas (propane) used in field calibrations of the FID. Sensitivity and linearity have been shown to extend from 715 to 45 mg/cu m, which brackets the calculated short-term exposure limit (STEL) and lower action thresholds. Monitoring is maintained constantly and, under field conditions, equilibration occurs rapidly (analysis and output transpire in milliseconds). As a trigger for fail-safe conversion from recirculation mode to a straight-through paint spray booth configuration, the FID may confidently be expected to initiate a corrective response before a transient elevation of VOC concentrations overexposes area personnel.

Keywords: *Spray painting, *Toxicity, *Air Pollution Control, Measurement, Volatile organic compounds, Coatings, Response, Solvents, Calibrating, Design, Concentration(Composition), Hydrocarbons, Standards, Field tests, Monitoring, Exposure, Personnel, Tables(Data), *Flame ionization detectors, Paint spray booths.

PB92-198548/REB PC **A09**/MF **A03**
Preliminary Risk Assessment for Viruses in Municipal Sewage Sludge Applied to Land.
Environmental Protection Agency, Cincinnati, OH. Environmental Criteria and Assessment Office.
Jun 92, 193p EPA/600/R-92/064
See also PB90-171901 and PB90-171919.

Section 405 of the Clean Water Act requires the U.S. Environmental Protection Agency to develop and issue regulations that identify: (1) uses for sludge including disposal; (2) specify factors (including costs) to be taken into account in determining the measures and practices applicable for each use or disposal; and (3) concentrations of pollutants that interfere with each use or disposal. To comply with the mandate, the U.S. EPA has embarked on a program to develop four major technical regulations: land application, including distribution and marketing; landfilling; incineration and surface disposal. The report is one of a series whose purpose is to use the methodology described in 'Pathogen Risk Assessment for Land Application of Municipal Sludge' to develop preliminary assessments of risk to human health posed by parasites, bacteria and viruses in municipal sewage sludge applied to land as fertilizer or soil conditioner.

Keywords: *Public health, *Sludge disposal, *Viruses, *Land application, Regulations, Sewage treatment, Fertilizers, Concentration(Composition), Separation, Sludge digestion, Anaerobic processes, Aerobic processes, pH, Detergents, Composts, Drying, Tables(Data), Ultraviolet radiation, Clean Water Act, Risk assessment, Municipal wastes.

PB92-198654/REB PC **A03**/MF **A01**
Directory of OAQPS Information Services, May 1992.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
May 92, 26p EPA/452/B-92/001
See also PB91-191049.

The EPA Office of Air Quality Planning and Standards (OAQPS) provides many types of information services to EPA Regional Offices, State and local agencies, consultants, industry, and the general public. The goal of the directory is to provide a brief listing of these services so that users can more easily determine what is available and how to obtain it. A review of the table of contents should permit the reader to quickly locate where needed information may be found. Information is grouped into four major areas: pollutant/program services, technical support services, administrative support services, and compliance services. Each major area is further divided into sub-categories.

Keywords: *Directories, *Information services, *Air pollution, *Air quality, Information industry, Information transfer, State government, Public information, Training devices, Compliance, Administrative procedures, Pollutants, Mathematical models, Information systems, Permits, Pollution regulations, Toxic substances, *Office of Air Quality Planning and Standards.

PB92-203595/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Waste Minimization Assessment for a Manufacturer of Chemicals. Environmental research brief.
University City Science Center, Philadelphia, PA.
G. P. Looby, and P. S. Miller. May 92, 10p EPA/600/S-92/004
Grant EPA-R-814903
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency (EPA) has funded a pilot project to assist small- and medium-size manufacturers who want to minimize their generation of waste but who lack the expertise to do so. In an effort to assist these manufacturers, Waste Minimization Assessment Centers (WMACs) were established at selected universities and procedures were adapted from the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003, July 1988). The WMAC team at the University of Tennessee performed an assessment at a plant manufacturing acrylic emulsions, low molecular weight resins, herbicides, and specialty chemicals - approximately 300 million lb/yr. In general, monomers, additives, activators, and catalysts are metered and mixed in tanks then pumped sequentially into reactor vessels. Once the product is formed, the solution is pumped into a blend tank where more chemicals, such as binders, emulsifiers, and thickeners, are added. The team's report recommendations, indicated that the majority of waste was generated in the waste water treatment system and that the greatest savings could be obtained by installing a natural gas-fired dry-off oven in the waste water treatment system to reduce (by 81%) the amount of sludge removed to the landfill.

Keywords: *Manufacturers, *Waste minimization, *Chemical industry, Hazardous materials, Manuals, Assessments, Resins, Herbicides, Additives, Catalysts, Propionic acid, Emulsifying agents, Industrial waste treatment, Dryers, Sludge, Pollution prevention.

PB92-501329/REB CP **D02**
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils (for Microcomputers). Software.
Robert S. Kerr Environmental Research Lab., Ada, OK.

Jan 92, 1 diskette EPA/SW/DK-92/038
System: IBM PC or compatible; MS DOS 4.01 or higher operating system, 640K. Language: FORTRAN compiled and source.
The software is on one (1) 3 1/2 inch diskette, double density. Documentation included; may be ordered separately as PB92-119668.

The report describes the RETC computer code for analyzing the soil water retention and hydraulic conductivity functions of unsaturated soils. These hydraulic properties are key parameters in any quantitative description of water flow into and through the unsaturated zone of soils. The program uses the parametric models of Brooks-Corey and van Genuchten to represent the soil water retention curve, and the theoretical pore-size distribution models of Mualem and Burdine to predict the unsaturated hydraulic conductivity function from observed soil water retention data. The report fives a detailed discussion of the different analytical expressions used for quantifying the soil water retention and hydraulic conductivity functions. A brief review is also given of the nonlinear least-squares parameter optimization method used for estimating the unknown coefficients in the hydraulic models. Several examples are presented to illustrate a variety of program options. The program may be used to predict the hydraulic conductivity from observed soil water retention data assuming that one observed conductivity value (not necessarily at saturation) is available. The program also permits one to fit analytical functions simultaneously to observed water retention and hydraulic conductivity data. The report serves as both a user manual and reference document. Detailed information is given on the computer program along with the instructions for data input preparation and sample input and output files. A listing of the source code is also provided.

Keywords: *Software, *Hydraulic conductivity, *Vadose water, *Soil water, *Soil properties, Diskettes, Retention, Unsaturated flow, Environmental transport, Path of pollutants, Land pollution, Chemical compounds, Water management.

PB92-501501/REB CP **D02**
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers). Software.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Jun 90, 1 diskette* EPA/SW/DK-92/034
System: IBM AT/PS2 or compatible; MS DOS Version 3.3 operating system. Language: Base SAS.
The software is on one (1) 5 1/4 inch diskette, 1.2M high density. File format: ASCII. Documentation included; may be ordered separately as PB92-145580.

OCCSS software is a version of a mainframe-based application developed for the U.S. Environmental Protection Agency's National Contract Laboratory Program (CLP). OCCSS is designed to automate the determination of contractual compliance and completeness of data submitted to the EPA under the Routine Analytical Services (RAS) programs of CERCLA (Comprehensive Environmental Response Compensation and Liability Act). In order to remain consistent with the mainframe system, this PC version of OCCSS is written in SAS, and requires that SAS/PC be installed on the host PC. It will load analytical data from diskettes into SAS file format, perform technical edits on data, produce technical defect and summary reports, and reproduce forms which contain defects. In addition, OCCSS includes software to assist in identifying these critical structural defects in the data format, to assist in identifying these for correction prior to performing technical edits.

Keywords: *Software, *Organic compounds, *Environmental surveys, *Waste management, *Analytical chemistry, Diskettes, Data base management, Laboratories, Data compliance, Information transfer, Hazardous materials, Superfund, US EPA, *Organic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-501519/REB CP **D02**
Inorganic Contract Compliance Screening System (ICCSS) Software (SOW March 1990) (Version 1) (for Microcomputers). Software.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Mar 90, 1 diskette* EPA/SW/DK-92/033
System: IBM AT/PS2, or compatible; MS DOS Version 3.3 operating system. Language: Base SAS. Supersedes PB90-591700.
The software is on one (1) 5 1/4 inch diskette, 1.2M high density File format: ASCII. Documentation included; may be ordered separately as PB92-145598.

ICCSS software is a version of a mainframe-based application developed for the U.S. Environmental Protection Agency's National Contract Laboratory Program (CLP). ICCSS is designed to automate the determination of contractural compliance and completeness of data submitted to the EPA under the Routine Analytical Services (RAS) programs of CERCLA (Comprehensive Environmental Response Compensation and Liability Act). In order to remain consistent with the mainframe system, this PC version of ICCSS is written in SAS, and requires that SAS/PC be installed on the host PC. It will load analytical data from diskettes into SAS file format, perform technical edits on data, produce technical defect and summary reports, and reproduce forms which contain defects. In addition, ICCSS includes software to assist in identifying these critical structural defects in the data format, to assist in identifying these for correction prior to performing technical edits.

Keywords: *Software, *Analytical chemistry, *Environmental surveys, *Inorganic compounds, *Waste management, Diskettes, Data base management, Laboratories, Data compilation, Information transfer, Hazardous materials, Superfund, US EPA, *Inorganic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-501527/REB CP **D02**
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers). Software.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Mar 90, 1 diskette* EPA/SW/DK-92/032
System: IBM AT / PS2 or compatible; MS DOS Version 3.3 operating system. Language: Base SAS.
The software is on one (1) 5 1/4 inch diskette, 1.2M high density. File format: ASCII. Documentation included; may be ordered separately as PB92-145572.

OCCSS software is a version of a mainframe-based application developed for the U.S. Environmental Protection Agency's National Contract Laboratory Program (CLP). ICCSS is designed to automate the determination of contractural compliance and completeness of data submitted to the EPA under the Routine Analytical Services (RAS) programs of CERCLA (Comprehensive Environmental Response Comprehensive and Liability Act). In order to remain consistent with the mainframe system, this PC version of OCCSS is written in SAS, and requires that SAS/PC be installed on the host PC. It will load analytical data from diskettes into SAS file format, perform technical edits on data, produce technical defect and summary reports, and reproduce forms which contain defects. In addition, ICCSS includes software to assist in identifying these criteria structural defects in the data format, to assist in identifying these for correction prior to performing technical edits.

Keywords: *Environmental surveys, *Software, *Waste management, *Organic compounds, *Analytical chemistry, Diskettes, Data base management, Laboratories, Data compilation, Information transfer, Hazardous materials, Superfund, US EPA, *Organic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-501535/REB CP **D02**
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers). Software.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Jan 92, 1 diskette EPA/SW/DK-92/031
System: IBM AT / PS2 or compatible; MS DOS Version 3.3 operating system. Language: Base SAS. Supersedes PB90-591690. Other formats available as PB92-501519 (ICCSS).
The software is on one (1) 5 1/4 inch diskette, 1.2M high density. File format: ASCII. Documentation included; may be ordered separately as PB92-145564.

OCCSS software is a version of a mainframe-based application developed for the U.S. Environmental Protection Agency's National Contract Laboratory Program (CLP). OCCSS is designed to automate the determination of contractural compliance and completeness of data submitted to the EPA under the Routine Analytical Services (RAS) programs of CERCLA (Comprehensive Environmental Response Comprehensive and Liability Act). In order to remain consistent with the mainframe system, this PC version of OCCSS is written in SAS, and requires that SAS/PC be installed on the host PC. It will load analytical data from diskettes into SAS file format, perform technical edits on data, produce technical defect and summary reports, and reproduce forms which contain defects. In addition, OCCSS includes software to assist in identifying these critical structural defects in the data format, to assist in identifying these for correction prior to performing technical edits.

Keywords: *Analytical chemistry, *Environmental surveys, *Organic compounds, *Software, *Waste management, Diskettes, Data base management, Laboratories, Data compilation, Information transfer, Hazardous materials, Superfund, US EPA, *Organic Contract Compliance Screening System, Comprehensive Environmental Response Compensation and Liability Act.

PB92-501774/REB CP **D02**
Consolidated List of Chemical Subject to Reporting under the Emergency Planning and Community Right to Know Act. SARA Section 302 Extremely Hazardous Substances, CERCL Hazardous Substances and SARA Section 313 Toxic Chemicals (Title III, List of Lists) (for Microcomputers). Data file.
Environmental Protection Agency, Washington, DC. Office of Toxic Substances.
Jan 92, 1 diskette* EPA/DF/DK-92/035
System: IBM/PC; MS DOS operating system. Diskette contains self-extracting compressed files. Requires 6.5Mb of hard disk storage, Print software produces printed output from the dBase files for those who do not have dBase. No software other than DOS is required to use print program. Supersedes PB91-506964.
The datafile is on one 5 1/4 inch diskette, 360K, double density. File format: ASCII text and dBase III. Documentation included; may be ordered separately as PB92-155399.

This is the diskette based version of the Office of Toxic Substances Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and SARA Section 302 Extremely Hazardous Substances, as well as CERCLA Hazardous Substances. Title III is also known as the Emergency Planning and Community Right to Know Act. The diskette is designed to generate either a printout or a dBase III file from any IBM or IBM compatible system.

Keywords: *Data file, *Chemical compounds, *Waste management, Hazardous materials, Toxic substances, Listings, Diskettes, Superfund, Emergency planning, *Superfund Amendments and Reauthorization Act of 1986, *Emergency Planning and Community Right to Know Act, Comprehensive Environmental Response Compensation and Liability Act.

PB92-501816/REB CP **T14**
Toxic Release Inventory (TRI), 1990. Data file.
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
1990, mag tape EPA/DF/MT-92/036
System: IBM ES 9000; OS/MVS operating system. Approximate bytes: 43,481,350. See also PB91-507509, PB90-502030, and PB89-186068.
Available in 9-track ASCII character set, 1600 or 6250 bpi. For 6250 bpi, the price is T14. Documentation included; may be ordered separately as PB92-155381.

Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as Title III) of the Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499) requires EPA to establish a National Inventory of toxic chemical emissions from certain facilities. The final Toxic Chemical Release Form R and regulations for the 1987 reporting year were published in the Federal Register on February 16, 1988 (53 FR 4500-4554). The list of toxic chemicals subject to reporting consisted initially of chemicals listed for similar reporting purposes by the States of

New Jersey and Maryland. There are over 300 chemicals and categories on these lists. The reporting requirement applies to owners and operators of facilities that have 10 or more full-time employees, that are in Standard Industrial Classification (SIC) codes 20 through 39 (i.e., manufacturing facilities) and that manufacture (including importing), process or otherwise use a listed toxic chemical in excess of specified threshold quantities. The law mandates that the data be made publicly available through a computer database. The online TRI file should appeal to a broad based user audience including industry, state and local environmental agencies, emergency planning committees, the Federal Government and other regulatory groups.

Keywords: *Data file, *Hazardous materials, *Toxicity, Chemical compounds, Inventories, Emergency planning, Pollution regulations, Facilities, Public information, Magnetic tapes, *Superfund, Emergency Planning and Community Right to Know Act.

PB92-501873/REB CP **D02**
Protein Adducts for Exposure Monitoring: A Computerized Database (CPAD) (Version 1) (for Microcomputers). Software.
Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.
Jun 91, 1 diskette* EPA/SW/DK-92/037
System: IBM/PC; MS DOS operating system. Language: dBase III Plus.
The software is on one (1) 3 1/2 inch diskette, 1.44M high density. Documentation included; may be ordered separately as PB92-155431.

The Computerized Protein Adducts Database (CPAD) was created to provide an efficient means of updating and disseminating information on protein adducts relating to their utility as dosimeters of exposure to environmental contaminants, especially genotoxic and/or carcinogenic compounds. The programs that enable the user to search, modify, or update the database and display its contents were originally written in the DBASE III PLUS TM programming language, then converted, compiled and linked by DBASE IV TM, version 1.1. The final product is a user-friendly, menu-driven, stand-alone DBASE application that requires little from the user beyond the ability to read the screen and operate a keyboard. Even a User's Manual is, to some extent, superfluous. The present document largely represents a hard copy of documentation that is already provided within the program itself. The CPAD diskette also contains a copy of the document which may be viewed on screen or printed out as a WORDPERFECT TM 5.0 document file.

Keywords: *Software, *Proteins, *Biological markers, *Environmental pollutants, *Exposure, Diskettes, Data bases, Carcinogens, Mutagens.

PB92-501899/REB CP **D04**
Complex Effluent Toxicity Information System (CETIS) (for Microcomputers). Software.
Environmental Research Lab.-Duluth, MN.
Feb 92, 4 diskettes* EPA/SW/DK-92/039
System: IBM XT/AT/PS2 or compatible; MS DOS operating system, 640K. System operates in a compiled FoxBASE+ processing environment. Supersedes PB85-156800 (Paper Copy).
The software is on four 5 1/4 inch diskettes, 1.2M high density. File format: Multiple formats.

The Complex Effluent Toxicity Information System (CETIS), is a set of computerized functions that provide standardized entry, maintenance, storage, and retrieval of toxicity test data. CETIS is designed to upload into both the toxicity test component of the STORET/BIOS system and into the NCC CETIS national database. CETIS is also designed to function as a standalone toxicity test data storage and retrieval. CETIS should be used by permitting and compliance functions at all levels of government. CETIS is also an important tool which assists dischargers in complying with the Clean Water Act. The system provides National Pollution Discharge Elimination System (NPDES) permitees with an efficient mechanism for the storage and retrieval of biomonitoring data. PC/CETIS is a completely menu-driven turnkey system with many unique features. Extensive data entry quality assurance processing improves data integrity and reduces turnaround time. A comprehensive, expandable set of system utilities expedites data entry and file maintenance. System security protects file integrity against unauthorized use. An on-line 'HELP' utility is available at all levels of system processing.

Keywords: *Software, *Toxicity, *Effluents, *Information systems, Data management, Information retrieval, Waste water, Monitoring, Data integrity, Computer security, Data bases, Water pollution, Industrial wastes, Diskettes, Clean Water Act.

PB92-501972/REB CP **D04**
Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers). Data file.
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
Sep 91, 2 diskettes EPA/DF/DK-92/040
System: IBM PC or compatible; Memory: 512K. Hard drive with at least 2.7 MB available space, and at least one 5 1/4 inch floppy disk drive are needed for the database. Roadmaps is stored in compressed format. Supersedes PB90-501487.
The datafile is on two 5 1/4 inch diskettes, 360K double density. File format: dBase III/Clipper Compiler. Documentation included; may be ordered separately as PB92-169523.

EPA has developed a database of sources of information on the chemicals listed in section 313 of the Superfund Amendments and Reauthorization Act (SARA). The datbase is intended to assist users of section 313 Toxic Release Inventory data to perform exposure and risk assessments of these chemicals. The Roadmaps system displays and/or prints information for the SARA section 313 chemicals on health and environmental effects, Federal regulations, and state air and water regulations, monitoring data, and state contacts.

Keywords: *Data file, *Chemical compounds, *Risk assessment, *Toxic substances, *Public health, *Environmental effects, Diskettes, Exposure, Pollution regulations, Monitoring, State government, Sources, Water pollution, Air pollution, Federal law, Information transfer, *Roadmaps system, Superfund Amendments and Reauthorization Act, Toxic release inventory.

PB92-592290/REB CP **T01**
Resource Conservation and Recovery Information System (RCRIS) Extract Tape. Data file.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Jan 92, mag tape* EPA/DF/MT-92/029
System: IBM ES9021/720; OS/MVS - ESA operating system. File format: Unlabeled. Supersedes PB91-592000 and PB91-592001. See also PB91-591310 and PB91-591311.
Available on Standing Order, deposit account required (minimum deposit $5,600 U.S., Canada, and Mexico; $11,200 all others). Available in 9-track, EBCDIC character set, only 6250 bpi. Also available individually; order number PB92-592291, price T99 - $2,800. Documentation included; may be ordered separately as PB92-145515.

The file contains data compiled for the Resource Conservation and Recovery Act, using the Resource Conservation and Recovery Information System (RCRIS) database. Notification of Regulated Waste Activity, EPA Form 8700-12 was used to collect the data. The file was updated with information compiled from the Application for a Hazardous Waste Permit-Part A, EPA form 8700-23. The data includes each facility name, EPA Identification number, addresses, owner and operator information, facility contact name and phone number. The data also indicate whether a facility is a generator, treatment/storer/disposer, and/or transporter of hazardous waste. Also included is a listing of wastes handled, taken from 40CFR Pt. 261, SIC codes, Permit Process Codes, Permit Issuance data, and non-sensitive compliance and enforcement data.

Keywords: *Data file, *Hazardous materials, *Solid waste management, Magnetic tapes, Notification procedures, Facilities, Permits, Solid waste disposal, Waste treatment, Waste storage, Hazardous materials/transportation, Standard Industrial Classification, Law enforcement, Pollution regulations, *Resource Conservation and Recovery Information System, Resource Conservation and Recovery Act.

PB92-592380/REB Subscription$1,440.00
Enforcement Document Retrieval System (EDRS) Master File (1972-April 1992). Data file.
Environmental Protection Agency, Washington, DC. Office of Enforcement.
Apr 92, mag tape
System: IBM 9021; MVS operating system. Supersedes PB92-592210 and PB92-592220.
Available on subscription, U.S., Canada and Mexico price $1,440; price for others $2,880. Issued quarterly. Available in 9-track, ASCII character set, 1600. The 6250 bpi price is $1,440. Also available individually; order number PB92-592381, price T03 for either 1600 or 6250 bpi.

The Enforcement Document Retrieval System (EDRS) is a full text database for documents related to enforcement policy and procedures, administrative decisions, judicial decisions, and model/sample forms. All environmental statutes the Environmental Protection Agency (EPA) enforces are covered. These EPA enforcement related documents cover the time period from approximately 1972 to the present. Each document has been retyped in order to upload it to the mainframe so it may not be exactly like the original. Any graphics and/or extensive tables or exhibits were not uploaded from the original document. EPA uses BASIS software as its text retrieval package on their mainframe computer. Any commercially available mainframe text retrieval package can be used. Please note that the database is not indexed.

Keywords: *Data file, *Environmental legislation, *Law enforcement, Government policies, Administration, Judicial decisions, Forms(Paper), Magnetic tapes, *US EPA.

PB92-592390/REB CP **T99**
Enforcement Document Retrieval System (EDRS) Update File (November 14, 1991 to April 22, 1992). Data file.
Environmental Protection Agency, Washington, DC. Office of Enforcement.
22 Apr 92, mag tape EPA/DF/MT-92/042
System: IBM ES 9021; MVS operating system. See also PB92-592380.
Available on subscription, U.S., Canada, and Mexico price $960.00; price for others $1,920. Issued quarterly. Available in 9-track, ASCII character set, 1600 or 6250 bpi. Also available individually; order number PB92-592391, price T02 for either 1600 or 6250 bpi.

The Enforcement Document Retrieval System (EDRS) is a full text database for documents related to enforcement policy and procedures, administrative decisions, judicial decisions, and model/sample forms. All environmental statutes EPA enforces are covered. These EPA enforcement related documents cover the latest 3 month time period available. Each document has been retyped in order to upload it to the mainframe so it may not be exactly like the original. Any graphics and/or extensive tables or exhibits were not uploaded from the original document. EPA uses BASIS software as its text retrieval package on their mainframe computer. Any commercially available mainframe text retrieval package can be used. Please note that the database is not indexed.

Keywords: *Data file, *Environmental legislation, *Law enforcement, Government policies, Administration, Judicial decisions, Forms(Paper), Magnetic tapes, *US EPA.

PB92-963252/REB PC **A05**/MF **A01**
Superfund: Focusing on the Nation at Large. 1991 Update.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Sep 91, 88p* EPA/540/8-91/016, OSWER-9200.5-701A
See also PB92-963253 and PB91-921207.
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The report summarizes the progress made in the cleanup of sites on the National Priorities List (NPL). It also provides a state-by-state summary of 422 improved sites. Supplemented by the individual State books which contain detailed information on all 1245 sites.

Keywords: *Hazardous materials, *Pollution control, Site surveys, Public opinion, Industrial plants, States(United States), Improvement, *Superfund, Cleanup, *National Priorities List, Remedial action.

PB92-963253/REB PC **E99**/MF **E99**
National Priorities List Sites Set (1991).
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
1991, 4486p-in 49v*
Set includes PB92-963204 through PB92-963251. See also PB91-238725.
The overview document, Superfund: Focusing on the Nation at Large (1991), available separately as PB92-953252.

The publications provide general Superfund background information and descriptions of activities at each State National Priorities List (NPL) site. The report clearly describes what the problems are, what EPA and others participating in Site Cleanups are doing, and how the Nation can move ahead in solving these serious problems. (The overview document, Superfund: Focusing on the Nation at Large (1991), available separately order as PB92-953252).

Keywords: *Hazardous materials, *Pollution control, Sites, States(United States), Describing, *Superfund, *National Priorities List, Cleanup.

PB92-963256/REB PC **E05**/MF **A04**
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Feb 92, 400p* EPA/540/8-91/004, OSWER-9200.2-13
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

Section 301(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, requires the Agency to report annually on response activities and accomplishments, and to compare remedial and enforcement projects with those undertaken in previous fiscal years. The Environmental Protection Agency (EPA), at the end of fiscal year 1990 (FY90), was well on its way toward intensifying the Superfund program. Its accomplishments indicate the Agency's accelerated success in implementing the Superfund program. The Agency aggressively seeks potentially responsible party (PRP) involvement at every site where PRPs are identified. The Report contains information Congress specifically requested in Section 301(h)(1), including an abstract of each Record of Decision (ROD) that was signed in FY90; a report on the status of remedial actions, including enforcement activity in progress at the end of the fiscal year; and an evaluation of newly developed feasible and achievable treatment technologies; and a description of minority firm participation in Superfund contracts and efforts to encourage such participation.

Keywords: *Superfund, *Waste management, *Hazardous materials, *Pollution regulations, Government policy, National government, State implementation plans, US EPA, Remedial action, Law enforcement, Contracts, Feasibility studies, Requirements, Waste treatment, Reviews, Waste disposal, Potentially responsible parties, Comprehensive Environmental Response Compensation and Liability Act, National Priorities List, Record of Decision.

PB92-963259/REB PC **A01**/MF **A01**
Regional Pilot Projects and Initiatives. Directive.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jan 92, 5p OSWER-9202.1-01
Paper copy available on Standing Order, Deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The directive discusses the initiation of regional pilot projects designed to make NPL site cleanup more effective, efficient, and/or equitable. Pilot projects will demonstrate innovative ways to accomplish this objective at NPL and will, if successful, offer similar opportunities at other sites.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Regional analysis, Information transfer, Performance evaluation, *Office of Solid Waste and Emergency Response, Comprehensive Environmental Response Compensation and Liability Act, National Priorities List, Cleanup operations, EPA Regions 1-10.

PB92-963260/REB PC **A01**/MF **A01**
Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs. Directive.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
16 Mar 92, 2p OSWER-9242.3-10
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The directive transmits Congressionally mandated targets and reporting requirements for ARCS contracts Program Management costs.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Requirements, Substitutes, Contracts, Cost analysis, Implementation, *Office of Solid Waste and Emergency Response, Comprehensive Environmental Response Compensation and Liability Act, US EPA Regions 1-10, Alternative Remedial Contracting Strategy, Remedial response, Strategic Targeted Activities for Results System.

PB92-963261/REB PC **A15**/MF **A03**
National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Jan 92, 343p OSWER-9200.2-14
Available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The report contains the National Oil and Hazardous Substances Pollution Contingency Plan proposed and final rules as published in 53 FR 51394 and 55 FR 8664, respectively. The NCP document also contains tables of contents with specific Federal Register page references and a key terms index.

Keywords: *Hazardous materials, *Oil pollution, *Pollution abatement, *Emergencies, Proposals, Standards, Tables(Data), Revisions, Indexes(Documentation), Index terms, References, *Superfund, Preamble, Federal Register.

PB92-963262/REB PC **A02**/MF **A01**
Superfund Policy Forum Update, Volume 1, Number 1, February 1992. Intermittent bulletin.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Feb 92, 6p OSWER-9200.1-09I-VOL-1-NO-1
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The purpose of the bulletin is to keep all Superfund staff members knowledgeable and informed about reauthorization issues and events through periodic newsletter updates.

Keywords: *Government policies, *Hazardous materials, *Project management, *Meetings, Waste treatment, Sites, Benefit cost analysis, Personnel development, Risk assessments, Liabilities, *Superfund, *Comprehensive Environmental Response Compensation and Liabilities Act(CERCLA), Cleanup, *Reauthorization issues, Total quality management, Newsletters.

PB92-963263/REB PC **A03**/MF **A01**
Superfund Accelerated Cleanup Model (SACM). Directive.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Mar 92, 30p OSWER-9203.1-01
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The document details the Superfund Accelerated Cleanup Model (SACM), the Office of Emergency and Remedial Response's new model for streamlining and accelerating the Superfund program. The concept has been designed to make Superfund work better and deliver results the public will value: (1) quick reduction of acute risks at all Superfund sites (removal and remedial) and (2) restoration of the environment over the long term.

Keywords: *Sites, *Hazardous materials, Mathematical models, Project planning, Risk assessment, Removal, Emergencies, Government policies, *Superfund, *Cleanup, Remedial response.

PB92-963264/REB PC **E02**
OSWER Superfund Telephone Directory, May 1992.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
May 92, 41p OSWER-9200.0-03E
Supersedes PB92-963202.
Available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The report lists telephone numbers of Headquarters and Regional OSWER/Superfund offices and personnel.

Keywords: *Numbers, *Telephones, *Office buildings, *US EPA, *Directories, Emergencies, Personnel, Hazardous materials, Management, *Superfund, Listings.

PB92-963265/REB PC **A03**/MF **A01**
Superfund Progress, Spring 1992.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
May 92, 12p OSWER-9200.1-12
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The report describes the Superfund removal program. The duties of the on-scene coordinators who work at Emergency spills are described. Case studies at different sites are included and the progress made.

Keywords: *Hazardous materials, *Pollution control, *Project management, Sites, Emergencies, Contractors, Removal, Oil spills, *Superfund, Cleanup, Volatile organic compounds, Chemical spills.

PB92-963266/REB PC **A01**/MF **A01**
Correction of FY-92 Superfund Program Management Manual Definitions. Directive.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
3 Apr 92, 5p OSWER-9200.3-01G
Available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The directive corrects the 'Definition of Accomplishment' for Remedial Design and Remedial Action Completions as defined in the FY92 Superfund Program Management Manual. A site construction completion activity has been added in response to the program's emphasis on construction completions.

Keywords: *Project management, *Hazardous materials, *US EPA, Manuals, Corrections, Design, Construction, Sites, Instructions, *Superfund, *Remedial action, Construction completions.

PB92-963267/REB PC **A03**/MF **A01**
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Jun 92, 14p EPA/9200.1-12A
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

Superfund is the United States program for cleaning up uncontrolled hazardous waste sites. Established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, EPA records in its CERCLIS database every hazardous waste site considered for a Superfund cleanup and every site where a removal action is performed. The system tracks the identification, evaluation, and, if necessary, cleanup of hazardous waste sites. The Remedial Project managers in each EPA Region, who oversee cleanup efforts, add information about the sites they manage to CERCLIS. Currently, there are 35,984 sites in CERCLIS. The Superfund Site Tally includes the current status of each CERCLIS site.

Keywords: *Hazardous materials, *Waste disposal, *Pollution control, *Project management, US EPA, Site surveys, Assessments, Hazards, Ratings, Inspection, Removal, Evaluation, *Superfund, Cleanup, *Comprehensive Environmental Response, Compensation and Liability Act of 1980.

PB92-963341/REB PC **A12**/MF **A03**
Community Relations in Superfund: A Handbook. Directive.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Jan 92, 268p EPA/540/R-92/009, OSWER-9230.0-03C
Supersedes PB89-180830.
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The Superfund community relations program promotes two-way communication between members of the public, including potentially responsible parties (PRPs), and the lead government agency in charge of response actions. The community relations activities discussed in this Handbook provide the opportunity for interested persons to comment on, and provide input to, decisions about response actions. This Handbook offers policy and guidance on planning and conducting Superfund community relations programs. It emphasizes proven approaches and activities derived from years of experience in conducting community relations in Superfund.

Keywords: *Superfund, *Community relations, *Waste management, *Hazardous materials, *Handbooks, Government policies, Remedial action, Public information, Pollution regulations, Guidelines, Requirements, Feasibility studies, Law enforcement, Administrative procedures, Technical assistance, Risk assessment, *Remedial response, *Cleanup operations, Comprehensive Environmental Response Compensation and Liability Act, Potentially responsible parties, Superfund Innovative Technology Evaluation Program, National Priorities List.

PB92-963348/REB PC **A02**/MF **A01**
OPA Q's and A's: Overview of the Oil Pollution Act of 1990. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Dec 91, 7p OSWER-9360.8-01FS
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The OPA Q's and A's are part of a series of fact sheets that provide up-to-date information on EPA's implementation of the OPA. The first fact sheet provides an overview of the various provisions of the OPA and the Agency's responsibilities under the new law.

Keywords: *Pollution laws, *Oil pollution, *Water pollution abatment, Oil spills, Prevention, Liabilities, US EPA, Regulations, Compliance, Law enforcement, *Superfund.

PB92-963349/REB PC **A05**/MF **A01**
PREscore Software. Users Manual and Tutorial. Version 1.0.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Sep 91, 85p OSWER-9345.1-04
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The manual serves as a users manual and tutorial for the PREscore computer program. The PREscore package has been developed by EPA Headquarters to assist site assessment investigations and Hazard Ranking System scoring by generating a Preliminary Ranking Evaluation (PRE)score and associated documentation. The users manual consists of three parts that introduce one to the software package and take one through installation procedures, provide a tutorial by walking one through screens, and provide instruction for using PREprint to perform printing functions on PREscore site files.

Keywords: *Site surveys, *Computer applications, *Waste management, *Hazardous materials, Data acquisition, Computer calculations, Toxicity, Concentration(Composition), User manuals(Computer programs), US EPA, Data processing, Ranking, *Superfund, *HRS(Hazard Ranking System), SCDM(Superfund Chemical Data Matrix), PREscore computer program.

PB92-963350/REB PC **A08**/MF **A02**
Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Jan 92, 162p EPA/540/R-92/005
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The first U.S. EPA-sponsored national conference on establishing soil cleanup criteria that would be protective of ground-water quality was held on January 29, 1991. Included in the publication are questions and answers from panel discussions, as well as text from the presentations.

Keywords: *Soils, *Water pollution standards, *Ground water, *Hazardous materials, *Meetings, Mathematical models, Design criteria, Sites, Assessments, Environmental transport, *Superfund, *Cleanup.

PB92-963351/REB PC **A23**/MF **A04**
Summary of Treatment Technology Effectiveness for Contaminated Soil.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Jun 90, 532p OSWER-9355.4-06
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The document presents the results of a study conducted by the Office of Emergency and Remedial Response that collected soil treatment data and analyzed the effectiveness of treatment technologies on contaminant treatability groups. The document presents the recommendations developed for the treatment of contaminated soil.

Keywords: *Hazardous materials, *Soils, *Waste treatment, Effectiveness, Toxicity, Environmental transport, Pollution control, Excavation, Guidelines, US EPA, Desorption, Heat treatment, Sterilization, Bacteria, Waste disposal, *Superfund, *Remedial response, Soil washing, Dechlorination.

PB92-963352/REB PC **A04**/MF **A01**
Regional Quality Control Guidance for NPL Candidate Sites. Directive.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Dec 91, 70p OSWER-9345.1-08
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The guidance manual provides recommended procedures for a Regional Quality Control program for the evaluation of Hazard Ranking System packages. The guidance, intended primarily for use by EPA Regional offices, is to standardize Regional QC review and improve HRS package quality. The document should serve anyone preparing or reviewing HRS packages, and should complement other guidances for conducting PAs and SIs, and applying the HRS, to assist Regions in the site listing process.

Keywords: *Hazardous materials, *Quality control, *Ranking, Manuals, Guidelines, Standards, Assessments, Sites, States(United States), Inventories, Emergencies, Contractors, Personnel, *Superfund, *US EPA regions, *National Priorities List, Listings.

PB92-963353/REB PC **A02**/MF **A01**
Guide to Management of Investigation-Derived Wastes. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Apr 92, 8p OSWER-9345.3-03FS
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The fact sheet presents an overview of possible investigation-derived waste management options, discusses the protectiveness requirements and ARARs associated with these options, and outlines general objectives established for IDW management under Superfund.

Keywords: *Waste management, *Pollution regulations, *Inspection, Site surveys, Protection, Public health, Risk assessment, Materials handling, Drilling fluids, Concentration(Composition), Volume, Protective equipment, Soil contamination, Regulations, *Superfund, Applicable or Relevant and Appropriate Requirements(ARAR), Preremedial action, *Office of Solid Waste and Emergency Response.

PB92-963354/REB PC **A02**/MF **A01**
Characterization Protocol for Radioactive Contaminated Soils. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
May 92, 8p OSWER-9380.1-10FS
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The fact sheet presents the soil characterization process applicable in the RI/FS stages of the Superfund process to support the development of technologies for on-site volume reduction of radioactive soils by physical separation technologies.

Keywords: *Hazardous materials, *Pollution control, *Radioactive waste disposal, Soil properties, Contamination, Identifying, Physical properties, Chemical analysis, Volume, Reduction(Chemicaal), Flotation, Extraction, Separation, Particle size, Minerals, Density(Mass/volume), Sands, X ray diffraction, *Superfund, Fact sheet, Magnetic separation, Gravity separation.

PB92-963358/REB PC **A03**/MF **A01**
Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update. Directive.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
27 May 92, 13p OSWER-9283.1-06
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The updated directive clarifies and expands OSWER's general policy concerning remediation of contaminated ground water, especially with regard to nonaqueous phase liquid (NAPL) contaminants. The document promotes a consistent and sound approach to ground water remediation at both Superfund sites and RCRA facilities and reinforces OSWER's commitment to clean up ground water contamination at these sites.

Keywords: *Ground water, *Pollution control, *Government policies, Investigations, Sites, Aquifers, Hydrogeology, Permeability, Identifying, Sources, *Superfund, *Remedial action, Resource Conservation and Recovery Act, Cleanup, Nonaquous phase liquids.

PB92-963359/REB PC **A99**/MF **A06**
ROD Annual Report, FY1991. Volume 1.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Apr 92, 652p OSWER-9355.6-05-1
See also Volume 2, PB92-963360 and PB91-921277.
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The ROD Annual Report FY 1991 is a reference publication designed to provide Headquarters, Regions, and the public with summary information on Superfund RODs. RODs document the remedy decision for a site or operable unit. RODs certify that the remedy selection process followed requirements of CERCLA, and discuss the major technical components of the remedy. Volume 1 highlights specific information about the RODs signed during FY 1991. It includes exhibits of the types of RODs, treatment vs. containment remedies, treatment technologies used for remedies, treatment trains, and estimates for remedy costs. ROD abstracts and a list of RODs signed in FY 1991 describe site history, key contaminants, the selected remedial action, performance standards, institutional controls, and estimated cost for each remedy.

Keywords: *Ground water, *Hazardous materials, *Waste disposal, Sites, Contaminants, Industrial wastes, Pollution control, Standards, Performance evaluation, Waste treatment, Containment, Cost analysis, *Superfund, Record of Decision, Remedial action.

PB92-963360/REB PC **A18**/MF **A04**
ROD Annual Report, FY1991. Volume 2.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Apr 92, 406p OSWER-9355.6-05-2
See also Volume 1, PB92-963359 and PB91-921277.
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The ROD Annual Report FY 1991 is a reference publication designed to provide Headquarters, Regions, and the public with summary information on Superfund RODs. This year the report is in two volumes. Volume 2 contains the FY 1982 - 1990 ROD Summary Table which lists the remedial action site name and date of ROD signature, and summarizes the threat or problem, waste volume components of the selected remedy, cleanup goals, and estimated costs for each FY 1982 - 1990 ROD. Volume 2 also contains a list of RODs signed to date, a keyword list for all FY 1982 - 1990 RODs, a list of ROD Amendments, and a list of ROD Explanations of Significant Differences.

Keywords: *Ground water, *Hazardous materials, *Waste disposal, Sites, Industrial wastes, Volume, Contaminants, Requirements, Pollution control, *Superfund, *Record of Decision, Cleanup, Remedial action, Volatile organic compounds, Listings.

PB92-963403/REB PC **A08**/MF **A02**
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Oct 91, 159p EPA/540/8-91/093, OSWER-9360.6-06
See also PB90-921260.
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The Superfund removal program has achieved significant accomplishments in responding to environmental emergencies, cleaning up hazardous waste sites, and making sites safe. For this reason, EPA publishes the Superfund Emergency Response Actions summary, which provides the public with valuable information about Superfund removal actions undertaken by EPA. This document is updated annually. The Fifth Annual Report, which is the fourth update to the initial document, summarizes the Superfund removal actions completed by EPA between October 1989 and September 1990.

Keywords: *Superfund, *Hazardous materials, *Emergency planning, *Remedial action, *Waste management, Environmental protection, Land pollution control, Government policies, Funds, Federal expenditures, *Emergency Response Program, *Remedial response, Comprehensive Environmental Response Compensation and Liability Act, Cleanup operations.

PB92-963407/REB PC **A09**/MF **A02**
Technical Assistance Team (TAT) Contracts Users' Manual.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Dec 91, 178p OSWER-9360.6-08
Supersedes PB91-214163.
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The report provides information and guidance on management and implementation of EPA's 'Technical Assistance Team (TAT) for Emergency Response, Removal, and Prevention' contracts. Also, the study describes the necessary procedures and requirements that should be followed in managing contracts.

Keywords: *Technical assistance, *Contract management, Manuals, Emergencies, Response, Prevention, Removal, Program management, Instructions, Requirements, Financial management, *Superfund, Cleanup, Oil spills.

PB92-963408/REB PC **A04**/MF **A01**
Removal Program Representative Sampling Guidance. Volume 1. Soil. Interim rept. (Final).
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Nov 91, 56p OSWER-9360.4-10
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

This is the first volume in a series of guidance documents that assist Removal Program On-Scene Coordinators and other field staff in obtaining representative samples at removal sites. The objective of representative sampling is to ensure that a sample or a group of samples accurately characterizes site conditions. The document specifically addresses representative sampling for soil.

Keywords: *Hazardous materials, *Soils, *Removal, Guidelines, Sampling, Assessments, Preparation, Civilian personnel, Sites, Standards, Selection, Cost effectiveness, *Superfund, *Representative sampling, Cleanup.

PB92-963603/REB PC **A01**/MF **A01**
Overview of the Off-Site Policy for OSCs and RPMs. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Oct 91, 2p OSWER-9834.11FS
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The fact sheet provides essential information for On Scene Coordinators (OSCs) and Remedial Project Managers (RPMs) for the implementation of the Off-site Policy. The fact sheet includes an overview of the Policy, helpful reminders, and a list of the Regional Off-site contacts.

Keywords: *Superfund, *Waste management, *Hazardous materials, Environmental policy, Pollution regulations, Listings, Contact handling, Emergency planning, Inspections, *Office of Solid Waste and Emergency Response, Comprehensive Environmental Response Compensation and Liability Act, Regional Off-site contacts, On Scene Coordinators, Remedial Project Managers.

PB92-963606/REB PC **A03**/MF **A01**
Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA. Final rept. (Directive).
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
22 Feb 91, 29p OSWER-9835.16
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.

The directive provides guidance on the compilation and release of waste-in lists and volumetric rankings to help Regions comply with the information release requirements of CERCLA section 122(e) and the information release and exchange policies outlined in OSWER directives 9835.12 and 9834.10.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Listings, Guidelines, Rankings, Volume, Compliance, Information transfer, *Office of Solid Waste and Emergency Response, Potentially responsible parties, Comprehensive Environmental Response Compensation and Liability Act.

PB92-963703/REB PC **A13**/MF **A03**
Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
27 Dec 90, 291p EPA/ROD/R01-91/053
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 12.5-acre Union Chemical (UCC) site is an inactive paint stripping solvent manufacturing and recycling facility in Hope, Knox County, Maine. Land use in the area is residential, and a pond is located approximately 300 feet northeast of the site. In 1979, State investigations identified the presence of onsite ground water contamination. The selected remedial action for the site includes decontaminating all onsite facilities including the still building, production facilities, welding shop, incinerator complex, concrete pads, the church, all associated equipment, tanks, and above-ground drums.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Solvents, Paints, Metals, Excavation, Waste treatment, National government, Cost analysis, State government, Asbestos, Ground water, Soils, Decontamination, Facilities, *Superfund, *Final Remedial Action, Cleanup, Volatile organic compounds, *Knox County(Maine).

PB92-963704/REB PC **A09**/MF **A02**
Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
23 Sep 91, 189p
See also PB86-172418.Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 35-acre Nyanza Chemical site is a former dye manufacturing facility in Ashland, Middlesex County, Massachusetts. Land adjacent to the site is used for industrial, residential, commercial, and recreational purposes. The site overlies an unconsolidated glacial aquifer, which has been affected by site activities. Wastes included process wastewater, chemical sludge, solid process wastes in drums, solvent recovery distillation residue in drums, off-specification products, and un-recyclable process chemicals including phenol, nitrobenzene, and mercuric sulfate. The dye waste stream and wastewater were discharged to an onsite concrete 'vault' or settling basin adjacent to the main processing building. The ROD addresses management of migration as OU2, and constitutes an interim remedy designed to treat the highest ground water contamination and to collect additional data achieving cleanup objectives. A subsequent ROD will address uncontrolled wastewater discharges to the Sudbury River and its tributaries. The primary contaminants of concern affecting the ground water are VOCs including benzene, PCE, TCE, and toluene; other organics; and

metals including arsenic, chromium, and lead. The selected interim remedial action for the site is included.

Keywords: *Superfund, *Hazardous materials, *Remedial action, *Waste disposal, *Pollution control, Volatile organic compounds, Site surveys, Massachusetts, Metals, Chemical industry, Textile finishing, Ground water, Water pollution, *Record of Decision, Cleanup operations, Middlesex County(Massachusetts), EPA region 1.

PB92-963705/REB PC **A08**/MF **A02**
Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
29 Mar 91, 156p EPA/ROD/R01-91/054
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 50-acre Mottolo Pig Farm site is in Raymond, New Hampshire. Surrounding land is primarily rural residential and undeveloped. The site includes a wooded area, an inactive piggery area comprised of several structures, a building drum disposal area, and wetlands. An onsite brook (Brook A) originating in the wetlands discharges into the Exeter River. The Record of Decision (ROD) addresses contaminated onsite soil, debris, and the associated ground water plume. The primary contaminants of concern affecting the soil, debris, and ground water are VOCs including TCE, toluene, vinyl chloride, and xylenes; and metals including arsenic. The selected remedial action for the site includes installing a ground water interceptor trench upgradient of the former drum disposal area to reduce migration of contaminants and facilitate treatment of contaminated soil; capping the drum disposal and treating approximately 3,400-4,000 cubic yards of VOC-contaminated soil at these areas using in-situ vacuum extraction and activated carbon to control offgases.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Farms, Sites, Describing, Industrial wastes, Volume, Soils, Debris, Ground water, Waste treatment, National government, State government, Cost analysis, Drums(Containers), Metals, Arsenic, Vinyl chloride, Activated carbon treatment, Capping, *Superfund, *First Remedial Action-Final, Cleanup, Volatile organic compounds, Record of Decision, *Raymond(New Hampshire).

PB92-963805/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
15 May 91, 39p EPA/ROD/R02-91/165
See also PB89-117428 and PB85-232080.Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Love Canal (93rd Street) site is an inactive hazardous waste site located in Niagara Falls, New York. The 19-acre 93rd Street School site, one of several operable units for the Love Canal Superfund site, is the focus of the Record of Decision (ROD). The fill material is reported to contain fly ash and BHC (a pesticide) waste. The ROD amends the 1988 ROD, and addresses final remediation of onsite contaminated soil through excavation and offsite disposal. The primary contaminants of concern affecting the soil are VOCs including toluene and xylenes; other organics including PAHs and pesticides; and metals including arsenic, chromium, and lead.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Pesticides, Metals, Excavation, Waste treatment, National government, Cost analysis, State government, Capping, Contaminants, Arsenic, Hydrocarbons, Lead(Metal), *Superfund, *Third Remedial Action(Amendment)-Final, Cleanup, Volatile organic compounds, Record of Decision, *Niagara Falls(New York), Love Canal.

PB92-963806/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 67p EPA/ROD/R02-91/166
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 7,400-acre Naval Air Engineering Center (NAEC) site is an active air base in Jackson and Manchester Townships, Ocean County, New Jersey. Activities conducted onsite include program research, engineering, development testing and evaluation, and various warfare support services. In 1921, the U.S. Navy took control of the site and conducted operations involving the use, handling, storage, and onsite disposal of hazardous substances in various onsite buildings. The Record of Decision addresses Operable Unit 3, which includes eight separate sites and a region known as Area L. At most sites, contaminants were not detected. In instances where contaminants were detected the levels were usually well below State and Federal action levels. Therefore, there are no contaminants of concern affecting the site. The selected remedial action for the site includes no further action because no significant levels of contaminants exist at the eight sites and Area L.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Site surveys, New Jersey, Military facilities, *Record of Decision, EPA region 2, Cleanup operations, Ocean County(New Jersey).

PB92-963808/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
4 Feb 91, 62p EPA/ROD/R02-91/132
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 7,400-acre Naval Air Engineering Center (NAEC) site is an active air base in Jackson and Manchester Townships, Ocean County, New Jersey. Activities conducted onsite include program research, engineering, development testing and evaluation, and various warfare support services. In 1921, the U.S. Navy took control of the site and conducted operations involving the use, handling, storage, and onsite disposal of hazardous substances in various onsite buildings. Preliminary investigations in 1983 by the U.S. Navy identified 44 onsite areas of possible soil and ground water contamination, and determined that the primary sources were leaky valves and pipes, dispensing pumps, the underground fuel oil tanks, overflowing dry wells, and other accidental onsite chemical spills and releases. The Record of Decision (ROD) provides an interim remedy for contaminated soil and ground water in Area C. The primary contaminants of concern affecting the ground water are VOCs including benzene, TCE, and xylenes; other organics including PAHs; and metals including arsenic and lead. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, New Jersey, Site surveys, Ground water, Water pollution, Volatile organic compounds, Chemical spills, Aromatic polycyclic hydrocarbons, Metals, Military facilities, Land pollution, Underground storage, Storage tanks, *Record of Decision, Ocean County(New Jersey), Cleanup operations, EPA region 2.

PB92-963809/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
27 Sep 91, 68p EPA/ROD/R02-091/163
See also PB89-189492.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Asbestos Dump site is composed of four asbestos disposal areas in Meyersville, Passaic Township, New Jersey. The Record of Decision (ROD) addresses two of the four properties: the 30-acre New Vernon Road site and the 12-acre White Bridge Road site. In a 1990 investigation, EPA identified high levels of asbestos contamination in soil at both properties. Based on this investigation, the Agency for Toxic Substances and Disease Registry (ATSDR) issued a Public Health Advisory, and EPA conducted an immediate removal action at both sites. The ROD addresses the asbestos-contaminated soil on both the New Vernon Road and White Bridge Road properties, as Operable Unit (OU)2. A subsequent ROD will address the fourth property, the Dietzman Tract, as OU3. The primary contaminant of concern affecting the soil is asbestos, an inorganic. The selected remedial action for this site is included.

Keywords: *Hazardous materials, *Waste disposal, *Pollution control, Land pollution, Site surveys, Asbestos, Ground water, Waste treatment, Soil stabilization, Solidification, Monitoring, *Superfund, *Record of Decision, *Passaic Township(New Jersey), Second Remedial Action, Cleanup, EPA region 2.

PB92-963810/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
4 Feb 91, 61p EPA/ROD/R02-91/133
Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 7,400-acre Naval Air Engineering Center (NAEC) site is an active air base in Jackson and Manchester Townships, Ocean County, New Jersey. Activities conducted onsite include program research, engineering, developmental testing and evaluation, and various warfare support services. Land use in the area includes residential, woodland, vast wetlands, and associated floodplain areas. From 1916 to 1919, the Eddystone Chemical Company conducted chemical artillery testing onsite. In 1921, the U.S. Navy took control of the site and conducted operations involving the use, handling, storage, and onsite disposal of hazardous substances in various buildings. The Record of Decision provides an interim remedy for the first operable unit (OU1), the ground water contamination in Area H, site 32. The focus of the OU is ground water, although some treatment of soil may occur. The primary contaminants of concern affecting the ground water are VOCs including PCE; other organics; and metals including lead. The selected remedial action for the site includes pumping and pretreating ground water to remove metals, soil, and residual amounts of free product, followed by offsite disposal of solids and onsite treatment using air stripping and vapor phase carbon adsorption to remove VOCs.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Metals, Ground water, Military facilities, Waste treatment, National government, State government, Cost analysis, Soils, Metals, Pumping, Vapors, Adsorption, Activated carbon treatment, *Superfund, *Second Remedial Action, Cleanup, Volatile organic compounds, Record of Decision, *Ocean County(New Jersey).

PB92-963811/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 2): Chemsol, Inc., Piscataway, Middlesex County, NJ. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
20 Sep 91, 65p EPA/ROD/R02-91/159
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 40-acre Chemsol site is a former solvent recovery and waste reprocessing facility in Piscataway Township, Middlesex County, New Jersey. Land use in the area is predominantly commercial and residential, with an onsite marshy area that may be considered a wetlands. The site overlies a bedrock aquifer that is used as a regional drinking water source. Between 1980 and 1990, sampling of residential wells indicated the presence of organic contaminants and PCBs. The Record of Decision (ROD) provides an interim remedy to restrict the offsite migration of highly contaminated ground water. The primary contaminants of concern affecting the ground water are VOCs including benzene, toluene, and xylenes; other organics including pesticides and phenols; and metals including arsenic, chromium, and lead. The selected remedial action for this interim remedy includes installing a ground water collection trench; installing three ground water extraction wells to a depth of 130 feet; constructing an onsite treatment plant and treating contaminated ground water using air stripping, biological filtration, and activated carbon adsorption.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Waste processing plants, Solvents, Pesticides, Waste treatment, National government, State government, Cost analysis, Metals, Ground water, Extraction, Activated carbon treatment, Filtration, Adsorption, *Superfund, *First Remedial Action, *Middlesex County(New Jersey), Cleanup, Volatile organic compounds, Record of Decision, Piscataway Township(New Jersey).

PB92-963904/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 3): Middletown Air Field Site, Middletown, PA. (Second Remedial Action), December 1990.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
17 Dec 90, 52p EPA/ROD/R03-91/107
See also PB89-211684.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 500-acre Middletown Air Field site is a former military airfield located between the towns of Highspire and Middletown in Dauphin County, Pennsylvania. The site was used as an airfield by the Army/Air Force from 1918 until all onsite military operations ceased in 1966. Site features include several private manufacturing companies, an inactive landfill, and the Harrisburg International Airport (HIA). The site was divided into five distinct study areas where soil, sediment, ground water, and surface water investigations were conducted. Based on identification of onsite soil and ground water contamination, the remedial action for the site was divided into five Operable Units (OUs) that were slightly different from the study areas. The ROD provides a final remedy for OU1 through OU4, and an interim remedy for OU5, which requires additional investigations to determine contamination sources. The primary contaminants of concern affecting the soil and ground water are VOCs including TCE; other organics including PAHs; and metals including arsenic, chromium, and lead.

Keywords: *Superfund, *Hazardous materials, *Waste management, *Remedial action, Water pollution, Land pollution, Pennsylvania, Volatile organic compounds, Aromatic polycyclic hydrocarbons, Metals, Sediments, Surface waters, Waste disposal, *Record of Decision, *Dauphin County(Pennsylvania), EPA region 3.

PB92-963905/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 60p EPA/ROD/R03-91/123
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 8.64-acre Hellertown Manufacturing site is an inactive spark plug manufacturing facility in Northampton County, Pennsylvania. From 1930 to 1975, chemical wastes including TCE, zinc plating waste, chrome dip waste, cleaners, and cutting oils generated during plating and degreasing processes were disposed of onsite in the unlined lagoons. Waste from these activities then seeped into the local soil and rock strata. In 1976, after the facility began discharging treated wastewater into the municipal sewer system, the lagoons were backfilled, closed in place, and covered with topsoil. Studies conducted in 1990 identified contamination by VOCs, metals, and organic compounds in lagoon backfill, soil, and in onsite ground water. The primary contaminants of concern affecting the soil and ground water and VOCs; other organics including PAHs; and metals in including chromium. The selected remedial action for the site includes capping the former 3.5-acre lagoon area with an impermeable asphalt and clay cover; pumping and onsite treatment of ground water using air stripping; removing solids using a settling tank or clarifier followed by filtration; discharging the treated effluent onsite to Saucon Creek; long-term ground water monitoring; controlling surface water runoff; and implementing institutional controls including deed restrictions. The estimated present worth cost for this remedial action is $2,250,000.

Keywords: *Superfund, *Waste management, *Remedial action, *Hazardous materials, Land pollution control, Water pollution control, Ground water, Volatile organic compounds, Aromatic polycyclic hydrocarbons, Chromium, Industrial waste treatment, Sewers, Cost analysis, Lagoons(Ponds), *Record of Decision, *Northampton County(Pennsylvania).

PB92-963906/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenber Township, Lehigh County, PA. (Second Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 27p EPA/ROD/R03-91/129
See also PB90-107574.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 20-acre Hebelka Auto Salvage Yard site is an automobile junkyard in Weisenberg Township, Lehigh County, Pennsylvania. The site was used as an automobile junkyard and for salvage operations. Scrap iron was recovered from used storage tanks that were disposed onsite, some of which still contained organic chemicals. In addition, approximately 1,000 cubic yards of used battery casings have been disposed of onsite in two piles, along with empty storage tanks and drums, junked cars, and miscellaneous scrap metal. In 1985, EPA investigations identified elevated levels of lead and chromium in soil and sediment. A 1989 Record of Decision (ROD) addressed remediation of site areas with lead concentrations exceeding 560 mg/kg in soil, as well as the piles of scrap battery casings above these soil areas. The ROD also provided for removal and recycling of the battery casings; and excavation and treatment of soil using cement- or lime-based fixation processes. The ROD was developed to address soil outside of the high lead concentration areas, ground water, surface water, and air. However, because site investigations have found no evidence of contamination in the media addressed in the ROD, there are no contaminants of concern. The selected remedial action for the site is included.

Keywords: *Superfund, *Waste management, *Hazardous materials, *Remedial action, Junk car disposal, Land use, Pennsylvania, Waste disposal, Waste recycling, Solid waste disposal, Metal scraps, Electric batteries, Soil treatment, Land pollution, *Record of Decision, *Lehigh County(Pennsylvania).

PB92-963907/REB PC A05/MF A01
Superfund Record of Decision (EPA Region 3): Dorney Road Landfill Site, Upper Macungie Township, Lehigh County, PA. (Second Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 77p EPA/ROD/R03-91/127
See also PB89-196745.Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 27-acre Dorney Road site is a landfill in Upper Macungie Township, Lehigh County, Pennsylvania. The estimated 20 residents living within 1/4 mile of the site use ground water as the primary source of potable water. Prior to 1959, the site was used as an open pit iron mine. From 1959 to 1979, municipal and industrial wastes were disposed of in the onsite abandoned iron mine pit. In 1970, the State requested that the landfill be compacted and covered, but the owners failed to comply. In 1986, EPA performed an emergency removal action to regrade the site to collect and contain onsite surface runoff. Although a soil cover was applied to portions of the site, the landfill was never graded and onsite waste continues to be exposed in areas. This ROD addresses onsite ground water contamination as Operable Unit 2 (OU2) and provides a final remedy for the site. The primary contaminants of concern affecting the ground water are VOCs including benzene and TCE; and metals including chromium and lead. The selected remedial action for this site is included.

Keywords: *Superfund, *Waste management, *Remedial action, Pennsylvania, Ground water, Water pollution, Earth fills, Coverings, Waste disposal, Mine wastes, Industrial wastes, Volatile organic compounds, Metals, Chromium, Lead(Metal), *Hazardous materials, *Record of Decision, *Lehigh County(Pennsylvania), Land covers.

PB92-963909/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 3): USA Aberdeen, Michaelsville, MD. (First Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
27 Sep 91, 20p EPA/ROD/R03-91/126
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 79,000-acre USA Aberdeen site, also known as the U.S. Army Aberdeen Proving Ground (APG), is an active military installation used since 1917 for planning and testing weapons, munitions, vehicles, and equipment in Harford County, Maryland, near the head of the Chesapeake Bay. APG is divided into two functional areas: the 13,000-acre Edgewood Area and the 17,000-acre Aberdeen Area, which includes two Earth fills. The 15-acre area, termed the White Phosphorus Underwater Munitions Burial Area (WPUMBA), is the focus of the ROD. EPA conducted extensive electromagnetic and core sampling studies of the WPUMBA from 1988 to 1989. The selected remedial action for the site is no action with surface water monitoring after severe storms with hurricane strength winds or any other act which may disturb sediment.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Ordnance, Ammunition, Waste treatment, National government, Cost analysis, State government, Monitoring, Surface waters, *Superfund, *First Remedial Action - Final, *Michaelsville(Maryland), White phosphorus, USA Aberdeen.

PB92-963910/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
2 Aug 91, 28p EPA/ROD/R03-91/118
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 250-acre USA Letterkenny - PDO site is within the 19,500-acre active U.S. Army facility in Chambersburg, Franklin County, Pennsylvania. Land use in the area is primarily agricultural, with scattered residences and military facilities. Since 1942, the U.S. Army has used the PDO Area to overhaul, rebuild, and fix wheeled and tracked vehicles; distribute class III chemicals and petroleum; and score, maintain, demilitarize, modify, and demolish ammunition. The Record of Decision (ROD) addresses remediation of onsite soil as the first operable unit (OU1). A subsequent ROD will address ground water contamination as OU2. Because a majority of the soil contaminants have already moved down into the clays and silts of the underlying bedrock and ground water, soil contaminants now pose low risks for humans at the site, and no remediation of the soil is necessary. There are no primary contaminants of concern affecting this site.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Military facilities, Solvents, Oils, Soils, Waste treatment, National government, Cost analysis, State government, Hydrocarbons, Risk assessments, Humans, Ground water, *Superfund, *First Remedial action, *Franklin County(Pennsylvania), Chambersburg(Pennsylvania), *Record of Decision, Chemicals.

PB92-963911/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 3): USA Letterkenny - Southeastern Area, Chambersburg, PA. (First Remedial Action), August 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
2 Aug 91, 51p EPA/ROD/R03-91/119
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The USA Letterkenny Southeast Area site is on a 19,500-acre active U.S. Army facility in Chambersburg, Franklin County, Pennsylvania. Land use in the area is primarily agricultural with scattered residences and military facilities. Ground water flowing beneath the Southeast site discharges into two nearby streams. Since 1942, the U.S. Army has used the Area to overhaul, rebuild, and test wheeled and tracked vehicles; distribute Class III chemicals and petroleum; and store, maintain, demilitarize, modify, and demolish ammunition. These activities past industrial have involved the use and disposal of TCE, solvents, hydrocarbons, and metals. The Record of Decision (ROD) addresses contaminated soil in the Southeast Area, and is the first operable unit for that area. The selected remedial action for the site includes excavating and treating onsite 8,000 cubic yards of VOC-contaminated soil using low temperature thermal treatment; controlling vaporized contaminants using a secondary high-temperature combustor, or collecting these vapors by adsorption onto activated carbon; and backfilling the residual ash onsite.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Solvents, Military facilities, Excavation, Waste treatment, National government, Cost analysis, State government, Soils, Monitoring, Activated carbon process, Heat treatment, *Superfund, *First Remedial Action, Cleanup, Volatile organic compounds, *Chambersburg(Pennsylvania), Franklin County(Pennsylvania).

PB92-963912/REB PC **A05**/MF **A01**
Superfund Record of Decision (EPA Region 3): Whitmoyer Laboratories (Operable Unit 2), Lebanon County, PA. (Second Remedial Action), December 1990.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
17 Dec 90, 95p EPA/ROD/R03-91/108
See also PB90-114661.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 22-acre Whitmoyer Laboratories site is an abandoned animal pharmaceutical manufacturing facility in Jackson Township, Lebanon County, Pennsylvania. Land use in the area is predominantly agricultural, and there are wetlands areas adjacent to the site. In 1986, arsenic contamination was detected in nearby residential wells by EPA. The primary contaminants of concern affecting the debris and sludge are VOCs including benzene, PCE, toluene, and xylenes; other organics including phenols; and metals including arsenic and lead. The selected remedial action for the site includes excavating and incinerating onsite approximately 3000 cubic yards of high organic content vault wastes, and approximately 101 cubic yards of miscellaneous products and feedstocks; followed by cement/pozzolan-based fixation, and disposing of the residual ash offsite; treating approximately 1,500 cubic yards of low organic content vault wastes using fixation or a similar process and disposing of residuals along with nonhazardous wastes and other products and feedstocks offsite; demolishing buildings, associated tanks, vessels, processing equipment, and debris.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Benzene, Toluene, Metals, Excavation, Waste treatment, National government, Cost analysis, State government, Phenols, Incineration, Cements, Sealing, *Superfund, *Second Remedial Action, Cleanup, Volatile organic compounds, *Lebanon County(Pennsylvania).

PB92-963913/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 3): Strasburg Landfill, Newlin Township, Chester County, PA. (Second Remedial Action), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 61p EPA/ROD/R03-91/116
See also PB90-114703.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 22-acre Strasburg Landfill site is an inactive landfill located within a 220-acre tract of land in Newlin and West Bradford Townships, Chester County, Pennsylvania. The 201 single-family residences that surround the site use ground water as a source of drinking water. In 1983, the owners were cited for violations, which they failed to correct, and the State ordered the landfill closed. Closure involved constructing a PVC cover and soil and vegetation layer. A 1989 Record of Decision (ROD) addressed contaminated residential wells and exposure pathways, and provided an interim remedy to limit site access. The selected interim remedial action for the site includes implementing site access restrictions including fencing, access roads, the sediment pond, air stripping building, and monitoring wells; and maintaining the fence and the existing cap.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Earth fills, Sites, Describing, Industrial wastes, Volume, Benzene, Toluene, Metals, Excavation, Waste treatment, National government, Cost analysis, State government, Arsenic, Fences, Capping, Lagoons(Ponds), Observation wells, *Superfund, *Second Remedial Action, Record of Decision, Volatile organic compounds, *Chester County(Pennsylvania), Air stripping.

PB92-963914/REB PC **A06**/MF **A02**
Superfund Record of Decision (EPA Region 3): Halby Chemical, Wilmington, New Castle County, DE. (First Remedial Action), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 121p EPA/ROD/R03-91/115
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 14-acre Halby Chemical site encompasses a chemical storage facility and associated warehouses in Wilmington, New Castle County, Delaware. Land use in the area is primarily industrial. Storm water runoff from the site generally flows toward a drainage ditch which discharges into the Christina River. The plant then closed in August 1977. Since 1977, Brandywine Chemical Company has used the site to receive and distribute bulk chemicals. As a result of citizen complaints about lagoon overflow, hydrogen sulfide-like odors, and numerous spills, a number of investigations were conducted. The selected remedial action for the site includes consolidating debris onsite or disposing of all debris offsite; excavating and stabilizing the top 6 inches of approximately 10,300 cubic yards of contaminated surface soil in the process plant area, followed by replacing the stabilized soil onsite; capping the approximately 5,800 square yards residuals area with an asphalt cap; and conducting soil monitoring.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Chemical industry, Metals, Arsenic, Excavation, Waste treatment, National government, Cost analysis, State government, Capping, Soils, Monitoring, Land titles, Refuse, *Superfund, *First Remedial Action, Cleanup, Volatile organic compounds, *New Castle County(Delaware).

PB92-963915/REB PC **A06**/MF **A02**
Superfund Record of Decision (EPA Region 3): Brodhead Creek, Stroudsburg, PA. (First Remedial Action), March 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
29 Mar 91, 103p EPA/ROD/R03-91/110
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 12-acre Brodhead Creek site is a former coal gasification plant in the Borough of Stroudsburg, Monroe County, Pennsylvania. The site occupies the floodplain area at the confluence of Brodhead and McMichael Creeks. Surrounding land use is commercial and residential. In addition, from 1982 to 1983, the State and EPA conducted a program designed to remove coal tar from a backwater channel area, which involved excavating and dewatering 900 cubic yards of sediment and backfilling the area with clay and clean soil. The selected remedial action for the site includes an in-situ innovative enhanced recovery process which entails installing hot water injection and extraction wells in the free coal tar areas and disposing of the recovered coal tar at an offsite permitted incineration facility.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Coal gasification, Benzene, Incinerators, Waste treatment, National government, Cost analysis, State government, Toluene, Xylenes, Metals, Dewatering, Injection wells, *Superfund, *First Remedial Action, Cleanup, Volatile organic compounds, *Monroe County(Pennsylvania).

PB92-963916/REB PC **A05**/MF **A01**
Superfund Record of Decision (EPA Region 3): USA Aberdeen Proving Ground, Edgewood, MD. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
27 Sep 91, 82p EPA/ROD/R03-91/125
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 17,000-acre USA Aberdeen - Edgewood site is a military ordnance installation in Edgewood, Maryland. The 4.5-acre Old O-Field site, which is the focus of the Record of Decision (ROD), is a fenced hazardous waste and ordnance disposal area. From 1949 to the mid-1970's, several decontamination and clean-up operations were conducted as a result of munitions explosions. These operations included the application of 1,000 barrels of decontaminating agent non-corrosive containing chlorinated hydrocarbons; soaking the field with several hundred gallons of fuel oil and setting the field ablaze; dispersing lime into the surrounding trees to further reduce the amount of mustard present; and using supertropical bleach, lime, and sodium hydroxide to destroy chemical agents. The ROD provides an interim remedy for contaminated ground water and its effect on surface water. The primary contaminants of concern affecting the ground water are VOCs including benzene, PCE, TCE, and toluene; and metals including arsenic. The selected remedial action for this interim remedy includes installing a downgradient extraction well network; and pumping and onsite treatment of contaminated ground water using chemical precipitation.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Military facilities, Volume, Chemical ammunition, Ground water, Metals, Extraction, Waste treatment, National government, Cost analysis, State government, Arsenic, Military chemical agents, Chlorohydrocarbons, Pumping, Precipitation(Chemistry), *Superfund, *First Remedial Action, *Edgewood(Maryland), Cleanup, Volatile organic compounds, Record of decision.

PB92-963917/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 3): Heleva Landfill Site, Lehigh County, PA. (First Remedial Action), (Amendment), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 31p EPA/ROD/R03-91/124
See also PB85-232106.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 25-acre Heleva Landfill site is a former sanitary landfill in North Whitehall Township, Lehigh County, Pennsylvania. A 1985 Record of Decision (ROD) addressed onsite ground water contamination and provided for extending an existing water main; capping the entire landfill; constructing surface water diversions and gas venting systems; constructing an onsite ground water treatment facility; and establishing a pumping and treating system. Construction of all of these major remedial activities has been completed except for the ground water extraction and treatment component. The ROD amends the ground water component. The primary contaminants of concern affecting the ground water are VOCs including benzene, PCE, TCE, toluene, and xylenes. The amended remedial action for the site includes continuing with the selected remedy from the previous ROD and replacing the ground water portion with extracting near gradient ground water to contain the highly contaminated dissolved plume.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Earth fills, Ground water, Pumping, Extraction, Water treatment, National government, Cost analysis, State government, Benzene, Trichloroethylene, Toluene, Monitoring, *Superfund, *First Remedial Action(Amendment-Final), *Lehigh County(Pennsylvania), Cleanup, Volatile organic compounds, Record of Decision.

PB92-963918/REB PC A05/MF A01
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
29 Mar 91, 88p EPA/ROD/R03-91/139
Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 30-acre Industrial Drive site is an active sanitary landfill and industrial facility in Williams Township, Northampton County, Pennsylvania. Land use in the area is industrial, residential, and agricultural. The site contains active and inactive sanitary landfills as well as active, inactive, and abandoned industrial facilities. In the late 1970's, local residents alleged that the now inactive unlined landfill had accepted hazardous wastes that had contaminated local drinking water wells. The ROD addresses OU2, the contaminated ground water and the low-level threat caused by the unlined municipal landfill. The primary contaminants of concern affecting the soil, debris, and ground water are VOCs including benzene, PCE, and TCE; other organics; and metals including chromium and lead. The selected remedial action for this site includes closing and capping the unlined landfill area with a clay or synthetic cap; onsite pumping and treatment of contaminated ground water using an air stripper, followed by carbon adsorption with onsite discharge of the treated ground water to the Lehigh River.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Earth fills, Soils, Ground water, Waste treatment, National government, State government, Cost analysis, Refuse, Metals, Chromium, Capping, Pumping, Activated carbon treatment, *Superfund, *Second Remedial Action-Final, *Northampton County(Pennsylvania), Cleanup, Volatile organic compounds, Record of Decision, Air stripping.

PB92-963919/REB PC A05/MF A01
Superfund Record of Decision (EPA Region 3): NCR Corporation (Millsboro Plant), Sussex County, Millsboro, DE. (First Remedial Action), August 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
12 Aug 91, 83p EPA/ROD/R03-91/122
Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 58-acre NCR, Millsboro site is a former manufacturing facility in Millsboro, Sussex County, Delaware. Land use in the area is mixed residential, agricultural, and industrial with a small stream, Iron Branch. From 1981 to 1983 under State direction, NCR conducted onsite investigations, which revealed ground water contamination by VOCs and chromium above levels of concern. The Record of Decision (ROD) addresses a final remedy for ground water contamination. The primary contaminants of concern affecting the ground water are VOCs, mainly TCE and PCE; other organics; metals including chromium and lead and oils. The selected remedial action for this site includes pumping and treatment of contaminated ground water using air stripping, followed by carbon adsorption, and coagulation and filtration, if necessary, to remove chromium.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Plating, Chromium, Metals, Waste treatment, National government, State government, Cost analysis, Oils, Ground water, Pumping, Coagulation, Activated carbon treatment, Filtration, *Superfund, *First Remedial Action-Final, *Millsboro(Delaware), Cleanup, Volatile organic compounds, Record of Decision, Air stripping.

PB92-963920/REB PC A05/MF A01
Superfund Record of Decision (EPA Region 3): AVCO Lycoming-Williamsport Division, Lycoming County, Williamsport, PA. (First Remedial Action), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 96p EPA/ROD/R03-91/112
Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 28-acre AVCO Lycoming-Williamsport Division site is an active manufacturing facility in Williamsport, Pennsylvania. Surrounding land use is primarily residential. The site overlies a surficial glacial aquifer and a deeper bedrock aquifer that are used as seasonal sources of drinking water. In 1984, the State identified VOC contamination in the well field. The Record of Decision (ROD) addresses management of migration of contaminated ground water from the onsite area. The primary contaminants of concern affecting the ground water are VOCs including TCE and metals including chromium. The selected remedial action for this site includes pumping and treatment of contaminated ground water using an onsite treatment facility that utilizes precipitation, coagulation, flocculation, and air stripping; treating air stripper off-gases using Best Available Technology (BAT), possibly granular activated carbon or fume incineration.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Metals, Chromium, Trichloroethylene, Waste treatment, National government, State government, Cost analysis, Precipitation(Chemistry), Coagulation, Flocculation, Incinerators, Ground water, Monitoring, *Superfund, *First Remedial Action, *Williamsport(Pennsylvania), Cleanup, Volatile organic compounds, Record of Decision, Air stripping.

PB92-964002/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
25 Jun 91, 61p EPA/ROD/R04-91/085
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 46.5-acre USAF Robins Air Force Base site is a logistics management and repair center for aircraft, missiles, and support systems in Warner Robins, Houston County, Georgia. The Zone 1 area, which includes a 45-acre inactive landfill and a 1.5-acre sludge lagoon is part of the 8,855-acre Robins Air Force Base. Types of wastes generated at the facility included electroplating wastes, organic solvents from cleaning operations, and pesticides, all of which were disposed of in the lagoon and landfill areas. The Record of Decision (ROD), which focuses on OU1, addresses the remediation of Landfill No. 4 and the sludge lagoon. The selected remedial action for the site includes treating 15,000 cubic yards of soil in the sludge lagoon using in-situ soil vapor extraction; removing volatile contaminants from the air using condensation, distillation, and carbon adsorption; controlling and treating landfill leachate; renovating the landfill cover; and treating the sludge lagoon to remove VOCs.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Pesticides, Solvents, Military facilities, Waste treatment, National government, Cost analysis, State government, Earth fills, Lagoons(Ponds), Metals, Pumping, Ground water, *Superfund, *First Remedial Action, *Record of Decision, Volatile organic compounds, *Houston County(Georgia), Vapor extraction.

PB92-964003/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 4): Monsanto Superfund Site, Augusta, GA. (First Remedial Action), December 1990. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
7 Dec 90, 62p EPA/ROD/R04-91/080
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 75-acre Monsanto site is a former industrial plant located three miles southeast of Augusta, Georgia. Land use in the area is predominantly industrial, with a wetland area located approximately 4,570 feet from the site. From 1966 to 1974, approximately 1500 pounds of arsenic were placed in two onsite landfills. The final Record of Decision (ROD) addresses ground water contamination. The primary contaminant of concern affecting the ground water is arsenic, a metal. The selected remedial action for the site includes monitor-

ing ground water to evaluate compliance with Ground Water Protection Achievement Levels (GPALs); pumping and discharging ground water to an offsite publicly owned treatment works. The estimated present worth cost for the remedial action is $600,000.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Arsenic, Metals, Excavation, National government, State government, Cost analysis, Earth fills, Pumping, Ground water, Monitoring, Waste treatment, *Superfund, Record of Decision, *Final Remedial Action, Cleanup, *Augusta(Georgia).

PB92-964004/REB PC **A14**/MF **A03**
Superfund Record of Decision (EPA Region 4): Tri-City Industrial Disposal Site, Bullitt County, Brooks, KY. (First Remedial Action), August 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Aug 91, 314p EPA/ROD/R04-91/082
See also PB88-126511.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 349-acre Tri-City Industrial Disposal site is an inactive industrial waste landfill located in Brooks, Bullitt County, Kentucky. Land use in the area is predominantly agricultural and residential. The estimated 300 people who reside within 1 mile of the site use ground water from a thin unconfined limestone aquifer as their drinking water supply. In 1988, EPA provided local residents with an alternate water supply, and conducted an emergency removal action to excavate and remove approximately 165 drums in generally good condition, and over 800 cubic yards of suspected contaminated soil. The Record of Decision (ROD) addresses ground water contamination as Operable Unit 1. The selected remedial action for the site includes installing a carbon adsorption system at the Cox Spring; treating contaminated ground water using carbon adsorption and discharging the treated ground water to tributaries downstream of the springs.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Earth fills, Solvents, Fiberglass, Excavation, Waste treatment, National government, Cost analysis, State government, Soils, Ground water, Activated carbon treatment, Monitoring, Sediments, *Superfund, *First Remedial action-Final, *Bullitt County(Kentucky), Cleanup, Volatile organic compounds, Record of decision.

PB92-964005/REB PC **A07**/MF **A02**
Superfund Record of Decision (EPA Region 4): Aberdeen Pesticide Dumps, Moore County, Aberdeen, NC. (First Remedial Action), (Amendment), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 138p EPA/ROD/R04-91/093
Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Aberdeen Pesticide Dumps site consists of a plant area and four disposal areas in Aberdeen, Moore County, North Carolina. The five areas are Farm Chemicals, Twin Sites, Fairway Six, McIver Dump, and Route 211. Ground water is the main source of drinking water for local residents. After investigations by EPA's Emergency Response Section in 1985 and 1986, several removal actions were conducted, including removing surface contaminants, drums, and soil in several areas. The ROD concurrently addresses surface and subsurface soil contamination. The amended remedial action for this site includes conducting a treatability study using thermal desorption; excavating and treating a total of 123,933 cubic yards of soil from all five areas including previously excavated soil from the Fairway Six and McIver Dump areas using an onsite thermal desorption process that includes an activated carbon adsorption to treat off-gases, followed by offsite incineration of residual organics.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Excavation, Volume, Pesticides, Agriculture, Soils, Waste treatment, National government, State government, Cost analysis, Metals, Asbestos, Organic compounds, Ground water, Desorption, Activated carbon treatment, *Superfund, *First Remedial Action(Amendment), *Moore County(North Carolina), Cleanup, Record of Decision.

PB92-964006/REB PC **A10**/MF **A03**
Superfund Record of Decision (EPA Region 4): Smith's Farm Site (First Operable Unit), Bullitt County, Brooks, KY. (First Remedial Action), (Amendment), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 212p EPA/ROD/R04-91/088
See also PB90-150947.Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 500-acre Smith's Farm Brooks site is a former hazardous waste disposal area located in Brooks, Bullitt County, Kentucky. The site includes a 37.5-acre landfill that, until recently, was permitted by the State for the disposal of solid waste. The site also includes an 80-acre area upgradient of the permitted landfill on a mile-long ridge between two intermittent creeks where the unpermitted disposal of drums containing hazardous waste occurred over a 20-year period. The ROD amends the 1989 ROD and provides source control in the 80-acre area using chemical treatment, rather than thermal treatment. A second operable unit will address remaining potential threats associated with the landfill, deep ground water aquifers, and other suspected areas of drum disposal. The primary contaminants of concern affecting the soil, sediment, and debris are organics including PCBs and PAHs, and metals including lead. The amended remedial action for the site includes excavating 16,000 cubic yards of contaminated soil and excavating contaminated stream sediment and treating soil and sediment onsite by a chemical process, dechlorination or hydrocarbon removal.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Metals, Hydrocarbons, Excavation, Waste treatment, National government, Cost analysis, State government, Dechlorination, Removal, Sediments, Capping, Groundwater, *Superfund, *First Remedial Action, *Bullitt County(Kentucky), Cleanup, Volatile organic compounds, Record of Decision, Polychlorinated biphenyls.

PB92-964007/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 4): Petroleum Products Corporation Site, Operable Unit 1, Pembroke Park, Broward County, FL. (First Remedial Action), October 1990.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
5 Oct 90, 52p EPA/ROD/R04-91/079
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Petroleum Products site is an inactive oil processing plant in Pembroke Park, Broward County, Florida. The area surrounding the site is highly developed with industrial, commercial, and residential properties. The Petroleum Products (PPC) site lies within the radius of two major municipal wellfields. Current site features include an industrial warehouse complex, a fenced area with several dozen drums of investigation - derived waste, a french drain system, and several monitoring and abandoned storm drainage wells. Subsequent sampling identified that the groundwater had been contaminated by oils, VOCs, petroleum hydrocarbons, and inorganic compounds. The Record of Decision (ROD) addresses the first operable unit (OU1), enhancement of the free product recovery system as an interim remedy. A future ROD will address source control and ground water treatment. The primary contaminants of concern affecting the ground water are metals, including chromium and lead; and oils. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Site surveys, Petroleum products, Ground water, Water pollution, Florida, Metals, Oil pollution, *Record of Decision, EPA region 4, Broward County(Florida), Cleanup operations.

PB92-964008/REB PC **A11**/MF **A03**
Superfund Record of Decision (EPA Region 4): Sangamo/Twelve-Mile Creek, Lake Hartwell PCB Contamination Site, Pickens, SC. (First Remedial Action), December 1990.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
19 Dec 90, 249p EPA/ROD/R04-91/100
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 253-acre Sangamo/Twelve-Mile/Hartwell PCB site consists of seven separate disposal areas in Pickens County, South Carolina. These areas consist of the Sangamo Plant area and six private disposal areas located offsite of the Sangamo Plant, which are designated as the Breazeale, Nix, Dodgens, Cross Roads, John Trotter, and Welborn areas. Land in the general area is predominantly forested, and there are several nearby lakes and streams including Lake Hartwell and the Twelve-Mile Creek basin. Since 1955, Sangamo Weston, Inc., has manufactured electrolytic, mica, and power factor capacitors. In 1989, EPA removed offsite 7,285 tons of PCB-contaminated soil and debris from the Sangamo Plant area to a RCRA landfill, and 6,684 capacitors were taken to an offsite incinerator. The Record of Decision (ROD) addresses the first of two operable units, and provides for remediation of the ground water and source contamination at the seven disposal areas. A future ROD will address the contamination of the Twelve-Mile Creek basin and Lake Hartwell. The primary contaminants of concern affecting the soil, sludge, debris, and ground water are VOCs including PCE and TCE; and other organics including PCBs. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Site surveys, South Carolina, Polychlorinated biphenyls, Land pollution, Water pollution, Ground water, Volatile organic compounds, Earth fills, Electronics industry, *Record of Decision, Cleanup operations, EPA region 4, Pickens County(South Carolina).

PB92-964009/REB PC **A09**/MF **A02**
Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
29 May 91, 186p EPA/ROD/R04-91/081
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 7-acre Medley Farms site is a former waste disposal area located on a private farm used as pasture 6 miles south of Gaffney, Cherokee County, South Carolina. Land use in the area is predominantly agricultural and light residential, and six private wells are within a 1-mile radius of the site. The site overlies a shallow saprolitic and a deeper bedrock aquifer. All residents in the near vicinity of the site are connected to the public water distribution system. EPA conducted a geological study to determine the potential for ground water contamination. Subsequent EPA studies identified VOCs in both soil and ground water. The Record of Decision (ROD) addresses soil and ground water contamination as a final remedy. The primary contaminants of concern affecting the soil and ground water are VOCs including benzene, PCE, and TCE; and other organics including pesticides and PCBs. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Land pollution, Water pollution, Site surveys, Ground water, Volatile organic compounds, Pesticides, Polychlorinated biphenyls, South Carolina, Potable water, *Record

of Decision, Cleanup operations, Cherokee County(South Carolina), EPA region 4.

PB92-964010/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 4): USA Anniston Army Depot, (Groundwater Operable Unit), Calhoun County, Anniston, AL. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
26 Sep 91, 49p EPA/ROD/R04-91/086
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 15,200-acre USA Anniston Army Depot site is an active equipment rework facility for the U.S. Army in Anniston, Calhoun County, Alabama. The site is divided into several areas including a southeast industrial area, which is the focus of the Record of Decision (ROD). Land use in the area is predominantly residential. In 1990, the Army completed and began operating a ground water pumping and treatment system. The ROD addresses an interim remedy for ground water contamination beneath the southeast industrial area as the first operable unit. Future RODs may address further contamination in the southeast industrial portion of the site. The primary contaminants of concern affecting the ground water are VOCs including PCE and TCE; other organics including phenols; and metals including chromium. The selected remedial action for the site includes continued use of the existing ground water pumping and treatment system using air stripping to remove VOCs, followed by charcoal filtration to remove phenols; and discharging the treated ground ater onsite to surface water.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Military facilities, Groundwater, Phenols, Waste treatment, National government, State government, Cost analysis, Pumping, Metals, Chromium, Fluid filtration, *Superfund, *First Remedial Action, Cleanup, Volatile organic compounds, Record of decision, *Calhoun County(Alabama).

PB92-964011/REB PC A08/MF A02
Superfund Record of Decision (EPA Region 4): Wrigley Charcoal Site, Hickman County, Wrigley, TN. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 152p EPA/ROD/R04-91/087
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 81-acre Wrigley Charcoal site is a former multi-use industrial operations area in the town of Wrigley, Hickman County, Tennessee. Land use in the area is industrial and residential. Improper disposal procedures have resulted in soil, sediment, and debris contamination by semi-volatile organic compounds in coal-tars (mainly PAHs and phenols), VOCs, metals, and asbestos. The Record of Decision (ROD) addresses interim remediation of remaining contaminated soil, sediment, and debris. The selected remedial action for the site includes excavating, stabilizing, and disposing of offsite approximately 15 cubic yards of metallic wastes from the burn pit; consolidating and securing onsite approximately 120 drums of transformers; excavating, incinerating, stabilizing, and disposing of offsite 14 waste drums.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Sediments, Metals, Waste treatment, National government, State government, Cost analysis, Asbestos, Aromatic polycyclic hydrocarbons, Excavation, Incinerators, Stabilization, Coal tar, *Superfund, *First Remedial action, Cleanup, Volatile organic compounds, Record of decision, *Wrigley(Tennessee).

PB92-964012/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
19 Sep 91, 29p EPA/ROD/R04-91/096
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Oak Ridge Reservation (ORR) (USDOE) (Operable Unit 4) site is a former uranium isotope processing subsite in Oak Ridge, Roan County, Tennessee. The 1,700-acre K-25 site, which comprises Operable Unit 4 (OU4), is one of several hundred waste disposal sites or areas of contamination at the ORR site requiring Superfund remedial action. Land use in the area is predominantly residential. The storage yards contain 36,000 ninety-gallon drums of stabilized sludge, 29,000 ninety-gallon drums of raw sludge, and 16,000 gallons of raw sludge in tanks, contaminated with mixed radioactive and hazardous wastes. The Record of Decision (ROD) addresses the sludge stored at the storage yards as an interim action to prevent or mitigate releases to the environment. The selected remedial action includes eliminating free liquids in sludge through filter press, thermal drying, or similar methods; repacking dry sludge, followed by onsite storage of containers and processing liquids removed from the sludge through existing treatment facilities.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Sludge, Radioactive wastes, Uranium isotopes, Waste treatment, National government, State government, Cost analysis, Metals, Waste processing, Liquids, Storage, Containers, Filter presses, *Superfund, *Third Remedial Action, Cleanup, Volatile organic compounds, Record of Decision, *Roane County(Tennessee), Oak Ridge(Tennessee).

PB92-964013/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 2), Oak Ridge, TN. (First Remedial Action), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 29p EPA/ROD/R04-91/098
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Oak Ridge Reservation (ORR) (USDOE) site is an inactive uranium recovery landfill in Oak Ridge, Anderson County, Tennessee. The United Nuclear Corporation (UNC) disposal site, which comprises Operable Unit 2 (OU2), is one of sever hundred waste disposal sites or areas of contamination at the ORR site requiring Superfund remedial action. The Record of Decision (ROD) addresses the drummed soil, sludge, and debris to prevent future ground water contamination. The primary contaminants of concern affecting the soil, sludge, and debris are nitrite, an inorganic; and strontium-90, a radioactive material. The selected remedial action for the site includes clearing and grubbing sparse vegetation; placing a multi-layer cover over the drums, soil, sludge, and debris; revegetating the area and backfilling over the UNC waste with additional soil; and monitoring ground water.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Radioactive wastes, Uranium, Soils, Waste treatment, National government, State government, Cost analysis, Sludge, Earth fills, Ground water, Coverings, Revegetation, Backfilling, *Superfund, *First Remedial Action, Cleanup, Volatile organic compounds, Record of decision, Oak Ridge(Tennessee), *Anderson County(Tennessee).

PB92-964104/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 5): Novaco Industries, MI. (First Remedial Action), (Amendment), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Sep 91, 28p EPA/ROD/R05-91/188
See also PB86-224870.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 2.6-acre Novaco Industries site is a one building site in Temperance, Michigan. Land use in the area is predominantly residential and agricultural. The estimated 85 residences located within 1/2 mile of the site use the underlying sand/gravel and limestone aquifer as their drinking water supply. A 1986 Record of Decision (ROD) addressed a final remedy for ground water contamination and provided for ground water pumping and treatment using electrochemical reduction/ion exchange polishing, followed by onsite discharge to surface water. The ROD amends the 1986 ROD. The amended remedial action for the site is no further action.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Chromium, Ground water, Pumping, Electrochemistry, Waste treatment, National government, Reduction(Chemistry), State government, *Superfund, *First Remedial Action(Amendment)-Final, *Record of Decision, *Temperance(Michigan).

PB92-964105/REB PC A09/MF A02
Superfund Record of Decision (EPA Region 5): Rasmussen's Dump Site, Green Oak Township, Livingston County, MI. (First Remedial Action), March 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Mar 91, 176p EPA/ROD/R05-91/157
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 33-acre Rasmussen's Dump site is a former industrial and domestic waste disposal area in Green Oak Township, Livingston County, Michigan. Area residents rely solely on the aquifer underlying the site for their drinking water supply. The site is adjacent to the Spiegelberg Landfill, another Superfund site. In 1981, the State detected low levels of ground water contamination onsite. The contamination includes: two onsite contaminated ground water plumes and four areas of soil contamination. The Record of Decision (ROD) provides a final remedy for onsite contaminated soil and ground water. The primary contaminants of concern are VOCs including benzene, TCE, toluene, and xylenes; other organics including ketones, chlorinated hydrocarbons, and phenols; and metals including cadmium, and lead. The selected remedial action for the site includes capping the waste in the areas, and removing and disposing of waste drums unearthed during cap construction offsite at a RCRA facility; and ground water pumping and treatment using chemical precipitation followed by pH adjustment to remove metal contaminants.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Ground water, Metals, Pumping, Waste treatment, National government, Cost analysis, State government, Phenols, Chlorohydrocarbons, Capping, Earth fills, Activated sludge process, *Superfund, *First Remedial Action, Record of Decision, Volatile organic compounds, *Levingston County(Michigan), Green Oak Township(Michigan).

PB92-964106/REB PC A06/MF A02
Superfund Record of Decision (EPA Region 5): G and H Industrial Landfill Site, Macomb County, MI. (First Remedial Action), December 1990. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
21 Dec 90, 103p EPA/ROD/R05-91/152
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 70-acre G and H Landfill site is an inactive landfill in Shelby Township, Macomb County, Michigan. The site overlies two ground water aquifers, the uppermost of which is the source of drinking water for some east-

ern area residences and industries. From 1955 to 1973, G and H landfill accepted municipal refuse, and solid and liquid industrial wastes including solvents, paints, varnishes, and lacquers. The Record of Decision (ROD) addresses contaminated soil, sediment, and landfill material (OU1); and the contaminated ground water plume, landfill leachate, and oil seep. The selected remedial action for the site includes constructing a subsurface barrier wall around the perimeter of the landfill areas and oil seeps; instituting leachate collection and treatment; and excavating soil and sediment.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Earth fills, Arsenic, Excavation, National government, State government, Cost analysis, Metals, Chromium, Coverings, Waste treatment, Ground water, Incinerators, *Superfund, Record of Decision, *First Remedial Action-Final, Cleanup, Volatile organic compounds, *Macomb County(Michigan), Polychlorinated biphenyls.

PB92-964107/REB PC **A05**/MF **A01**
Superfund Record of Decision (EPA Region 5): Main Street Well Field, Elkhart, IN. (Second Remedial Action), March 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
29 Mar 91, 83p EPA/ROD/R05-91/156
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 48-acre Main Street Well Field (MSWF) site is in Elkhart, Elkhart County, Indiana. The well field provides the primary water supply for the 44,000 city residents. Adjacent to the site are several industrial properties, Excel and Durakool to the east; Elkhart Products to the west that used TCE and other organic solvents as part of their operations. During routine sampling in 1981, EPA identified TCE contamination in onsite wells. Sampling wells were installed on the Excel and Durakool properties, and the results of the testing indicated these industries were the likely sources of contamination. The ROD addresses management of migration of the western contaminant plume, as well as source control on the east side of the well field. The selected remedial action for the site includes treating 22,000 cubic feet of contaminated soil by in-situ vacuum extraction; removing the soil containing the 60 cubic yards of soil containing the paint layer, followed by offsite incineration or suitable treatment etc.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Metals, Water wells, National government, State government, Cost analysis, Solvents, Trichloroethylene, Arsenic, Water treatment, Incinerators, Pumping, *Superfund, Record of Decision, *Second Remedial Action, Cleanup, Volatile organic compounds, *Elkart(Indiana), Vacuum extraction.

PB92-964108/REB PC **A05**/MF **A01**
Superfund Record of Decision (EPA Region 5): Folkertsma Refuse Site, Walker, MI. (First Remedial Action), June 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 77p EPA/ROD/R05-91/158
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 8-acre Folkertsma Refuse site is an inactive industrial landfill in Walker, Kent County, Michigan. Surrounding land use is primarily industrial with a few private residences in the vicinity. The site overlies surficial glacial and bedrock aquifers, both of which are used for local drinking water supplies. Onsite features include an uncapped landfill, a man-made creek and a drainage ditch that join and discharge to Indian Mill Creek. Further investigations in 1985 and 1988 characterized onsite and offsite (Indian Mill Creek) contamination, and determined the potential for future ground water contamination. The Record of Decision (ROD) addresses engineering controls for source material and management of migration of contaminated ground water as a final remedy. The selected remedial action for the site includes excavating and dewatering approximately 1,300 cubic yards of contaminated sediment from the man-made creek, and consolidating these within the landfill area; and capping the landfill area with a clay cap and revegetated soil cover.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Metals, Sediments, Excavation, National government, State government, Cost analysis, Arsenic, Chromium, Earth fills, Dewatering, Ground water, Capping, *Superfund, Record of Decision, *First Remedial Action, Cleanup, Volatile organic compounds, *Walker(Michigan).

PB92-964109/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 5): Conrail Railyard, Elkhart County, IN. (First Remedial Action), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 72p EPA/ROD-R05-91/159
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 2,500-acre Conrail Railyard Elkhart site is composed of a 675-acre railroad facility and adjacent areas of contamination to the northeast and northwest in Elkhart County, Indiana. The Record of Decision (ROD) provides for the containment of the contaminated ground water plume, as an interim action, and provides for a safe and permanent drinking water supply. A subsequent ROD will address contaminated soil and ground water, and set final ground water remediation levels. The primary contaminants of concern affecting the ground water are VOCs including TCE and carbon tetrachloride. The selected remedial action for the site includes pumping and treatment of ground water using pre filtration and air stripping, and discharging the treated water onsite to the St. Joseph River; treating air emissions, if needed, using carbon adsorption with offsite regeneration and disposal of the spent carbon; conducting treatability studies to determine treatment system design parameters; and providing an alternate water supply by extending the municipal distribution system to 505 residences/businesses.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Ground water, Carbon tetrachloride, Water treatment, National government, State government, Cost analysis, Pumping, Air pollution control, Strippers, Filtration, *Superfund, Record of Decision, *First Remedial Action, Cleanup, Volatile organic compounds, *Elkhart(Indiana), Trichloroethylene.

PB92-964110/REB PC **A08**/MF **A02**
Superfund Record of Decision (EPA Region 5): Verona Well Field Site, Battle Creek, MI. (Second Remedial Action), June 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 155p EPA/ROD/R05-91/160
See also PB85-213973 and PB85-249514.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Verona Well Field site consists of a well field, three contaminant sources, and the ground water between the source areas and the well field in Battle Creek, Calhoun County, Michigan. Surrounding land use is mixed residential and industrial. The site overlies a surficial glacial aquifer and a deeper bedrock aquifer, both of which are local sources of drinking water. A 1985 Record of Decision (ROD) addressed remediation of soil and ground water at the TSRR facility, and provided for treatment of contaminated soil using vapor extraction with off-gas treatment, and pumping and treatment of contaminated ground water. The ROD addresses the second and final operable unit for soil and ground water contamination at the site.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Contaminants, Soils, Ground water, Waste treatment, National government, Cost analysis, Benzene, Toluene, Metals, Arsenic, Strippers, Activated carbon treatment, Volume, State government, *Superfund, Record of Decision, *Second Remedial Action, Cleanup, Volatile organic compounds, *Calhoun County(Michigan).

PB92-964111/REB PC **A05**/MF **A01**
Superfund Record of Decision (EPA Region 5): Fadrowski Drum Disposal Site, Franklin, WI. (First Remedial Action), June 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
10 Jun 91, 80p EPA/ROD/R05-91/164
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 20-acre Fadrowski Drum disposal site is an inactive industrial landfill within the city of Franklin, Milwaukee County, Wisconsin. State investigations in 1981 identified evidence of improper disposal of solid wastes including crushed drums, and boiler and foundry wastes. The primary contaminants of concern affecting the soil, sediment, and debris are VOCs including toluene and xylenes; other organics including PAHs and pesticides including DDT; and metals including arsenic, chromium, and lead. The selected remedial action for the site includes excavating previously identified drums and 25 cubic yards of hazardous soil, and recycling, or treating and disposing of the drummed waste offsite; constructing trenches to locate and excavate additional containerized waste and the surrounding characteristically hazardous soil; and treating any contaminated soil onsite.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Soils, Metals, Excavation, National government, State government, Cost analysis, Pesticides, Earth fills, Refuse, Waste recycling, Waste treatment, Drums(Containers), *Superfund, Record of Decision, *First Remedial Action-Final, Cleanup, Volatile organic compounds, *Milwaukie County(Wisconsin).

PB92-964112/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 5): Motor Wheel Disposal Site, Lansing, MI. (First Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 64p EPA/ROD/R05-91/172
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 24-acre Motor Wheel site is an inactive industrial waste disposal site in Lansing, Ingham County, Michigan. Land use in the area is predominantly industrial. The site overlies a glacial till and a glacial aquifer. In 1978, industrial wastes and degraded soil were excavated and stockpiled onsite under a clay cover. The Record of Decision (ROD) addresses the waste mass and ground water contamination in the perched zone and the glacial aquifer. The primary contaminants of concern affecting the soil, debris, and ground water are VOCs including benzene, PCE, TCE, toluene, and xylenes; organics including PAHs, PCBs, and pesticides; and metals including arsenic, chromium, and lead. The selected remedial action for the site includes backfilling the northern portion of the fill area with 125,000 cubic yards of fill; capping the disposal area with a 14.9-acre multi-media cap; installing a slurry wall at the western and southern boundary of the disposal area; installing ground water recovery wells.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Metals, Pesticides, Excavation, National government, State government, Cost analysis, Toluene, Soils, Ground water, Earth fills, Capping, Waste treatment, *Superfund, Record of Decision, *First Remedial Action, Cleanup, Volatile organic compounds, *Ingham County(Michigan).

PB92-964113/REB PC A05/MF A01
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
15 Nov 90, 91p EPA/ROD/R05-91/191
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 40-acre Washington County Landfill site is an inactive sanitary landfill in Lake Elmo, Washington County, Minnesota. Land use in the area is predominantly residential and agricultural. From 1969 to 1975, Washington and Ramsey counties used the site as a sanitary landfill. Monitoring by Washington County in 1981 revealed low level VOC contamination, which poses a health risk based on long-term ingestion of ground water. The ROD addresses a final remedy for drinking water supply as part of a second operable unit. The primary contaminants of concern affecting the ground water are VOCs including benzene, PCE, TCE, and xylenes. The selected remedial action for the site includes providing a municipal drinking water supply system to supply drinking water to 10 homes with private wells that have been affected by the contaminant plume; and continuing operation of the gradient control well and spray-irrigation treatment system for the first operable unit.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Earth fills, Ground water, National government, State government, Cost analysis, Benzene, Xylene, Trichloroethylene, Water wells, Waste treatment, *Superfund, Record of Decision, *Second Remedial Action, Cleanup, Volatile organic compounds, *Washington County(Minnesota).

PB92-964114/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 5): Anderson Development Company Site, Lenawee County, Adrian, MI. (First Remedial Action), (Amendment), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 47p EPA/ROD/R05-91/177
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Anderson Development site is an active chemical manufacturing facility in Adrian, Lenawee County, Michigan. The site occupies approximately 12.5 acres within a 40-acre industrial park, which is surrounded by residential areas. Site features include several onsite buildings used for manufacturing, storage, laboratories, and offices, as well as a 0.5-acre former process wastewater pretreatment lagoon. From 1970 to 1979, the Anderson Development Corporation (ADC) produced specialty chemicals onsite including 4,4-methylene bis (2-chlororaniline) (MBOCA), a hardening agent for the production of polyurethane plastics. The ROD amends the 1990 ROD, which provided for treatment of the contaminated media using in-situ vitrification, and documents the selection of low temperature thermal desorption (LTTD) as the preferred treatment technology. The selected amended remedial action for this site includes excavating and staging 3,000 to 4,000 tons of contaminated soil, clay, and lagoon sludge with MBOCA concentrations above the 1.6 mg/kg clean-up action level in an LTTD device.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Chemical industry, Analine, Metals, Waste treatment, National government, State government, Cost analysis, Chlorine organic compounds, Excavation, Soils, Sludge, Heat treatment, Desorption, *Superfund, *First Remedial Action(Amendment-Final), *Adrian(Michigan), Cleanup, Volatile organic compounds, Record of Decision.

PB92-964115/REB PC A06/MF A02
Superfund Record of Decision (EPA Region 5): Allied Chemical and Ironton Coke, Ironton, OH. (Second Remedial Action), December 1990. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Dec 90, 120p EPA/ROD/R05-91/151
Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 95-acre Allied Chemical and Ironton Coke site is comprised of a former coke plant and an operating tar plant in Ironton, Lawrence County, Ohio. The site is located within a coal mining region, and surrounding land use is predominantly industrial and residential. The ROD addresses contamination at all areas not previously addressed, and provides a final remedy at the site. The primary contaminants of concern affecting the soil, sediment, and ground water are VOCs including benzene; other organics including PAHs and phenols; metals including arsenic; and other inorganics including cyanide. The selected remedial action for this site includes excavating and incinerating onsite approximately 122,000 cubic yards of waste material from Lagoon 5, and 31,000 cubic yards of waste coal, followed by onsite waste fuel recovery and disposing of the residual ash offsite; in-situ bioremediation of approximately 475,000 cubic yards of waste material from Lagoons.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Chemical industry, Soils, Coal refuse, Excavation, Waste treatment, National government, Cost analysis, State government, Incinerators, Metals, Pumping, Lagoons(Ponds), *Superfund, *Second Remedial Action-Final, Cleanup, Volatile organic compounds, Record of decision, *Ironton(Ohio).

PB92-964116/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 5): Enviro-Chem (Northside Sanitary Landfill), Zionsville, IN. (First Remedial Action), (Amendment), June 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
7 Jun 91, 22p EPA/ROD/R05-91/161
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Enviro-chem site is a former waste recovery/reclamation/brokerage facility in Boone County, Indiana. Adjacent to the site is another Superfund site, the Northside Sanitary Landfill (NSL) which, prior to the Record of Decision (ROD) amendment, was to be remediated in a combined remedy for both sites. Land use in the area is agricultural and residential to the north and west. In May 1982, the State ordered Enviro-Chem to close and environmentally secure the site because it failed to reduce hazardous waste inventories. Subsequently, two emergency removal actions were conducted to remove the major sources of contamination. The ROD amends the 1987 ROD and provides a comprehensive site remedy for the Enviro-Chem site addressing source control instead of ground water remediation. The primary contaminants of concern affecting the soil are VOCs including PCE, TCE, toluene; and other organics including phenols. The amended remedial action for the site includes treating contaminated soil onsite using soil vapor extraction with a granulated activated carbon system to control the extracted vapor and implementing a contingent remedy for a subsurface ground water collection and treatment system.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Earth fills, Waste processing, Waste minimization, Sources, Waste treatment, National government, Cost analysis, State government, Activated carbon treatment, Toluene, Soils, Ground water, Phenols, *Superfund, *First Remedial action-Final, *Boone County(Indiana), Cleanup, Volatile organic compounds, Record of Decision, Vapor extraction.

PB92-964117/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
31 Jun 91, 19p EPA/ROD/R05-91/162
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Northside Sanitary Landfill site is a hazardous and solid waste disposal facility in Boone County, Indiana. Adjacent to the Northside Sanitary Landfill (NSL) site is another Superfund site, Enviro-Chem which, prior to the Record of Decision (ROD) amendment, was to be remediated in a combined remedy for both sites. Land use in the area is agricultural to the south and east, and residential to the north and west. The ROD amendment provides a comprehensive remedy and addresses both source control and ground water remediation. The primary contaminants of concern affecting the soil and ground water are VOCs including benzene, PCE, TCE, and toluene; other organics including phenols; metals including arsenic, chromium, and lead; and oils. The amended remedial action for the site includes constructing a pipeline to pump ground water and leachate offsite to the city sewer system at the city wastewater treatment plant and constructing a hydraulic isolation wall system.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Earth fills, Benzene, Ground water, National government, State government, Cost analysis, Polychlorinated ethylene, Phenols, Metals, Soils, Pumping, Waste treatment, *Superfund, Record of Decision, *Remedial action, Cleanup, Volatile organic compunds, *Boone County(Indiana).

PB92-964118/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 5): Summit National Liquid Disposal Service, Deerfield, OH. (First Remedial Action), (Amendment), November 1990. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
2 Nov 90, 48p EPA/ROD/R05-91/154
See also PB89-225908
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 11.5-acre Summit National Liquid Disposal Service site is a former liquid waste disposal facility in rural Deerfield Township, Ohio. The site contains two ponds, an inactive incinerator, and several vacant buildings. Surrounding the site are several residences, two landfills, light industries, and farmland. From 1973 to 1978, Summit National operated a solvent recycling and waste disposal facility onsite. The Record of Decision (ROD) amends a 1988 ROD that provided for remediation of contaminated soil, sediment, debris, ground water, and surface water. In both the 1990 proposed remedy for the ROD amendment and the 1988 ROD, the remedy for the most highly contaminated soil and sediment is excavation and treatment. The amended remedial action for the site includes expanding site boundaries to include contaminated areas along the site perimeters; excavating and incinerating onsite 24,000 cubic yards of soil excavated to a depth of 2 feet, 4,000 cubic yards of sediment from the site perimeter, drainage ditches and offsite ponds, and 900 to 1,600 buried drums.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Water supply, Benzene, Excavation, Waste treatment, National government, Cost analysis, State government, Toluene, Phenols, Sediments, Ground water, Incinerators, *Superfund, *First Remedial Action-Final, Cleanup, Volatile organic compounds, Record of decision, *Deerfield Township(Ohio).

PB92-964119/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 30p EPA/ROD/R05-91/178
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Pine Bend Sanitary Landfill site is located 1 mile east of the Mississippi River in Inver Grove Heights, Dakota County, Minnesota. Land use in the area is residential and industrial. The terrain is generally flat and contains an immature drainage system resulting in onsite numerous ponds and wetlands. The site is composed of two landfills: the 255-acre active Pine Bend Sanitary Landfill (PBSL) and the inactive 52-acre Crosby American Demolition Landfill (CADL). PBSL began operation in 1971 as a mixed municipal solid waste facility. CADL accepted compressed bales of municipal solid wastes from 1971 to 1974, and later, from 1976 to 1989 also accepted demolition wastes. In 1983, elevated levels of VOCs were detected in the surficial ground water beneath the site, and low levels of VOCs were identified in numerous downgradient commerical and residential wells. The Record of Decision (ROD) addresses ground water contamination as the first of three Operable Units (OUs). Future RODs will address source control and final remediation of ground water. The primary contaminants of concern affecting the site are VOCs including benzene, PCE, TCE, and toluene. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Sanitary landfills, Minnesota, Earth fills, Site surveys, Water pollution, Ground water, Municipal wastes, Sanitary landfills, *Record of Decision, Dakota County(Minnesota), Cleanup operations, EPA region 5.

PB92-964120/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Jun 91, 73p EPA/ROD/R05-91/165
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 100-acre Pagel's Pit site is an active sanitary landfill facility in a predominantly rural area of Winnebago County, Illinois. Surrounding land use is mixed agricultural, rural residential, commercial, and industrial. The site is bounded on the west by Killbuck Creek. Another Superfund site, Acme Solvent Reclaiming, Inc., is located east and upgradient of Pagel's Pit. The Acme Solvent site has been shown to have contaminated the ground water in the downgradient direction. It has been determined that the landfill has caused contamination of the ground water. The Record of Decision (ROD) addresses the landfill wastes and contaminated ground water at the downgradient side of the site as Operable Unit 1 (OU1). A future ROD will address ground water contamination in the southeast corner of the site that is undergoing further study. The primary contaminants of concern affecting the ground water are VOCs including 1,2-dichloroethene and vinyl chloride; and metals including arsenic, barium, manganese, thallium and zinc. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Illinois, Ground water, Water pollution, Volatile organic compounds, Metals, Site surveys, Sanitary landfills, *Record of Decision, Cleanup operations, Winnebago County(Illinois), EPA region 5.

PB92-964121/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 42p EPA/ROD/R05-91/170
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The MacGillis & Gibbs/Bell Lumber & Pole site consists of two active, adjacent wood preserving facilities, referred to as the M&G and Bell facilities, in New Brighton, Ramsey County, Minnesota. Land use in the area is residential and commercial. Several lakes, streams, and wetlands are located within 2 miles of the site. The Record of Decision (ROD) addresses the 24-acre M&G facility on the eastern portion of the site. Site features include a disposal area in the west-central portion of the facility used to dispose of PCP-contaminated wood chips, settled solids, spent treatment solutions, and copper chromium arsenic (CCA) contaminated drum shells; onsite drums; and a storage area. Investigations conducted by EPA have detected contamination of the onsite surface and subsurface soil and ground water, which is thought to be a result of leaking pipes, drippings from treated poles, contamination from the disposal area, and an onsite spill. EPA had divided the site into two operable units (OUs) for remediation. The ROD provides an interim remedy for OU2. The primary contaminants of concern affecting the soil, debris, sludge, and ground water are organics including dioxins, PAHs, and PCP and metals including arsenic and chromium. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Metals, Site surveys, Dioxins, Aromatic polycyclic hydrocarbons, Phenol/pentachloro, Sludge disposal, Water pollution, Ground water, Land pollution, Wood preservatives, *Record of Decision, Ramsey County(Minnesota), Cleanup operations, EPA region 5.

PB92-964122/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 69p EPA/ROD/R05-91/176
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 100-acre Zanesville Well Field site is an active manufacturing and municipal well site in Zanesville, Ohio. The site is composed of the 28-acre United Technologies Automotive (UTA) facility and the 72-acre City of Zanesville Well Field. Land use in the area is predominantly residential and industrial. After EPA investigations in 1981 revealed VOC contamination in onsite ground water, the use of three wells at the Zanesville Municipal Well Field was discontinued. The Record of Decision (ROD) addresses contaminated soil on and around the UTA facility, contaminated ground water under and around the Zanesville Well Field and the UTA facility, and the sources of the ground water contamination. The primary contaminants of concern affecting the soil and ground water are VOCs including TCE and dichloroethylene; metals including arsenic, chromium, and lead; and other inorganics. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Ohio, Site surveys, Land pollution, Water pollution, Ground water, Ethylene/dichloro, Volatile organic compounds, Metals, Inorganic compounds, Industrial wastes, Ethylene/trichloro, *Record of Decision, Zanesville(Ohio), Cleanup operations, EPA region 5.

PB92-964201/REB PC **A06**/MF **A02**
Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
6 Sep 91, 121p EPA/ROD/R06-91/067
See also PB91-921543.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Cimarron Mining site consists of two inactive ore-processing mills in Carrizozo, Lincoln County, New Mexico. Operable Unit 2 (OU2), which is the focus of the Record of Decision (ROD), addresses contamination at the 7.5-acre Sierra Blanca mill location. In 1990, EPA investigations revealed 43 cubic yards of tank sediment, 182 cubic yards of material pile soil and rock, and 345 cubic yards of discharge pit sediment and soil contaminated with high concentrations of metals, particularly lead at the Sierra Blanca location. The ROD addresses the final remedial action of the soil and waste piles at the Sierra Blanca mill location, as OU2. The primary contaminants of concern affecting the soil, sediment, debris, and sludge are metals including arsenic and lead. The selected remedial action for the site includes excavating and treating onsite 225 cubic yards of contaminated material piles and tank sediment, including cinder block trench sediment which failed the TCLP test, using cement solidification and stabilization; excavating and disposing of 345 cubic yards of contaminated surficial soil and sludge.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Sludge, Sediments, Waste treatment, National government, State government, Cost analysis, Excavation, Solidification, Metals, Soil stabilization, Capping, *Superfund, *Second Remedial Action-Final, Cleanup, Volatile organic compounds, Record of decision, *Lincoln County(New Mexico).

PB92-964202/REB PC **A07**/MF **A02**
Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
6 Sep 91, 142p EPA/ROD/R06-91/066
Portions of this document are not fully legible.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 500-acre Petro-Chemical (Turtle Bayou) site is in Liberty County, Texas. Current land use in the area is divided among cropland, pasture, range, forest, and small rural communities. Since 1971, numerous undocumented disposal activities occurred onsite involving primarily petrochemical wastes. The ROD for OU2 focuses on three areas of contamination at the site affecting soil and ground water contamination, known as the main waste area, the east disposal area, and the Bayou disposal area. The primary contaminants of concern affecting the soil and ground water are VOCs including benzene and xylenes; other organics including PAHs; and metals including lead. The selected remedial action for the site includes treating 302,800 cubic yards of contaminated soil onsite using in-situ vapor extraction to remove VOCs, controlling vertical air infiltration using an engineered soil and synthetic liner cap; consolidating lead-contaminated soil in the Main Waste Area, followed by capping.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Chemical industry, Benzene, Xylenes, Waste treatment, National government, State government, Cost analysis, Metals, Aromatic polycyclic hydrocarbons, Soils, Ground water, Capping, Catalysis, *Superfund, *Second Remedial Action-Final, Cleanup, Volatile organic compounds, Record of Decision, *Liberty County(Texas), Vapor extraction.

PB92-964301/REB PC A05/MF A01
Superfund Record of Decision (EPA Region 7): People's Natural Gas Coal Gasification Site, Dubuque, IA. (First Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
16 Sep 91, 82p EPA/ROD/R07-91/052
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 5-acre People's Natural Gas site is a former coal gasification plant in Dubuque County, Iowa. The city of Dubuque maintains a public works garage on the eastern portion of the site, and the Iowa Department of Transportation owns the western portion. In addition, the site overlies a silty sand unit and an alluvial aquifer, which has been determined to be a potential source of drinking water. In 1986, EPA investigations identified extensive contamination of onsite soil and ground water at the site. The Record of Decision (ROD) addresses both soil and ground water contamination, as a final remedy. The primary contaminants of concern affecting the soil and ground water are VOCs including benzene, toluene, and xylenes; and other organics including PAHs. The selected remedial action for the site includes excavating and incinerating an estimated 18,500 cubic yards of contaminated soil offsite; treating the soil and ground water within the silty sand unit, which are contaminated with coal tar wastes using in-situ bioremediation; pumping and onsite treatment of contaminated ground water using air stripping.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Coal gasification, Soils, Excavation, National government, State government, Cost analysis, Ground water, Aromatic polycyclic hydrocarbons, Incinerators, Waste treatment, *Superfund, Record of Decision, *First Remedial Action-Final, Cleanup, Volatile organic compounds, *Dubuque County(Iowa), Air stripping.

PB92-964302/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 47p EPA/ROD/R07-91/056
See also PB87-189759.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Ellisville Area site is a former waste oil disposal site in Ellisville, St. Louis County, Missouri. The site consists of the 11.6-acre Bliss property and four contiguous properties where hazardous substances have been identified. During the 1960's and 1970's, Bliss Waste Oil Company used the site to transport and dispose of waste oil products (some of which were contaminated with dioxin), industrial wastes, and chemical wastes. The ROD also provides a final remedy for dioxin-contaminated soil. The amended remedial action for the site includes excavating, and direct transportation of approximately 7,000 cubic yards of dioxin-contaminated soil for treatment at an offsite temporary thermal treatment unit constructed at the Times Beach site; and disposing of treatment residuals at the Times Beach site as nonhazardous solid waste.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Herbicides, Chlorine organic compounds, Excavation, Waste treatment, National government, Cost analysis, State government, Transportation, Incinerators, *Superfund, *First Remedial Action(Amendment), Cleanup, Dioxin/Tetrachloro-dibenzo, Record of decision, *Saint Louis County(Missouri), Ellsville(Missouri).

PB92-964303/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 46p EPA/ROD/R07-91/049
See also PB90-157751.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Hastings Groundwater Contamination site consists of localized areas where an aquifer is contaminated with industrial chemicals in or near the City of Hastings, Adams County, Nebraska. Both the source control operable unit 10 (OU10) and ground water operable unit (OU2) of the North Landfill, a 13.4-acre former municipal landfill, are addressed by the ROD. The estimated 23,000 residents of Hastings obtain their drinking water from the municipal water system, which taps into the underlying sole-source aquifer. In 1983, ground water contamination was discovered when the State sampled the Hastings public water supply system in response to citizen complaints about water quality. The ROD provides an interim remedy for both OUs. Future RODs may address additional source control measures, subsurface monitoring, ground water extraction and treatment, wellhead protection and treatment, and provision of institutional controls. The primary contaminants of concern affecting the soil and ground water are VOCs including TCE, DCE, and vinyl chloride. The selected remedial action for the interim remedy is included.

Keywords: *Superfund, *Waste disposal, *Remedial action, *Hazardous materials, *Pollution control, Site surveys, Volatile organic compounds, Water pollution, Industrial wastes, Nebraska, Ground water, Potable water, Earth fills, *Record of Decision, Adams County(Nebraska), Cleanup operations, EPA region 7.

PB92-964305/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
31 Dec 90, 72p EPA/ROD/R07-91/054
See also PB90-157850.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 6-acre Kem-Pest Laboratories site is a former pesticide production facility located in Cape Girardeau County, Missouri. Site features include a concrete block building that housed the pesticide formulation operation and currently holds approximately 11,200 gallons of contaminated water in its basement; six storage tanks used for storing solvents and oil; and a lagoon used for the disposal of sewage and plant waste. An unconfined aquifer system lies within the alluvial and colluvial deposits at the site. From 1965 to 1977, Rem-Pest Laboratories formulated various pesticide products including liquid pesticides, granular insecticides and herbicides, and pesticide dust onsite. The ROD addresses pesticide contamination in the formulation building, ground water, and surface water, as OU2. The primary contaminants of concern affecting debris and surface water are VOCs including benzene; other organics including pesticides; and metals including arsenic, chromium, and lead. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Surface waters, Pesticides, Volatile organic compounds, Metals, Site surveys, Missouri, *Record of Decision, Cape Girardeau County(Missouri), Cleanup operations, EPA region 7.

PB92-964306/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 May 91, 63p EPA/ROD/R07-91/046
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The E.I. DuPont De Nemours (County RD X23) site is a paint waste disposal site 3.5 miles south of West Point in Lee County, Iowa. The site is divided into two subsites, McCarl and Baier, which are three-fourths of a mile apart. Land in the area is agricultural, residential, and woodlands, and the nearest residence is located 500 feet from the McCarl subsite. From 1949 to 1953, an estimated 48,000 to 72,000 55-gallon waste drums were disposed of at the two sites. Paint waste was generally placed in trenches and burned, resulting in an estimated 4,500 to 7,000 tons of ash remaining onsite. The Record of Decision (ROD) addresses the soil, debris, and ground water, as a final remedy. The ground water was determined to be of little threat and is not further addressed by the ROD. The primary contaminants of concern affecting the soil and debris at both subsites are metals including cadmium, chromium, lead and selenium. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Metals, Iowa, Paints, Land pollution, Site surveys, *Record of Decision, Cleanup operations, Lee County(Iowa), EPA region 7.

PB92-964307/REB PC A04/MF A01
Superfund Record of Decision (EPA Region 7): Lee Chemical Site, Liberty, MO. (First Remedial Action), March 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
21 Mar 91, 56p EPA/ROD/R07-91/045
See also PB90-112111.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 2.5-acre Lee Chemical site is a former water treatment plant and chemical repacking and distributing facility in Liberty, Clay County, Missouri. Land use in the area is commercial and rural. The estimated 17,000 people who reside in Liberty obtain drinking water from municiple water wells. In 1979, low levels of TCE were detected in the public water supply wells. Subsequent EPA and State investigations revealed contaminated ground water and soil. The Record of Decision (ROD) addresses the primary contaminants of concern affecting the soil and ground water are VOCs including TCE. The selected remedial action for the site includes installing an in-situ aqueous soil washing system consisting of infiltration trenches to enhance the flushing of contaminants from onsite soil to the underlying aquifer; pumping ground water to flush contaminants from the underlying aquifer to the extraction system and to control ground water movement away from the site.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Chemical industry, Trichloroethylene, Soils, Waste treatment, National government, State government, Cost analysis, Ground water, Pumping, Water wells, Flushing, Extraction, *Superfund, *Final Remedial Action, Cleanup, Volatile organic compounds, Record of decision, *Liberty(Missouri), Air stripping.

PB92-964401/REB PC A03/MF A01
Superfund Record of Decision (EPA Region 8): Hill Air Force Base, Operable Unit 2, Chemical Disposal Pit 3, Site WP07, Davis and Weber Counties, UT. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 35p EPA/ROD/R08-91/049
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200,

U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 6,700-acre Hill Air Force Base (Hill AFB) site is an active military facility situated between the cities of Ogden and Salt Lake City, covering portions of Davis and Weber Counties, Utah. The Record of Decision (ROD) addresses part of Operable Unit 2 (OU2), which consists of two unlined disposal trenches, seeps, and springs, and confined and unconfined aquifers. Federal investigations from 1983 to 1986 identified VOC contamination in onsite and offsite ground water. As a result of these investigations, Hill AFB began collection and treatment of contaminated ground water from seeps and springs in 1986. The ROD addresses the interim remediation of OU2 subsurface soil and ground water by removing a DNAPL source and thus preventing contaminants from reaching aquifers currently used as drinking water sources. The selected remedial action for the interim remedy includes installing and maintaining a source recovery system to remove DNAPL contamination from the subsurface; pumping DNAPL-contaminated ground water, with onsite discharge to a pretreatment facility to separate DNAPL from ground water using a steam stripper; temporarily storing the DNAPL onsite in steel tanks, followed by transporting the waste offsite for incineration.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Contaminants, Soils, Ground water, Waste treatment, National government, State government, Cost analysis, Toluene, Pumping, Incinerators, Strippers, Activated carbon treatment, *Superfund, Record of Decision, *First Remedial Action, Cleanup, Volatile organic compounds, *Davis County(Utah), *Weber County(Utah).

PB92-964402/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 8): Broderick Wood Products, Adams County, CO. (First Remedial Action), (Amendment), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
24 Sep 91, 66p EPA/ROD/R08-91/052
See also PB89-188742.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 64-acre Broderick Wood Products (BWP) site is a former wood treatment facility in Adams County, Colorado. Land use in the area is predominantly industrial. The site is one-half mile south of Clear Creek, a perennial stream. In 1981 and 1982, EPA noted several violations of RCRA requirements. A future ROD will address the final remedy for the site by providing treatment of contaminated soil, debris, and surface and ground water. The primary contaminants of concern affecting the sludge are VOCs including toluene and xylenes; other organics including dioxin and PAHs; and metals including lead. The amended remedial action for the site includes excavating and preparing 950 cubic yards of solid sludge, 1,220 cubic yards of liquid sludge, and 500 gallons of oil collected from the sludge from temporary storage cells within the impoundments area; and transporting sludge and oil to a permitted recycling facility to reclaim creosote for use.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Wood products, Sites, Describing, Industrial wastes, Volume, Contaminants, Sludge, Toluene, Excavation, National government, State government, Cost analysis, Lead(Metal), Soils, Chlorine organic compounds, Removal, Transportation, Creosote, *Superfund, Record of Decision, *First Remedial Action(Amendment), Cleanup, Volatile organic compounds, *Adams County(Colorado), Dioxin/Tetrachloro-dibenzo, Waste recycling.

PB92-964501/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 9): South Bay Asbestos Area, San Jose, CA. (First Remedial Action), (Amendment), June 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
26 Jun 91, 36p EPA/ROD/R09-91/061
See also PB89-204846.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 550-acre South Bay Asbestos Area site consists of a ring levee in Alviso, San Jose, California. Land use in the area is mixed residential, commercial, light industrial, and agricultural. The ring levee was constructed by the City of San Jose as an emergency measure during a flood in March 1983, but a number of subsequent EPA investigations determined that the levee soil was comprised of 40 percent asbestos. The ROD amends the 1988 ROD for the asbestos-contaminated soil in the ring levee and surrounding area. The primary contaminant of concern affecting the soil is asbestos, an inorganic. The selected remedial action for the site includes excavating and disposing offsite 25,000 cubic yards of asbestos-contaminated levee soil; and restoring any wetlands areas located under the levee.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Asbestos deposits, Excavation, Waste treatment, National government, Cost analysis, State government, Sampling, Reclamation, Wetlands, *Superfund, *First Remedial action, *Alvisto(California), Cleanup, Record of decision, San Jose(California).

PB92-964502/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
11 Sep 91, 53p EPA/ROD/R09-91/071
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 70-acre National Semiconductor (NSC) site is a former semiconductor manufacturing facility located in Sunnyvale and Santa Clara, California. Land surrounding the site is used for commercial and light industrial purposes. The site lies within the confined area of the Santa Clara Valley ground water basin, which consists of various upper and lower aquifer zones. Remediation of the NSC site has been combined with another National Priorities List (NPL) site, Monolithic Memories (MM), because both sites contribute to the same ground water contamination problem. The combined remediation has been divided into two Operable Units (OUs). The Record of Decision addresses OU1, which consists of three subunits. The Record of Decision (ROD) addresses remediation of contaminated soil on the facility property and ground water in the upper aquifer zone as OU1. OU2 will address remaining soil and ground water problems associated with the western portion of the ground water contaminant plume. The primary contaminants of concern affecting the soil and ground water are VOCs including benzene, PCE, TCE, toluene, and xylenes; and other organics including PAHs and phenols. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, California, Site surveys, Semiconductors, Land pollution, Water pollution, Volatile organic compounds, Phenols, Aromatic polycyclic hydrocarbons, *Record of Decision, EPA region 9, Cleanup operations, Sunnyvale(California), Santa Clara(California).

PB92-964503/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
11 Sep 91, 53p EPA/ROD/R09-91/070
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Monolithic Memories (MM) site is a former semiconductor manufacturing facility located in Sunnyvale and Santa Clara, California. Land surrounding the site is used for commercial and light industrial purposes. The site lies within the confined area of the Santa Clara Valley ground water basin, which consists of various upper and lower aquifer zones. Ground water from the basin provides up to 50 percent of the municipal drinking water for Santa Clara Valley residents. Remediation of the MM site has been combined with another National Priorities List (NPL) site, National Semiconductor (NSC), because both sites contribute to the same ground water contamination problem. The combined remediation has been divided into two Operable Units (OUs). The Record of Decision addresses OU1, which consists of three subunits. The Record of Decision (ROD) addresses remediation of contaminated soil on the facility property and ground water in the upper aquifer zone as OU1. OU2 will address remaining soil and ground water problems associated with the western portion of the ground water contaminant plume. The primary contaminants of concern affecting the soil and ground water are VOCs including benzene, PCE, TCE, toluene, and xylenes; and other organics including PAHs and phenols. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, California, Site surveys, Land pollution, Water pollution, Ground water, Volatile organic compounds, Aromatic polycyclic hydrocarbons, Phenols, Semiconductors, Potable water, *Record of Decision, EPA region 9, Cleanup operations, Santa Clara(California), Sunnyvale(California).

PB92-964505/REB PC **A05**/MF **A01**
Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
22 Mar 91, 77p EPA/ROD/R09-91/058
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Teledyne Semiconductor site is comprised of two Superfund sites: the Teledyne Semiconductor site, a semiconductor manufacturing facility, and the Spectra-Physics site, a laser and related components manufacturing facility, and offsite areas associated with a contaminated ground water plume in Mountain View, California. Land use in the area is predominantly commercial and industrial. In 1980, all underground solvent handling activities were discontinued and waste holding and disposal facilities were moved above ground. Spectra-Physics, Inc. has manufactured lasers and associated components onsite since 1963, and has used VOCs including TCE as part of the manufacturing processes. Wastewater and rinse water were discharged through five below-grade sumps into the sanitary water system. From 1982 to 1984, State investigations identified the release of VOCs from solvent tanks into onsite soil at both areas. The Record of Decision (ROD) addresses contamination of the ground water aquifers and onsite soil. The primary contaminants of concern affecting the soil and ground water are VOCs including PCE, TCE, toluene, and xylenes. The selected remedial action for the site is included.

Keywords: *Hazardous materials, *Waste disposal, *Pollution control, Volatile organic compounds, Water pollution, Ground water, California, Soils, Aquifers, Stripping(Distillation), Activated carbon treatment, Air pollution control, Site surveys, Semiconductors, Lasers, Industrial wastes, Gases, *Superfund, *Record of Decision, *Mountain View(California), First Remedial Action-Final, Cleanup, EPA region 9.

PB92-964506/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
11 Sep 91, 51p EPA/ROD/R09-91/063
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada and Mexico; all otherss $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 13.7-acre Van Waters and Rogers site is a commercial chemical storage, handling, and distribution facility in San Jose, California. Land use in the area is predominantly commercial and industrial. Since 1976,

Van Waters and Rogers has used the site for bulk chemical transfers; storage in drums and underground tanks; chemical blending, packaging, and distribution; and rinsing of containers. During a survey of regional hazardous waste facilities in 1982, the State identified VOCs, selected aliphatic hydrocarbons, aromatic hydrocarbons, ketones, glycols, and alcohols in onsite soil and ground water. The Record of Decision (ROD) provides a final remedy for onsite contaminated soil, debris, and ground water. The primary contaminants of concern affecting the soil, debris, and ground water are VOCs including PCE and TCE. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Site surveys, Land pollution, Water pollution, Ground water, California, Storage tanks, Underground storage, Volatile organic compounds, *Record of Decision, Cleanup operations, San Jose(California), EPA region 9.

PB92-964507/REB PC **A06**/MF **A02**
Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
11 Sep 91, 117p EPA/ROD/R09-91/074
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Signetics site is an active semiconductor manufacturing facility in Sunnyvale, Santa Clara County, California. The site is part of a larger study area that includes four Operable Units (OUs): the Signetics site, the 3-acre Advanced Micro Devices (AMD) 901/902 site, the 1-acre TRW Microwave site, and a 100-acre offsite contaminated ground water plume. Six aquifers are associated with the study area including a deeper aquifer confirmed only at the TRW and Signetics sites. Currently, the contaminated ground water is not used as a drinking water supply, but the State considers several of the aquifers to be potential drinking water sources. The Record of Decision (ROD) collectively addresses final remediation of soil and ground water in the four separate OUs within the study area. The primary contaminants of concern affecting the soil and ground water are VOCs including PCE and TCE. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Waste disposal, *Hazardous materials, *Pollution control, California, Site surveys, Land pollution, Water pollution, Volatile organic compounds, Ground water, Semiconductors, *Record of Decision, Cleanup operations, Santa Clara County(California), EPA region 9.

PB92-964508/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
12 Aug 91, 56p EPA/ROD/R09-91/067
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 2,777-acre Castle Air Force Base is a Strategic Air Command training base 6 miles northwest of the City of Merced in Merced County, California. Land use in the area is predominantly agricultural. Since 1941, the site has been used as a military air training base. Fire training activities, as well as aircraft and jet engine maintenance activities including metal plating and processing, have occurred onsite. In 1984, the base was required not only to implement remedial measures to correct the identified contamination but also to prevent future ground water degradation from waste discharges. The site has been divided into operable units (OUs) for remediation. The Record of Decision (ROD) provides an interim remedy for the main TCE plume, as OU1. Future RODs will address remaining soil and ground water contamination. The primary contaminants of concern affecting the ground water are VOCs including benzene, PCE, and TCE. The selected remedial action for the interim remedy is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Volatile organic compounds, Military facilities, Water pollution, Ground water, California, *Record of Decision, Merced County(California), Cleanup operations, EPA region 9.

PB92-964509/REB PC **A06**/MF **A02**
Superfund Record of Decision (EPA Region 9): Indian Bend Wash Area (Operable Units 1, 4, 5, 6), AZ. (Second Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
12 Sep 91, 111p EPA/ROD/R09-91/065
See also PB89-188775.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfice.

The Indian Bend Wash Area site is an active electronics manufacturing and metal plating facility located in the cities of Scottsdale and Tempe, Maricopa County, Arizona. The site consists of two study areas, the North Indian Bend Wash (NIBW) and South Indian Bend Wash (SIBW), both of which contain portions that lie in the 100-year floodplain of the IBW. A 1988 ROD provided for remediation of the middle and deep alluvial units at NIBW. This ROD addresses contamination in the vadose zone and in the upper alluvial unit within the NIBW area. However, because the vadose zone overlies the upper alluvial unit, which overlies the middle and deep alluvial units, remedial actions documented in the ROD are dependent upon successful completion of the 1988 ROD. The primary contaminants of concern affecting the soil and shallow ground water are VOCs including benzene, PCE, TCE, and toluene; other organics; and metals. The selected remedial action for the site includes installing a soil vapor extraction system for Areas 7 and 8 consisting of soil vapor extraction wells, and a manifold collection system, a vacuum pump, and a vapor-phase carbon adsorption system.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Ground water, Metals, Waste treatment, National government, State government, Cost analysis, Adsorption, Vacuum pumps, Toluene, Polychloroethylene, Chromium, *Superfund, *Remedial action, Cleanup, Volatile organic compounds, Record of decision, *Maricopa County(Arizona), Vapor extraction.

PB92-964510/REB PC **A07**/MF **A02**
Superfund Record of Decision (EPA Region 9): Atlas Asbestos Mine, Fresno County, CA. (Second Remedial Action), February 1991. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
14 Feb 91, 126p EPA/ROD/R09-91/056
See also PB90-138330.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 450-acre Atlas Mine Area is part of the Atlas Asbestos Mine site in Fresno County, California. The site consists of four geographically distinct areas (the Atlas Mine Area, the Clear Creek Management Area (CCMA), the Ponding Basin of the California Aqueduct, and the City of Coalinga). The Mine Area includes three open pit asbestos mine surfaces, stockpiles of asbestos waste material, an abandoned mill building, a settling pond, and debris. A 1989 Record of Decision (ROD) for the City of Coalinga Operable Unit addressed cleanup of asbestos-contaminated soil in Coalinga, California by burying the contaminated material in a waste management unit with an impermeable cap. The ROD is designed to control the release of asbestos from the Mine Area. The primary contaminant of concern affecting the soil, sediment, debris, surface water, and air is asbestos, an inorganic. The selected remedial action for the site includes paving the road through the Mine Area or implementing an appropriate road maintenance alternative; constructing stream diversions, sediment trapping dams, and other slope stabilization elements, and conducting a revegetation pilot project.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Soils, Asbestos, Sediments, Waste treatment, National government, State government, Cost analysis, Debris, Traps, Soil stabilization, Slopes, Revegetation, Paving, *Superfund, *Second Remedial Action, Cleanup, Record of Decision, *Fresno County(California).

PB92-964602/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 10): Northwest Transformer-Mission Pole, Whatcom County, WA. (First Remedial Action), (Amendment), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 91, 44p EPA/ROD/R10-91/031
See also PB90-138371.
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 1.6-acre Northwest Transformer - Mission Pole site, is former transformer storage and salvage facility, is 2 miles south of Everson in Whatcom County, Washington. The site is bordered by low-density residential areas to the north and east, and farmland to the south. Storage and salvage operations were conducted in an onsite barn where PCB-contaminated dielectric fluid was drained from the transformers prior to dismantling. A 1989 Record of Decision (ROD) addressed remediation through excavation, consolidation, and onsite treatment using in-situ vitrification. The ROD amends the 1989 ROD and provides a change in the remedy for soil due to excessive cost. The primary contaminant of concern affecting the soil is PCB, an organic. The selected amended remedial action for the ROD includes incincerating approximately 70 cubic yards of soil contaminated with PCBs at levels greater than or equal to 50 mg/kg at a TSCA-approved facility and landfilling approximately 1,500 cubic yards of soil contaminated with PCBs at levels greater than or equal to 1 mg/kg and less than 50 mg/kg offsite at a TSCA-approved facility.

Keywords: *Hazardous materials, *Pollution control, *Waste disposal, Sites, Describing, Industrial wastes, Volume, Chlorine organic compounds, Soils, Oils, Excavation, Waste treatment, National government, Cost analysis, State government, Incineration, Vitrification, Earth fills, Coverings, *Superfund, *First Remedial action, Cleanup, Polychlorinated biphenyls, Record of decision, *Whatcom County(Washington).

PB92-964603/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
19 Sep 91, 50p EPA/ROD/R10-91/033
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The Bangor Naval Submarine Base (SUBASE) is a former munitions handling, storage, and processing facility in Kitsap County, Washington. Land surrounding the SUBASE is generally undeveloped and supports limited residential use. The site overlies the surficial Shallow Aquifer and deeper aquifers, which are the principal water supplies for SUBASE Bangor and surrounding communities. Demilitarizing (demil) operations were conducted from 1940 until 1978, and included collecting condensate and solid explosive within a holding tank, followed by removal of the solid material from the wastewater before final discharge. The Record of Decision (ROD) is an interim remedial action addressing ground water contamination at Site F as Operable Unit 2 (OU2). The intent of the Remedy is to contain the contaminated ground water plume. A future ROD will address final remediation of both soil and ground water. The primary contaminants of concern affecting the ground water are organics including RDX; 2,4,6-TNT; 2,4-DNT; 2,6-DNT; 1,3,5-TNB; 1,3-DNB; N-nitrate; and nitrobenze. The selected remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control,

Washington(State), Explosives, Site surveys, Water pollution, Military facilities, Ground water, *Record of Decision, Cleanup operations, Kitsap County(Washington), EPA region 10.

PB92-964604/REB PC **A17**/MF **A04**
Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
31 Dec 90, 396p EPA/ROD/R10-91/027
Available on Standing Order, deposit account required for all RODS is $700 for U.S., Canada, and Mexico; all others $1,400. Deposit required for each region, $200, U.S., Canada, and Mexico; for all others $400. Also available individually in paper copy or microfiche.

The 10-12 square mile Commencement Bay-Nearshore/Tideflats site encompasses shallow water, shoreline, waterways, and adjacent land in Tacoma, Pierce County, Washington at the southern end of the main basin of Puget Sound. The site has been divided into eight different operable units (OUs). Part of the site is on the 67-acre Asarco Tacoma Smelter area, an inactive copper smelter facility adjacent to Puget Sound, which is the focus of the remedial action. A 1987 ROD addressed OU3-Tacoma Tarpits, a historical coal gasification site. A 1989 ROD addressed OU1-CB/NT sediments and OU5-CB/NT sources, both associated with marine sediments. The ROD provides an interim remedy for OU7, the Asarco Demolition, and addresses further clearing of the site to prevent the threat of an uncontrolled collapse of the stack and to minimize contaminant migration to offsite surface water. The primary contaminants of concern affecting the debris, sludge, and surface water are metals including arsenic, chromium, and lead; and other inorganics including asbestos. The selected interim remedial action for the site is included.

Keywords: *Superfund, *Remedial action, *Hazardous materials, *Waste disposal, *Pollution control, Site surveys, Sludge disposal, Surface waters, Metals, Asbestos, Washington(State), Water pollution, Smelting, *Record of Decision, Cleanup operations, Pierce County(Washington), EPA region 10.

AD-P006 465/9/REB PC **A03**/MF **A01**
Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
Environmental Protection Agency, Seattle, WA. Hazardous Waste Div.
C. C. Kruegar. Mar 92, 16p
This article is from 'Managment of Bottom Sediments Containing Toxic Substances: Proceedings of the US/Japan Experts Meeting (14th) Held in Yokohama, Japan on 27 February-1 March 1990,' AD-A250 148, p207-222.

High concentrations of potentially harmful toxic chemicals have been identified in the sediments of a number of urban-industrial bays in Puget Sound. In these areas, field studies have documented an increased frequency of fish disease, sediment toxicity, altered benthic communities, and significant bioaccumulation of harmful chemicals in the edible tissue of fish and shellfish. In response to this information, and a growing public concern about the health of the estuary, the Washington State Department of Ecology has established a comprehensive strategy for sediment management in Puget Sound. As a component of this strategy, the agency is now in the process of developing a suite of sediment management standards for use in a variety of regulatory programs. General sediment quality standards are now available in draft form. Once finalized and officially adopted, the standards will be used to identify and designate sediments that have adverse effects on biological resources or pose a health risk to humans. It is anticipated that the general sediment quality standards will also be used as a basis for limiting industrial and municipal discharges, thereby preventing future sediment contamination. Separate, but related, sediment management standards are also being developed for use in establishing cleanup goals for sediment remediation and in making environmentally safe decisions concerning the disposal of contaminated dredged material. The Department of Ecology will be using the apparent effects threshold approach, supplemented by the equilibrium partitioning approach, as the technical basis for the derivation of the sediment standards.

Keywords: Chemicals, Communities, Contamination, Diseases, Disposal, *Dredged materials, Ecology, Estuaries, Fishes, Frequency, Health, Materials, Numbers, *Puget sound, Quality, Resources, Response, Risk, *Sediments, Shellfish, Standards, Strategy, Toxicity, Validation, Toxic hazards, *Wastes(Industrial), *Environmental impact, Environmental management, *Water pollution abatement, Benthic communities, Bioaccumulation, Component Reports.

AD-P006 468/3/REB PC **A03**/MF **A01**
Toxicological Assessment of Hazardous Wastes.
Environmental Protection Agency, Seattle, WA. Office of Research and Development.
S. A. Peterson. Mar 92, 12p
This article is from 'Managment of Bottom Sediments Containing Toxic Substances: Proceedings of the US/Japan Experts Meeting (14th) Held in Yokohama, Japan on 27 February-1 March 1990,' AD-A250 148, p260-271.

Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (SUPERFUND) calls for hazardous waste site remediations which permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances, pollutants, and contaminants. Traditional engineering technology has concentrated on reduction in volume and mobility as assessed by chemical and geophysical measures. It was assumed that accomplishment of volume and mobility reduction would lead to reductions in toxicity. Environmental scientists long have argued that this assumption might not be the case. However, lack of consensus on how complex hazardous waste mixtures should be measured toxicologically hampered integrated assessments. Therefore, a battery of aquatic and terrestrial bioassays was assembled and evaluated comparatively against several chemicals and waste site chemical mixtures. The bioassays were then applied to a mobility reduction demonstration to assess its overall chemical, physical, and biological performance. Results indicated that, while the primary objective of mobility reduction seemed to be achieved, undesirable secondary effects (toxicity) were introduced. These trade-offs must be considered in the holistic sense when remediation measures are being implemented.

Keywords: Chemicals, Commerce, Compensation, Contaminants, Demonstrations, Engineering, Mixtures, Mobility, Pollutants, Reduction, Sites, *Toxicity, Volume, Wastes, Bioassay, Decontamination, *Waste management, *Superfund, Waste sites, Component Reports.

DE92614732/REB PC **A03**/MF **A01**
Determination of alpha-emitting nuclides of plutonium, americium and curium in environmental materials: Pt. 1. Sea water.
Ministry of Agriculture, Fisheries and Food, Lowestoft (England). Directorate of Fisheries Research.
M. B. Lovett, S. J. Boggis, and P. Blowers. 1990, 36p
MAFF-AEPAM-7
U.S. Sales Only.

Within the Aquatic Environment Protection Division of the Directorate of Fisheries Research (DFR), the Radioanalytical Group routinely analyses a wide range of environmental materials for a substantial number of radionuclides. A wide variety of radiochemical procedures have been developed at different laboratories but there are no 'standard' methods because the methods are continually developing. Nevertheless, it is useful, as in this present series, periodically to draw together the methods which are in routine use at a laboratory and to discuss their development and application. (author). (Atomindex citation 23:014060)

Keywords: *Americium, *Curium, *Plutonium, *Seawater, Alpha Spectroscopy, Errors, Experimental Data, Quality Assurance, Radioassay, Radioecological Concentration, Sampling, Surface Barrier Detectors, Trace Amounts, Tables(data), *Foreign technology, EDB/400101, EDB/540300, *Water analysis.

N92-24997/8/REB
(Order as N92-24987/9/REB, PC **A10**/MF **A03**)
National Aeronautics and Space Administration, Washington, DC.
Intelligent Processing Equipment within the Environmental Protection Agency.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
D. G. Greathouse, and R. P. Nalesnik. Apr 92, 7p
In NASA, Washington, the Federal Conference on Intelligent Processing Equipment p 95-101.

Protection of the environment and environmental remediation requires the cooperation, at all levels, of government and industry. Intelligent processing equipment, in addition to other artificial intelligence based tools, was used by the Environmental Protection Agency to provide personnel safety and improve the efficiency of those responsible for protection and remediation of the environment. These exploratory efforts demonstrate the feasibility and utility of expanding development and widespread use of these tools. A survey of current intelligent processing equipment applications in the Agency is presented and is followed by a brief discussion of possible uses in the future.

Keywords: *Artificial intelligence, *Computer systems performance, *Environment protection, *Government/industry relations, Industries, Manufacturing, Personnel, Robotics, Safety, Surveys.

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PB92-180033/REB PC **A02**/MF **A01**

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Application of Modified Aluminon and GFAAS Methods to Beryllium Determination in Drinking Water.
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Applications of a Neurobehavioral Screening Battery.
PB92-179787/REB PC **A03**/MF **A01**

Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB PC **A02**/MF **A01**

Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180181/REB PC **A02**/MF **A01**

Assessing Trends in Fishery Resources and Lake Water Aluminum from Paleolimnological Analyses of Siliceous Algae.
PB92-180405/REB PC **A03**/MF **A01**

Assessment of Spatial Variation of Risks in Small Populations.
PB92-188903/REB PC **A03**/MF **A01**

Behavior of Arsenic in a Rotary Kiln Incinerator (Journal Version).
PB92-179845/REB PC **A02**/MF **A01**

Beyond the Border: Environmental Management in Washington and British Columbia.
PB92-166883/REB PC **A08**/MF **A02**

Bioaccumulation of Contaminants in Crabs and Clams in Bellingham Bay.
PB92-166867/REB PC **A03**/MF **A01**

Biotransformation of CIS-1,2-Dichloroethylene in Aquifer Material from Picatinny Arsenal, Morris County, New Jersey.
PB92-179100/REB PC **A03**/MF **A01**

BioTrol Soil Washing System for Treatment of a Wood Preserving Site: Applications Analysis Report.
PB92-115245/REB PC **A04**/MF **A01**

Cape Cod Waste Water Renovation and Retrieval System, a Study of Water Treatment and Conservation First Year of Operation.
PB92-174408/REB PC **A10**/MF **A03**

Capsule Report: Acostic Monitoring to Determine the Integrity of Hazardous Waste Dams.
PB92-179928/REB PC **A03**/MF **A01**

Capsule Report: Adipic Acid-Enhanced Lime/Limestone Test Results at the EPA Alkali Scrubbing Test Facility.
PB92-179944/REB PC **A03**/MF **A01**

Capsule Report: Bahco Flue Gas Desulfurization and Particulate Removal System.
PB92-179902/REB PC **A03**/MF **A01**

Capsule Report: Benefits of Microprocessor Control of Curing Ovens for Solvent-Based Coatings.
PB92-179993/REB PC **A03**/MF **A01**

Capsule Report: Disposal of Flue Gas Desulfurization Wastes. Shawnee Field Evaluation.
PB92-179936/REB PC **A03**/MF **A01**

Capsule Report: First Progress Report. Physical Coal-Cleaning Demonstration at Homer City, Pennsylvania.
PB92-179910/REB PC **A03**/MF **A01**

Capsule Report: Particulate Control by Fabric Filtration on Coal-Fired Industrial Boilers.
PB92-179894/REB PC **A03**/MF **A01**

Carcinogen-DNA Adducts in Cultures of Rat and Human Hepatocytes.
PB92-189075/REB PC **A02**/MF **A01**

Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
PB92-178227/REB PC **A13**/MF **A03**

Characteristics of the U.S. EPA's Office of Pesticide Programs' Toxicity Information Databases.
PB92-188978/REB PC **A02**/MF **A01**

Characterization of Chemical Kindling with the Pesticide Endosulfan.
PB92-189059/REB PC **A02**/MF **A01**

Characterization of Products Containing Mercury in Municipal Solid Waste in the United States, 1970 to 2000.
PB92-162569/REB PC **A07**/MF **A02**

Characterization of Stress-Responsive Behavior in 'Pseudomonas aeruginosa' PAO: Isolation of Tn3-lacZYA Fusions with Novel Damage-Inducible (din) Promoters.
PB92-195718/REB PC **A02**/MF **A01**

Characterization Protocol for Radioactive Contaminated Soils.
PB92-963354/REB PC **A02**/MF **A01**

Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
PB92-180074/REB PC **A03**/MF **A01**

Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB PC **A02**/MF **A01**

Chemical Substitution for 1,1,1,-Trichloroethane and Methanol in an Industrial Cleaning Operation.
PB92-179886/REB PC **A03**/MF **A01**

Chesapeake Bay Bluefish Fishery Management Plan. Chesapeake Bay Program Agreement Commitment Report.
PB92-186436/REB PC **A04**/MF **A01**

Chesapeake Bay Striped Bass Fishery Management Plan: Chesapeake Bay Program. Annual Progress Report from the Chesapeake Executive Council.
PB92-186428/REB PC **A03**/MF **A01**

Chesapeake Bay Waterfowl Policy and Management Plan (Agreement Committment Report).
PB92-186451/REB PC **A03**/MF **A01**

Chesapeake Bay Weakfish and Spotted Seatrout Fishery Management Plan: An Agreement Commitment Report from the Chesapeake Executive Council.
PB92-186477/REB PC **A03**/MF **A01**

Chlorinated Dioxins and Furans in the General U.S. Population: NHATS FY87 Results.
PB92-180157/REB PC **A12**/MF **A03**

Cigarette Smoke-Induced DNA Adducts in the Respiratory and Nonrespiratory Tissues of Rats.
PB92-189063/REB PC **A02**/MF **A01**

Clean Air Act Requirements for Trace Metals Information.
PB92-164995/REB PC **A02**/MF **A01**

Clinical Biochemistry.
PB92-188762/REB PC **A03**/MF **A01**

Cloning and Expression of a Lignin Peroxidase Gene from 'Streptomyces viridosporus' in 'Streptomyces lividans'.
PB92-180389/REB PC **A03**/MF **A01**

Closure of a Dioxin Incineration Facility.
PB92-191170/REB PC **A03**/MF **A01**

Collection of Interstitial Fluid and Seminiferous Tubule Fluid from the Rat Testis.
PB92-179084/REB PC **A03**/MF **A01**

Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions.
PB92-179050/REB PC **A03**/MF **A01**

Combined Sewer Overflow: Balancing Flow for CSO Abatement.
PB92-179761/REB PC **A02**/MF **A01**

Committed Obligated Expected Expenditures Plan (COEEP).
PB92-186469/REB PC **A03**/MF **A01**

Community Relations in Superfund: A Handbook.
PB92-963341/REB PC **A12**/MF **A03**

Comparative Acute Sensitivity of Larval Topsmelt, 'Atherinops affinis', and Inland Silverside, 'Menidia beryllina', to 11 Chemicals.
PB92-195668/REB PC **A02**/MF **A01**

Comparative Immunosuppression of Various Glycol Ethers Orally Administered to Fisher 344 Rats.
PB92-195833/REB PC **A02**/MF **A01**

Comparative Subchronic Toxicity Studies of Three Disinfectants.
PB92-164920/REB PC **A03**/MF **A01**

Comparison of Airborne Asbestos Levels Determined by Transmission Electron Microscopy (TEM) Using Direct and Indirect Transfer Techniques.
PB92-191113/REB PC **A04**/MF **A01**

Comparison of Methods for Determination of Dissolved Inorganic Carbon (DIC).
PB92-179712/REB PC **A03**/MF **A01**

Comparison of Screening Approaches, 1992.
PB92-189042/REB PC **A03**/MF **A01**

Comparison of Subchronic Neurotoxicity of 2-Hydroxyethyl Acrylate and Acrylamide in Rats.
PB92-188945/REB PC **A03**/MF **A01**

Complex Effluent Toxicity Information System (CETIS) (for Microcomputers).
PB92-501899/REB CP **D04**

Compliance Concerns with the New Coliform Regulation.
PB92-179696/REB PC **A02**/MF **A01**

Composition of Motor Vehicle Organic Emissions under Elevated Temperature Summer Driving Conditions (75 to 105 deg F).
PB92-166693/REB PC **A02**/MF **A01**

Comprehensive Evaluation of a Field Test Kit for Lead.
PB92-179720/REB PC **A03**/MF **A01**

Computer-Assisted Sperm Analysis of Rodent Epididymal Sperm Motility Using the Hamilton-Thorn Motility Analyzer.
PB92-165000/REB PC **A03**/MF **A01**

Concentrations from Above-Roof Releases of Laboratory Exhausts: A Wind Tunnel Study.
PB92-164821/REB PC **A03**/MF **A01**

Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
PB92-963260/REB PC **A01**/MF **A01**

Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB PC **A03**/MF **A01**

Consolidated List of Chemical Subject to Reporting under the Emergency Planning and Community Right to Know Act. SARA Section 302 Extremely Hazardous Substances, CERCL Hazardous Substances and SARA Section 313 Toxic Chemicals (Title III, List of Lists) (for Microcomputers).
PB92-501774/REB CP **D02**

Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
PB92-155399/REB PC A04/MF A01

Control of Air Emissions from Materials Handling during Remediation. Engineering Bulletin.
PB92-180041/REB PC A02/MF A01

Control of VOC Emissions from Ink and Paint Manufacturing Processes.
PB92-190230/REB PC A09/MF A02

Controlling Odorous Emissions from Iron Foundries.
PB92-166925/REB PC A03/MF A01

Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB PC A01/MF A01

Cost-Effectiveness Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173525/REB PC A03/MF A01

Current and Future Environmental Role of Atmospheric Methane: Model Studies and Uncertainties.
PB92-188820/REB PC A03/MF A01

Customer/Supplier Accountability and Quality Assurance (QA) Program Implementation.
PB92-191162/REB PC A02/MF A01

Demonstration of Waste Treatment Technologies.
PB92-179670/REB PC A02/MF A01

Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
PB92-178938/REB PC A05/MF A01

Design and Optimization of a Refrigeration System.
PB92-195973/REB PC A03/MF A01

Detection of Horizontal Gene Transfer by Natural Transformation in Native and Introduced Species of Bacteria in Marine and Synthetic Sediments.
PB92-195767/REB PC A02/MF A01

Determination of alpha-emitting nuclides of plutonium, americium and curium in environmental materials: Pt. 1. Sea water.
DE92614732/REB PC A03/MF A01

Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
AD-P006 465/9/REB PC A03/MF A01

Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB PC A21/MF A04

Development of a Core Combustion Research Program Plan for EPA.
PB92-180868/REB PC A03/MF A01

Development of Predictive Structure-Biodegradation Relationship Models with the Use of Respirometrically Generated Biokinetic Data.
PB92-191196/REB PC A03/MF A01

Developmental Effects of Methyl Benzimidazolecarbamate Following Exposure during Early Pregnancy.
PB92-164862/REB PC A02/MF A01

Developmental Toxicology: Risk Assessment and the Future.
PB92-184993/REB PC A13/MF A03

Diatoms: Powerful Indicators of Environmental Change.
PB92-180397/REB PC A03/MF A01

Directory of Mine Waste Characterization and Drainage Quality Contacts in Western Governors' Association Member States.
PB92-180108/REB PC A06/MF A02

Directory of OAQPS Information Services, May 1992.
PB92-198654/REB PC A03/MF A01

Disease Incidence and Potential Mechanisms of Defense for MSX-Resistant and -Susceptible Eastern Oysters Held in Chesapeake Bay.
PB92-195650/REB PC A02/MF A01

Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
PB92-179092/REB PC A02/MF A01

DNA Strand Breaks Induced in Cultured Human and Rodent Cells by Chlorohydroxyfuranones, Mutagens Isolated from Drinking Water.
PB92-164904/REB PC A03/MF A01

Doing the Right Thing (Book Reviews).
PB92-188887/REB PC A01/MF A01

Dosimetry of Localized Accumulations of Cigarette Smoke and Radon Progeny at Bifurcations.
PB92-164847/REB PC A03/MF A01

Drinking Water Criteria Document for Antimony.
PB92-173293/REB PC A05/MF A01

Drinking Water Criteria Document for Beryllium.
PB92-173301/REB PC A08/MF A02

Drinking Water Criteria Document for Cyanide.
PB92-173319/REB PC A08/MF A02

Drinking Water Criteria Document for Dalapon.
PB92-173327/REB PC A04/MF A01

Drinking Water Criteria Document for Di(2-Ethylhexyl) Adipate.
PB92-173343/REB PC A05/MF A01

Drinking Water Criteria Document for Dinoseb.
PB92-173350/REB PC A05/MF A01

Drinking Water Criteria Document for Diquat.
PB92-173368/REB PC A05/MF A01

Drinking Water Criteria Document for Endothall.
PB92-173376/REB PC A05/MF A01

Drinking Water Criteria Document for Endrin.
PB92-173384/REB PC A10/MF A03

Drinking Water Criteria Document for Glyphosate.
PB92-173392/REB PC A03/MF A01

Drinking Water Criteria Document for Hexachlorobenzene.
PB92-173400/REB PC A10/MF A03

Drinking Water Criteria Document for Hexachlorocyclopentadiene.
PB92-173418/REB PC A06/MF A02

Drinking Water Criteria Document for Oxamyl (VYDATE).
PB92-173434/REB PC A05/MF A01

Drinking Water Criteria Document for Phthalic Acid Esters (PAES).
PB92-173442/REB PC A14/MF A03

Drinking Water Criteria Document for Picloram.
PB92-173467/REB PC A04/MF A01

Drinking Water Criteria Document for Polycyclic Aromatic Hydrocarbons (PAHs).
PB92-173459/REB PC A20/MF A04

Drinking Water Criteria Document for Simazine.
PB92-173475/REB PC A05/MF A02

Drinking Water Criteria Document for Thallium.
PB92-173483/REB PC A06/MF A02

Drinking Water Criteria Document for Trichlorobenzenes.
PB92-173491/REB PC A05/MF A01

Drinking Water Criteria Document for 1,1,2-Trichloroethane.
PB92-173509/REB PC A05/MF A01

Drinking Water from Agriculturally Contaminated Groundwater.
PB92-195874/REB PC A03/MF A01

Drinking Water Quantification of Toxicologic Effects for Nickel.
PB92-173426/REB PC A05/MF A01

Economic Impact Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173533/REB PC A15/MF A03

Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
PB92-179134/REB PC A03/MF A01

Effects of Low Dissolved Oxygen on Survival, Growth and Reproduction of 'Daphnia', 'Hyalella' and 'Gammarus'.
PB92-188846/REB PC A02/MF A01

Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings.
PB92-192194/REB PC A04/MF A01

Effects of Open-Top Chambers on 'Valencia' Orange Trees.
PB92-180355/REB PC A02/MF A01

Effects of Operating Variables on PAH Emissions and Mutagenicity of Emissions from Woodstoves (Journal Article).
PB92-195809/REB PC A02/MF A01

Effects of Sampling Design Parameters on Block Selection.
PB92-180314/REB PC A02/MF A01

Embryonic Palatal Responses to Teratogens in Serum-Free Organ Culture.
PB92-188960/REB PC A03/MF A01

Enabling Document for Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants.
PB92-180132/REB PC A07/MF A02

Enforcement Document Retrieval System (EDRS) Master File (1972-April 1992).
PB92-592380/REB Subscription$1,440.00

Enforcement Document Retrieval System (EDRS) Update File (November 14, 1991 to April 22, 1992).
PB92-592390/REB CP T99

Environmental Guidance: For Very Small Communities.
PB92-196021/REB PC A03/MF A01

Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
PB92-139948/REB PC A05/MF A01

EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB PC A05/MF A01

Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies.
PB92-179795/REB PC A02/MF A01

Evaluation of Gas Chromatography/Matrix Isolation Infrared Spectrometry for the Determination of Semivolatile Organic Compounds in Air Sample Extracts.
PB92-166651/REB PC A03/MF A01

Evaluation of High Volume Particle Sampling and Sample Handling Protocols for Ambient Urban Air Mutagenicity Determinations.
PB92-188952/REB PC A02/MF A01

Evaluation of NOx Emissions from TVA Coal-Fired Power Plants.
PB92-164813/REB PC A03/MF A01

Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
PB92-170562/REB PC A05/MF A01

Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
PB92-188879/REB PC A03/MF A01

Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Bench and Laboratory Studies.
PB92-178979/REB PC A03/MF A01

Examination of the Anticonvulsant Properties of Voltage-Sensitive Calcium Channel Inhibitors in Amygdala Kindled Seizures.
PB92-166776/REB PC A02/MF A01

Expert Systems Show Promise for Customer Inquiries. Management and Operations.
PB92-166636/REB PC A02/MF A01

Exposure Assessment Modeling for Hydrocarbon Spills into the Subsurface: Sensitivity to Soil Properties.
PB92-191147/REB PC A03/MF A01

Exposure of Humans to a Volatile Organic Mixture. 1. Behavioral Assessment.
PB92-189018/REB PC A02/MF A01

Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator.
PB92-188838/REB PC A02/MF A01

Fluid Modeling Simulation of Stack-Tip Downwash for Neutrally Buoyant Plumes.
PB92-166644/REB PC A03/MF A01

Formation of Transconjugants on Plating Media Following 'In situ' Conjugation Experiments.
PB92-180330/REB PC A02/MF A01

Fuzzy Logic Control of AC Induction Motors.
PB92-180207/REB PC A02/MF A01

Gas Chromatographic Elution Patterns of Chlorinated Dioxins versus Column Polarity.
PB92-192186/REB PC A02/MF A01

General Methods for Remedial Operations Performance Evaluations.
PB92-166842/REB PC A03/MF A01

Genetic Activity Profile Database.
PB92-189091/REB PC A02/MF A01

GIS Technical Memorandum 3: Global Positioning Systems Technology and Its Application in Environmental Programs.
PB92-169358/REB PC A04/MF A01

Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB PC A02/MF A01

Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
PB92-190263/REB PC A05/MF A01

Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
PB92-963606/REB PC A03/MF A01

Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance.
PB92-170570/REB PC A03/MF A01

Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB PC A02/MF A01

Guide for Using the Empirical Kinetics Modeling Approach Interface (EKMAI).
PB92-196005/REB PC **A03**/MF **A01**

Guide to Management of Investigation-Derived Wastes.
PB92-963353/REB PC **A02**/MF **A01**

Guide to Site and Soil Description for Hazardous Waste Site Characterization. Volume 1. Metals.
PB92-146158/REB PC **A13**/MF **A03**

Guideline Series: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry.
PB92-180009/REB PC **A09**/MF **A03**

Health Advisory for 2,4- and 2,6-Dinitrotoluene (DNT).
PB92-189315/REB PC **A10**/MF **A03**

Health Assessment Document for Vermiculite.
PB92-166834/REB PC **A03**/MF **A01**

Health Effects and Dose-Response Assessment for Hydrogen Chloride Following Short-Term Exposure.
PB92-161959/REB PC **A05**/MF **A01**

Health Research to Support Risk Assessment.
PB92-188788/REB PC **A03**/MF **A01**

High-Volume Impactor for Sampling Fine and Coarse Particles.
PB92-166727/REB PC **A02**/MF **A01**

How Much Acidification Has Occurred in Adirondack Region Lakes (New York, USA) since Preindustrial Times.
PB92-180371/REB PC **A03**/MF **A01**

Human Exposure Model-II: User's Guide.
PB92-186246/REB PC **A08**/MF **A02**

Humic Substances and Contaminant Transport: A Review.
PB92-179753/REB PC **A02**/MF **A01**

Immunohistochemical Detection of P21 'ras' and P110 'myc' Oncogene Expression in Regenerating Rat Liver.
PB92-188895/REB PC **A03**/MF **A01**

Impacts of Climate Change on Rice Yield: Evaluation of the Efficacity of Different Modeling Approaches.
PB92-188754/REB PC **A04**/MF **A01**

Implementing 'In vitro' Models in the Hazard Identification and Risk Assessment Process.
PB92-188796/REB PC **A03**/MF **A01**

Implementing Protective Actions for Radiological Incidents at Other Than Nuclear Power Reactors. Proceedings of a Workshop. Held in Montgomery, Alabama on September 25-26, 1991.
PB92-192764/REB PC **A05**/MF **A01**

Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB PC **A03**/MF **A01**

Improvement of Performance of Variable Probability Sampling Strategies.
PB92-180264/REB PC **A02**/MF **A01**

In situ Soil Flushing. Engineering Bulletin.
PB92-180025/REB PC **A02**/MF **A01**

Inactive and Abandoned Noncoal Mines.
PB92-190107/REB PC **E99**/MF **E99**

Inactive and Abandoned Noncoal Mines. Volume 1. A Scoping Study.
PB92-190115/REB PC **A07**/MF **A02**

Inactive and Abandoned Noncoal Mines. Volume 2. State Reports.
PB92-190123/REB PC **A19**/MF **A04**

Inactive and Abandoned Noncoal Mines. Volume 3. Appendix: State Reports.
PB92-190131/REB PC **A14**/MF **A03**

Incineration Data on Arsenic and Lead Emissions.
PB92-179043/REB PC **A03**/MF **A01**

Induction of Gastrointestinal Tract Nuclear Anomalies in B6C3F1 Mice by 3-Chloro-4-(Dichloromethyl)-5-Hydroxy-2(5H)-Furanone and 3,4-(Dichloro)-5-Hydroxy-2(5H)-Furanone, Mutagenic Byproducts of Chlorine Disinfection.
PB92-164938/REB PC **A02**/MF **A01**

Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons.
PB92-164896/REB PC **A03**/MF **A01**

Induction of Prophage Lambda by Chlorinated Organics: Detection of Some Single-Species/Single-Site Carcinogens.
PB92-195841/REB PC **A03**/MF **A01**

Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB PC **A20**/MF **A04**

Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
PB92-173210/REB PC **A05**/MF **A01**

Inorganic Contract Compliance Screening System (ICCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501519/REB CP **D02**

Inorganic Contract Compliance Screening System Software for the PC (SOW March 1990 Version 1). User Manual.
PB92-145598/REB PC **A07**/MF **A02**

Inside the Hotline: A Compilation of 1991 Monthly Hotline Reports.
PB92-131390/REB PC **A04**/MF **A01**

Inspection Techniques for the Fabrication of Geomembrane Field Seams.
PB92-188770/REB PC **A02**/MF **A01**

Intelligent Processing Equipment within the Environmental Protection Agency.
N92-24997/8/REB
(Order as N92-24987/9/REB, PC **A10**/MF **A03**)

Interlaboratory Study of Cellular Fluorescence Intensity Measurements with Fluorescein-Labeled Microbead Standards.
PB92-153881/REB PC **A03**/MF **A01**

Introduction and Summary. Genotoxicity and Carcinogenicity Databases: An Assessment of the Present Situation.
PB92-188986/REB PC **A01**/MF **A01**

Isolation and Culture of Leydig Cells from Adult Rats.
PB92-166321/REB PC **A03**/MF **A01**

Kinetic Properties of Malic Dehydrogenase from Three Cultivars of Rice.
PB92-178995/REB PC **A03**/MF **A01**

Kinetochore-Staining of Spermatid Micronuclei: Studies of Mice Treated with X-Radiation or Acrylamide.
PB92-188994/REB PC **A02**/MF **A01**

Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae.
PB92-195759/REB PC **A02**/MF **A01**

Landfill Gas Utilization: Options, Benefits, and Barriers.
PB92-195916/REB PC **A03**/MF **A01**

Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
PB92-184969/REB PC **A03**/MF **A01**

Limited PCB Antagonism of TCDD-Induced Malformations in Mice.
PB92-166768/REB PC **A02**/MF **A01**

Measurement of Polycyclic Aromatic Hydrocarbons in Soils and Sediments by Particle-Beam/High-Performance Liquid Chromatography/Mass Spectrometry.
PB92-188721/REB PC **A03**/MF **A01**

Measurement of the Biotransfer and Time Constant of Radon from Ingested Water by Human Breath Analysis.
PB92-189026/REB PC **A03**/MF **A01**

Measurement Solution: Using a Temporary Total Enclosure for Capture Efficiency Testing.
PB92-190271/REB PC **A07**/MF **A02**

Measuring Sexual Behavior in the Female Rat.
PB92-179076/REB PC **A03**/MF **A01**

Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
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PB92-174655/REB PC E99/MF E99

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PB92-963905/REB PC **A04**/MF **A01**

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PB92-963918/REB PC **A05**/MF **A01**

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PB92-963904/REB PC **A04**/MF **A01**

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PB92-963919/REB PC **A05**/MF **A01**

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PB92-963913/REB PC **A04**/MF **A01**

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PB92-963909/REB PC **A03**/MF **A01**

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PB92-963916/REB PC **A05**/MF **A01**

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PB92-963910/REB PC **A03**/MF **A01**

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PB92-963911/REB PC **A04**/MF **A01**

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PB92-964012/REB PC **A03**/MF **A01**

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PB92-964114/REB PC A03/MF A01

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PB92-964602/REB PC A03/MF A01

Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB PC A03/MF A01

Surfactant-Enhanced Solubilization of Tetrachloroethylene and Degradation Products in Pump and Treat Remediation.
PB92-191121/REB PC A03/MF A01

Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB PC A03/MF A01

Technical Aspects of Underground Storage Tank Closure.
PB92-161199/REB PC A04/MF A01

Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
PB92-192889/REB PC A12/MF A03

Technical Assistance Team (TAT) Contracts Users' Manual.
PB92-963407/REB PC A09/MF A02

Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations.
PB92-154947/REB PC A11/MF A03

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Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB PC A01/MF A01

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PB92-180363/REB PC A03/MF A01

Theoretical Evaluation of Stability of Volatile Organic Chemicals and Polar Volatile Organic Chemicals in Canisters.
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PB92-164748/REB PC A03/MF A01

Time Spent in Activities, Locations, and Microenvironments: A California-National Comparison.
PB92-140789/REB PC A05/MF A01

Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
PB92-155381/REB PC A06/MF A02

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PB92-501816/REB CP T14

Toxicity of Ammonia, Nitrite, and Nitrate to Fishes.
PB92-179142/REB PC A03/MF A01

Toxicological Assessment of Hazardous Wastes.
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PB92-173566/REB PC A19/MF A04

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PB92-166610/REB PC A02/MF A01

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PB92-179746/REB PC **A03**/MF **A01**

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KEYWORD INDEX

Index entries in this section are selected to indicate important ideas and concepts presented in a report. When using the keyword index, be sure to look under terms narrower, broader, or related to a particular topic. Although some of the keywords are not selected from a controlled vocabulary of terms, most of them have been selected from the DoD, DoE, NASA, of NTIS controlled vocabularies. The entries are arranged by keyword and then by the NTIS order number.

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Title	Sensitivity of Ecological Landscapes and Regions to Global Climatic Change
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PB92-179944/REB

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PB92-964114/REB

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PB92-191154/REB

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PB92-176361/REB
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Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Bench and Laboratory Studies.
PB92-178979/REB
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB
Human Exposure Model-II: User's Guide.
PB92-186246/REB
Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
PB92-190263/REB
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
PB92-192202/REB
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PB92-195981/REB
Directory of OAQPS Information Services, May 1992.
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PB92-169523/REB
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PB92-188515/REB
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PB92-173541/REB
Guideline Series: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry.
PB92-180009/REB
Waste Minimization Assessment for a Manufacturer of Chemicals.
PB92-203595/REB

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PB92-170562/REB

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Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB

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PB92-164839/REB
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PB92-191139/REB

COMBINED SEWERS
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PB92-179761/REB

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PB92-180868/REB

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PB92-166966/REB

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PB92-196021/REB

COMMUNITY RELATIONS
Community Relations in Superfund: A Handbook.
PB92-963341/REB

COMPREHENSIVE ENVIRONMENTAL RESPONSE
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITIES ACT (CERCLA)
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT
Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance.
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PB92-963407/REB

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PB92-963403/REB

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Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
PB92-155399/REB
Consolidated List of Chemical Subject to Reporting under the Emergency Planning and Community Right to Know Act. SARA Section 302 Extremely Hazardous Substances, CERCL Hazardous Substances and SARA Section 313 Toxic Chemicals (Title III, List of Lists) (for Microcomputers).
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Evaluation of NOx Emissions from TVA Coal-Fired Power Plants.
PB92-164813/REB
Concentrations from Above-Roof Releases of Laboratory Exhausts: A Wind Tunnel Study.
PB92-164821/REB
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB
Oil and Gas Field Emissions Survey.
PB92-184977/REB

EMISSION INVENTORIES
Oil and Gas Field Emissions Survey.
PB92-184977/REB

EMPIRICAL KINETICS MODELING APPROACH INTERFACE PROGRAM
Guide for Using the Empirical Kinetics Modeling Approach Interface (EKMAI).
PB92-196005/REB

ENDOSULFAN
Proconvulsant Activity of Endosulfan in Amygdala Kindling.
PB92-189000/REB
Characterization of Chemical Kindling with the Pesticide Endosulfan.
PB92-189059/REB

ENDOTHALL
Drinking Water Criteria Document for Endothall.
PB92-173376/REB

ENDRIN
Drinking Water Criteria Document for Endrin.
PB92-173384/REB

ENERGY METABOLISM
Modeling Individuals Employing an Integrated Energy Response: Application to 'Daphnia'.
PB92-179829/REB

ENERGY SOURCE DEVELOPMENT
Landfill Gas Utilization: Options, Benefits, and Barriers.
PB92-195916/REB

ENVIRONMENT PROTECTION
Intelligent Processing Equipment within the Environmental Protection Agency.
N92-24997/8/REB

ENVIRONMENTAL CHEMICAL SUBSTITUTION
Chemical Substitution for 1,1,1,-Trichloroethane and Methanol in an Industrial Cleaning Operation.
PB92-179886/REB

ENVIRONMENTAL EFFECTS
EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB
Pollution Impacts at the Stand and Ecosystem Levels.
PB92-179027/REB
U.S. Environmental Protection Agency Research Program on the Environmental Impacts and Control of Highway Deicing Salt Pollution.
PB92-179688/REB
Potential Impacts of Increased Solar UV-B on Global Plant Productivity.
PB92-180223/REB
Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
PB92-501972/REB

ENVIRONMENTAL HEALTH
Tiered Modeling Approach for Assessing the Risks Due to Sources of Hazardous Air Pollutants.
PB92-164748/REB
Implementing 'In vitro' Models in the Hazard Identification and Risk Assessment Process.
PB92-188796/REB
Assessment of Spatial Variation of Risks in Small Populations.
PB92-188903/REB

ENVIRONMENTAL IMPACT
Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
AD-P006 465/9/REB

ENVIRONMENTAL IMPACT ASSESSMENTS
Methods of Assessing Responses of Trees, Stands and Ecosystems to Air Pollution (Chapter 7).
PB92-180231/REB

ENVIRONMENTAL LEGISLATION
Enforcement Document Retrieval System (EDRS) Master File (1972-April 1992).
PB92-592380/REB
Enforcement Document Retrieval System (EDRS) Update File (November 14, 1991 to April 22, 1992).
PB92-592390/REB

ENVIRONMENTAL MANAGEMENT
Beyond the Border: Environmental Management in Washington and British Columbia.
PB92-166883/REB

ENVIRONMENTAL MONITORING
Preliminary Results of a Pesticide Leaching Study at Plains, Georgia.
PB92-166354/REB
Statistical Issues in Environmental Monitoring and Assessment.
PB92-178987/REB
Probability Sampling and Population Inference in Monitoring Programs.
PB92-180272/REB
Diatoms: Powerful Indicators of Environmental Change.
PB92-180397/REB
Report to Congress on Ocean Dumping, 1987-1990.
PB92-188663/REB
Gas Chromatographic Elution Patterns of Chlorinated Dioxins versus Column Polarity.
PB92-192186/REB
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
PB92-194000/REB

ENVIRONMENTAL MONITORING AND ASSESSMENT PROGRAM
Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
PB92-139948/REB

ENVIRONMENTAL POLICY
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
PB92-190156/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix: State Reports Interstate Coalition on Mine Waste.
PB92-190172/REB
Environmental Guidance: For Very Small Communities.
PB92-196021/REB

ENVIRONMENTAL POLLUTANTS
Protein Adducts for Exposure Monitoring: A Computerized Database. Software and User's Manual.
PB92-155431/REB
Protein Adducts for Exposure Monitoring: A Computerized Database (CPAD) (Version 1) (for Microcomputers).
PB92-501873/REB

ENVIRONMENTAL PROTECTION
Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
PB92-170562/REB
Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
PB92-178227/REB
U.S. Environmental Protection Agency Research Program on the Environmental Impacts and Control of Highway Deicing Salt Pollution.
PB92-179688/REB
Waste Minimization Assessment for a Manufacturer of Automotive Air Conditioning Condensers and Evaporators.
PB92-188739/REB
Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
PB92-188747/REB
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts.
PB92-189695/REB
Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks.
PB92-189703/REB

ENVIRONMENTAL SURVEYS
Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
PB92-145564/REB
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
PB92-145572/REB
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
PB92-145580/REB
Inorganic Contract Compliance Screening System Software for the PC (SOW March 1990 Version 1). User Manual.
PB92-145598/REB
User's Guide and Data Dictionary for Kenai Lakes Investigation Project.
PB92-178961/REB
Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies.
PB92-179795/REB
Spectroscopic Study of Surface Redox Reactions With Manganese Oxides.
PB92-179837/REB
Chlorinated Dioxins and Furans in the General U.S. Population: NHATS FY87 Results.
PB92-180157/REB
Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
PB92-195957/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers).
PB92-501501/REB
Inorganic Contract Compliance Screening System (ICCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501519/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501527/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers).
PB92-501535/REB

ENVIRONMENTAL TRANSPORT
Stability and Transport of Inorganic Colloids through Contaminated Aquifer Material.
PB92-164839/REB
Preliminary Results of a Pesticide Leaching Study at Plains, Georgia.
PB92-166354/REB
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
PB92-166602/REB
Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
PB92-178938/REB
Spatial Variability of Geochemical and Hydrologic Properties of Subsurface Materials in a Sand and Gravel Aquifer, Cape Cod, Massachusetts.
PB92-179126/REB
U.S. EPA's Global Climate Change Program: Landfill Emissions and Mitigation Research.
PB92-180215/REB
Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
PB92-188879/REB
Surfactant-Enhanced Solubilization of Tetrachloroethylene and Degradation Products in Pump and Treat Remediation.
PB92-191121/REB
Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB
Exposure Assessment Modeling for Hydrocarbon Spills into the Subsurface: Sensitivity to Soil Properties.
PB92-191147/REB

ENZYME INHIBITORS
Prophage Induction by DNA Topoisomerase II Poisons and Reactive-Oxygen Species: Role of DNA Breaks.
PB92-195866/REB

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PB92-188903/REB

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PB92-165000/REB

ESCHERICHIA COLI
Serological Cross-Reactions between 'Escherichia coli' O157 and other Species of the Genus 'Escherichia'.
PB92-180306/REB

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PB92-179068/REB

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Drinking Water Criteria Document for 1,1,2-Trichloroethane.
PB92-173509/REB

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Advanced Emission Speciation Methodologies for the Auto/Oil Air Quality Improvement Research Program. 1. Hydrocarbons and Ethers.
PB92-166784/REB
Vapor Pressures, Liquid Molar Volumes, Vapor Non-Idealities, and Critical Properties of Some Fluorinated Ethers: CF3OCF2OCF3, CF3OCF2CF2H, c-CF2CF2CF2O, CF3OCF2H, and CF3OCH3; and of CCl3F and CF2ClH.
PB92-179746/REB

ETHYLENE/DICHLORO
Biotransformation of CIS-1,2-Dichloroethylene in Aquifer Material from Picatinny Arsenal, Morris County, New Jersey.
PB92-179100/REB

ETHYLENE OXIDE
Pesticide Fact Sheet Number 234: Ethylene Oxide (EtO).
PB92-185859/REB

ETHYLENE/TRICHLORO
Reductive Dechlorination of Trichloroethylene in Anoxic Aquifer Material from Picatinny Arsenal, New Jersey.
PB92-179019/REB

EUROPE
Acidic Episodes in Surface Waters in Europe.
PB92-188853/REB

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PB92-164961/REB
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PB92-166693/REB
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PB92-166784/REB
14C Source Apportionment Technique Applied to Wintertime Urban Aerosols and Gases for the EPA Integrated Air Cancer Project.
PB92-171370

EXPERT SYSTEMS
Expert Systems Show Promise for Customer Inquiries. Management and Operations.
PB92-166636/REB
Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB

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Protein Adducts for Exposure Monitoring: A Computerized Database. Software and User's Manual.
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PB92-192137/REB

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FINAL REMEDIAL ACTION
Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990.
PB92-963703/REB
Superfund Record of Decision (EPA Region 4): Monsanto Superfund Site, Augusta, GA. (First Remedial Action), December 1990.
PB92-964003/REB
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PB92-195999/REB

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PB92-963811/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963910/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - Southeastern Area, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963911/REB

Superfund Record of Decision (EPA Region 3): Halby Chemical, Wilmington, New Castle County, DE. (First Remedial Action), June 1991.
PB92-963914/REB

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Superfund Record of Decision (EPA Region 3): USA Aberdeen Proving Ground, Edgewood, MD. (First Remedial Action), September 1991.
PB92-963916/REB

Superfund Record of Decision (EPA Region 3): AVCO Lycoming-Williamsport Division, Lycoming County, Williamsport, PA. (First Remedial Action), June 1991.
PB92-963920/REB

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PB92-964002/REB

Superfund Record of Decision (EPA Region 4): Smith's Farm Site (First Operable Unit), Bullitt County, Brooks, KY. (First Remedial Action), (Amendment), September 1991.
PB92-964006/REB

Superfund Record of Decision (EPA Region 4): USA Anniston Army Depot, (Groundwater Operable Unit), Calhoun County, Anniston, AL. (First Remedial Action), September 1991.
PB92-964010/REB

Superfund Record of Decision (EPA Region 4): Wrigley Charcoal Site, Hickman County, Wrigley, TN. (First Remedial Action), September 1991.
PB92-964011/REB

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PB92-964013/REB

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PB92-964105/REB

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PB92-964112/REB

Superfund Record of Decision (EPA Region 8): Hill Air Force Base, Operable Unit 2, Chemical Disposal Pit 3, Site WP07, Davis and Weber Counties, UT. (First Remedial Action), September 1991.
PB92-964401/REB

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PB92-964501/REB

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Chesapeake Bay Striped Bass Fishery Management Plan: Chesapeake Bay Program. Annual Progress Report from the Chesapeake Executive Council.
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Selection of Surrogates for a Genetically Engineered Microorganism with Cellulolytic Capability for Ecological Studies in Streams.
PB92-195791/REB

GENETICS
Doing the Right Thing (Book Reviews).
PB92-188887/REB

GEOCHEMISTRY
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
PB92-166602/REB
Spatial Variability of Geochemical and Hydrologic Properties of Subsurface Materials in a Sand and Gravel Aquifer, Cape Cod, Massachusetts.
PB92-179126/REB
Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
PB92-179134/REB

GEOGRAPHIC INFORMATION SYSTEMS
Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
PB92-178227/REB

GEOSTATISTICS
Effects of Sampling Design Parameters on Block Selection.
PB92-180314/REB

GEOSYNTHETIC MATERIALS
Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
PB92-170562/REB
Inspection Techniques for the Fabrication of Geomembrane Field Seams.
PB92-188770/REB

GEOTECHNICAL FABRICS
Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
PB92-170562/REB
Inspection Techniques for the Fabrication of Geomembrane Field Seams.
PB92-188770/REB

GLOBAL CLIMATE CHANGE PROGRAM
U.S. EPA's Global Climate Change Program: Landfill Emissions and Mitigation Research.
PB92-180215/REB

GLOBAL METHANE CYCLE
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB

GLOBAL POSITIONING SYSTEM
GIS Technical Memorandum 3: Global Positioning Systems Technology and Its Application in Environmental Programs.
PB92-169358/REB

GLYCOL ETHERS
Comparative Immunosuppression of Various Glycol Ethers Orally Administered to Fisher 344 Rats.
PB92-195833/REB

GLYPHOSATE
Drinking Water Criteria Document for Glyphosate.
PB92-173392/REB

GOVERNMENT/INDUSTRY RELATIONS
Intelligent Processing Equipment within the Environmental Protection Agency.
N92-24997/8/REB

GOVERNMENT POLICIES
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB
Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB

GRANULAR ACTIVATED CARBON TREATMENT
Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB

GREAT LAKES
Report of the Great Lakes Air Toxics Research Priorities Workshop. Held at Navarre, Minnesota on March 11-13, 1991.
PB92-166933/REB

GREENHOUSE EFFECT
Current and Future Environmental Role of Atmospheric Methane: Model Studies and Uncertainties.
PB92-188820/REB

GRIDDED MODEL INFORMATION SUPPORT SYSTEM
Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
PB92-190263/REB

GROUND WATER
General Methods for Remedial Operations Performance Evaluations.
PB92-166842/REB
Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
PB92-179134/REB
Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
PB92-180074/REB
Drinking Water from Agriculturally Contaminated Groundwater.
PB92-195874/REB
Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB
Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB
ROD Annual Report, FY1991. Volume 1.
PB92-963359/REB
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB

GROWTH
Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
PB92-166891/REB
Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae.
PB92-195759/REB

GUIDELINES
Reregistration Eligibility Document (RED): Carbon and Carbon Dioxide.
PB92-161926/REB
Guide for Using the Empirical Kinetics Modeling Approach Interface (EKMAI).
PB92-196005/REB

HALOGEN AROMATIC HYDROCARBONS
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems.
PB92-166800/REB
Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products.
PB92-166818/REB

HALOGEN ORGANIC COMPOUNDS
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems.
PB92-166792/REB

HANDBOOKS
Environmental Guidance: For Very Small Communities.
PB92-196021/REB
Community Relations in Superfund: A Handbook.
PB92-963341/REB

HAZARDOUS MATERIALS
RCRIS Data Element Dictionary, Version 3.0.0. Data Tape Documentation.
PB92-145515/REB
Guide to Sité and Soil Description for Hazardous Waste Site Characterization. Volume 1. Metals.
PB92-146158/REB
Reclamation and Redevelopment of Contaminated Land. Volume 2. European Case Studies.
PB92-146166/REB
Methodologies for Evaluating In situ Bioremediation of Chlorinated Solvents.
PB92-146943/REB
Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations.
PB92-154947/REB
Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
PB92-155381/REB
Permeation of Multifunctional Acrylates through Three Protective Clothing Materials.
PB92-164797/REB
Personnel Protection through Reconnaissance Robotics at Superfund Remedial Sites.
PB92-166743/REB
General Methods for Remedial Operations Performance Evaluations.
PB92-166842/REB
Annual Risk Reduction Engineering Laboratory Research Symposium (18th) Abstract Proceedings. Held in Cincinnati, Ohio on April 14-16, 1992.
PB92-166859/REB
Pilot-Scale Evaluation of the Thermal Stability POHC Incinerability Ranking.
PB92-166966/REB
Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
PB92-170562/REB
Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
PB92-178938/REB
Pilot-Scale Incineration of PCB-Contaminated Sediments from the New Bedford Harbor Hot Spot Superfund Site.
PB92-178953/REB
Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB
Demonstration of Waste Treatment Technologies.
PB92-179670/REB
Capsule Report: Acostic Monitoring to Determine the Integrity of Hazardous Waste Dams.
PB92-179928/REB
In situ Soil Flushing. Engineering Bulletin.
PB92-180025/REB
Control of Air Emissions from Materials Handling during Remediation. Engineering Bulletin.
PB92-180041/REB
Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB
Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB
Questions and Answers about the Early Reductions Program.
PB92-180124/REB
Enabling Document for Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants.
PB92-180132/REB
Pollution Prevention Case Studies Compendium.
PB92-180165/REB
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB
Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
PB92-184969/REB
Waste Minimization Assessment for a Manufacturer of Automotive Air Conditioning Condensers and Evaporators.
PB92-188739/REB
Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
PB92-188747/REB
Inspection Techniques for the Fabrication of Geomembrane Field Seams.
PB92-188770/REB
Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator.
PB92-188838/REB
Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
PB92-188879/REB
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts.
PB92-189695/REB
Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks.
PB92-189703/REB
Solidification/Stabilization: Is It Always Appropriate.
PB92-191188/REB
Waste Minimization Assessment for a Manufacturer of Aluminum Extrusions.
PB92-192137/REB
Waste Minimization Assessment for a Manufacturer of Metal-Cutting Wheels and Components.
PB92-192145/REB
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors.
PB92-192806/REB
Toxic Release Inventory (TRI), 1990.
PB92-501816/REB
Resource Conservation and Recovery Information System (RCRIS) Extract Tape.
PB92-592290/REB
Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB
National Priorities List Sites Set (1991).
PB92-963253/REB
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB
Regional Pilot Projects and Initiatives.
PB92-963259/REB

Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
PB92-963260/REB
National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
PB92-963261/REB
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB
Superfund Accelerated Cleanup Model (SACM).
PB92-963263/REB
Superfund Progress, Spring 1992.
PB92-963265/REB
Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB
Community Relations in Superfund: A Handbook.
PB92-963341/REB
PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB
Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB
Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB
Characterization Protocol for Radioactive Contaminated Soils.
PB92-963354/REB
ROD Annual Report, FY1991. Volume 1.
PB92-963359/REB
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB
Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB
Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB
Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
PB92-963606/REB
Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990.
PB92-963703/REB
Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB
Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991.
PB92-963705/REB
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991.
PB92-963805/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
PB92-963808/REB
Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
PB92-963809/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
PB92-963810/REB
Superfund Record of Decision (EPA Region 2): Chemsol, Inc., Piscataway, Middlesex County, NJ. (First Remedial Action), September 1991.
PB92-963811/REB
Superfund Record of Decision (EPA Region 3): Middletown Air Field Site, Middletown, PA. (Second Remedial Action), December 1990.
PB92-963904/REB
Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991.
PB92-963905/REB
Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenber Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963906/REB
Superfund Record of Decision (EPA Region 3): Dorney Road Landfill Site, Upper Macungie Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963907/REB
Superfund Record of Decision (EPA Region 3): USA Aberdeen, Michaelsville, MD. (First Remedial Action), September 1991.
PB92-963909/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963910/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - Southeastern Area, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963911/REB
Superfund Record of Decision (EPA Region 3): Whitmoyer Laboratories (Operable Unit 2), Lebanon County, PA. (Second Remedial Action), December 1990.
PB92-963912/REB
Superfund Record of Decision (EPA Region 3): Strasburg Landfill, Newlin Township, Chester County, PA. (Second Remedial Action), June 1991.
PB92-963913/REB
Superfund Record of Decision (EPA Region 3): Halby Chemical, Wilmington, New Castle County, DE. (First Remedial Action), June 1991.
PB92-963914/REB
Superfund Record of Decision (EPA Region 3): Brodhead Creek, Stroudsburg, PA. (First Remedial Action), March 1991.
PB92-963915/REB
Superfund Record of Decision (EPA Region 3): USA Aberdeen Proving Ground, Edgewood, MD. (First Remedial Action), September 1991.
PB92-963916/REB
Superfund Record of Decision (EPA Region 3): Heleva Landfill Site, Lehigh County, PA. (First Remedial Action), (Amendment), September 1991.
PB92-963917/REB
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991.
PB92-963918/REB
Superfund Record of Decision (EPA Region 3): NCR Corporation (Millsboro Plant), Sussex County, Millsboro, DE. (First Remedial Action), August 1991.
PB92-963919/REB
Superfund Record of Decision (EPA Region 3): AVCO Lycoming-Williamsport Division, Lycoming County, Williamsport, PA. (First Remedial Action), June 1991.
PB92-963920/REB
Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
PB92-964002/REB
Superfund Record of Decision (EPA Region 4): Monsanto Superfund Site, Augusta, GA. (First Remedial Action), December 1990.
PB92-964003/REB
Superfund Record of Decision (EPA Region 4): Tri-City Industrial Disposal Site, Bullitt County, Brooks, KY. (First Remedial Action), August 1991.
PB92-964004/REB
Superfund Record of Decision (EPA Region 4): Aberdeen Pesticide Dumps, Moore County, Aberdeen, NC. (First Remedial Action), (Amendment), September 1991.
PB92-964005/REB
Superfund Record of Decision (EPA Region 4): Smith's Farm Site (First Operable Unit), Bullitt County, Brooks, KY. (First Remedial Action), (Amendment), September 1991.
PB92-964006/REB
Superfund Record of Decision (EPA Region 4): Petroleum Products Corporation Site, Operable Unit 1, Pembroke Park, Broward County, FL. (First Remedial Action), October 1990.
PB92-964007/REB
Superfund Record of Decision (EPA Region 4): Sangamo/Twelve-Mile Creek, Lake Hartwell PCB Contamination Site, Pickens, SC. (First Remedial Action), December 1990.
PB92-964008/REB
Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991.
PB92-964009/REB
Superfund Record of Decision (EPA Region 4): USA Anniston Army Depot, (Groundwater Operable Unit), Calhoun County, Anniston, AL. (First Remedial Action), September 1991.
PB92-964010/REB
Superfund Record of Decision (EPA Region 4): Wngley Charcoal Site, Hickman County, Wngley, TN. (First Remedial Action), September 1991.
PB92-964011/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
PB92-964012/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 2), Oak Ridge, TN. (First Remedial Action), June 1991.
PB92-964013/REB
Superfund Record of Decision (EPA Region 5): Novaco Industries, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964104/REB
Superfund Record of Decision (EPA Region 5): Rasmussen's Dump Site, Green Oak Township, Livingston County, MI. (First Remedial Action), March 1991.
PB92-964105/REB
Superfund Record of Decision (EPA Region 5): G and H Industrial Landfill Site, Macomb County, MI. (First Remedial Action), December 1990.
PB92-964106/REB
Superfund Record of Decision (EPA Region 5): Main Street Well Field, Elkhart, IN. (Second Remedial Action), March 1991.
PB92-964107/REB
Superfund Record of Decision (EPA Region 5): Folkertsma Refuse Site, Walker, MI. (First Remedial Action), June 1991.
PB92-964108/REB
Superfund Record of Decision (EPA Region 5): Conrail Railyard, Elkhart County, IN. (First Remedial Action), June 1991.
PB92-964109/REB
Superfund Record of Decision (EPA Region 5): Verona Well Field Site, Battle Creek, MI. (Second Remedial Action), June 1991.
PB92-964110/REB
Superfund Record of Decision (EPA Region 5): Fadrowski Drum Disposal Site, Franklin, WI. (First Remedial Action), June 1991.
PB92-964111/REB
Superfund Record of Decision (EPA Region 5): Motor Wheel Disposal Site, Lansing, MI. (First Remedial Action), September 1991.
PB92-964112/REB
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
PB92-964113/REB
Superfund Record of Decision (EPA Region 5): Anderson Development Company Site, Lenawee County, Adrian, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964114/REB
Superfund Record of Decision (EPA Region 5): Allied Chemical and Ironton Coke, Ironton, OH. (Second Remedial Action), December 1990.
PB92-964115/REB
Superfund Record of Decision (EPA Region 5): Enviro-Chem (Northside Sanitary Landfill), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964116/REB
Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964117/REB
Superfund Record of Decision (EPA Region 5): Summit National Liquid Disposal Service, Deerfield, OH. (First Remedial Action), (Amendment), November 1990.
PB92-964118/REB
Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB
Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
PB92-964120/REB
Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
PB92-964121/REB
Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991.
PB92-964122/REB
Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991.
PB92-964201/REB
Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991.
PB92-964202/REB
Superfund Record of Decision (EPA Region 7): People's Natural Gas Coal Gasification Site, Dubuque, IA. (First Remedial Action), September 1991.
PB92-964301/REB
Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
PB92-964302/REB
Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB
Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO (Second Remedial Action), December 1990.
PB92-964305/REB
Superfund Record of Decision (EPA Region 7): E.I Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB
Superfund Record of Decision (EPA Region 7): Lee Chemical Site, Liberty, MO. (First Remedial Action), March 1991.
PB92-964307/REB
Superfund Record of Decision (EPA Region 8): Hill Air Force Base, Operable Unit 2, Chemical Disposal Pit 3, Site WP07, Davis and Weber Counties, UT. (First Remedial Action), September 1991.
PB92-964401/REB

Superfund Record of Decision (EPA Region 8): Broderick Wood Products, Adams County, CO. (First Remedial Action), (Amendment), September 1991.
PB92-964402/REB

Superfund Record of Decision (EPA Region 9): South Bay Asbestos Area, San Jose, CA. (First Remedial Action), (Amendment), June 1991.
PB92-964501/REB

Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB

Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB

Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991.
PB92-964505/REB

Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991.
PB92-964506/REB

Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991.
PB92-964507/REB

Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
PB92-964508/REB

Superfund Record of Decision (EPA Region 9): Indian Bend Wash Area (Operable Units 1, 4, 5, 6), AZ. (Second Remedial Action), September 1991.
PB92-964509/REB

Superfund Record of Decision (EPA Region 9): Atlas Asbestos Mine, Fresno County, CA. (Second Remedial Action), February 1991.
PB92-964510/REB

Superfund Record of Decision (EPA Region 10): Northwest Transformer-Mission Pole, Whatcom County, WA. (First Remedial Action), (Amendment), September 1991.
PB92-964602/REB

Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB

Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB

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Sorption of Heavy Metals by the Soil Fungi 'Aspergillus niger' and Mucor rouxii.
PB92-179811/REB

HEPTACHLOR

Reregistration Eligibility Document (RED): Heptachlor.
PB92-191105/REB

RED Facts: Heptachlor.
PB92-192798/REB

HERBICIDES

Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB

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Abundant Males in Populations of a Selfing Hermaphrodite Fish, 'Rivulus marmoratus', from Some Belize Cays.
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Drinking Water Criteria Document for Di(2-Ethylhexyl) Adipate.
PB92-173343/REB

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Evaluation of High Volume Particle Sampling and Sample Handling Protocols for Ambient Urban Air Mutagenicity Determinations.
PB92-188952/REB

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U.S. Environmental Protection Agency Research Program on the Environmental Impacts and Control of Highway Deicing Salt Pollution.
PB92-179688/REB

HOUSEHOLD WASTES

Proceedings on the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (6th). Held in Seattle, Washington on December 3-7, 1991.
PB92-169390/REB

HOUSES

Radon Reduction and Radon-Resistant Construction Demonstrations in New York State.
PB92-174051/REB

Physical and Chemical Characterization of Indoor Aerosols Resulting from the Use of Tap Water in Portable Home Humidifiers.
PB92-188937/REB

HOUSTON COUNTY (GEORGIA)

Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
PB92-964002/REB

HRS (HAZARD RANKING SYSTEM)

PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB

HUMAN EXPOSURE MODEL

Human Exposure Model-II: User's Guide.
PB92-186246/REB

HUMIC ACIDS

Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
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PB92-174671/REB

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U.S. EPA's Global Climate Change Program: Landfill Emissions and Mitigation Research.
PB92-180215/REB
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB
Current and Future Environmental Role of Atmospheric Methane: Model Studies and Uncertainties.
PB92-188820/REB

METHYL BENZIMIDAZOLECARBAMATE
Developmental Effects of Methyl Benzimidazolecarbamate Following Exposure during Early Pregnancy.
PB92-164862/REB

MICHAELSVILLE (MARYLAND)
Superfund Record of Decision (EPA Region 3): USA Aberdeen, Michaelsville, MD. (First Remedial Action), September 1991.
PB92-963909/REB

MICROBEADS
Interlaboratory Study of Cellular Fluorescence Intensity Measurements with Fluorescein-Labeled Microbead Standards.
PB92-153881/REB

MICROBIAL COLONY COUNT
Mixed-Species Colonization of Solid Surfaces in Laboratory Biofilms.
PB92-195692/REB

MICROBIAL DEGRADATION
Microbial Degradation of Toluene under Sulfate-Reducing Conditions and the Influence of Iron on the Process.
PB92-166735/REB
Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions.
PB92-179050/REB

MICRONUCLEI
Kinetochore-Staining of Spermatid Micronuclei: Studies of Mice Treated with X-Radiation or Acrylamide.
PB92-188994/REB

MIDDLESEX COUNTY (NEW JERSEY)
Superfund Record of Decision (EPA Region 2): Chemsol, Inc., Piscataway, Middlesex County, NJ. (First Remedial Action), September 1991.
PB92-963811/REB

MILLSBORO (DELAWARE)
Superfund Record of Decision (EPA Region 3): NCR Corporation (Millsboro Plant), Sussex County, Millsboro, DE. (First Remedial Action), August 1991.
PB92-963919/REB

MILWAUKIE COUNTY (WISCONSIN)
Superfund Record of Decision (EPA Region 5): Fadrowski Drum Disposal Site, Franklin, WI. (First Remedial Action), June 1991.
PB92-964111/REB

MINE DRAINAGE
Directory of Mine Waste Characterization and Drainage Quality Contacts in Western Governors' Association Member States.
PB92-180108/REB

MINE WASTES
Directory of Mine Waste Characterization and Drainage Quality Contacts in Western Governors' Association Member States.
PB92-180108/REB
Inactive and Abandoned Noncoal Mines. Volume 1. A Scoping Study.
PB92-190115/REB
Inactive and Abandoned Noncoal Mines. Volume 2. State Reports.
PB92-190123/REB
Inactive and Abandoned Noncoal Mines. Volume 3. Appendix: State Reports.
PB92-190131/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
PB92-190156/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix: State Reports Interstate Coalition on Mine Waste.
PB92-190172/REB

MINERALS
Abiotic Transformation of Carbon Tetrachloride in the Presence of Sulfide and Mineral Surfaces.
PB92-179738/REB

MINING
Abstracts of Selected Precious Metal Mines' Permits.
PB92-180090/REB

MINTEQA2 MODEL
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
PB92-166602/REB

MIRRORS
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors.
PB92-192806/REB

MOBILE INCINERATION SYSTEM
Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator.
PB92-188838/REB

MODEL CONCENTRATION DATA RETRIEVAL SUBSYSTEM
Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
PB92-190263/REB

MOLECULAR CLONING
Cloning and Expression of a Lignin Peroxidase Gene from 'Streptomyces viridosporus' in 'Streptomyces lividans'.
PB92-180389/REB

MOLECULAR STRUCTURE
Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies.
PB92-179795/REB
Structural Characterization of Sulfonated Azo Dyes Using Liquid Secondary Ion Mass Spectrometry/Tandem Mass Spectrometry.
PB92-188861/REB

MOLECULAR WEIGHT
Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB

MONROE COUNTY (PENNSYLVANIA)
Superfund Record of Decision (EPA Region 3): Brodhead Creek, Stroudsburg, PA. (First Remedial Action), March 1991.
PB92-963915/REB

MOORE COUNTY (NORTH CAROLINA)
Superfund Record of Decision (EPA Region 4): Aberdeen Pesticide Dumps, Moore County, Aberdeen, NC. (First Remedial Action), (Amendment), September 1991.
PB92-964005/REB

MOTOR VEHICLES
Composition of Motor Vehicle Organic Emissions under Elevated Temperature Summer Driving Conditions (75 to 105 deg F).
PB92-166693/REB
14C Source Apportionment Technique Applied to Wintertime Urban Aerosols and Gases for the EPA Integrated Air Cancer Project.
PB92-171370
Transportation Control Measure Information Documents.
PB92-173566/REB

MOUNTAIN VIEW (CALIFORNIA)
Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991.
PB92-964505/REB

MSX DISEASE
Disease Incidence and Potential Mechanisms of Defense for MSX-Resistant and -Susceptible Eastern Oysters Held in Chesapeake Bay.
PB92-195650/REB

MUNICIPAL WASTES
Characterization of Products Containing Mercury in Municipal Solid Waste in the United States, 1970 to 2000.
PB92-162569/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 1. Sessions 0, 1, 2, and 3. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174663/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 2. Sessions 4, 5, and 6. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174671/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 3. Sessions 7 and 8. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174689/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 4. Sessions 9, 10, 11, and 12. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174697/REB

MUTAGENS
DNA Strand Breaks Induced in Cultured Human and Rodent Cells by Chlorohydroxyfuranones, Mutagens Isolated from Drinking Water.
PB92-164904/REB
Introduction and Summary. Genotoxicity and Carcinogenicity Databases: An Assessment of the Present Situation.
PB92-188986/REB
Genetic Activity Profile Database.
PB92-189091/REB
Prophage Induction by DNA Topoisomerase II Poisons and Reactive-Oxygen Species: Role of DNA Breaks.
PB92-195866/REB

MUTATIONS
Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons.
PB92-164896/REB
Induction of Gastrointestinal Tract Nuclear Anomalies in B6C3F1 Mice by 3-Chloro-4-(Dichloromethyl)-5-Hydroxy-2(5H)-Furanone and 3,4-(Dichloro)-5-Hydroxy-2(5H)-Furanone, Mutagenic Byproducts of Chlorine Disinfection.
PB92-164938/REB

NATIONAL ATMOSPHERIC DEPOSITION PROGRAM
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
PB92-194000/REB

NATIONAL GOVERNMENT
National Toxicology Program: Review of Current DHHS, DOE, and EPA Research Related to Toxicology, Fiscal Year 1991.
PB92-189141/REB

NATIONAL HOME AND GARDEN PESTICIDE USE SURVEY
National Home and Garden Pesticide Use Survey Final Report. Executive Summary.
PB92-174739/REB
National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
PB92-174747/REB

NATIONAL HUMAN ADIPOSE TISSUE SURVEY
Chlorinated Dioxins and Furans in the General U.S. Population: NHATS FY87 Results.
PB92-180157/REB

NATIONAL PRIORITIES LIST
Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB
National Priorities List Sites Set (1991).
PB92-963253/REB
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB

NATIONAL TRENDS NETWORK
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
PB92-194000/REB

NATURAL EMISSIONS
Stability of Tropospheric OH during Ice Ages, Inter-Glacial Epochs and Modern Times.
PB92-166669/REB
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
PB92-192202/REB

NATURAL RESOURCES MANAGEMENT
Chesapeake Bay Weakfish and Spotted Seatrout Fishery Management Plan: An Agreement Commitment Report from the Chesapeake Executive Council.
PB92-186477/REB

NATURAL VENTILATION
Natural Basement Ventilation as a Radon Mitigation Technique.
PB92-166958/REB

NEANTHES ARENACEODENTATA
Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
PB92-166891/REB

NERVOUS SYSTEM
Sensory Evoked Potentials: Measures of Neurotoxicity.
PB92-164805/REB
Reflex Modification and the Assessment of Sensory Dysfunction.
PB92-166339/REB
Applications of a Neurobehavioral Screening Battery.
PB92-179787/REB
Comparison of Subchronic Neurotoxicity of 2-Hydroxyethyl Acrylate and Acrylamide in Rats.
PB92-188945/REB
Comparison of Screening Approaches, 1992.
PB92-189042/REB

NEUROBEHAVIORAL EVALUATION SYSTEM
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PB92-195858/REB

NEUROBEHAVIORAL TEST BATTERY
Applications of a Neurobehavioral Screening Battery.
PB92-179787/REB

NEUROENDOCRINOLOGY
Neuroendocrine Responses to Social Regulation of Puberty in the Female House Mouse.
PB92-179779/REB

NEUROPSYCHOLOGICAL TESTS
Reliability of Selected Tests from the Neurobehavioral Evaluation System.
PB92-195858/REB

NEW CASTLE COUNTY (DELAWARE)
Superfund Record of Decision (EPA Region 3): Halby Chemical, Wilmington, New Castle County, DE. (First Remedial Action), June 1991.
PB92-963914/REB

NEW ENGLAND
Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
PB92-178227/REB

NEXT GENERATION WEATHER RADAR
NEXRAD Precipitation Information Application Forum Climate and Global Change.
PB92-180082/REB

NIAGARA FALLS (NEW YORK)
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991.
PB92-963805/REB

NICKEL
Drinking Water Quantification of Toxicologic Effects for Nickel.
PB92-173426/REB

NITRATES
Toxicity of Ammonia, Nitrite, and Nitrate to Fishes.
PB92-179142/REB

NITRITES
Toxicity of Ammonia, Nitrite, and Nitrate to Fishes.
PB92-179142/REB

NITROGEN OXIDES
Evaluation of NOx Emissions from TVA Coal-Fired Power Plants.
PB92-164813/REB
Air Quality Criteria for Oxides of Nitrogen. Volume 1.
PB92-176361/REB
Air Quality Criteria for Oxides of Nitrogen. Volume 2.
PB92-176379/REB
Air Quality Criteria for Oxides of Nitrogen. Volume 3.
PB92-176387/REB

NONPOINT SOURCES
Committed Obligated Expected Expenditures Plan (COEEP).
PB92-186469/REB

NORTHAMPTON COUNTY (PENNSYLVANIA)
Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991.
PB92-963905/REB
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991.
PB92-963918/REB

NORTHEAST REGION (UNITED STATES)
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
PB92-192202/REB

NOXSO PROCESS
Sorbent/Urea Slurry Injection for Simultaneous SO2/NOx Removal.
PB92-195817/REB

NUCLEAR FACILITIES
Implementing Protective Actions for Radiological Incidents at Other Than Nuclear Power Reactors. Proceedings of a Workshop. Held in Montgomery, Alabama on September 25-26, 1991.
PB92-192764/REB

NUCLEAR POWERED SHIPS
Radiological Survey of the Norfolk Naval Station, the Norfolk Naval Shipyard, and Newport News Shipbuilding.
PB92-164730/REB

NUMBERS
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB

NUMERICAL WEATHER FORECASTING
Use of Four-Dimensional Data Assimilation in a Limited-Area Mesoscale Model Part 2: Effects of Data Assimilation within the Planetary Boundary Layer.
PB92-166750/REB

OCCUPATIONAL SAFETY AND HEALTH
Personnel Protection through Reconnaissance Robotics at Superfund Remedial Sites.
PB92-166743/REB
Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities.
PB92-170174/REB

OCEAN COUNTY (NEW JERSEY)
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
PB92-963810/REB

OCEAN WASTE DISPOSAL
Report to Congress on Ocean Dumping, 1987-1990.
PB92-188663/REB

ODOR CONTROL
Controlling Odorous Emissions from Iron Foundries.
PB92-166925/REB

OFFICE BUILDINGS
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB

OFFICE OF AIR QUALITY PLANNING AND STANDARDS
Directory of OAQPS Information Services, May 1992.
PB92-198654/REB

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE
Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB
Regional Pilot Projects and Initiatives.
PB92-963259/REB
Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
PB92-963260/REB
Guide to Management of Investigation-Derived Wastes.
PB92-963353/REB
Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB
Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
PB92-963606/REB

OIL FIELDS
Oil and Gas Field Emissions Survey.
PB92-184977/REB

OIL POLLUTION
National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
PB92-963261/REB
OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB

ONCOGENE PROTEIN P21 (RAS)
Immunohistochemical Detection of P21 'ras' and P110 'myc' Oncogene Expression in Regenerating Rat Liver.
PB92-188895/REB

ONCOGENE PROTEINS
Immunohistochemical Detection of P21 'ras' and P110 'myc' Oncogene Expression in Regenerating Rat Liver.
PB92-188895/REB

OPACITY
Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
PB92-192889/REB

OPTICAL MEASURING INSTRUMENTS
Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
PB92-192889/REB

OREGON
Oregon, USA, Ecological Regions and Subregions for Water Quality Management.
PB92-180348/REB

ORGAN CULTURE
Embryonic Palatal Responses to Teratogens in Serum-Free Organ Culture.
PB92-188960/REB

ORGANIC COMPOUNDS
Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
PB92-145564/REB
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
PB92-145572/REB
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
PB92-145580/REB
New Perspectives in Aquatic Redox Chemistry: Abiotic Transformations of Pollutants in Groundwater and Sediments.
PB92-166628/REB
Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers).
PB92-501501/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501527/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers).
PB92-501535/REB

ORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM
Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
PB92-145564/REB
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
PB92-145572/REB
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
PB92-145580/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers).
PB92-501501/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501527/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers).
PB92-501535/REB

ORGANIZATIONS
Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
PB92-178227/REB

ORGANOCHLORINE COMPOUNDS
Induction of Prophage Lambda by Chlorinated Organics: Detection of Some Single-Species/Single-Site Carcinogens.
PB92-195841/REB

ORGANOCHLORINE INSECTICIDES
Proconvulsant Activity of Endosulfan in Amygdala Kindling.
PB92-189000/REB
Characterization of Chemical Kindling with the Pesticide Endosulfan.
PB92-189059/REB

OVENS
Capsule Report: Benefits of Microprocessor Control of Curing Ovens for Solvent-Based Coatings.
PB92-179993/REB

OVERFLOWS
Storage of Combined Sewage in a Marine Waterbody.
PB92-158542/REB
Combined Sewer Overflow: Balancing Flow for CSO Abatement.
PB92-179761/REB

OXAMYL
Drinking Water Criteria Document for Oxamyl (VYDATE).
PB92-173434/REB

OXIDATION
Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB

OXIDATION REDUCTION REACTIONS
New Perspectives in Aquatic Redox Chemistry: Abiotic Transformations of Pollutants in Groundwater and Sediments.
PB92-166628/REB
Spectroscopic Study of Surface Redox Reactions With Manganese Oxides.
PB92-179837/REB

OXYGEN
Effects of Low Dissolved Oxygen on Survival, Growth and Reproduction of 'Daphnia', 'Hyalella' and 'Gammarus'.
PB92-188846/REB

OYSTERS
Disease Incidence and Potential Mechanisms of Defense for MSX-Resistant and -Susceptible Eastern Oysters Held in Chesapeake Bay.
PB92-195650/REB

OZONE
Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper.
PB92-190446/REB
Spatial and Temporal Analysis of Non-Urban Ozone Concentrations over the Eastern United States Using Rotated Principal Component Analysis.
PB92-192152/REB
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
PB92-192202/REB

PACIFIC NORTHWEST REGION (UNITED STATES)
Potential Impacts of Climate Change on Pacific Northwest Forest Vegetation.
PB92-184985/REB

PAINTS
Control of VOC Emissions from Ink and Paint Manufacturing Processes.
PB92-190230/REB

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Embryonic Palatal Responses to Teratogens in Serum-Free Organ Culture.
PB92-188960/REB

PALEOLIMNOLOGY
How Much Acidification Has Occurred in Adirondack Region Lakes (New York, USA) since Preindustrial Times.
PB92-180371/REB
Assessing Trends in Fishery Resources and Lake Water Aluminum from Paleolimnological Analyses of Siliceous Algae.
PB92-180405/REB

PARTICLES
Alternative Control Techniques Document: For PM-10 Emissions from Ferrous Foundries.
PB92-180017/REB

PARTICULATES
High-Volume Impactor for Sampling Fine and Coarse Particles.
PB92-166727/REB

PASSAIC TOWNSHIP (NEW JERSEY)
Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
PB92-963809/REB

PATH OF POLLUTANTS
Modeling Contaminant Transport through Subsurface Systems.
PB92-179118/REB
Humic Substances and Contaminant Transport: A Review.
PB92-179753/REB
Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
PB92-188879/REB

PATTERN RECOGNITION
Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB

PATTERNS
Alterations in Rat Flash and Pattern Reversal Evoked Potentials after Acute or Repeated Administration of Carbon Disulfide (CS2).
PB92-188929/REB

PENTACHLOROPHENOL
Superfund Innovative Technology Evaluation Program Demonstration Plan for Westinghouse Bio-Analytic Systems Pentachlorophenol Immunoassays.
PB92-170190/REB
Superfund Innovative Technology Evaluation (Site) Report for the Westinghouse Bio-Analytic Systems Pentachlorophenol (PCP) Immunoassays.
PB92-188713/REB

PERFORMANCE EVALUATION
Use of Pilot Columns for Predicting Full-Scale GAC Performance.
PB92-179159/REB
Performance of Automated Ambient SO2 Analyzers with Respect to a Proposed 5-Minute Ambient Air Quality Standard.
PB92-192178/REB

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Permeation of Multifunctional Acrylates through Three Protective Clothing Materials.
PB92-164797/REB

PERMIT APPLICATIONS
Abstracts of Selected Precious Metal Mines' Permits.
PB92-180090/REB

PESTICIDES
Reregistration Eligibility Document (RED): Silicon Dioxide and Silica Gel.
PB92-161900/REB
Reregistration Eligibility Document (RED). Sodium Diacetate.
PB92-161934/REB
Reregistration Eligibility Document (RED): Dried Blood.
PB92-161942/REB
Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
PB92-161975/REB
Reregistration Eligibility Document (RED): Propionic Acid.
PB92-161983/REB
Preliminary Results of a Pesticide Leaching Study at Plains, Georgia.
PB92-166354/REB

Treating Soil Solution Samplers to Prevent Microbial Removal of Analytes.
PB92-166610/REB
RED Facts: Sodium and Calcium Hypochlorite Salts.
PB92-171958/REB
Cost-Effectiveness Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173525/REB
Economic Impact Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173533/REB
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB
National Home and Garden Pesticide Use Survey Final Report. Executive Summary.
PB92-174739/REB
National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
PB92-174747/REB
National Home and Garden Pesticide Use Survey. Final Report. Volume 2. Survey Design, Implementation, and Analysis Methods.
PB92-174754/REB
Reregistration Eligibiligy Document (RED): Sodium and Calcium Hypochlorites.
PB92-180116/REB
Pesticide Fact Sheet Number 225: Dichlorvos (DDVP).
PB92-185818/REB
Pesticide Fact Sheet Number 91.1: Arsenic Acid (H3AsO4).
PB92-185826/REB
Pesticide Fact Sheet Number 112.1: Lead Arsenate.
PB92-185834/REB
Pesticide Fact Sheet Number 233: Ethylene Bisdithiocarbamates (EBDCs).
PB92-185842/REB
Pesticide Fact Sheet Number 234: Ethylene Oxide (EtO).
PB92-185859/REB
Pesticide Fact Sheet Number 111.1: Calcium Arsenate (Tolerance Revocation).
PB92-186410/REB
Characteristics of the U.S. EPA's Office of Pesticide Programs' Toxicity Information Databases.
PB92-188978/REB
Methods for the Determination of Nonconventional Pesticides in Municipal and Industrial Wastewater.
PB92-190289/REB
Status of Pesticides in Reregistration and Special Review.
PB92-190438/REB
Reregistration Eligibility Document (RED): Heptachlor.
PB92-191105/REB
RED Facts: Heptachlor.
PB92-192798/REB
Mosquito Control Pesticides: Adverse Impacts to Freshwater Aquatic and Marine Organisms.
PB92-195890/REB

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Technical Aspects of Underground Storage Tank Closure.
PB92-161199/REB
Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions.
PB92-179050/REB
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PB92-179803/REB

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Prophage Induction by DNA Topoisomerase II Poisons and Reactive-Oxygen Species: Role of DNA Breaks.
PB92-195866/REB

PHARMACOLOGY

Examination of the Anticonvulsant Properties of Voltage-Sensitive Calcium Channel Inhibitors in Amygdala Kindled Seizures.
PB92-166776/REB

PHASE STUDIES

Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
PB92-178938/REB

PHOSPHATE ROCK SLIME

Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
PB92-196054/REB

PHOSPHOGYPSUM

Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
PB92-196054/REB

PHTHALIC ACID ESTERS

Drinking Water Criteria Document for Phthalic Acid Esters (PAES).
PB92-173442/REB

PHYSIOLOGY

Collection of Interstitial Fluid and Seminiferous Tubule Fluid from the Rat Testis.
PB92-179084/REB
Applications of a Neurobehavioral Screening Battery.
PB92-179787/REB

PICLORAM

Drinking Water Criteria Document for Picloram.
PB92-173467/REB

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DE92614732/REB

POLLUTION ABATEMENT

Pollution Prevention Case Studies Compendium.
PB92-180165/REB
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB
Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180181/REB
Waste Minimization Assessment for a Manufacturer of Automotive Air Conditioning Condensers and Evaporators.
PB92-188739/REB
Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
PB92-188747/REB
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts.
PB92-189695/REB
Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks.
PB92-189703/REB
Waste Minimization Assessment for a Manufacturer of Aluminum Extrusions.
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PB92-192145/REB
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors.
PB92-192806/REB
National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
PB92-963261/REB

POLLUTION CONTROL

Preliminary Use and Substitutes Analysis of Lead and Cadmium in Products in Municipal Solid Waste.
PB92-162551/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
PB92-190156/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix: State Reports Interstate Coalition on Mine Waste.
PB92-190172/REB
Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings.
PB92-192194/REB
Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB
National Priorities List Sites Set (1991).
PB92-963253/REB
Superfund Progress, Spring 1992.
PB92-963265/REB
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB
Characterization Protocol for Radioactive Contaminated Soils.
PB92-963354/REB
Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB
Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990.
PB92-963703/REB
Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB
Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991.
PB92-963705/REB
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991.
PB92-963805/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
PB92-963808/REB
Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
PB92-963809/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
PB92-963810/REB
Superfund Record of Decision (EPA Region 2): Chemsol, Inc., Piscataway, Middlesex County, NJ. (First Remedial Action), September 1991.
PB92-963811/REB
Superfund Record of Decision (EPA Region 3): USA Aberdeen, Michaelsville, MD. (First Remedial Action), September 1991.
PB92-963909/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963910/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - Southeastern Area, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963911/REB
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PB92-963912/REB
Superfund Record of Decision (EPA Region 3): Strasburg Landfill, Newlin Township, Chester County, PA. (Second Remedial Action), June 1991.
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PB92-963914/REB
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PB92-963917/REB
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991.
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PB92-963919/REB
Superfund Record of Decision (EPA Region 3): AVCO Lycoming-Williamsport Division, Lycoming County, Williamsport, PA. (First Remedial Action), June 1991.
PB92-963920/REB
Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
PB92-964002/REB
Superfund Record of Decision (EPA Region 4): Monsanto Superfund Site, Augusta, GA. (First Remedial Action), December 1990.
PB92-964003/REB

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PB92-964004/REB
Superfund Record of Decision (EPA Region 4): Aberdeen Pesticide Dumps, Moore County, Aberdeen, NC. (First Remedial Action), (Amendment), September 1991.
PB92-964005/REB
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PB92-964006/REB
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PB92-964008/REB
Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991.
PB92-964009/REB
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PB92-964010/REB
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PB92-964011/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
PB92-964012/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 2), Oak Ridge, TN. (First Remedial Action), June 1991.
PB92-964013/REB
Superfund Record of Decision (EPA Region 5): Novaco Industries, MI. (First Remedial Action), (Amendment), September 1991.
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PB92-964105/REB
Superfund Record of Decision (EPA Region 5): G and H Industrial Landfill Site, Macomb County, MI. (First Remedial Action), December 1990.
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PB92-964109/REB
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PB92-964110/REB
Superfund Record of Decision (EPA Region 5): Fadrowski Drum Disposal Site, Franklin, WI. (First Remedial Action), June 1991.
PB92-964111/REB
Superfund Record of Decision (EPA Region 5): Motor Wheel Disposal Site, Lansing, MI. (First Remedial Action), September 1991.
PB92-964112/REB
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
PB92-964113/REB
Superfund Record of Decision (EPA Region 5): Anderson Development Company Site, Lenawee County, Adrian, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964114/REB
Superfund Record of Decision (EPA Region 5): Allied Chemical and Ironton Coke, Ironton, OH. (Second Remedial Action), December 1990.
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Superfund Record of Decision (EPA Region 5): Enviro-Chem (Northside Sanitary Landfill), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964116/REB
Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
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PB92-964302/REB
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PB92-964303/REB
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PB92-964305/REB
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PB92-964306/REB
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PB92-964402/REB
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PB92-964501/REB
Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB
Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB
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PB92-964505/REB
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PB92-964509/REB
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PB92-964510/REB
Superfund Record of Decision (EPA Region 10): Northwest Transformer-Mission Pole, Whatcom County, WA. (First Remedial Action), (Amendment), September 1991.
PB92-964602/REB
Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB
Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB

POLLUTION LAWS

Beyond the Border: Environmental Management in Washington and British Columbia.
PB92-166883/REB
Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180181/REB
OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB

POLLUTION REGULATIONS

VMT Forecasting and Tracking Guidance, Section 187.
PB92-164961/REB
Procedures for Establishing Emissions for Early Reduction Compliance Extensions. Volume 1. Synthetic Organic Chemical Manufacturing, Ethylene Oxide Sterilization, and Chromium Electroplating.
PB92-176221/REB
Report to Congress on Ocean Dumping, 1987-1990.
PB92-188663/REB
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB
Guide to Management of Investigation-Derived Wastes.
PB92-963353/REB

POLLUTION SOURCES

NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB
Human Exposure Model-II: User's Guide.
PB92-186246/REB

POLYCHLORINATED DIBENZODIOXINS

Sampling and Analysis of PCDDs and PCDFs in Stationary Source Emission Air Samples.
PB92-166677/REB
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PB92-180157/REB

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PB92-166768/REB

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Probability Sampling and Population Inference in Monitoring Programs.
PB92-180272/REB

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Assessment of Spatial Variation of Risks in Small Populations.
PB92-188903/REB

PORTABLE EQUIPMENT

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PB92-191170/REB

POTABLE WATER

DNA Strand Breaks Induced in Cultured Human and Rodent Cells by Chlorohydroxyfuranones, Mutagens Isolated from Drinking Water.
PB92-164904/REB
Comparative Subchronic Toxicity Studies of Three Disinfectants.
PB92-164920/REB
Subchronic Toxicity Study of Ozonated and Ozonated/Chlorinated Humic Acids in Sprague-Dawley Rats: A *Model System for Drinking Water Disinfection.*
PB92-164946/REB
Drinking Water Criteria Document for Antimony.
PB92-173293/REB
Drinking Water Criteria Document for Beryllium.
PB92-173301/REB
Drinking Water Criteria Document for Cyanide.
PB92-173319/REB
Drinking Water Criteria Document for Dalapon.
PB92-173327/REB
Quantification of Toxicological Effects for Dichloromethane.
PB92-173335/REB
Drinking Water Criteria Document for Di(2-Ethylhexyl) Adipate.
PB92-173343/REB
Drinking Water Criteria Document for Dinoseb.
PB92-173350/REB
Drinking Water Criteria Document for Diquat.
PB92-173368/REB
Drinking Water Criteria Document for Endothall.
PB92-173376/REB
Drinking Water Criteria Document for Endrin.
PB92-173384/REB
Drinking Water Criteria Document for Glyphosate.
PB92-173392/REB
Drinking Water Criteria Document for Hexachlorobenzene.
PB92-173400/REB
Drinking Water Criteria Document for Hexachlorocyclopentadiene.
PB92-173418/REB

Drinking Water Quantification of Toxicologic Effects for Nickel.
PB92-173426/REB
Drinking Water Criteria Document for Oxamyl (VYDATE).
PB92-173434/REB
Drinking Water Criteria Document for Phthalic Acid Esters (PAES).
PB92-173442/REB
Drinking Water Criteria Document for Polycyclic Aromatic Hydrocarbons (PAHs).
PB92-173459/REB
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PB92-173467/REB
Drinking Water Criteria Document for Simazine.
PB92-173475/REB
Drinking Water Criteria Document for Thallium.
PB92-173483/REB
Drinking Water Criteria Document for Trichlorobenzenes.
PB92-173491/REB
Drinking Water Criteria Document for 1,1,2-Trichloroethane.
PB92-173509/REB
Compliance Concerns with the New Coliform Regulation.
PB92-179696/REB
Opportunistic Organisms and the Water Supply Connection.
PB92-179704/REB
Comparison of Methods for Determination of Dissolved Inorganic Carbon (DIC).
PB92-179712/REB
Comprehensive Evaluation of a Field Test Kit for Lead.
PB92-179720/REB
Visions of the Future in Drinking Water Microbiology.
PB92-179852/REB
Application of Modified Aluminon and GFAAS Methods to Beryllium Determination in Drinking Water.
PB92-180199/REB
Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
PB92-180280/REB
Physical and Chemical Characterization of Indoor Aerosols Resulting from the Use of Tap Water in Portable Home Humidifiers.
PB92-188937/REB
Health Advisory for 2,4- and 2,6-Dinitrotoluene (DNT).
PB92-189315/REB
Drinking Water from Agriculturally Contaminated Groundwater.
PB92-195874/REB

POTASSIUM NITRATE
Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
PB92-161975/REB

PRECIOUS METALS
Abstracts of Selected Precious Metal Mines' Permits.
PB92-180090/REB

PRECIPITATION (METEOROLOGY)
NEXRAD Precipitation Information Application Forum Climate and Global Change.
PB92-180082/REB
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
PB92-194000/REB

PREGNANCY
Developmental Effects of Methyl Benzimidazolecarbamate Following Exposure during Early Pregnancy.
PB92-164862/REB

PRINCEP
Drinking Water Criteria Document for Simazine.
PB92-173475/REB

PRINCIPAL ORGANIC HAZARDOUS CONSTITUENT
Pilot-Scale Evaluation of the Thermal Stability POHC Incinerability Ranking.
PB92-166966/REB

PROJECT MANAGEMENT
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB
Superfund Progress, Spring 1992.
PB92-963265/REB
Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB

PROMOTOR REGIONS (GENETICS)
Characterization of Stress-Responsive Behavior in 'Pseudomonas aeruginosa' PAO: Isolation of Tn3-lacZYA Fusions with Novel Damage-Inducible (din) Promoters.
PB92-195718/REB

PROPIONIC ACID
Reregistration Eligibility Document (RED): Propionic Acid.
PB92-161983/REB

PROTECTIVE CLOTHING
Permeation of Multifunctional Acrylates through Three Protective Clothing Materials.
PB92-164797/REB

PROTEINS
Protein Adducts for Exposure Monitoring: A Computerized Database. Software and User's Manual.
PB92-155431/REB
Protein Adducts for Exposure Monitoring: A Computerized Database (CPAD) (Version 1) (for Microcomputers).
PB92-501873/REB

PROTOPLASTS
Preparation and Regeneration of Protoplasts of 'Colletotrichum gloeosporioides' f. p. 'Aeschynomene'.
PB92-195734/REB

PSEUDOMONAS AERUGINOSA
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PB92-195718/REB

PSEUDOMONAS APACIA
Formation of Transconjugants on Plating Media Following 'In situ' Conjugation Experiments.
PB92-180330/REB

PSEUDOMONAS STUTZERI
Detection of Horizontal Gene Transfer by Natural Transformation in Native and Introduced Species of Bacteria in Marine and Synthetic Sediments.
PB92-195767/REB

PUBERTY
Neuroendocrine Responses to Social Regulation of Puberty in the Female House Mouse.
PB92-179779/REB

PUBLIC HEALTH
Health Assessment Document for Vermiculite.
PB92-166834/REB
EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB
Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities.
PB92-170174/REB
Chlorinated Dioxins and Furans in the General U.S. Population: NHATS FY87 Results.
PB92-180157/REB
Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
PB92-184969/REB
Health Research to Support Risk Assessment.
PB92-188788/REB
Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
PB92-196054/REB
Preliminary Risk Assessment for Viruses in Municipal Sewage Sludge Applied to Land.
PB92-198548/REB
Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
PB92-501972/REB

PUBLIC UTILITIES
Expert Systems Show Promise for Customer Inquiries. Management and Operations.
PB92-166636/REB

PUGET SOUND
Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
AD-P006 465/9/REB
Bioaccumulation of Contaminants in Crabs and Clams in Bellingham Bay.
PB92-166867/REB
Reference Area Performance Standards for Puget Sound.
PB92-166917/REB

QUALITY ASSURANCE
Quality Assurance Planning for Stationary Source Field Sampling.
PB92-188804/REB
Acid Aerosol Measurement Methods: Studies of Extraction and Analytical Effects.
PB92-191154/REB
Customer/Supplier Accountability and Quality Assurance (QA) Program Implementation.
PB92-191162/REB
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
PB92-194000/REB

QUALITY CONTROL
Customer/Supplier Accountability and Quality Assurance (QA) Program Implementation.
PB92-191162/REB
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB

QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIP
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems.
PB92-166792/REB
Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products.
PB92-166818/REB

QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIPS
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems.
PB92-166800/REB

RACKWITZ-FIESSLER METHOD
Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
PB92-188879/REB

RADIATION ACCIDENTS
Implementing Protective Actions for Radiological Incidents at Other Than Nuclear Power Reactors. Proceedings of a Workshop. Held in Montgomery, Alabama on September 25-26, 1991.
PB92-192764/REB

RADIATION MONITORING
Radiological Survey of the Norfolk Naval Station, the Norfolk Naval Shipyard, and Newport News Shipbuilding.
PB92-164730/REB

RADIATION PROTECTION
Implementing Protective Actions for Radiological Incidents at Other Than Nuclear Power Reactors. Proceedings of a Workshop. Held in Montgomery, Alabama on September 25-26, 1991.
PB92-192764/REB

RADIOACTIVE ISOTOPES
Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
PB92-196054/REB

RADIOACTIVE WASTE DISPOSAL
Characterization Protocol for Radioactive Contaminated Soils.
PB92-963354/REB

RADIONUCLIDE MIGRATION
Radiological Survey of the Norfolk Naval Station, the Norfolk Naval Shipyard, and Newport News Shipbuilding.
PB92-164730/REB

RADON
Dosimetry of Localized Accumulations of Cigarette Smoke and Radon Progeny at Bifurcations.
PB92-164847/REB
Natural Basement Ventilation as a Radon Mitigation Technique.
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Radon Reduction and Radon-Resistant Construction Demonstrations in New York State.
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Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings.
PB92-192194/REB
Simplified Modeling of Air Flow Dynamics in SSD Radon Mitigation Systems for Residences with Gravel Beds.
PB92-195635/REB

RADON 222
Measurement of the Biotransfer and Time Constant of Radon from Ingested Water by Human Breath Analysis.
PB92-189026/REB

RADON MITIGATION
Radon Reduction and Radon-Resistant Construction Demonstrations in New York State.
PB92-174051/REB

RANKING
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB

RAYMOND (NEW HAMPSHIRE)
Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991.
PB92-963705/REB

REACTION KINETICS
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems.
PB92-166792/REB
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems.
PB92-166800/REB
Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products.
PB92-166818/REB

REAUTHORIZATION ISSUES
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB

RECOMBINANT FUSION PROTEINS
Characterization of Stress-Responsive Behavior in 'Pseudomonas aeruginosa' PAO: Isolation of Tn3-lacZYA Fusions with Novel Damage-Inducible (din) Promoters.
PB92-195718/REB

RECOMMENDATIONS
Guideline Series: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry.
PB92-180009/REB

RECORD OF DECISION
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB
Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB

Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
PB92-963808/REB

Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
PB92-963809/REB

Superfund Record of Decision (EPA Region 3): Middletown Air Field Site, Middletown, PA. (Second Remedial Action), December 1990.
PB92-963904/REB

Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991.
PB92-963905/REB

Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenber Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963906/REB

Superfund Record of Decision (EPA Region 3): Dorney Road Landfill Site, Upper Macungie Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963907/REB

Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963910/REB

Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
PB92-964002/REB

Superfund Record of Decision (EPA Region 4): Petroleum Products Corporation Site, Operable Unit 1, Pembroke Park, Broward County, FL. (First Remedial Action), October 1990.
PB92-964007/REB

Superfund Record of Decision (EPA Region 4): Sangamo/Twelve-Mile Creek, Lake Hartwell PCB Contamination Site, Pickens, SC. (First Remedial Action), December 1990.
PB92-964008/REB

Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991.
PB92-964009/REB

Superfund Record of Decision (EPA Region 5): Novaco Industries, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964104/REB

Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB

Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
PB92-964120/REB

Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
PB92-964121/REB

Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991.
PB92-964122/REB

Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB

Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990.
PB92-964305/REB

Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB

Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB

Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB

Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991.
PB92-964505/REB

Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991.
PB92-964506/REB

Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991.
PB92-964507/REB

Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
PB92-964508/REB

Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB

Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB

REFLEXES

Reflex Modification and the Assessment of Sensory Dysfunction.
PB92-166339/REB

REFRIGERANTS

Predictions of Azeotropes Formed from Fluorinated Ethers, Ethanes, and Propanes.
PB92-195908/REB

REFRIGERATING MACHINERY

Design and Optimization of a Refrigeration System.
PB92-195973/REB

REGIONAL OXIDANT MODEL

Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
PB92-190263/REB

REGULATIONS

Inside the Hotline: A Compilation of 1991 Monthly Hotline Reports.
PB92-131390/REB

Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations.
PB92-154947/REB

Compliance Concerns with the New Coliform Regulation.
PB92-179696/REB

REMEDIAL ACTION

Reclamation and Redevelopment of Contaminated Land. Volume 2. European Case Studies.
PB92-146166/REB

Technical Aspects of Underground Storage Tank Closure.
PB92-161199/REB

General Methods for Remedial Operations Performance Evaluations.
PB92-166842/REB

Annual Risk Reduction Engineering Laboratory Research Symposium (18th) Abstract Proceedings. Held in Cincinnati, Ohio on April 14-16, 1992.
PB92-166859/REB

Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance.
PB92-170570/REB

Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB

Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites.
PB92-171909/REB

Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites.
PB92-171917/REB

Air Superfund National Technical Guidance Study Series. Estimation of Air Impacts for the Excavation of Contaminated Soil.
PB92-171925/REB

Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
PB92-173210/REB

Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB

Demonstration of Waste Treatment Technologies.
PB92-179670/REB

Remediation of Leaking USTs: A System for Accessing Case Histories and Related Documents.
PB92-179803/REB

Control of Air Emissions from Materials Handling during Remediation. Engineering Bulletin.
PB92-180041/REB

Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB

Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB

Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
PB92-180074/REB

Inactive and Abandoned Noncoal Mines. Volume 1. A Scoping Study.
PB92-190115/REB

Inactive and Abandoned Noncoal Mines. Volume 2. State Reports.
PB92-190123/REB

Inactive and Abandoned Noncoal Mines. Volume 3. Appendix: State Reports.
PB92-190131/REB

Surfactant-Enhanced Solubilization of Tetrachloroethylene and Degradation Products in Pump and Treat Remediation.
PB92-191121/REB

Closure of a Dioxin Incineration Facility.
PB92-191170/REB

Solidification/Stabilization: Is It Always Appropriate.
PB92-191188/REB

Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB

Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB

Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB

Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB

Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB

Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
PB92-963808/REB

Superfund Record of Decision (EPA Region 3): Middletown Air Field Site, Middletown, PA. (Second Remedial Action), December 1990.
PB92-963904/REB

Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991.
PB92-963905/REB

Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenber Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963906/REB

Superfund Record of Decision (EPA Region 3): Dorney Road Landfill Site, Upper Macungie Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963907/REB

Superfund Record of Decision (EPA Region 4): Petroleum Products Corporation Site, Operable Unit 1, Pembroke Park, Broward County, FL. (First Remedial Action), October 1990.
PB92-964007/REB

Superfund Record of Decision (EPA Region 4): Sangamo/Twelve-Mile Creek, Lake Hartwell PCB Contamination Site, Pickens, SC. (First Remedial Action), December 1990.
PB92-964008/REB

Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991.
PB92-964009/REB

Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964117/REB

Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB

Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
PB92-964120/REB

Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
PB92-964121/REB

Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991.
PB92-964122/REB

Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB

Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990.
PB92-964305/REB

Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB

Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB

Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB

Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991.
PB92-964506/REB

Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991.
PB92-964507/REB

Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
PB92-964508/REB

Superfund Record of Decision (EPA Region 9): Indian Bend Wash Area (Operable Units 1, 4, 5, 6), AZ. (Second Remedial Action), September 1991.
PB92-964509/REB

Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB
Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB

REMEDIAL RESPONSE
Community Relations in Superfund: A Handbook.
PB92-963341/REB
Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB

REMOVAL
Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB

REPRESENTATIVE SAMPLING
Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB

REPRESSOR PROTEINS
Characterization of Stress-Responsive Behavior in 'Pseudomonas aeruginosa' PAO: Isolation of Tn3-lacZYA Fusions with Novel Damage-Inducible (din) Promoters.
PB92-195718/REB

REPRODUCTION (BIOLOGY)
Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
PB92-166891/REB
Effects of Low Dissolved Oxygen on Survival, Growth and Reproduction of 'Daphnia', 'Hyalella' and 'Gammarus'.
PB92-188846/REB
Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae.
PB92-195759/REB
Reproductive Ecology of the Inland Silverside, 'Menidia beryllina', (Pisces: Atherinidae) from Blackwater Bay, Florida.
PB92-195775/REB

REREGISTRATION
Reregistration Eligibility Document (RED): Silicon Dioxide and Silica Gel.
PB92-161900/REB
Reregistration Eligibility Document (RED): Carbon and Carbon Dioxide.
PB92-161926/REB
Reregistration Eligibility Document (RED). Sodium Diacetate.
PB92-161934/REB
Reregistration Eligibility Document (RED): Dried Blood.
PB92-161942/REB
Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
PB92-161975/REB
Reregistration Eligibility Document (RED): Propionic Acid.
PB92-161983/REB
Reregistration Eligibiligy Document (RED): Sodium and Calcium Hypochlorites.
PB92-180116/REB
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PB92-191105/REB
RED Facts: Heptachlor.
PB92-192798/REB

RESEARCH AND DEVELOPMENT
Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities.
PB92-170174/REB
Development of a Core Combustion Research Program Plan for EPA.
PB92-180868/REB

RESEARCH PROGRAMS
Status of Selected Air Pollution Control Programs, February 1992.
PB92-171966/REB
Wetlands Research Plan FY92-96: An Integrated Risk-Based Approach.
PB92-178946/REB
National Toxicology Program: Review of Current DHHS, DOE, and EPA Research Related to Toxicology, Fiscal Year 1991.
PB92-189141/REB
National Toxicology Program: Annual Plan for Fiscal Year 1991.
PB92-189158/REB

RESIDENTIAL BUILDINGS
Polycyclic Aromatic Hydrocarbons and Their Derivatives in Indoor and Outdoor Air in an Eight-Home Study.
PB92-166701/REB
Natural Basement Ventilation as a Radon Mitigation Technique.
PB92-166958/REB
Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings.
PB92-192194/REB
Simplified Modeling of Air Flow Dynamics in SSD Radon Mitigation Systems for Residences with Gravel Beds.
PB92-195635/REB
Analysis of Emissions from Residential Oil Furnaces and Comparison with Woodstove Emissions.
PB92-195924/REB
Analysis of Emissions from Residential Oil Furnaces.
PB92-195981/REB

RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM
RCRIS Data Element Dictionary, Version 3.0.0. Data Tape Documentation.
PB92-145515/REB
Resource Conservation and Recovery Information System (RCRIS) Extract Tape.
PB92-592290/REB

RICE
Impacts of Climate Change on Rice Yield: Evaluation of the Efficacity of Different Modeling Approaches.
PB92-188754/REB

RICE PLANTS
Kinetic Properties of Malic Dehydrogenase from Three Cultivars of Rice.
PB92-178995/REB

RISK ASSESSMENT
Tiered Modeling Approach for Assessing the Risks Due to Sources of Hazardous Air Pollutants.
PB92-164748/REB
EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB
Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
PB92-184969/REB
Developmental Toxicology: Risk Assessment and the Future.
PB92-184993/REB
Human Exposure Model-II: User's Guide.
PB92-186246/REB
Health Research to Support Risk Assessment.
PB92-188788/REB
Implementing 'In vitro' Models in the Hazard Identification and Risk Assessment Process.
PB92-188796/REB
Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
PB92-196054/REB
Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
PB92-501972/REB

RIVULUS MARMORATUS
Abundant Males in Populations of a Selfing Hermaphrodite Fish, 'Rivulus marmoratus', from Some Belize Cays.
PB92-195783/REB

ROADMAPS SYSTEM
EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB
Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
PB92-501972/REB

ROANE COUNTY (TENNESSEE)
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
PB92-964012/REB

ROBOTICS
Personnel Protection through Reconnaissance Robotics at Superfund Remedial Sites.
PB92-166743/REB

ROCKFISH
Chesapeake Bay Striped Bass Fishery Management Plan: Chesapeake Bay Program. Annual Progress Report from the Chesapeake Executive Council.
PB92-186428/REB

ROTATED PRINCIPAL COMPONENT ANALYSIS
Spatial and Temporal Analysis of Non-Urban Ozone Concentrations over the Eastern United States Using Rotated Principal Component Analysis.
PB92-192152/REB

RUNOFF
Combined Sewer Overflow: Balancing Flow for CSO Abatement.
PB92-179761/REB

SAINT LOUIS COUNTY (MISSOURI)
Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
PB92-964302/REB

SAMISH BAY
Reference Area Performance Standards for Puget Sound.
PB92-166917/REB

SAMPLERS
Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB

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PB92-180264/REB
Probability Sampling and Population Inference in Monitoring Programs.
PB92-180272/REB
Effects of Sampling Design Parameters on Block Selection.
PB92-180314/REB

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Radon Prevention in the Design and Construction of Schools and other Large Buildings.
PB92-180298/REB

SCRUBBERS
Capsule Report: Bahco Flue Gas Desulfurization and Particulate Removal System.
PB92-179902/REB

SEAMING
Inspection Techniques for the Fabrication of Geomembrane Field Seams.
PB92-188770/REB

SEAWATER
Determination of alpha-emitting nuclides of plutonium, americium and curium in environmental materials: Pt. 1. Sea water.
DE92614732/REB

SECOND REMEDIAL ACTION
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
PB92-963810/REB
Superfund Record of Decision (EPA Region 3): Whitmoyer Laboratories (Operable Unit 2), Lebanon County, PA. (Second Remedial Action), December 1990.
PB92-963912/REB
Superfund Record of Decision (EPA Region 3): Strasburg Landfill, Newlin Township, Chester County, PA. (Second Remedial Action), June 1991.
PB92-963913/REB
Superfund Record of Decision (EPA Region 5): Main Street Well Field, Elkhart, IN. (Second Remedial Action), March 1991.
PB92-964107/REB
Superfund Record of Decision (EPA Region 5): Verona Well Field Site, Battle Creek, MI. (Second Remedial Action), June 1991.
PB92-964110/REB
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
PB92-964113/REB
Superfund Record of Decision (EPA Region 9): Atlas Asbestos Mine, Fresno County, CA. (Second Remedial Action), February 1991.
PB92-964510/REB

SECOND REMEDIAL ACTION-FINAL
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991.
PB92-963918/REB
Superfund Record of Decision (EPA Region 5): Allied Chemical and Ironton Coke, Ironton, OH. (Second Remedial Action), December 1990.
PB92-964115/REB
Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991.
PB92-964201/REB
Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991.
PB92-964202/REB

SEDIMENT TRANSPORT
Reactive Transport of Suspended Particles: Mechanisms and Modeling.
PB92-174317/REB

SEDIMENTS
Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
AD-P006 465/9/REB
Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
PB92-166891/REB
Reference Area Performance Standards for Puget Sound.
PB92-166917/REB
Pilot-Scale Incineration of PCB-Contaminated Sediments from the New Bedford Harbor Hot Spot Superfund Site.
PB92-178953/REB
Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
PB92-179092/REB
Measurement of Polycyclic Aromatic Hydrocarbons in Soils and Sediments by Particle-Beam/High-Performance Liquid Chromatography/Mass Spectrometry.
PB92-188721/REB
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB
Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB

SEINE RIVER
Modification of an Index of Biotic Integrity Based on Fish Assemblages to Characterize Rivers of the Seine Basin, France.
PB92-180322/REB

SEIZURES
Proconvulsant Activity of Endosulfan in Amygdala Kindling.
PB92-189000/REB

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PB92-161900/REB

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Reregistration Eligibility Document (RED): Silicon Dioxide and Silica Gel.
PB92-161900/REB

SINKS
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB

SITE CHARACTERISTICS
Guide to Site and Soil Description for Hazardous Waste Site Characterization. Volume 1. Metals.
PB92-146158/REB

SITE SURVEYS
PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB

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PB92-198548/REB

SMOKE
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PB92-189083/REB

SNOW REMOVAL
U.S. Environmental Protection Agency Research Program on the Environmental Impacts and Control of Highway Deicing Salt Pollution.
PB92-179688/REB

SODIUM DIACETATE
Reregistration Eligibility Document (RED). Sodium Diacetate.
PB92-161934/REB

SODIUM HYPOCHLORITE
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PB92-171958/REB
Reregistration Eligibiligy Document (RED): Sodium and Calcium Hypochlorites.
PB92-180116/REB

SODIUM NITRATES
Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
PB92-161975/REB

SOFTWARE
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils (for Microcomputers).
PB92-501329/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers).
PB92-501501/REB
Inorganic Contract Compliance Screening System (ICCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501519/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501527/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers).
PB92-501535/REB
Protein Adducts for Exposure Monitoring: A Computerized Database (CPAD) (Version 1) (for Microcomputers).
PB92-501873/REB
Complex Effluent Toxicity Information System (CETIS) (for Microcomputers).
PB92-501899/REB

SOIL FLUSHING
In situ Soil Flushing. Engineering Bulletin.
PB92-180025/REB

SOIL MECHANICS
Technical Resource Document: Batch-Type Procedures for Estimating Soil Adsorption of Chemicals.
PB92-188515/REB

SOIL MICROBIOLOGY
Treating Soil Solution Samplers to Prevent Microbial Removal of Analytes.
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SOIL MICROORGANISMS
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SOIL PROPERTIES
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PB92-119668/REB
Exposure Assessment Modeling for Hydrocarbon Spills into the Subsurface: Sensitivity to Soil Properties.
PB92-191147/REB
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils (for Microcomputers).
PB92-501329/REB

SOIL SURVEYS
Guide to Site and Soil Description for Hazardous Waste Site Characterization. Volume 1. Metals.
PB92-146158/REB

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SOIL TREATMENT
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PB92-170570/REB
Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB
In situ Soil Flushing. Engineering Bulletin.
PB92-180025/REB

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PB92-115245/REB
Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance.
PB92-170570/REB
Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB

SOIL WATER
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils. Documentation.
PB92-119668/REB
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PB92-501329/REB

SOILS
Measurement of Polycyclic Aromatic Hydrocarbons in Soils and Sediments by Particle-Beam/High-Performance Liquid Chromatography/Mass Spectrometry.
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Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
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Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB
Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB
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PB92-963408/REB

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Characterization of Products Containing Mercury in Municipal Solid Waste in the United States, 1970 to 2000.
PB92-162569/REB

SOLID WASTE MANAGEMENT
RCRIS Data Element Dictionary, Version 3.0.0. Data Tape Documentation.
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PB92-161934/REB
Reregistration Eligibility Document (RED): Dried Blood.
PB92-161942/REB
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PB92-188812/REB

STATE IMPLEMENTATION PLANS
Implementing Protective Actions for Radiological Incidents at Other Than Nuclear Power Reactors. Proceedings of a Workshop. Held in Montgomery, Alabama on September 25-26, 1991.
PB92-192764/REB

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PB92-190123/REB

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PB92-190131/REB

Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
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Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB

Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix: State Reports Interstate Coalition on Mine Waste.
PB92-190172/REB

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PB92-179803/REB

Underground Storage Tanks on Indian Lands. Education Moderates: An Environmental Treat.
PB92-179860/REB

STOVES

Effects of Operating Variables on PAH Emissions and Mutagenicity of Emissions from Woodstoves (Journal Article).
PB92-195809/REB

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Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
PB92-190156/REB

Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB

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Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB

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Toxicological Assessment of Hazardous Wastes.
AD-P006 468/3/REB

Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
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Personnel Protection through Reconnaissance Robotics at Superfund Remedial Sites.
PB92-166743/REB

Superfund Innovative Technology Evaluation Program Demonstration Plan for Westinghouse Bio-Analytic Systems Pentachlorophenol Immunoassays.
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Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance.
PB92-170570/REB

Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB

Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites.
PB92-171909/REB

Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites.
PB92-171917/REB

Air Superfund National Technical Guidance Study Series. Estimation of Air Impacts for the Excavation of Contaminated Soil.
PB92-171925/REB

Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
PB92-173210/REB

Pilot-Scale Incineration of PCB-Contaminated Sediments from the New Bedford Harbor Hot Spot Superfund Site.
PB92-178953/REB

Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB

Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB

Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
PB92-180074/REB

Toxic Release Inventory (TRI), 1990.
PB92-501816/REB

Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB

National Priorities List Sites Set (1991).
PB92-963253/REB

Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB

Regional Pilot Projects and Initiatives.
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Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
PB92-963260/REB

National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
PB92-963261/REB

Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB

Superfund Accelerated Cleanup Model (SACM).
PB92-963263/REB

OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB

Superfund Progress, Spring 1992.
PB92-963265/REB

Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB

Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB

Community Relations in Superfund: A Handbook.
PB92-963341/REB

OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB

PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB

Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB

Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB

Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB

Guide to Management of Investigation-Derived Wastes.
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Characterization Prctocol for Radioactive Contaminated Soils.
PB92-963354/REB

Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB

ROD Annual Report, FY1991. Volume 1.
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ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB

Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB

Technical Assistance Team (TAT) Contracts Users' Manual.
PB92-963407/REB

Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB

Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB

Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
PB92-963606/REB

Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990.
PB92-963703/REB

Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB

Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991.
PB92-963705/REB

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Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB

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PB92-963808/REB

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PB92-963809/REB

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PB92-963810/REB

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PB92-964115/REB

Superfund Record of Decision (EPA Region 5): Enviro-Chem (Northside Sanitary Landfill), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964116/REB

Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964117/REB

Superfund Record of Decision (EPA Region 5): Summit National Liquid Disposal Service, Deerfield, OH. (First Remedial Action), (Amendment), November 1990.
PB92-964118/REB

Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB

Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
PB92-964120/REB

Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
PB92-964121/REB

Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991.
PB92-964122/REB

Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991.
PB92-964201/REB

Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991.
PB92-964202/REB

Superfund Record of Decision (EPA Region 7): People's Natural Gas Coal Gasification Site, Dubuque, IA. (First Remedial Action), September 1991.
PB92-964301/REB

Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
PB92-964302/REB

Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB

Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990.
PB92-964305/REB

Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB

Superfund Record of Decision (EPA Region 7): Lee Chemical Site, Liberty, MO. (First Remedial Action), March 1991.
PB92-964307/REB

Superfund Record of Decision (EPA Region 8): Hill Air Force Base, Operable Unit 2, Chemical Disposal Pit 3, Site WP07, Davis and Weber Counties, UT. (First Remedial Action), September 1991.
PB92-964401/REB

Superfund Record of Decision (EPA Region 8): Broderick Wood Products, Adams County, CO. (First Remedial Action), (Amendment), September 1991.
PB92-964402/REB

Superfund Record of Decision (EPA Region 9): South Bay Asbestos Area, San Jose, CA. (First Remedial Action), (Amendment), June 1991.
PB92-964501/REB

Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB

Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB

Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991.
PB92-964505/REB

Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991.
PB92-964506/REB

Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991.
PB92-964507/REB

Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
PB92-964508/REB

Superfund Record of Decision (EPA Region 9): Indian Bend Wash Area (Operable Units 1, 4, 5, 6), AZ. (Second Remedial Action), September 1991.
PB92-964509/REB

Superfund Record of Decision (EPA Region 9): Atlas Asbestos Mine, Fresno County, CA. (Second Remedial Action), February 1991.
PB92-964510/REB

Superfund Record of Decision (EPA Region 10): Northwest Transformer-Mission Pole, Whatcom County, WA. (First Remedial Action), (Amendment), September 1991.
PB92-964602/REB

Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB

Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
PB92-155399/REB

Consolidated List of Chemical Subject to Reporting under the Emergency Planning and Community Right to Know Act. SARA Section 302 Extremely Hazardous Substances, CERCL Hazardous Substances and SARA Section 313 Toxic Chemicals (Title III, List of Lists) (for Microcomputers).
PB92-501774/REB

SUPERFUND INNOVATIVE TECHNOLOGY EVALUATION PROGRAM

Demonstration of Waste Treatment Technologies.
PB92-179670/REB

SUPERFUND INNOVATIVE TECHNOLOGY EVALUATION PROGRAM (SITE)

Superfund Innovative Technology Evaluation Program Demonstration Plan for Westinghouse Bio-Analytic Systems Pentachlorophenol Immunoassays.
PB92-170190/REB

SURFACE CHEMISTRY

Spectroscopic Study of Surface Redox Reactions With Manganese Oxides.
PB92-179837/REB

SURFACE IMPOUNDMENTS

Capsule Report: Acostic Monitoring to Determine the Integrity of Hazardous Waste Dams.
PB92-179928/REB

SURFACE WATERS

Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
PB92-139948/REB

User's Guide and Data Dictionary for Kenai Lakes Investigation Project.
PB92-178961/REB

Acidic Episodes in Surface Waters in Europe.
PB92-188853/REB

Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
PB92-195957/REB

SURFACTANTS

Surfactant-Enhanced Solubilization of Tetrachloroethylene and Degradation Products in Pump and Treat Remediation.
PB92-191121/REB

SURVEYS

National Home and Garden Pesticide Use Survey Final Report. Executive Summary.
PB92-174739/REB

National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
PB92-174747/REB

National Home and Garden Pesticide Use Survey. Final Report. Volume 2. Survey Design, Implementation, and Analysis Methods.
PB92-174754/REB

SURVIVAL

Effects of Low Dissolved Oxygen on Survival, Growth and Reproduction of 'Daphnia', 'Hyalella' and 'Gammarus'.
PB92-188846/REB

SUSPENDED SEDIMENTS

Reactive Transport of Suspended Particles: Mechanisms and Modeling.
PB92-174317/REB

SWAMPS
Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB

SYNTHETIC SUBSTRATA
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB

TANKER SHIPS
Oil Tanker Waste Disposal Practices: A Review.
PB92-196047/REB

TECHNICAL ASSISTANCE
Technical Assistance Team (TAT) Contracts Users' Manual.
PB92-963407/REB

TEDLAR BAG
Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB

TELEPHONES
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB

TEMPERANCE (MICHIGAN)
Superfund Record of Decision (EPA Region 5): Novaco Industries, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964104/REB

TEMPORARY TOTAL ENCLOSURE
Measurement Solution: Using a Temporary Total Enclosure for Capture Efficiency Testing.
PB92-190271/REB

TERATOGENIC COMPOUNDS
Developmental Effects of Methyl Benzimidazolecarbamate Following Exposure during Early Pregnancy.
PB92-164862/REB

Limited PCB Antagonism of TCDD-Induced Malformations in Mice.
PB92-166768/REB

Teratogenesis, Toxicity, and Bioconcentration in Frogs Exposed to Dieldrin.
PB92-180363/REB

Developmental Toxicology: Risk Assessment and the Future.
PB92-184993/REB

Embryonic Palatal Responses to Teratogens in Serum-Free Organ Culture.
PB92-188960/REB

TERRESTRIAL ECOSYSTEMS
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB

TESTIS
Collection of Interstitial Fluid and Seminiferous Tubule Fluid from the Rat Testis.
PB92-179084/REB

TETRACHLORODIBENZODIOXIN
Limited PCB Antagonism of TCDD-Induced Malformations in Mice.
PB92-166768/REB

THALLIUM
Drinking Water Criteria Document for Thallium.
PB92-173483/REB

THERMODYNAMIC PROPERTIES
Vapor Pressures, Liquid Molar Volumes, Vapor Non-Idealities, and Critical Properties of Some Fluorinated Ethers: CF3OCF2OCF3, CF3OCF2CF2H, c-CF2CF2CF2O, CF3OCF2H, and CF3OCH3; and of CCl3F and CF2ClH.
PB92-179746/REB

THIRD REMEDIAL ACTION
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
PB92-964012/REB

THIRD REMEDIAL ACTION (AMENDMENT)-FINAL
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991.
PB92-963805/REB

TIME STUDIES
Time Spent in Activities, Locations, and Microenvironments: A California-National Comparison.
PB92-140789/REB

TOBACCO
Cigarette Smoke-Induced DNA Adducts in the Respiratory and Nonrespiratory Tissues of Rats.
PB92-189083/REB

TOLUENE
Microbial Degradation of Toluene under Sulfate-Reducing Conditions and the Influence of Iron on the Process.
PB92-166735/REB

TOPSMELT
Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae.
PB92-195759/REB

TOXIC SUBSTANCES
Toxic Release Inventory (TRI) Documentation for the 1990 Magnetic Tape.
PB92-155381/REB

Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
PB92-161975/REB

Reregistration Eligibility Document (RED): Propionic Acid.
PB92-161983/REB

Sampling and Analysis Design for Development of Everett Harbor Action Program.
PB92-166875/REB

EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB

Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites.
PB92-171909/REB

Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites.
PB92-171917/REB

Air Superfund National Technical Guidance Study Series. Estimation of Air Impacts for the Excavation of Contaminated Soil.
PB92-171925/REB

RED Facts: Sodium and Calcium Hypochlorite Salts.
PB92-171958/REB

National Home and Garden Pesticide Use Survey Final Report. Executive Summary.
PB92-174739/REB

National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
PB92-174747/REB

National Home and Garden Pesticide Use Survey. Final Report. Volume 2. Survey Design, Implementation, and Analysis Methods.
PB92-174754/REB

Reductive Dechlorination of Trichloroethylene in Anoxic Aquifer Material from Picatinny Arsenal, New Jersey.
PB92-179019/REB

Biotransformation of CIS-1,2-Dichloroethylene in Aquifer Material from Picatinny Arsenal, Morris County, New Jersey.
PB92-179100/REB

Spatial Variability of Geochemical and Hydrologic Properties of Subsurface Materials in a Sand and Gravel Aquifer, Cape Cod, Massachusetts.
PB92-179126/REB

Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
PB92-179134/REB

Applications of a Neurobehavioral Screening Battery.
PB92-179787/REB

Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies.
PB92-179795/REB

Reregistration Eligibiligy Document (RED): Sodium and Calcium Hypochlorites.
PB92-180116/REB

Pesticide Fact Sheet Number 225: Dichlorvos (DDVP).
PB92-185818/REB

Pesticide Fact Sheet Number 91.1: Arsenic Acid (H3AsO4).
PB92-185826/REB

Pesticide Fact Sheet Number 112.1: Lead Arsenate.
PB92-185834/REB

Pesticide Fact Sheet Number 233: Ethylene Bisdithiocarbamates (EBDCs).
PB92-185842/REB

Pesticide Fact Sheet Number 234: Ethylene Oxide (EtO).
PB92-185859/REB

Pesticide Fact Sheet Number 111.1: Calcium Arsenate (Tolerance Revocation).
PB92-186410/REB

Health Research to Support Risk Assessment.
PB92-188788/REB

Implementing 'In vitro' Models in the Hazard Identification and Risk Assessment Process.
PB92-188796/REB

Stability of Air Toxic Gases Listed in Title III Clean Air Act Amendments.
PB92-188812/REB

Status of Pesticides in Reregistration and Special Review.
PB92-190438/REB

Reregistration Eligibility Document (RED): Heptachlor.
PB92-191105/REB

RED Facts: Heptachlor.
PB92-192798/REB

Comparative Acute Sensitivity of Larval Topsmelt, 'Atherinops affinis', and Inland Silverside, 'Menidia beryllina', to 11 Chemicals.
PB92-195668/REB

Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
PB92-501972/REB

TOXICITY
Toxicological Assessment of Hazardous Wastes.
AD-P006 468/3/REB

Health Effects and Dose-Response Assessment for Hydrogen Chloride Following Short-Term Exposure.
PB92-161959/REB

Reversibility of Tributyltin-Induced Toxicity In vitro as a Function of Concentration and Duration of Exposure (C X T).
PB92-164854/REB

Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons.
PB92-164896/REB

Subacute and Subchronic Oral Toxicity of 1,3-Dichloropropane in the Rat.
PB92-164912/REB

Comparative Subchronic Toxicity Studies of Three Disinfectants.
PB92-164920/REB

Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
PB92-166891/REB

Toxicity of Ammonia, Nitrite, and Nitrate to Fishes.
PB92-179142/REB

Teratogenesis, Toxicity, and Bioconcentration in Frogs Exposed to Dieldrin.
PB92-180363/REB

Multifactor Potency Scheme for Comparing the Carcinogenic Activity of Chemicals.
PB92-188911/REB

Comparison of Subchronic Neurotoxicity of 2-Hydroxyethyl Acrylate and Acrylamide in Rats.
PB92-188945/REB

Characteristics of the U.S. EPA's Office of Pesticide Programs' Toxicity Information Databases.
PB92-188978/REB

Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB

Using a Flame Ionization Detector (FID) Continuously Measure Toxic Organic Vapors in a Paint Spray Booth.
PB92-198258/REB

Toxic Release Inventory (TRI), 1990.
PB92-501816/REB

Complex Effluent Toxicity Information System (CETIS) (for Microcomputers).
PB92-501899/REB

TOXICOLOGY
Sensory Evoked Potentials: Measures of Neurotoxicity.
PB92-164805/REB

DNA Strand Breaks Induced in Cultured Human and Rodent Cells by Chlorohydroxyfuranones, Mutagens Isolated from Drinking Water.
PB92-164904/REB

Reflex Modification and the Assessment of Sensory Dysfunction.
PB92-166339/REB

Neurobehavioral Toxicology. Chapter 2.
PB92-166347/REB

Health Assessment Document for Vermiculite.
PB92-166834/REB

Quantification of Toxicological Effects for Dichloromethane.
PB92-173335/REB

Measuring Sexual Behavior in the Female Rat.
PB92-179076/REB

Applications of a Neurobehavioral Screening Battery.
PB92-179787/REB

Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies.
PB92-179795/REB

Developmental Toxicology: Risk Assessment and the Future.
PB92-184993/REB

Alterations in Rat Flash and Pattern Reversal Evoked Potentials after Acute or Repeated Administration of Carbon Disulfide (CS2).
PB92-188929/REB

Proconvulsant Activity of Endosulfan in Amygdala Kindling.
PB92-189000/REB

Exposure of Humans to a Volatile Organic Mixture. 1. Behavioral Assessment.
PB92-189018/REB

Comparison of Screening Approaches, 1992.
PB92-189042/REB

Characterization of Chemical Kindling with the Pesticide Endosulfan.
PB92-189059/REB

Metabolism of Benzo(a)Pyrene and Persistence of DNA Adducts in the Brown Bullhead 'Ictalurus nebulosus'.
PB92-189067/REB

Cigarette Smoke-Induced DNA Adducts in the Respiratory and Nonrespiratory Tissues of Rats.
PB92-189083/REB

Genetic Activity Profile Database.
PB92-189091/REB

National Toxicology Program: Review of Current DHHS, DOE, and EPA Research Related to Toxicology, Fiscal Year 1991.
PB92-189141/REB

National Toxicology Program: Annual Plan for Fiscal Year 1991.
PB92-189158/REB

Health Advisory for 2,4- and 2,6-Dinitrotoluene (DNT).
PB92-189315/REB

Spongiosis Hepatis: Chemical Induction, Pathogenesis, and Possible Neoplastic Fate in a Teleost Fish Model.
PB92-195700/REB

Comparative Immunosuppression of Various Glycol Ethers Orally Administered to Fisher 344 Rats.
PB92-195833/REB

Prophage Induction by DNA Topoisomerase II Poisons and Reactive-Oxygen Species: Role of DNA Breaks.
PB92-195866/REB

Mosquito Control Pesticides: Adverse Impacts to Freshwater Aquatic and Marine Organisms.
PB92-195890/REB

TRACE ELEMENTS
Clean Air Act Requirements for Trace Metals Information.
PB92-164995/REB

TRACKING (POSITION)
VMT Forecasting and Tracking Guidance, Section 187.
PB92-164961/REB

TRANSMISSION ELECTRON MICROSCOPY
Comparison of Airborne Asbestos Levels Determined by Transmission Electron Microscopy (TEM) Using Direct and Indirect Transfer Techniques.
PB92-191113/REB

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Transportation Control Measure Information Documents.
PB92-173566/REB

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PB92-173566/REB

TREES (PLANTS)
Methods of Assessing Responses of Trees, Stands and Ecosystems to Air Pollution (Chapter 7).
PB92-180231/REB

TRIBUTYLTIN
Reversibility of Tributyltin-Induced Toxicity In vitro as a Function of Concentration and Duration of Exposure (C X T).
PB92-164854/REB

TROPOSPHERE
Stability of Tropospheric OH during Ice Ages, Inter-Glacial Epochs and Modern Times.
PB92-166669/REB

UNDERGROUND STORAGE
Technical Aspects of Underground Storage Tank Closure.
PB92-161199/REB
Remediation of Leaking USTs: A System for Accessing Case Histories and Related Documents.
PB92-179803/REB
Underground Storage Tanks on Indian Lands. Education Moderates: An Environmental Treat.
PB92-179860/REB
Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
PB92-184969/REB

UNITED STATES
Air Quality Atlas.
PB92-190248/REB

UNLEADED GASOLINE
Composition of Motor Vehicle Organic Emissions under Elevated Temperature Summer Driving Conditions (75 to 105 deg F).
PB92-166693/REB

URBAN AREAS
14C Source Apportionment Technique Applied to Wintertime Urban Aerosols and Gases for the EPA Integrated Air Cancer Project.
PB92-171370
Evaluation of High Volume Particle Sampling and Sample Handling Protocols for Ambient Urban Air Mutagenicity Determinations.
PB92-188952/REB

US EPA
U.S. EPA's Research on Life-Cycle Analysis.
PB92-179878/REB
Enforcement Document Retrieval System (EDRS) Master File (1972-April 1992).
PB92-592380/REB
Enforcement Document Retrieval System (EDRS) Update File (November 14, 1991 to April 22, 1992).
PB92-592390/REB
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB
Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB

US EPA REGIONS
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB

USER MANUALS (COMPUTER PROGRAMS)
Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
PB92-145564/REB
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
PB92-145572/REB
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
PB92-145580/REB
Inorganic Contract Compliance Screening System Software for the PC (SOW March 1990 Version 1). User Manual.
PB92-145598/REB
EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB
Human Exposure Model-II: User's Guide.
PB92-186246/REB
Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
PB92-190263/REB
Guide for Using the Empirical Kinetics Modeling Approach Interface (EKMAI).
PB92-196005/REB

VADOSE WATER
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils. Documentation.
PB92-119668/REB
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils (for Microcomputers).
PB92-501329/REB

VAGINAL SMEARS
Monitoring of the Estrous Cycle in the Laboratory Rodent by Vaginal Lavage.
PB92-179068/REB

VALIDATION
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Bench and Laboratory Studies.
PB92-178979/REB

VAPOR PRESSURE
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PB92-179746/REB

VEGETATION
Potential Impacts of Climate Change on Pacific Northwest Forest Vegetation.
PB92-184985/REB

VEHICLE MILES TRAVELED
VMT Forecasting and Tracking Guidance, Section 187.
PB92-164961/REB

VENTILATION
Natural Basement Ventilation as a Radon Mitigation Technique.
PB92-166958/REB
Measurement Solution: Using a Temporary Total Enclosure for Capture Efficiency Testing.
PB92-190271/REB
Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings.
PB92-192194/REB

VERMICULITE
Health Assessment Document for Vermiculite.
PB92-166834/REB

VIRUSES
Preliminary Risk Assessment for Viruses in Municipal Sewage Sludge Applied to Land.
PB92-198548/REB

VISUAL EVOKED POTENTIAL
Alterations in Rat Flash and Pattern Reversal Evoked Potentials after Acute or Repeated Administration of Carbon Disulfide (CS2).
PB92-188929/REB

VOLATILE ORGANIC COMPOUNDS
Evaluation of Gas Chromatography/Matrix Isolation Infrared Spectrometry for the Determination of Semivolatile Organic Compounds in Air Sample Extracts.
PB92-166651/REB
Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB
Theoretical Evaluation of Stability of Volatile Organic Chemicals and Polar Volatile Organic Chemicals in Canisters.
PB92-166941/REB
Guideline Series: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry.
PB92-180009/REB
Stability of Air Toxic Gases Listed in Title III Clean Air Act Amendments.
PB92-188812/REB
Exposure of Humans to a Volatile Organic Mixture. 1. Behavioral Assessment.
PB92-189018/REB
Control of VOC Emissions from Ink and Paint Manufacturing Processes.
PB92-190230/REB
Measurement Solution: Using a Temporary Total Enclosure for Capture Efficiency Testing.
PB92-190271/REB

WALKER (MICHIGAN)
Superfund Record of Decision (EPA Region 5): Folkertsma Refuse Site, Walker, MI. (First Remedial Action), June 1991.
PB92-964108/REB

WASHINGTON COUNTY (MINNESOTA)
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
PB92-964113/REB

WASHINGTON (STATE)
Beyond the Border: Environmental Management in Washington and British Columbia.
PB92-166883/REB

WASTE DISPOSAL
General Methods for Remedial Operations Performance Evaluations.
PB92-166842/REB
Annual Risk Reduction Engineering Laboratory Research Symposium (18th) Abstract Proceedings. Held in Cincinnati, Ohio on April 14-16, 1992.
PB92-166859/REB
Pilot-Scale Evaluation of the Thermal Stability POHC Incinerability Ranking.
PB92-166966/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 1. Sessions 0, 1, 2, and 3. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174663/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 2. Sessions 4, 5, and 6. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174671/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 3. Sessions 7 and 8. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174689/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 4. Sessions 9, 10, 11, and 12. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174697/REB
Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
PB92-178938/REB
Pilot-Scale Incineration of PCB-Contaminated Sediments from the New Bedford Harbor Hot Spot Superfund Site.
PB92-178953/REB
Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB
Incineration Data on Arsenic and Lead Emissions.
PB92-179043/REB
Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
PB92-179092/REB
Behavior of Arsenic in a Rotary Kiln Incinerator (Journal Version).
PB92-179845/REB
Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator.
PB92-188838/REB
Oil Tanker Waste Disposal Practices: A Review.
PB92-196047/REB
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB
ROD Annual Report, FY1991. Volume 1.
PB92-963359/REB
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB
Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990.
PB92-963703/REB
Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB
Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991.
PB92-963705/REB
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991.
PB92-963805/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
PB92-963808/REB
Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
PB92-963809/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
PB92-963810/REB
Superfund Record of Decision (EPA Region 2): Chemsol, Inc., Piscataway, Middlesex County, NJ. (First Remedial Action), September 1991.
PB92-963811/REB
Superfund Record of Decision (EPA Region 3): USA Aberdeen, Michaelsville, MD. (First Remedial Action), September 1991.
PB92-963909/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963910/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - Southeastern Area, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963911/REB
Superfund Record of Decision (EPA Region 3): Whitmoyer Laboratories (Operable Unit 2), Lebanon County, PA. (Second Remedial Action), December 1990.
PB92-963912/REB
Superfund Record of Decision (EPA Region 3): Strasburg Landfill, Newlin Township, Chester County, PA. (Second Remedial Action), June 1991.
PB92-963913/REB

Superfund Record of Decision (EPA Region 3): Halby Chemical, Wilmington, New Castle County, DE. (First Remedial Action), June 1991.
PB92-963914/REB
Superfund Record of Decision (EPA Region 3): Brodhead Creek, Stroudsburg, PA. (First Remedial Action), March 1991.
PB92-963915/REB
Superfund Record of Decision (EPA Region 3): USA Aberdeen Proving Ground, Edgewood, MD. (First Remedial Action), September 1991.
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Superfund Record of Decision (EPA Region 3): Heleva Landfill Site, Lehigh County, PA. (First Remedial Action), (Amendment), September 1991.
PB92-963917/REB
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991.
PB92-963918/REB
Superfund Record of Decision (EPA Region 3): NCR Corporation (Millsboro Plant), Sussex County, Millsboro, DE. (First Remedial Action), August 1991.
PB92-963919/REB
Superfund Record of Decision (EPA Region 3): AVCO Lycoming-Williamsport Division, Lycoming County, Williamsport, PA. (First Remedial Action), June 1991.
PB92-963920/REB
Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
PB92-964002/REB
Superfund Record of Decision (EPA Region 4): Monsanto Superfund Site, Augusta, GA. (First Remedial Action), December 1990.
PB92-964003/REB
Superfund Record of Decision (EPA Region 4): Tri-City Industrial Disposal Site, Bullitt County, Brooks, KY. (First Remedial Action), August 1991.
PB92-964004/REB
Superfund Record of Decision (EPA Region 4): Aberdeen Pesticide Dumps, Moore County, Aberdeen, NC. (First Remedial Action), (Amendment), September 1991.
PB92-964005/REB
Superfund Record of Decision (EPA Region 4): Smith's Farm Site (First Operable Unit), Bullitt County, Brooks, KY. (First Remedial Action), (Amendment), September 1991.
PB92-964006/REB
Superfund Record of Decision (EPA Region 4): Petroleum Products Corporation Site, Operable Unit 1, Pembroke Park, Broward County, FL. (First Remedial Action), October 1990.
PB92-964007/REB
Superfund Record of Decision (EPA Region 4): Sangamo/Twelve-Mile Creek, Lake Hartwell PCB Contamination Site, Pickens, SC. (First Remedial Action), December 1990.
PB92-964008/REB
Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991.
PB92-964009/REB
Superfund Record of Decision (EPA Region 4): USA Anniston Army Depot, (Groundwater Operable Unit), Calhoun County, Anniston, AL. (First Remedial Action), September 1991.
PB92-964010/REB
Superfund Record of Decision (EPA Region 4): Wrigley Charcoal Site, Hickman County, Wrigley, TN. (First Remedial Action), September 1991.
PB92-964011/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
PB92-964012/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 2), Oak Ridge, TN. (First Remedial Action), June 1991.
PB92-964013/REB
Superfund Record of Decision (EPA Region 5): Novaco Industries, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964104/REB
Superfund Record of Decision (EPA Region 5): Rasmussen's Dump Site, Green Oak Township, Livingston County, MI. (First Remedial Action), March 1991.
PB92-964105/REB
Superfund Record of Decision (EPA Region 5): G and H Industrial Landfill Site, Macomb County, MI. (First Remedial Action), December 1990.
PB92-964106/REB
Superfund Record of Decision (EPA Region 5): Main Street Well Field, Elkhart, IN. (Second Remedial Action), March 1991.
PB92-964107/REB
Superfund Record of Decision (EPA Region 5): Folkertsma Refuse Site, Walker, MI. (First Remedial Action), June 1991.
PB92-964108/REB
Superfund Record of Decision (EPA Region 5): Conrail Railyard, Elkhart County, IN. (First Remedial Action), June 1991.
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Superfund Record of Decision (EPA Region 5): Verona Well Field Site, Battle Creek, MI. (Second Remedial Action), June 1991.
PB92-964110/REB
Superfund Record of Decision (EPA Region 5): Fadrowski Drum Disposal Site, Franklin, WI. (First Remedial Action), June 1991.
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Superfund Record of Decision (EPA Region 5): Motor Wheel Disposal Site, Lansing, MI. (First Remedial Action), September 1991.
PB92-964112/REB
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
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Superfund Record of Decision (EPA Region 5): Anderson Development Company Site, Lenawee County, Adrian, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964114/REB
Superfund Record of Decision (EPA Region 5): Allied Chemical and Ironton Coke, Ironton, OH. (Second Remedial Action), December 1990.
PB92-964115/REB
Superfund Record of Decision (EPA Region 5): Enviro-Chem (Northside Sanitary Landfill), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964116/REB
Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964117/REB
Superfund Record of Decision (EPA Region 5): Summit National Liquid Disposal Service, Deerfield, OH. (First Remedial Action), (Amendment), November 1990.
PB92-964118/REB
Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB
Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
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Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
PB92-964121/REB
Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991.
PB92-964122/REB
Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991.
PB92-964201/REB
Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991.
PB92-964202/REB
Superfund Record of Decision (EPA Region 7): People's Natural Gas Coal Gasification Site, Dubuque, IA. (First Remedial Action), September 1991.
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Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
PB92-964302/REB
Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB
Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990.
PB92-964305/REB
Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB
Superfund Record of Decision (EPA Region 7): Lee Chemical Site, Liberty, MO. (First Remedial Action), March 1991.
PB92-964307/REB
Superfund Record of Decision (EPA Region 8): Hill Air Force Base, Operable Unit 2, Chemical Disposal Pit 3, Site WP07, Davis and Weber Counties, UT. (First Remedial Action), September 1991.
PB92-964401/REB
Superfund Record of Decision (EPA Region 8): Broderick Wood Products, Adams County, CO. (First Remedial Action), (Amendment), September 1991.
PB92-964402/REB
Superfund Record of Decision (EPA Region 9): South Bay Asbestos Area, San Jose, CA. (First Remedial Action), (Amendment), June 1991.
PB92-964501/REB
Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB
Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB
Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991.
PB92-964505/REB
Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991.
PB92-964506/REB
Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991.
PB92-964507/REB
Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
PB92-964508/REB
Superfund Record of Decision (EPA Region 9): Indian Bend Wash Area (Operable Units 1, 4, 5, 6), AZ. (Second Remedial Action), September 1991.
PB92-964509/REB
Superfund Record of Decision (EPA Region 9): Atlas Asbestos Mine, Fresno County, CA. (Second Remedial Action), February 1991.
PB92-964510/REB
Superfund Record of Decision (EPA Region 10): Northwest Transformer-Mission Pole, Whatcom County, WA. (First Remedial Action), (Amendment), September 1991.
PB92-964602/REB
Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB
Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB

WASTE MANAGEMENT

Toxicological Assessment of Hazardous Wastes.
AD-P006 468/3/REB
BioTrol Soil Washing System for Treatment of a Wood Preserving Site: Applications Analysis Report.
PB92-115245/REB
Inside the Hotline: A Compilation of 1991 Monthly Hotline Reports.
PB92-131390/REB
Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
PB92-145564/REB
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
PB92-145572/REB
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
PB92-145580/REB
Inorganic Contract Compliance Screening System Software for the PC (SOW March 1990 Version 1). User Manual.
PB92-145598/REB
Reclamation and Redevelopment of Contaminated Land. Volume 2. European Case Studies.
PB92-146166/REB
Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
PB92-155399/REB
Proceedings on the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (6th). Held in Seattle, Washington on December 3-7, 1991.
PB92-169390/REB
Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
PB92-170562/REB
Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites.
PB92-171909/REB
Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites.
PB92-171917/REB
Air Superfund National Technical Guidance Study Series. Estimation of Air Impacts for the Excavation of Contaminated Soil.
PB92-171925/REB
Chemical Substitution for 1,1,1,-Trichloroethane and Methanol in an Industrial Cleaning Operation.
PB92-179886/REB
Capsule Report: Acostic Monitoring to Determine the Integrity of Hazardous Waste Dams.
PB92-179928/REB
In situ Soil Flushing. Engineering Bulletin.
PB92-180025/REB
Control of Air Emissions from Materials Handling during Remediation. Engineering Bulletin.
PB92-180041/REB
Pollution Prevention Case Studies Compendium.
PB92-180165/REB
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB
Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180181/REB
Technical Resource Document: Batch-Type Procedures for Estimating Soil Adsorption of Chemicals.
PB92-188515/REB

Waste Minimization Assessment for a Manufacturer of Automotive Air Conditioning Condensers and Evaporators.
PB92-188739/REB
Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
PB92-188747/REB
Inspection Techniques for the Fabrication of Geomembrane Field Seams.
PB92-188770/REB
Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
PB92-188879/REB
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts.
PB92-189695/REB
Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks.
PB92-189703/REB
Inactive and Abandoned Noncoal Mines. Volume 1. A Scoping Study.
PB92-190115/REB
Inactive and Abandoned Noncoal Mines. Volume 2. State Reports.
PB92-190123/REB
Inactive and Abandoned Noncoal Mines. Volume 3. Appendix: State Reports.
PB92-190131/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
PB92-190156/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix: State Reports Interstate Coalition on Mine Waste.
PB92-190172/REB
Closure of a Dioxin Incineration Facility.
PB92-191170/REB
Waste Minimization Assessment for a Manufacturer of Aluminum Extrusions.
PB92-192137/REB
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors.
PB92-192806/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers).
PB92-501501/REB
Inorganic Contract Compliance Screening System (ICCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501519/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501527/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers).
PB92-501535/REB
Consolidated List of Chemical Subject to Reporting under the Emergency Planning and Community Right to Know Act. SARA Section 302 Extremely Hazardous Substances, CERCL Hazardous Substances and SARA Section 313 Toxic Chemicals (Title III, List of Lists) (for Microcomputers).
PB92-501774/REB
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB
Regional Pilot Projects and Initiatives.
PB92-963259/REB
Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
PB92-963260/REB
Community Relations in Superfund: A Handbook.
PB92-963341/REB
PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB
Guide to Management of Investigation-Derived Wastes.
PB92-963353/REB
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB
Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB
Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
PB92-963606/REB
Superfund Record of Decision (EPA Region 3): Middletown Air Field Site, Middletown, PA. (Second Remedial Action), December 1990.
PB92-963904/REB
Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991.
PB92-963905/REB
Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenber Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963906/REB
Superfund Record of Decision (EPA Region 3): Dorney Road Landfill Site, Upper Macungie Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963907/REB

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Pollution Prevention Case Studies Compendium.
PB92-180165/REB
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB
Waste Minimization Assessment for a Manufacturer of Automotive Air Conditioning Condensers and Evaporators.
PB92-188739/REB
Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
PB92-188747/REB
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts.
PB92-189695/REB
Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks.
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Waste Minimization Assessment for a Manufacturer of Aluminum Extrusions.
PB92-192137/REB
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors.
PB92-192806/REB
Waste Minimization Assessment for a Manufacturer of Commercial Ice Machines and Ice Storage Bins.
PB92-196351/REB
Waste Minimization Assessment for a Manufacturer of Chemicals.
PB92-203595/REB

WASTE TREATMENT

Methodologies for Evaluating In situ Bioremediation of Chlorinated Solvents.
PB92-146943/REB
Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations.
PB92-154947/REB
Annual Risk Reduction Engineering Laboratory Research Symposium (18th) Abstract Proceedings. Held in Cincinnati, Ohio on April 14-16, 1992.
PB92-166859/REB
Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
PB92-173210/REB
Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB
Demonstration of Waste Treatment Technologies.
PB92-179670/REB
Air Stripping of Aqueous Solutions. Engineering Bulletin.
PB92-180033/REB
Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB
Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB
Solidification/Stabilization: Is It Always Appropriate.
PB92-191188/REB
Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB

WASTE UTILIZATION

Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
PB92-196054/REB

WASTE WATER REUSE

Cape Cod Waste Water Renovation and Retrieval System, a Study of Water Treatment and Conservation First Year of Operation.
PB92-174408/REB

WASTES (INDUSTRIAL)

Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
AD-P006 465/9/REB

WATER

Physical and Chemical Characterization of Indoor Aerosols Resulting from the Use of Tap Water in Portable Home Humidifiers.
PB92-188937/REB

WATER ANALYSIS

Determination of alpha-emitting nuclides of plutonium, americium and curium in environmental materials: Pt. 1. Sea water.
DE92614732/REB
Comparison of Methods for Determination of Dissolved Inorganic Carbon (DIC).
PB92-179712/REB
Comprehensive Evaluation of a Field Test Kit for Lead.
PB92-179720/REB
Application of Modified Aluminon and GFAAS Methods to Beryllium Determination in Drinking Water.
PB92-180199/REB
Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
PB92-180280/REB
Methods for the Determination of Nonconventional Pesticides in Municipal and Industrial Wastewater.
PB92-190289/REB

WATER CHEMISTRY

Acidic Episodes in Surface Waters in Europe.
PB92-188853/REB

WATER CONSERVATION

Cape Cod Waste Water Renovation and Retrieval System, a Study of Water Treatment and Conservation First Year of Operation.
PB92-174408/REB

WATER CURTAINS

Storage of Combined Sewage in a Marine Waterbody.
PB92-158542/REB

WATER POLLUTANTS

Development of Predictive Structure-Biodegradation Relationship Models with the Use of Respirometrically Generated Biokinetic Data.
PB92-191196/REB

WATER POLLUTION

Stability and Transport of Inorganic Colloids through Contaminated Aquifer Material.
PB92-164839/REB
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
PB92-166602/REB
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems.
PB92-166792/REB
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems.
PB92-166800/REB
Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products.
PB92-166818/REB
Bioaccumulation of Contaminants in Crabs and Clams in Bellingham Bay.
PB92-166867/REB
Reference Area Performance Standards for Puget Sound.
PB92-166917/REB
Report of the Great Lakes Air Toxics Research Priorities Workshop. Held at Navarre, Minnesota on March 11-13, 1991.
PB92-166933/REB
Modeling Contaminant Transport through Subsurface Systems.
PB92-179118/REB
Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
PB92-184969/REB
Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB

WATER POLLUTION ABATEMENT

Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
AD-P006 465/9/REB
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB
Combined Sewer Overflow: Balancing Flow for CSO Abatement.
PB92-179761/REB
Oregon, USA, Ecological Regions and Subregions for Water Quality Management.
PB92-180348/REB
Report to Congress on Ocean Dumping, 1987-1990.
PB92-188663/REB

WATER POLLUTION ABATMENT

OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB

WATER POLLUTION CONTROL

Storage of Combined Sewage in a Marine Waterbody.
PB92-158542/REB
Microbial Degradation of Toluene under Sulfate-Reducing Conditions and the Influence of Iron on the Process.
PB92-166735/REB
General Methods for Remedial Operations Performance Evaluations.
PB92-166842/REB
RED Facts: Sodium and Calcium Hypochlorite Salts.
PB92-171958/REB
Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
PB92-173210/REB
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB
Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions.
PB92-179050/REB

Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
PB92-179092/REB
Air Stripping of Aqueous Solutions. Engineering Bulletin.
PB92-180033/REB
Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB
Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB
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EPA/DF/DK-92/040
Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
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PB92-145572/REB

EPA/SW/DK-92/034A
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PB92-145580/REB

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EPA/530/R-92/016
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PB92-963261/REB
National Priorities List Sites Set (1991).
PB92-963253/REB
OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB
Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB
PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB
EPA/540/R-92/005
Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB
EPA/540/8-91/004
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB
Regional Pilot Projects and Initiatives.
PB92-963259/REB
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB
Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB
ROD Annual Report, FY1991. Volume 1.
PB92-963359/REB
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB
Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB
Superfund Accelerated Cleanup Model (SACM).
PB92-963263/REB
EPA/540/8-91/093
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB
EPA/540/8-91/016
Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB
EPA/9200.1-12A
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB
Superfund Progress, Spring 1992.
PB92-963265/REB
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PB92-178938/REB

EPA/600/A-92/084
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PB92-179092/REB

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PB92-164839/REB

EPA/600/A-92/118
Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB

EPA/600/A-92/117
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Report of the EPA Peer Review Workshop on Alpha2U-Globulin: Association with Renal Toxicity and Neoplasia in the Male Rat. Held in Gaithersburg, MD. on November 13-14, 1990.
PB92-166826/REB

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PB92-173335/REB

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Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
PB92-178227/REB

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Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites.
PB92-171909/REB

EPA/450/1-92/003
Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites.
PB92-171917/REB

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ACUREX CORP., JEFFERSON, AR. INCINERATION RESEARCH FACILITY.
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Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
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(EPA/600/R-92/106)
PB92-194000/REB

COMPUTER SCIENCES CORP., RESEARCH TRIANGLE PARK, NC. APPLIED TECHNOLOGY DIV.
Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
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Health Assessment Document for Vermiculite.
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ENVIRONMENTAL MONITORING SYSTEMS LAB., LAS VEGAS, NV. EXPOSURE ASSESSMENT RESEARCH DIV.
Protein Adducts for Exposure Monitoring: A Computerized Database (CPAD) (Version 1) (for Microcomputers).
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ENVIRONMENTAL PROTECTION AGENCY, ANN ARBOR, MI. OFFICE OF MOBILE SOURCES.
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ENVIRONMENTAL PROTECTION AGENCY, ANNAPOLIS, MD. CHESAPEAKE BAY PROGRAM.
Chesapeake Bay Striped Bass Fishery Management Plan: Chesapeake Bay Program. Annual Progress Report from the Chesapeake Executive Council.
PB92-186428/REB
Chesapeake Bay Bluefish Fishery Management Plan. Chesapeake Bay Program Agreement Commitment Report.
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Chesapeake Bay Waterfowl Policy and Management Plan (Agreement Committment Report).
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EPA/600/A-92/098
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB

EPA/600/A-92/099
Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
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PB92-166743/REB

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ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. AIR AND ENERGY ENGINEERING RESEARCH LAB.

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EPA/600/A-92/129
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EPA/600/J-92/164
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PB92-180298/REB

EPA/600/R-92/052A
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PB92-174663/REB

EPA/600/R-92/052B
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 2. Sessions 4, 5, and 6. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174671/REB

EPA/600/R-92/052B
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 4. Sessions 9, 10, 11, and 12. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174697/REB

EPA/600/R-92/052C
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 3. Sessions 7 and 8. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174689/REB

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Development of a Core Combustion Research Program Plan for EPA.
PB92-180868/REB

Proceedings: 1989 International Conference on Municipal Waste Combustion. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174655/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. ATMOSPHERIC RESEARCH AND EXPOSURE ASSESSMENT LAB.

EPA/600/A-92/067
Concentrations from Above-Roof Releases of Laboratory Exhausts: A Wind Tunnel Study.
PB92-164821/REB

EPA/600/A-92/069
Clean Air Act Requirements for Trace Metals Information.
PB92-164995/REB

EPA/600/A-92/116
Current and Future Environmental Role of Atmospheric Methane: Model Studies and Uncertainties.
PB92-188820/REB

EPA/600/A-92/120
Acid Aerosol Measurement Methods: Studies of Extraction and Analytical Effects.
PB92-191154/REB

EPA/600/A-92/123
Customer/Supplier Accountability and Quality Assurance (QA) Program Implementation.
PB92-191162/REB

EPA/600/A-92/124
Spatial and Temporal Analysis of Non-Urban Ozone Concentrations over the Eastern United States Using Rotated Principal Component Analysis.
PB92-192152/REB

EPA/600/A-92/125
Open Path Ambient Measurements of Pollutants with a DOAS System.
PB92-192160/REB

EPA/600/A-92/139
Meteorological and Site Influences Affecting the Comparison of Nephelometer and Photographic Determinations of Light Extinction at Rural Sites in the Eastern United States.
PB92-195999/REB

EPA/600/J-92/129
Fluid Modeling Simulation of Stack-Tip Downwash for Neutrally Buoyant Plumes.
PB92-166644/REB

EPA/600/J-92/131
Stability of Tropospheric OH during Ice Ages, Inter-Glacial Epochs and Modern Times.
PB92-166669/REB

EPA/600/J-92/132
Sampling and Analysis of PCDDs and PCDFs in Stationary Source Emission Air Samples.
PB92-166677/REB

EPA/600/J-92/133
Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB

EPA/600/J-92/134
Composition of Motor Vehicle Organic Emissions under Elevated Temperature Summer Driving Conditions (75 to 105 deg F).
PB92-166693/REB

EPA/600/J-92/137
Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB

EPA/600/J-92/138
High-Volume Impactor for Sampling Fine and Coarse Particles.
PB92-166727/REB

EPA/600/J-92/144
Advanced Emission Speciation Methodologies for the Auto/Oil Air Quality Improvement Research Program. 1. Hydrocarbons and Ethers.
PB92-166784/REB

EPA/600/J-92/187
Physical and Chemical Characterization of Indoor Aerosols Resulting from the Use of Tap Water in Portable Home Humidifiers.
PB92-188937/REB

EPA/600/R-92/029
Report of the Great Lakes Air Toxics Research Priorities Workshop. Held at Navarre, Minnesota on March 11-13, 1991.
PB92-166933/REB

EPA/600/R-92/067
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
PB92-192202/REB

EPA/600/R-92/077
NEXRAD Precipitation Information Application Forum Climate and Global Change.
PB92-180082/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE.

ECAO-R-0082-VOL-1
Air Quality Criteria for Oxides of Nitrogen. Volume 1.
PB92-176361/REB

ECAO-R-0082-VOL-2
Air Quality Criteria for Oxides of Nitrogen. Volume 2.
PB92-176379/REB

ECAO-R-0082-VOL-3
Air Quality Criteria for Oxides of Nitrogen. Volume 3.
PB92-176387/REB

EPA/600/8-91/049AA
Air Quality Criteria for Oxides of Nitrogen. Volume 1.
PB92-176361/REB

EPA/600/8-91/049AB
Air Quality Criteria for Oxides of Nitrogen. Volume 2.
PB92-176379/REB

EPA/600/8-91/049CA
Air Quality Criteria for Oxides of Nitrogen. Volume 3.
PB92-176387/REB

Air Quality Criteria for Oxides of Nitrogen.
PB92-176353/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. OFFICE OF AIR QUALITY PLANNING AND STANDARDS.

EPA/450/2-91/009
Status of Selected Air Pollution Control Programs, February 1992.
PB92-171966/REB

EPA/450/2-92/001
Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper.
PB92-190446/REB

EPA/450/3-91/013
Enabling Document for Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants.
PB92-180132/REB

EPA/450/3-91/0100
Human Exposure Model-II: User's Guide.
PB92-186246/REB

EPA/450/3-92/005
Questions and Answers about the Early Reductions Program.
PB92-180124/REB

EPA/450/4-91/031
Guideline Series: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry.
PB92-180009/REB

EPA/450/4-92/001
Tiered Modeling Approach for Assessing the Risks Due to Sources of Hazardous Air Pollutants.
PB92-164748/REB

EPA/450/4-92/009
Guide for Using the Empirical Kinetics Modeling Approach Interface (EKMAI).
PB92-196005/REB

EPA/452/B-92/001
Directory of OAQPS Information Services, May 1992.
PB92-198654/REB

EPA/500/K-92/002
Air Quality Atlas.
PB92-190248/REB
EPA/4503-91/012A
Procedures for Establishing Emissions for Early Reduction Compliance Extensions. Volume 1. Synthetic Organic Chemical Manufacturing, Ethylene Oxide Sterilization, and Chromium Electroplating.
PB92-176221/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. SOURCE METHODS RESEARCH BRANCH.
EPA/600/A-92/114
Quality Assurance Planning for Stationary Source Field Sampling.
PB92-188804/REB

ENVIRONMENTAL PROTECTION AGENCY, SEATTLE, WA. HAZARDOUS WASTE DIV.
Developing Sediments Quality Standards: Comprehensive Sediment Management in Puget Sound.
AD-P006 465/9/REB

ENVIRONMENTAL PROTECTION AGENCY, SEATTLE, WA. OFFICE OF RESEARCH AND DEVELOPMENT.
Toxicological Assessment of Hazardous Wastes.
AD-P006 468/3/REB

ENVIRONMENTAL PROTECTION AGENCY, SEATTLE, WA. PUGET SOUND ESTUARY PROGRAM.
EPA/910/9-91/038
Beyond the Border: Environmental Management in Washington and British Columbia.
PB92-166883/REB

ENVIRONMENTAL PROTECTION AGENCY, SEATTLE, WA. REGION X.
EPA/910/9-91/046
Oil Tanker Waste Disposal Practices: A Review.
PB92-196047/REB
EPA/910/9-92/003
Environmental Guidance: For Very Small Communities.
PB92-196021/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. ENGINEERING AND ANALYSIS DIV.
EPA/821/R-92/005
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE.
EPA/ROD/R01-91/053
Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990.
PB92-963703/REB
EPA/ROD/R01-91/054
Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991.
PB92-963705/REB
EPA/ROD/R02-91/132
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
PB92-963808/REB
EPA/ROD/R02-91/133
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
PB92-963810/REB
EPA/ROD/R02-91/159
Superfund Record of Decision (EPA Region 2): Chemsol, Inc., Piscataway, Middlesex County, NJ. (First Remedial Action), September 1991.
PB92-963811/REB
EPA/ROD/R02-091/163
Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
PB92-963809/REB
EPA/ROD/R02-91/165
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991.
PB92-963805/REB
EPA/ROD/R02-91/166
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB
EPA/ROD/R03-91/107
Superfund Record of Decision (EPA Region 3): Middletown Air Field Site, Middletown, PA. (Second Remedial Action), December 1990.
PB92-963904/REB
EPA/ROD/R03-91/108
Superfund Record of Decision (EPA Region 3): Whitmoyer Laboratories (Operable Unit 2), Lebanon County, PA. (Second Remedial Action), December 1990.
PB92-963912/REB
EPA/ROD/R03-91/110
Superfund Record of Decision (EPA Region 3): Brodhead Creek, Stroudsburg, PA. (First Remedial Action), March 1991.
PB92-963915/REB
EPA/ROD/R03-91/112
Superfund Record of Decision (EPA Region 3): AVCO Lycoming-Williamsport Division, Lycoming County, Williamsport, PA. (First Remedial Action), June 1991.
PB92-963920/REB
EPA/ROD/R03-91/115
Superfund Record of Decision (EPA Region 3): Halby Chemical, Wilmington, New Castle County, DE. (First Remedial Action), June 1991.
PB92-963914/REB
EPA/ROD/R03-91/116
Superfund Record of Decision (EPA Region 3): Strasburg Landfill, Newlin Township, Chester County, PA. (Second Remedial Action), June 1991.
PB92-963913/REB
EPA/ROD/R03-91/118
Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963910/REB
EPA/ROD/R03-91/119
Superfund Record of Decision (EPA Region 3): USA Letterkenny - Southeastern Area, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963911/REB
EPA/ROD/R03-91/122
Superfund Record of Decision (EPA Region 3): NCR Corporation (Millsboro Plant), Sussex County, Millsboro, DE. (First Remedial Action), August 1991.
PB92-963919/REB
EPA/ROD/R03-91/123
Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991.
PB92-963905/REB
EPA/ROD/R03-91/124
Superfund Record of Decision (EPA Region 3): Heleva Landfill Site, Lehigh County, PA. (First Remedial Action), (Amendment), September 1991.
PB92-963917/REB
EPA/ROD/R03-91/125
Superfund Record of Decision (EPA Region 3): USA Aberdeen Proving Ground, Edgewood, MD. (First Remedial Action), September 1991.
PB92-963916/REB
EPA/ROD/R03-91/126
Superfund Record of Decision (EPA Region 3): USA Aberdeen, Michaelsville, MD. (First Remedial Action), September 1991.
PB92-963909/REB
EPA/ROD/R03-91/127
Superfund Record of Decision (EPA Region 3): Dorney Road Landfill Site, Upper Macungie Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963907/REB
EPA/ROD/R03-91/129
Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenber Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963906/REB
EPA/ROD/R03-91/139
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991.
PB92-963918/REB
EPA/ROD/R04-91/079
Superfund Record of Decision (EPA Region 4): Petroleum Products Corporation Site, Operable Unit 1, Pembroke Park, Broward County, FL. (First Remedial Action), October 1990.
PB92-964007/REB
EPA/ROD/R04-91/080
Superfund Record of Decision (EPA Region 4): Monsanto Superfund Site, Augusta, GA. (First Remedial Action), December 1990.
PB92-964003/REB
EPA/ROD/R04-91/081
Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991.
PB92-964009/REB
EPA/ROD/R04-91/082
Superfund Record of Decision (EPA Region 4): Tri-City Industrial Disposal Site, Bullitt County, Brooks, KY. (First Remedial Action), August 1991.
PB92-964004/REB
EPA/ROD/R04-91/085
Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
PB92-964002/REB
EPA/ROD/R04-91/086
Superfund Record of Decision (EPA Region 4): USA Anniston Army Depot, (Groundwater Operable Unit), Calhoun County, Anniston, AL. (First Remedial Action), September 1991.
PB92-964010/REB
EPA/ROD/R04-91/087
Superfund Record of Decision (EPA Region 4): Wrigley Charcoal Site, Hickman County, Wrigley, TN. (First Remedial Action), September 1991.
PB92-964011/REB
EPA/ROD/R04-91/088
Superfund Record of Decision (EPA Region 4): Smith's Farm Site (First Operable Unit), Bullitt County, Brooks, KY. (First Remedial Action), (Amendment), September 1991.
PB92-964006/REB
EPA/ROD/R04-91/093
Superfund Record of Decision (EPA Region 4): Aberdeen Pesticide Dumps, Moore County, Aberdeen, NC. (First Remedial Action), (Amendment), September 1991.
PB92-964005/REB
EPA/ROD/R04-91/096
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
PB92-964012/REB
EPA/ROD/R04-91/098
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 2), Oak Ridge, TN. (First Remedial Action), June 1991.
PB92-964013/REB
EPA/ROD/R04-91/100
Superfund Record of Decision (EPA Region 4): Sangamo/Twelve-Mile Creek, Lake Hartwell PCB Contamination Site, Pickens, SC. (First Remedial Action), December 1990.
PB92-964008/REB
EPA/ROD/R05-91/151
Superfund Record of Decision (EPA Region 5): Allied Chemical and Ironton Coke, Ironton, OH. (Second Remedial Action), December 1990.
PB92-964115/REB
EPA/ROD/R05-91/152
Superfund Record of Decision (EPA Region 5): G and H Industrial Landfill Site, Macomb County, MI. (First Remedial Action), December 1990.
PB92-964106/REB
EPA/ROD/R05-91/154
Superfund Record of Decision (EPA Region 5): Summit National Liquid Disposal Service, Deerfield, OH. (First Remedial Action), (Amendment), November 1990.
PB92-964118/REB
EPA/ROD/R05-91/156
Superfund Record of Decision (EPA Region 5): Main Street Well Field, Elkhart, IN. (Second Remedial Action), March 1991.
PB92-964107/REB
EPA/ROD/R05-91/157
Superfund Record of Decision (EPA Region 5): Rasmussen's Dump Site, Green Oak Township, Livingston County, MI. (First Remedial Action), March 1991.
PB92-964105/REB
EPA/ROD/R05-91/158
Superfund Record of Decision (EPA Region 5): Folkertsma Refuse Site, Walker, MI. (First Remedial Action), June 1991.
PB92-964108/REB
EPA/ROD-R05-91/159
Superfund Record of Decision (EPA Region 5): Conrail Railyard, Elkhart County, IN. (First Remedial Action), June 1991.
PB92-964109/REB
EPA/ROD/R05-91/160
Superfund Record of Decision (EPA Region 5): Verona Well Field Site, Battle Creek, MI. (Second Remedial Action), June 1991.
PB92-964110/REB
EPA/ROD/R05-91/161
Superfund Record of Decision (EPA Region 5): Enviro-Chem (Northside Sanitary Landfill), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964116/REB
EPA/ROD/R05-91/162
Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964117/REB
EPA/ROD/R05-91/164
Superfund Record of Decision (EPA Region 5): Fadrowski Drum Disposal Site, Franklin, WI. (First Remedial Action), June 1991.
PB92-964111/REB
EPA/ROD/R05-91/165
Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
PB92-964120/REB
EPA/ROD/R05-91/170
Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
PB92-964121/REB
EPA/ROD/R05-91/172
Superfund Record of Decision (EPA Region 5): Motor Wheel Disposal Site, Lansing, MI. (First Remedial Action), September 1991.
PB92-964112/REB
EPA/ROD/R05-91/176
Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991.
PB92-964122/REB
EPA/ROD/R05-91/177
Superfund Record of Decision (EPA Region 5): Anderson Development Company Site, Lenawee County, Adrian, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964114/REB
EPA/ROD/R05-91/178
Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB

EPA/ROD/R05-91/188
Superfund Record of Decision (EPA Region 5): Novaco Industries, Mt. (First Remedial Action), (Amendment), September 1991.
PB92-964104/REB
EPA/ROD/R05-91/191
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
PB92-964113/REB
EPA/ROD/R06-91/066
Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991.
PB92-964202/REB
EPA/ROD/R06-91/067
Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991.
PB92-964201/REB
EPA/ROD/R07-91/045
Superfund Record of Decision (EPA Region 7): Lee Chemical Site, Liberty, MO. (First Remedial Action), March 1991.
PB92-964307/REB
EPA/ROD/R07-91/046
Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB
EPA/ROD/R07-91/049
Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB
EPA/ROD/R07-91/052
Superfund Record of Decision (EPA Region 7): People's Natural Gas Coal Gasification Site, Dubuque, IA. (First Remedial Action), September 1991.
PB92-964301/REB
EPA/ROD/R07-91/054
Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990.
PB92-964305/REB
EPA/ROD/R07-91/056
Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
PB92-964302/REB
EPA/ROD/R08-91/049
Superfund Record of Decision (EPA Region 8): Hill Air Force Base, Operable Unit 2, Chemical Disposal Pit 3, Site WP07, Davis and Weber Counties, UT. (First Remedial Action), September 1991.
PB92-964401/REB
EPA/ROD/R08-91/052
Superfund Record of Decision (EPA Region 8): Broderick Wood Products, Adams County, CO. (First Remedial Action), (Amendment), September 1991.
PB92-964402/REB
EPA/ROD/R09-91/056
Superfund Record of Decision (EPA Region 9): Atlas Asbestos Mine, Fresno County, CA. (Second Remedial Action), February 1991.
PB92-964510/REB
EPA/ROD/R09-91/058
Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991.
PB92-964505/REB
EPA/ROD/R09-91/061
Superfund Record of Decision (EPA Region 9): South Bay Asbestos Area, San Jose, CA. (First Remedial Action), (Amendment), June 1991.
PB92-964501/REB
EPA/ROD/R09-91/063
Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991.
PB92-964506/REB
EPA/ROD/R09-91/065
Superfund Record of Decision (EPA Region 9): Indian Bend Wash Area (Operable Units 1, 4, 5, 6), AZ. (Second Remedial Action), September 1991.
PB92-964509/REB
EPA/ROD/R09-91/067
Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
PB92-964508/REB
EPA/ROD/R09-91/070
Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB
EPA/ROD/R09-91/071
Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB
EPA/ROD/R09-91/074
Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991.
PB92-964507/REB
EPA/ROD/R10-91/027
Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB
EPA/ROD/R10-91/031
Superfund Record of Decision (EPA Region 10): Northwest Transformer-Mission Pole, Whatcom County, WA. (First Remedial Action), (Amendment), September 1991.
PB92-964602/REB
EPA/ROD/R10-91/033
Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB
EPA/540/2-91/021
In situ Soil Flushing. Engineering Bulletin.
PB92-180025/REB
EPA/540/2-91/022
Air Stripping of Aqueous Solutions. Engineering Bulletin.
PB92-180033/REB
EPA/540/2-91/023
Control of Air Emissions from Materials Handling during Remediation. Engineering Bulletin.
PB92-180041/REB
EPA/540/2-91/024
Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB
EPA/540/2-91/025
Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB
EPA/540/8-91/004
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB
EPA/540/8-91/016
Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB
EPA/540/8-91/093
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB
EPA/540/R-92/005
Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB
EPA/540/R-92/009
Community Relations in Superfund: A Handbook.
PB92-963341/REB
EPA/540/S-92/001
Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
PB92-180074/REB
EPA/9200.1-12A
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB
OSWER-9200.0-03E
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB
OSWER-9200.1-09I-VOL-1-NO-1
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB
OSWER-9200.1-12
Superfund Progress, Spring 1992.
PB92-963265/REB
OSWER-9200.2-13
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB
OSWER-9200.2-14
National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
PB92-963261/REB
OSWER-9200.3-01G
Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB
OSWER-9200.5-701A
Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB
OSWER-9202.1-01
Regional Pilot Projects and Initiatives.
PB92-963259/REB
OSWER-9203.1-01
Superfund Accelerated Cleanup Model (SACM).
PB92-963263/REB
OSWER-9230.0-03C
Community Relations in Superfund: A Handbook.
PB92-963341/REB
OSWER-9242.3-10
Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
PB92-963260/REB
OSWER-9283.1-06
Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB
OSWER-9345.1-04
PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB
OSWER-9345.1-08
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB
OSWER-9345.3-03FS
Guide to Management of Investigation-Derived Wastes.
PB92-963353/REB
OSWER-9355.4-06
Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB
OSWER-9355.6-05-1
ROD Annual Report, FY1991. Volume 1.
PB92-963359/REB
OSWER-9355.6-05-2
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB
OSWER-9360.4-10
Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB
OSWER-9360.6-06
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB
OSWER-9360.6-08
Technical Assistance Team (TAT) Contracts Users' Manual.
PB92-963407/REB
OSWER-9360.8-01FS
OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB
OSWER-9380.1-10FS
Characterization Protocol for Radioactive Contaminated Soils.
PB92-963354/REB
OSWER-9834.11FS
Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB
OSWER-9835.16
Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
PB92-963606/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers).
(EPA/SW/DK-92/034)
PB92-501501/REB
Inorganic Contract Compliance Screening System (ICCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
(EPA/SW/DK-92/033)
PB92-501519/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
(EPA/SW/DK-92/032)
PB92-501527/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers).
(EPA/SW/DK-92/031)
PB92-501535/REB
National Priorities List Sites Set (1991).
PB92-963253/REB
Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF ENFORCEMENT.
Enforcement Document Retrieval System (EDRS) Master File (1972-April 1992).
PB92-592380/REB
Enforcement Document Retrieval System (EDRS) Update File (November 14, 1991 to April 22, 1992).
(EPA/DF/MT-92/042)
PB92-592390/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT.
EPA/600/R-92/085
Developmental Toxicology: Risk Assessment and the Future.
PB92-184993/REB
OHEA-R-285
Developmental Toxicology: Risk Assessment and the Future.
PB92-184993/REB
Report of the EPA Peer Review Workshop on Alpha2U-Globulin: Association with Renal Toxicity and Neoplasia in the Male Rat. Held in Gaithersburg, MD. on November 13-14, 1990.
(EPA/625/3-91/021)
PB92-166826/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF PESTICIDE PROGRAMS.
EPA/540/09-92/201
Status of Pesticides in Reregistration and Special Review.
PB92-190438/REB

EPA/540/FS-92/194
Pesticide Fact Sheet Number 233: Ethylene Bisdithiocarbamates (EBDCs).
PB92-185842/REB

EPA/540/FS-92/195
Pesticide Fact Sheet Number 234: Ethylene Oxide (EtO).
PB92-185859/REB

EPA/540/FS-92/196
Pesticide Fact Sheet Number 111.1: Calcium Arsenate (Tolerance Revocation).
PB92-186410/REB

EPA/540/FS-92/197
Pesticide Fact Sheet Number 225: Dichlorvos (DDVP).
PB92-185818/REB

EPA/540/FS-92/198
Pesticide Fact Sheet Number 112.1: Lead Arsenate.
PB92-185834/REB

EPA/540/FS-92/199
Pesticide Fact Sheet Number 91.1: Arsenic Acid (H3AsO4).
PB92-185826/REB

EPA/540/FS-92/203
RED Facts: Heptachlor.
PB92-192798/REB

EPA/540/RS-92/181
Reregistration Eligibility Document (RED): Propionic Acid.
PB92-161983/REB

EPA/540/RS-92/182
Reregistration Eligibility Document (RED): Dried Blood.
PB92-161942/REB

EPA/540/RS-92/184
Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
PB92-161975/REB

EPA/540/RS-92/185
Reregistration Eligibility Document (RED): Carbon and Carbon Dioxide.
PB92-161926/REB

EPA/540/RS-92/187
Reregistration Eligibility Document (RED): Silicon Dioxide and Silica Gel.
PB92-161900/REB

EPA/540/RS-92/193
Reregistration Eligibiligy Document (RED): Sodium and Calcium Hypochlorites.
PB92-180116/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF PESTICIDES AND TOXIC SUBSTANCES.

EPA/540/FS-92/189
RED Facts: Sodium and Calcium Hypochlorite Salts.
PB92-171958/REB

EPA/540/RS-92/202
Reregistration Eligibility Document (RED): Heptachlor.
PB92-191105/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF POLLUTION, PREVENTION, AND TOXICS.

EPA/700/C-92/004
Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
(EPA/700/C-92/036A)
PB92-155381/REB

EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
(EPA/DF/DK-92/040A)
PB92-169523/REB

Toxic Release Inventory (TRI), 1990.
(EPA/DF/MT-92/036)
PB92-501816/REB

Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
(EPA/DF/DK-92/040)
PB92-501972/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF SOLID WASTE.

EPA/530/R-92/008A
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
PB92-190156/REB

EPA/530/R-92/008B
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB

EPA/530/R-92/008C
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix: State Reports Interstate Coalition on Mine Waste.
PB92-190172/REB

EPA/530/R-92/011
Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations.
PB92-154947/REB

EPA/530/R-92/013
Characterization of Products Containing Mercury in Municipal Solid Waste in the United States, 1970 to 2000.
PB92-162569/REB

RCRIS Data Element Dictionary, Version 3.0.0. Data Tape Documentation.
PB92-145515/REB

Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs.
PB92-190149/REB

Resource Conservation and Recovery Information System (RCRIS) Extract Tape.
(EPA/DF/MT-92/029)
PB92-592290/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE.

EPA/500/B-92/002
Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
(EPA/DF/DK-92/035A)
PB92-155399/REB

EPA/530/R-92/010
Preliminary Use and Substitutes Analysis of Lead and Cadmium in Products in Municipal Solid Waste.
PB92-162551/REB

EPA/540/2-91/001
Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
PB92-173210/REB

EPA/540/9-91/002
Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB

EPA/560/4-92/011
Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
(EPA/DF/DK-92/035A)
PB92-155399/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF THE ASSISTANT ADMINISTRATOR FOR WATER.

EPA/503/9-91/009
Report to Congress on Ocean Dumping, 1987-1990.
PB92-188663/REB

EPA/821/R-92/003
Economic Impact Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173533/REB

EPA/821/R-92/004
Cost-Effectiveness Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173525/REB

Drinking Water Criteria Document for Antimony.
PB92-173293/REB

Drinking Water Criteria Document for Dalapon.
PB92-173327/REB

Quantification of Toxicological Effects for Dichloromethane.
PB92-173335/REB

Drinking Water Criteria Document for Di(2-Ethylhexyl) Adipate.
PB92-173343/REB

Drinking Water Criteria Document for Dinoseb.
PB92-173350/REB

Drinking Water Criteria Document for Diquat.
PB92-173368/REB

Drinking Water Criteria Document for Endothall.
PB92-173376/REB

Drinking Water Criteria Document for Glyphosate.
PB92-173392/REB

Drinking Water Criteria Document for Oxamyl (VYDATE).
PB92-173434/REB

Drinking Water Criteria Document for Picloram.
PB92-173467/REB

Drinking Water Criteria Document for Simazine.
PB92-173475/REB

Drinking Water Criteria Document for Thallium.
PB92-173483/REB

Drinking Water Criteria Document for 1,1,2-Trichloroethane.
PB92-173509/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF TOXIC SUBSTANCES.

Consolidated List of Chemical Subject to Reporting under the Emergency Planning and Community Right to Know Act. SARA Section 302 Extremely Hazardous Substances, CERCL Hazardous Substances and SARA Section 313 Toxic Chemicals (Title III, List of Lists) (for Microcomputers).
(EPA/DF/DK-92/035)
PB92-501774/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF UNDERGROUND STORAGE TANKS.

EPA/530/UST-91/018
Leaking Underground Storage Tanks and Health: Understanding Health Risks from Petroleum Contamination.
PB92-184969/REB

ENVIRONMENTAL QUALITY MANAGEMENT, INC., DURHAM, NC.

Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites.
(EPA/450/1-92/002)
PB92-171909/REB

ENVIRONMENTAL RESEARCH LAB., ATHENS, GA.

EPA/600/A-92/075
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
PB92-166602/REB

EPA/600/A-92/089
Toxicity of Ammonia, Nitrite, and Nitrate to Fishes.
PB92-179142/REB

EPA/600/J-92/126
Treating Soil Solution Samplers to Prevent Microbial Removal of Analytes.
PB92-166610/REB

EPA/600/J-92/127
New Perspectives in Aquatic Redox Chemistry: Abiotic Transformations of Pollutants in Groundwater and Sediments.
PB92-166628/REB

EPA/600/J-92/155
Sorption of Heavy Metals by the Soil Fungi 'Aspergillus niger' and Mucor rouxii.
PB92-179811/REB

EPA/600/J-92/156
Modelling Individuals Employing an Integrated Energy Response: Application to 'Daphnia'.
PB92-179829/REB

EPA/600/J-92/157
Spectroscopic Study of Surface Redox Reactions With Manganese Oxides.
PB92-179837/REB

EPA/600/J-92/179
Structural Characterization of Sulfonated Azo Dyes Using Liquid Secondary Ion Mass Spectrometry/Tandem Mass Spectrometry.
PB92-188861/REB

ENVIRONMENTAL RESEARCH LAB., ATHENS, GA. OFFICE OF RESEARCH AND DEVELOPMENT.

EPA/600/A-92/074
Preliminary Results of a Pesticide Leaching Study at Plains, Georgia.
PB92-166354/REB

EPA/600/J-92/145
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems.
PB92-166792/REB

EPA/600/J-92/146
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems.
PB92-166800/REB

EPA/600/J-92/147
Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products.
PB92-166818/REB

ENVIRONMENTAL RESEARCH LAB.-DULUTH, MN.

EPA/600/A-92/133
Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
PB92-195957/REB

Complex Effluent Toxicity Information System (CETIS) (for Microcomputers).
(EPA/SW/DK-92/039)
PB92-501899/REB

ENVIRONMENTAL RESEARCH LAB., GULF BREEZE, FL.

CONTRIB-694
Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB

CONTRIB-706
Water Quality Model for a River Receiving Paper Mill Effluents and Conventional Sewage.
PB92-195643/REB

CONTRIB-713
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB

CONTRIB-718
Comparative Acute Sensitivity of Larval Topsmelt, 'Atherinops affinis', and Inland Silverside, 'Menidia beryllina', to 11 Chemicals.
PB92-195668/REB

CONTRIB-724
Reproductive Ecology of the Inland Silverside, 'Menidia beryllina', (Pisces: Atherinidae) from Blackwater Bay, Florida.
PB92-195775/REB

EPA/600/A-92/121
Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB

EPA/600/A-92/122
Mosquito Control Pesticides: Adverse Impacts to Freshwater Aquatic and Marine Organisms.
PB92-195890/REB

EPA/600/J-92/207
Water Quality Model for a River Receiving Paper Mill Effluents and Conventional Sewage.
PB92-195643/REB

EPA/600/J-92/208
Disease Incidence and Potential Mechanisms of Defense for MSX-Resistant and -Susceptible Eastern Oysters Held in Chesapeake Bay.
PB92-195650/REB

EPA/600/J-92/209
Comparative Acute Sensitivity of Larval Topsmelt, 'Atherinops affinis', and Inland Silverside, 'Menidia beryllina', to 11 Chemicals.
PB92-195668/REB

EPA/600/J-92/210
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB

EPA/600/J-92/213
Spongiosis Hepatis: Chemical Induction, Pathogenesis, and Possible Neoplastic Fate in a Teleost Fish Model.
PB92-195700/REB

EPA/600/J-92/218
Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae.
PB92-195759/REB

EPA/600/J-92/220
Reproductive Ecology of the Inland Silverside, 'Menidia beryllina', (Pisces: Atherinidae) from Blackwater Bay, Florida.
PB92-195775/REB

EPA/600/J-92/221
Abundant Males in Populations of a Selfing Hermaphrodite Fish, 'Rivulus marmoratus', from Some Belize Cays.
PB92-195783/REB

FLEMING GROUP, EAST SYRACUSE, NY.
Radon Reduction and Radon-Resistant Construction Demonstrations in New York State.
(NYSERDA-91-11)
PB92-174051/REB

FOSTER WHEELER ENVIRESPONSE, INC., EDISON, NJ.
Closure of a Dioxin Incineration Facility.
(EPA/600/J-92/204)
PB92-191170/REB

FOSTER WHEELER ENVIRESPONSE, INC., LIVINGSTON, NJ.
Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator.
(EPA/600/J-92/176)
PB92-188838/REB

GCA CORP., BEDFORD, MA.
Capsule Report: Particulate Control by Fabric Filtration on Coal-Fired Industrial Boilers.
(EPA/625/2-79/021)
PB92-179894/REB

GENERAL SCIENCES CORP., LAUREL, MD.
Time Spent in Activities, Locations, and Microenvironments: A California-National Comparison.
(EPA/600/4-91/006)
PB92-140789/REB

GEOLOGICAL SURVEY, MENLO PARK, CA. WATER RESOURCES DIV.
USGS/WRI-91-4034
Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
(EPA/600/A-92/088)
PB92-179134/REB

Spatial Variability of Geochemical and Hydrologic Properties of Subsurface Materials in a Sand and Gravel Aquifer, Cape Cod, Massachusetts.
(EPA/600/A-92/087)
PB92-179126/REB

HAZLETON LABS. AMERICA, INC., ROCKVILLE, MD.
Subacute and Subchronic Oral Toxicity of 1,3-Dichloropropane in the Rat.
(EPA/600/J-92/121)
PB92-164912/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC.
EPA/600/9-91/016A
Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities.
PB92-170174/REB

EPA/600/A-92/073
Neurobehavioral Toxicology. Chapter 2.
PB92-166347/REB

EPA/600/A-92/082
Measuring Sexual Behavior in the Female Rat.
PB92-179076/REB

EPA/600/A-92/112
Health Research to Support Risk Assessment.
PB92-188788/REB

EPA/600/J-92/120
DNA Strand Breaks Induced in Cultured Human and Rodent Cells by Chlorohydroxyfuranones, Mutagens Isolated from Drinking Water.
PB92-164904/REB

EPA/600/J-92/123
Induction of Gastrointestinal Tract Nuclear Anomalies in B6C3F1 Mice by 3-Chloro-4-(Dichloromethyl)-5-Hydroxy-2(5H)-Furanone and 3,4-(Dichloro)-5-Hydroxy-2(5H)-Furanone, Mutagenic Byproducts of Chlorine Disinfection.
PB92-164938/REB

EPA/600/J-92/124
Subchronic Toxicity Study of Ozonated and Ozonated/Chlorinated Humic Acids in Sprague-Dawley Rats: A Model System for Drinking Water Disinfection.
PB92-164946/REB

EPA/600/J-92/181
Doing the Right Thing (Book Reviews).
PB92-188887/REB

EPA/600/J-92/184
Assessment of Spatial Variation of Risks in Small Populations.
PB92-188903/REB

EPA/600/J-92/185
Multifactor Potency Scheme for Comparing the Carcinogenic Activity of Chemicals.
PB92-188911/REB

EPA/600/J-92/186
Alterations in Rat Flash and Pattern Reversal Evoked Potentials after Acute or Repeated Administration of Carbon Disulfide (CS2).
PB92-188929/REB

EPA/600/J-92/230
Comparative Immunosuppression of Various Glycol Ethers Orally Administered to Fisher 344 Rats.
PB92-195833/REB

OHR-91-001
Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities.
PB92-170174/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. CARCINOGENESIS AND METABOLISM BRANCH.
EPA/600/J-92/153
Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies.
PB92-179795/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. DEVELOPMENTAL TOXICOLOGY DIV.
EPA/600/J-92/190
Embryonic Palatal Responses to Teratogens in Serum-Free Organ Culture.
PB92-188960/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. ENVIRONMENTAL TOXICOLOGY DIV.
EPA/600/J-92/114
Dosimetry of Localized Accumulations of Cigarette Smoke and Radon Progeny at Bifurcations.
PB92-164847/REB

EPA/600/J-92/142
Limited PCB Antagonism of TCDD-Induced Malformations in Mice.
PB92-166768/REB

EPA/600/J-92/163
Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
PB92-180280/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. GENETIC TOXICOLOGY DIV.
EPA/600/J-92/119
Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons.
PB92-164896/REB

EPA/600/J-92/193
Kinetochore-Staining of Spermatid Micronuclei: Studies of Mice Treated with X-Radiation or Acrylamide.
PB92-188994/REB

EPA/600/J-92/203
Genetic Activity Profile Database.
PB92-189091/REB

EPA/600/J-92/231
Induction of Prophage Lambda by Chlorinated Organics: Detection of Some Single-Species/Single-Site Carcinogens.
PB92-195841/REB

EPA/600/J-92/233
Prophage Induction by DNA Topoisomerase II Poisons and Reactive-Oxygen Species: Role of DNA Breaks.
PB92-195866/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. HUMAN STUDIES DIV.
EPA/600/J-92/195
Exposure of Humans to a Volatile Organic Mixture. 1. Behavioral Assessment.
PB92-189018/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. NEUROTOXICOLOGY DIV.
EPA/600/A-92/065
Sensory Evoked Potentials: Measures of Neurotoxicity.
PB92-164805/REB

EPA/600/A-92/072
Reflex Modification and the Assessment of Sensory Dysfunction.
PB92-166339/REB

EPA/600/A-92/113
Implementing 'In vitro' Models in the Hazard Identification and Risk Assessment Process.
PB92-188796/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. REPRODUCTIVE TOXICOLOGY BRANCH.
EPA/600/A-92/083
Collection of Interstitial Fluid and Seminiferous Tubule Fluid from the Rat Testis.
PB92-179084/REB

IDAHO UNIV., MOSCOW. DEPT. OF BACTERIOLOGY AND BIOCHEMISTRY.
Cloning and Expression of a Lignin Peroxidase Gene from 'Streptomyces viridosporus' in 'Streptomyces lividans'.
(EPA/600/J-92/173)
PB92-180389/REB

ILLINOIS STATE GEOLOGICAL SURVEY DIV., CHAMPAIGN.
Technical Resource Document: Batch-Type Procedures for Estimating Soil Adsorption of Chemicals.
(EPA/530/SW-87/006F)
PB92-188515/REB

INDIANA UNIV.-PURDUE UNIV. AT FORT WAYNE. DEPT. OF BIOLOGICAL SCIENCES.
Carcinogen-DNA Adducts in Cultures of Rat and Human Hepatocytes.
(EPA/600/J-92/201)
PB92-189075/REB

INSTITUT RUDJER BOSKOVIC, ZAGREB (YUGOSLAVIA). CENTER FOR MARINE RESEARCH.
Potential of Carp to Bioactivate Benzo(a)pyrene to Metabolites That Bind to DNA.
(EPA/600/J-92/197)
PB92-189034/REB

INTERNATIONAL TECHNOLOGY CORP., DURHAM, NC.
Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites.
(EPA/450/1-92/003)
PB92-171917/REB

JOHNS HOPKINS UNIV., BALTIMORE, MD. SCHOOL OF HYGIENE AND PUBLIC HEALTH.
Isolation and Culture of Leydig Cells from Adult Rats.
(EPA/600/A-92/071)
PB92-166321/REB

KENNESAW STATE COLL., MARIETTA, GA.
Incineration Data on Arsenic and Lead Emissions.
(EPA/600/A-92/079)
PB92-179043/REB

KENTUCKY UNIV., LEXINGTON. GRADUATE CENTER FOR TOXICOLOGY.
Cigarette Smoke-Induced DNA Adducts in the Respiratory and Nonrespiratory Tissues of Rats.
PB92-189083/REB

LITTLE (ARTHUR D.), INC., CAMBRIDGE, MA.
Permeation of Multifunctional Acrylates through Three Protective Clothing Materials.
(EPA/600/R-92/049)
PB92-164797/REB

LOCKHEED ENGINEERING AND SCIENCES CO., INC., LAS VEGAS, NV.
Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
(EPA/600/4-91/019)
PB92-139948/REB

Protein Adducts for Exposure Monitoring: A Computerized Database. Software and User's Manual.
(EPA/600/8-91/043, EPA/SW/DK-92/037A)
PB92-155431/REB

Superfund Innovative Technology Evaluation Program Demonstration Plan for Westinghouse Bio-Analytic Systems Pentachlorophenol Immunoassays.
(EPA/600/4-91/028)
PB92-170190/REB

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Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
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Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
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PB92-195825/REB

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PB92-179019/REB

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PB92-180306/REB

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Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper.
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National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
PB92-174747/REB
National Home and Garden Pesticide Use Survey. Final Report. Volume 2. Survey Design, Implementation, and Analysis Methods.
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Alternative Control Techniques Document: For PM-10 Emissions from Ferrous Foundries.
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PB92-190230/REB

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PB92-179670/REB

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Dosimetry of Localized Accumulations of Cigarette Smoke and Radon Progeny at Bifurcations.
PB92-164847/REB

MASSARO, E. J.
Reversibility of Tributyltin-Induced Toxicity In vitro as a Function of Concentration and Duration of Exposure (C X T).
PB92-164854/REB

MATHUR, S. B.
Vapor Pressures, Liquid Molar Volumes, Vapor Non-Idealities, and Critical Properties of Some Fluorinated Ethers: CF3OCF2OCF3, CF3OCF2CF2H, c-CF2CF2CF2O, CF3OCF2H, and CF3OCH3; and of CCl3F and CF2ClH.
PB92-179746/REB

MAY, R.
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB

MCALLISTER, R. A.
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Bench and Laboratory Studies.
PB92-178979/REB

MCCARTY, P. L.
Methodologies for Evaluating In situ Bioremediation of Chlorinated Solvents.
PB92-146943/REB

MCCRILLIS, R. C.
Analysis of Emissions from Residential Oil Furnaces.
PB92-195981/REB
Analysis of Emissions from Residential Oil Furnaces and Comparison with Woodstove Emissions.
PB92-195924/REB
Effects of Operating Variables on PAH Emissions and Mutagenicity of Emissions from Woodstoves (Journal Article).
PB92-195809/REB

MCCURDY, T. M.
Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper.
PB92-190446/REB

MCELROY, F. F.
Performance of Automated Ambient SO2 Analyzers with Respect to a Proposed 5-Minute Ambient Air Quality Standard.
PB92-192178/REB

MCKEE, D. J.
Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper.
PB92-190446/REB

MCKELLAR, M. G.
Design and Optimization of a Refrigeration System.
PB92-195973/REB

MCMINN, B. W.
Control of VOC Emissions from Ink and Paint Manufacturing Processes.
PB92-190230/REB

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Reactive Transport of Suspended Particles: Mechanisms and Modeling.
PB92-174317/REB

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Comparative Acute Sensitivity of Larval Topsmelt, 'Atherinops affinis', and Inland Silverside, 'Menidia beryllina', to 11 Chemicals.
PB92-195668/REB
Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae.
PB92-195759/REB
Reproductive Ecology of the Inland Silverside, 'Menidia beryllina', (Pisces: Atherinidae) from Blackwater Bay, Florida.
PB92-195775/REB

MIDGETT, M. R.
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Bench and Laboratory Studies.
PB92-178979/REB
Quality Assurance Planning for Stationary Source Field Sampling.
PB92-188804/REB
Sampling and Analysis of PCDDs and PCDFs in Stationary Source Emission Air Samples.
PB92-166677/REB
Stability of Air Toxic Gases Listed in Title III Clean Air Act Amendments.
PB92-188812/REB
Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB

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Structural Characterization of Sulfonated Azo Dyes Using Liquid Secondary Ion Mass Spectrometry/Tandem Mass Spectrometry.
PB92-188861/REB

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Measurement of Polycyclic Aromatic Hydrocarbons in Soils and Sediments by Particle-Beam/High-Performance Liquid Chromatography/Mass Spectrometry.
PB92-188721/REB

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Pollution Impacts at the Stand and Ecosystem Levels.
PB92-179027/REB

MILLER, P. S.
Waste Minimization Assessment for a Manufacturer of Chemicals.
PB92-203595/REB

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Characterization of Stress-Responsive Behavior in 'Pseudomonas aeruginosa' PAO: Isolation of Tn3-lacZYA Fusions with Novel Damage-Inducible (din) Promoters.
PB92-195718/REB

MILTNER, R. J.
Use of Pilot Columns for Predicting Full-Scale GAC Performance.
PB92-179159/REB

MINEAU, P.
Methods Used in Determination of Cholinesterase Activity.
PB92-179035/REB

MITCH, M. E.
User's Guide and Data Dictionary for Kenai Lakes Investigation Project.
PB92-178961/REB

MITCHELL, D. E.
Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
PB92-180280/REB

MOELHAVE, L.
Exposure of Humans to a Volatile Organic Mixture. 1. Behavioral Assessment.
PB92-189018/REB

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Carcinogen-DNA Adducts in Cultures of Rat and Human Hepatocytes.
PB92-189075/REB

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Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions.
PB92-179050/REB

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Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB

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Treating Soil Solution Samplers to Prevent Microbial Removal of Analytes.
PB92-166610/REB

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Combined Sewer Overflow: Balancing Flow for CSO Abatement.
PB92-179761/REB

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Effects of Open-Top Chambers on 'Valencia' Orange Trees.
PB92-180355/REB

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Limited PCB Antagonism of TCDD-Induced Malformations in Mice.
PB92-166768/REB

MOSER, V. C.
Applications of a Neurobehavioral Screening Battery.
PB92-179787/REB
Comparison of Screening Approaches, 1992.
PB92-189042/REB
Comparison of Subchronic Neurotoxicity of 2-Hydroxyethyl Acrylate and Acrylamide in Rats.
PB92-188945/REB

MULLEN, M. D.
Sorption of Heavy Metals by the Soil Fungi 'Aspergillus niger' and Mucor rouxii.
PB92-179811/REB

MUNCH, J. W.
Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
PB92-180280/REB

NALESNIK, R. P.
Intelligent Processing Equipment within the Environmental Protection Agency.
N92-24997/8/REB

NASSER, C.
Beyond the Border: Environmental Management in Washington and British Columbia.
PB92-166883/REB

NEBEKER, A. V.
Effects of Low Dissolved Oxygen on Survival, Growth and Reproduction of 'Daphnia', 'Hyalella' and 'Gammarus'.
PB92-188846/REB
Teratogenesis, Toxicity, and Bioconcentration in Frogs Exposed to Dieldrin.
PB92-180363/REB

NEBEL, K. L.
Parametric Evaluation of Powdered Activated Carbon Injection for Control of Mercury Emissions from a Municipal Waste Combustor.
PB92-195940/REB

NESNOW, S.
Multifactor Potency Scheme for Comparing the Carcinogenic Activity of Chemicals.
PB92-188911/REB

NEUE, H. U.
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB

NEWELL, A. D.
User's Guide and Data Dictionary for Kenai Lakes Investigation Project.
PB92-178961/REB

NGUYEN, M. T.
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB

NOLES, J.
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB

NOVO-GRADAC, K. J.
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
PB92-166602/REB

O'FARRELL, T. P.
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB

O'SHEA, M.
U.S. Environmental Protection Agency Research Program on the Environmental Impacts and Control of Highway Deicing Salt Pollution.
PB92-179688/REB

OBERDORFF, T.
Modification of an Index of Biotic Integrity Based on Fish Assemblages to Characterize Rivers of the Seine Basin, France.
PB92-180322/REB

OLSEN, A. R.
Statistical Issues in Environmental Monitoring and Assessment.
PB92-178987/REB

OLSON, G. R.
Induction of Gastrointestinal Tract Nuclear Anomalies in B6C3F1 Mice by 3-Chloro-4-(Dichloromethyl)-5-Hydroxy-2(5H)-Furanone and 3,4-(Dichloro)-5-Hydroxy-2(5H)-Furanone, Mutagenic Byproducts of Chlorine Disinfection.
PB92-164938/REB

Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons.
PB92-164896/REB

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Effects of Open-Top Chambers on 'Valencia' Orange Trees.
PB92-180355/REB

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Effects of Low Dissolved Oxygen on Survival, Growth and Reproduction of 'Daphnia', 'Hyalella' and 'Gammarus'.
PB92-188846/REB

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Chlorinated Dioxins and Furans in the General U.S. Population: NHATS FY87 Results.
PB92-180157/REB

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Exposure of Humans to a Volatile Organic Mixture. 1. Behavioral Assessment.
PB92-189018/REB

Reliability of Selected Tests from the Neurobehavioral Evaluation System.
PB92-195858/REB

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Improvement of Performance of Variable Probability Sampling Strategies.
PB92-180264/REB

Probability Sampling and Population Inference in Monitoring Programs.
FB92-180272/REB

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Measurement of Polycyclic Aromatic Hydrocarbons in Soils and Sediments by Particle-Beam/High-Performance Liquid Chromatography/Mass Spectrometry.
PB92-188721/REB

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Subchronic Toxicity Study of Ozonated and Ozonated/Chlorinated Humic Acids in Sprague-Dawley Rats: A Model System for Drinking Water Disinfection.
PB92-164946/REB

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Clean Air Act Requirements for Trace Metals Information.
PB92-164995/REB

PALMER, C. D.
Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
PB92-180074/REB

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Performance of Automated Ambient SO2 Analyzers with Respect to a Proposed 5-Minute Ambient Air Quality Standard.
PB92-192178/REB

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Introduction and Summary. Genotoxicity and Carcinogenicity Databases: An Assessment of the Present Situation.
PB92-188986/REB

PARRICH, R. S.
Preliminary Results of a Pesticide Leaching Study at Plains, Georgia.
PB92-166354/REB

PATE, B. A.
Using a Flame Ionization Detector (FID) Continuously Measure Toxic Organic Vapors in a Paint Spray Booth.
PB92-198258/REB

PATTERSON, R. K.
Customer/Supplier Accountability and Quality Assurance (QA) Program Implementation.
PB92-191162/REB

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Sampling and Analysis of PCDDs and PCDFs in Stationary Source Emission Air Samples.
PB92-166677/REB

Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB

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Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
PB92-179092/REB

PEELER, J. W.
Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
PB92-192889/REB

PEIJNENBURG, W. J. G. M.
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems.
PB92-166792/REB

PERDEK, J. M.
Closure of a Dioxin Incineration Facility.
PB92-191170/REB

Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator.
PB92-188838/REB

PEREZ, K. M.
Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
PB92-139948/REB

PERREAULT, S. D.
Computer-Assisted Sperm Analysis of Rodent Epididymal Sperm Motility Using the Hamilton-Thorn Motility Analyzer.
PB92-165000/REB

PETERSON, S. A.
Toxicological Assessment of Hazardous Wastes.
AD-P006 468/3/REB

PEUNENBURG, W. J. G. M.
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems.
PB92-166800/REB

Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products.
PB92-166818/REB

PHILLIPS, D. L.
Interlaboratory Study of Cellular Fluorescence Intensity Measurements with Fluorescein-Labeled Microbead Standards.
PB92-153881/REB

PINTO, J. P.
Current and Future Environmental Role of Atmospheric Methane: Model Studies and Uncertainties.
PB92-188820/REB

Stability of Tropospheric OH during Ice Ages, Inter-Glacial Epochs and Modern Times.
PB92-166669/REB

PLAISANCE, S. J.
Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
PB92-192889/REB

POLLARD, J. E.
Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
PB92-139948/REB

PORTEOUS, L. A.
Formation of Transconjugants on Plating Media Following 'In situ' Conjugation Experiments.
PB92-180330/REB

POWELL, R. M.
Stability and Transport of Inorganic Colloids through Contaminated Aquifer Material.
PB92-164839/REB

Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB

PRESTON, E. M.
Wetlands Research Plan FY92-96: An Integrated Risk-Based Approach.
PB92-178946/REB

PULS, R. W.
Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
PB92-179092/REB

Stability and Transport of Inorganic Colloids through Contaminated Aquifer Material.
PB92-164839/REB

Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB

PUTERSKI, R.
GIS Technical Memorandum 3: Global Positioning Systems Technology and Its Application in Environmental Programs.
PB92-169358/REB

QUANDER, J.
Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB

QUEST, J. A.
Characteristics of the U.S. EPA's Office of Pesticide Programs' Toxicity Information Databases.
PB92-188978/REB

RABINOWITZ, J. R.
Epoxide Ring Opening and Related Reactivities of Cyclopenta Polycyclic Aromatic Hydrocarbons: Quantum Mechanical Studies.
PB92-179795/REB

RAFII, F.
Cloning and Expression of a Lignin Peroxidase Gene from 'Streptomyces viridosporus' in 'Streptomyces lividans'.
PB92-180389/REB

RANDTKE, S. J.
Acid Aerosol Measurement Methods: Studies of Extraction and Analytical Effects.
PB92-191154/REB

RAPP, G. R.
Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
PB92-195957/REB

RAWE, J.
Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance.
PB92-170570/REB

Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB

RAY, W. D.
Composition of Motor Vehicle Organic Emissions under Elevated Temperature Summer Driving Conditions (75 to 105 deg F).
PB92-166693/REB

REA, B. A.
Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
PB92-179134/REB

READING, P. L.
National Home and Garden Pesticide Use Survey Final Report. Executive Summary.
PB92-174739/REB

National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
PB92-174747/REB

National Home and Garden Pesticide Use Survey. Final Report. Volume 2. Survey Design, Implementation, and Analysis Methods.
PB92-174754/REB

REDDY, T. A.
Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings.
PB92-192194/REB

Natural Basement Ventilation as a Radon Mitigation Technique.
PB92-166958/REB

Simplified Modeling of Air Flow Dynamics in SSD Radon Mitigation Systems for Residences with Gravel Beds.
PB92-195635/REB

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Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons.
PB92-164896/REB

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Stability and Transport of Inorganic Colloids through Contaminated Aquifer Material.
PB92-164839/REB

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Collection of Interstitial Fluid and Seminiferous Tubule Fluid from the Rat Testis.
PB92-179084/REB

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Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB

REINHARD, M.
Abiotic Transformation of Carbon Tetrachloride in the Presence of Sulfide and Mineral Surfaces.
PB92-179738/REB

Microbial Degradation of Toluene under Sulfate-Reducing Conditions and the Influence of Iron on the Process.
PB92-166735/REB

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Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions.
PB92-179050/REB

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Serological Cross-Reactions between 'Escherichia coli' O157 and other Species of the Genus 'Escherichia'.
PB92-180306/REB

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Structural Characterization of Sulfonated Azo Dyes Using Liquid Secondary Ion Mass Spectrometry/Tandem Mass Spectrometry.
PB92-188861/REB

RICHMOND, H. M.
Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper.
PB92-190446/REB

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Immunohistochemical Detection of P21 'ras' and P110 'myc' Oncogene Expression in Regenerating Rat Liver.
PB92-188895/REB

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Performance of Automated Ambient SO2 Analyzers with Respect to a Proposed 5-Minute Ambient Air Quality Standard.
PB92-192178/REB

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Comparative Immunosuppression of Various Glycol Ethers Orally Administered to Fisher 344 Rats.
PB92-195833/REB

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Assessment of Spatial Variation of Risks in Small Populations.
PB92-188903/REB

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Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
PB92-180280/REB
Subchronic Toxicity Study of Ozonated and Ozonated/Chlorinated Humic Acids in Sprague-Dawley Rats: A Model System for Drinking Water Disinfection.
PB92-164946/REB

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Spectroscopic Study of Surface Redox Reactions With Manganese Oxides.
PB92-179837/REB

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Methodologies for Evaluating In situ Bioremediation of Chlorinated Solvents.
PB92-146943/REB

ROBERTS, W. C.
Health Advisory for 2,4- and 2,6-Dinitrotoluene (DNT).
PB92-189315/REB

ROBINSON, J. P.
Time Spent in Activities, Locations, and Microenvironments: A California-National Comparison.
PB92-140789/REB

ROBINSON, M.
Comparative Subchronic Toxicity Studies of Three Disinfectants.
PB92-164920/REB
Subacute and Subchronic Oral Toxicity of 1,3-Dichloropropane in the Rat.
PB92-164912/REB
Subchronic Toxicity Study of Ozonated and Ozonated/Chlorinated Humic Acids in Sprague-Dawley Rats: A Model System for Drinking Water Disinfection.
PB92-164946/REB

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Measurement of Polycyclic Aromatic Hydrocarbons in Soils and Sediments by Particle-Beam/High-Performance Liquid Chromatography/Mass Spectrometry.
PB92-188721/REB

ROECK, D.
Capsule Report: Particulate Control by Fabric Filtration on Coal-Fired Industrial Boilers.
PB92-179894/REB

ROGERS, J. M.
Developmental Effects of Methyl Benzimidazolecarbamate Following Exposure during Early Pregnancy.
PB92-164862/REB

ROSELLE, S. J.
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
PB92-192202/REB

ROY, W. R.
Technical Resource Document: Batch-Type Procedures for Estimating Soil Adsorption of Chemicals.
PB92-188515/REB

RUBIN, M. B.
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB

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Toxicity of Ammonia, Nitrite, and Nitrate to Fishes.
PB92-179142/REB

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Metabolism of Benzo(a)Pyrene and Persistence of DNA Adducts in the Brown Bullhead 'Ictalurus nebulosus'.
PB92-189067/REB

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Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
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PB92-191170/REB

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Field Demonstration of the Linde Oxygen Combustion System on the EPA Mobile Incinerator.
PB92-188838/REB

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Oregon, USA, Ecological Regions and Subregions for Water Quality Management.
PB92-180348/REB

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Evaluation of the Rackwitz-Fiessler Uncertainty Analysis Method for Environmental Fate and Transport Models.
PB92-188879/REB

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Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
PB92-195957/REB

SCHNELL, F. C.
Protein Adducts for Exposure Monitoring: A Computerized Database. Software and User's Manual.
PB92-155431/REB

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Comparison of Methods for Determination of Dissolved Inorganic Carbon (DIC).
PB92-179712/REB
Comprehensive Evaluation of a Field Test Kit for Lead.
PB92-179720/REB

SCHROEDER, P.
What Is the Potential of Forest Management to Slow the Increase of Atmospheric CO2.
PB92-180249/REB

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Teratogenesis, Toxicity, and Bioconcentration in Frogs Exposed to Dieldrin.
PB92-180363/REB

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Cape Cod Waste Water Renovation and Retrieval System, a Study of Water Treatment and Conservation First Year of Operation.
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Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB

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PB92-166750/REB

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Radiological Survey of the Norfolk Naval Station, the Norfolk Naval Shipyard, and Newport News Shipbuilding.
PB92-164730/REB

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PB92-195635/REB

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14C Source Apportionment Technique Applied to Wintertime Urban Aerosols and Gases for the EPA Integrated Air Cancer Project.
PB92-171370

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Closure of a Dioxin Incineration Facility.
PB92-191170/REB

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Health Effects and Dose-Response Assessment for Hydrogen Chloride Following Short-Term Exposure.
PB92-161959/REB

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Advanced Emission Speciation Methodologies for the Auto/Oil Air Quality Improvement Research Program. 1. Hydrocarbons and Ethers.
PB92-166784/REB

SIGSBY, J. E.
Advanced Emission Speciation Methodologies for the Auto/Oil Air Quality Improvement Research Program. 1. Hydrocarbons and Ethers.
PB92-166784/REB

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Metabolism of Benzo(a)Pyrene and Persistence of DNA Adducts in the Brown Bullhead 'Ictalurus nebulosus'.
PB92-189067/REB

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Superfund Innovative Technology Evaluation Program Demonstration Plan for Westinghouse Bio-Analytic Systems Pentachlorophenol Immunoassays.
PB92-170190/REB
Superfund Innovative Technology Evaluation (Site) Report for the Westinghouse Bio-Analytic Systems Pentachlorophenol (PCP) Immunoassays.
PB92-188713/REB

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PB92-195767/REB

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PB92-115245/REB

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PB92-165000/REB

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PB92-179860/REB

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PB92-140789/REB

EPA-68-01-7365
Computer Sciences Corp., Research Triangle Park, NC. Applied Technology Div.
PB92-190263/REB

EPA-68-02-3114
Bechtel Corp., San Francisco, CA.
PB92-179944/REB

EPA-68-02-3365
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
PB92-180868/REB

EPA-68-02-4127
Battelle, Columbus, OH.
PB92-166701/REB

EPA-68-02-4252
Midwest Research Inst., Kansas City, MO.
PB92-180157/REB

EPA-68-02-4277
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
PB92-195809/REB

EPA-68-02-4294
Chesson Consulting, Washington, DC.
PB92-191113/REB

EPA-68-02-4450
Johns Hopkins Univ., Baltimore, MD. School of Hygiene and Public Health.
PB92-166321/REB
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PB92-165000/REB
PB92-188945/REB
PB92-189059/REB
National Toxicology Program, Research Triangle Park, NC.
PB92-195825/REB
North Carolina State Univ. at Raleigh. Dept. of Zoology.
PB92-179068/REB
NSI Technology Services Corp., Research Triangle Park, NC.
PB92-164854/REB
PB92-179779/REB
PB92-179787/REB

EPA-68-02-4456
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
PB92-188952/REB

EPA-68-02-4466
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PB92-171917/REB

EPA-68-02-4550
Research Triangle Inst., Research Triangle Park, NC.
PB92-188812/REB
Research Triangle Inst., Research Triangle Park, NC. Center for Environmental Measurements and Quality Assurance.
PB92-192178/REB

EPA-68-03-3249
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV.
PB92-170190/REB
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV. Environmental Programs Office.
PB92-188713/REB

EPA-68-03-3253
Research Triangle Inst., Research Triangle Park, NC.
PB92-146166/REB

EPA-68-03-3255
Foster Wheeler Enviresponse, Inc., Edison, NJ.
PB92-191170/REB
Foster Wheeler Enviresponse, Inc., Livingston, NJ.
PB92-188838/REB

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APS-Materials, Inc., Dayton, OH.
PB92-179886/REB

EPA-68-03-3409
Camp, Dresser and McKee, Inc., Cambridge, MA.
PB92-161199/REB

EPA-68-03-3417
Dynamac Corp., Rockville, MD.
PB92-189315/REB

EPA-68-03-3485
Science Applications International Corp., Paramus, NJ.
PB92-115245/REB

EPA-68-03-4008
Hazleton Labs. America, Inc., Rockville, MD.
PB92-164912/REB

EPA-68-03-4140
Dynamac Corp., Rockville, MD.
PB92-166834/REB

EPA-68-03-6304
Williams (Philip) and Associates, San Francisco, CA.
PB92-188879/REB

EPA-68-C0-0049
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV.
PB92-192186/REB
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV. Environmental Programs Office.
PB92-146158/REB

EPA-68-C0-0050
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV. Environmental Programs Office.
PB92-169358/REB

EPA-68-C8-0006
ManTech Environmental Technology, Inc., Corvallis, OR.
PB92-180249/REB
PB92-180256/REB
PB92-184985/REB
PB92-188754/REB
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
PB92-178987/REB
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PB92-180371/REB

EPA-68-C8-0036
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PB92-166826/REB

EPA-68-C8-0061
Science Applications International Corp., Cincinnati, OH.
PB92-170570/REB
PB92-170588/REB

EPA-68-C9-0019
Viar and Co., Alexandria, VA. Environmental Services Div.
PB92-190289/REB

EPA-68-C9-0037
Little (Arthur D.), Inc., Cambridge, MA.
PB92-164797/REB

EPA-68-C9-0038
Acurex Corp., Jefferson, AR.
PB92-179845/REB
Acurex Corp., Jefferson, AR. Incineration Research Facility.
PB92-178953/REB
Acurex Corp., Mountain View, CA. Environmental Systems Div.
PB92-166966/REB
Kennesaw State Coll., Marietta, GA.
PB92-179043/REB

EPA-68-CO-0048
Science Applications International Corp., Paramus, NJ.
PB92-115245/REB

EPA-68-CO-0049
Lockheed Engineering and Sciences Co., Inc., Las Vegas, NV.
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PB92-155431/REB
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PB92-188713/REB
PB92-188721/REB

EPA-68-D0-0007
Battelle, Columbus, OH.
PB92-164979/REB

EPA-68-D0-0120
Pechan (E.H.) and Associates, Inc., Durham, NC.
PB92-166925/REB

EPA-68-D0-0121
Alliance Technologies Corp., Chapel Hill, NC.
PB92-190230/REB

EPA-68-D0-0141
Acurex Environmental Corp., Research Triangle Park, NC.
PB92-195908/REB

EPA-68-D1-0009
Entropy Environmentalists, Inc., Research Triangle Park, NC.
PB92-192889/REB

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Radian Corp., Research Triangle Park, NC.
PB92-178979/REB

EPA-68-D1-0031
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PB92-171925/REB
Radian Corp., Research Triangle Park, NC.
PB92-164813/REB
PB92-184977/REB

EPA-68-D8-0085
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PB92-166891/REB
PB92-166917/REB

EPA-68-D9-0054
Radian Corp., Research Triangle Park, NC.
PB92-195940/REB

EPA-68-D9-0073
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PB92-173566/REB

EPA-68-D9-0135
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PB92-145564/REB
PB92-145572/REB
PB92-145580/REB
PB92-145598/REB

EPA-68-D9-0173
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PB92-180017/REB

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EPA-68-WO-0032
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PB92-174739/REB
PB92-174747/REB
PB92-174754/REB

EPA-68-WO-0043
Pennsylvania Dept. of Environmental Resources, Harrisburg. Bureau of Soil and Water Conservation.
PB92-186469/REB

NA81AA-D-00069
Woods Hole Oceanographic Institution, MA.
PB92-174317/REB

NSF-BSR85-06417
Environmental Research Lab., Gulf Breeze, FL.
PB92-195783/REB

NSF-OCE88-17172
University of South Florida, St. Petersburg. Dept. of Marine Science.
PB92-195767/REB

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Sponsoring Organization Report Numbers(s)	**EPA/600/3-89/073**
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PB92-501972/REB CP **D04**

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PB92-963705/REB PC **A08**/MF **A02**

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PB92-963810/REB PC **A04**/MF **A01**

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PB92-963809/REB PC **A04**/MF **A01**

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PB92-963805/REB PC **A03**/MF **A01**

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PB92-963806/REB PC **A04**/MF **A01**

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PB92-963904/REB PC **A04**/MF **A01**

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PB92-963915/REB PC **A06**/MF **A02**

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PB92-963913/REB PC **A04**/MF **A01**

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PB92-963910/REB PC **A03**/MF **A01**

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PB92-963911/REB PC **A04**/MF **A01**

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PB92-963917/REB PC **A03**/MF **A01**

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PB92-963916/REB PC **A05**/MF **A01**

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PB92-963909/REB PC **A03**/MF **A01**

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PB92-963907/REB PC **A05**/MF **A01**

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PB92-963906/REB PC **A03**/MF **A01**

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PB92-963918/REB PC **A05**/MF **A01**

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PB92-964007/REB PC **A04**/MF **A01**

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PB92-964009/REB PC **A09**/MF **A02**

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PB92-964004/REB PC **A14**/MF **A03**

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PB92-964002/REB PC **A04**/MF **A01**

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PB92-964010/REB PC **A03**/MF **A01**

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PB92-964011/REB PC **A08**/MF **A02**

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PB92-964005/REB PC **A07**/MF **A02**

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PB92-964012/REB PC **A03**/MF **A01**

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PB92-964013/REB PC **A03**/MF **A01**

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PB92-964106/REB PC **A06**/MF **A02**

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PB92-964107/REB PC **A05**/MF **A01**

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PB92-964122/REB PC **A04**/MF **A01**

EPA/ROD/R05-91/177
Superfund Record of Decision (EPA Region 5): Anderson Development Company Site, Lenawee County, Adrian, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964114/REB PC **A03**/MF **A01**

EPA/ROD/R05-91/178
Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB PC **A03**/MF **A01**

EPA/ROD/R05-91/188
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PB92-964104/REB PC **A03**/MF **A01**

EPA/ROD/R05-91/191
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
PB92-964113/REB PC **A05**/MF **A01**

EPA/ROD/R06-91/066
Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991.
PB92-964202/REB PC **A07**/MF **A02**

EPA/ROD/R06-91/067
Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991.
PB92-964201/REB PC **A06**/MF **A02**

EPA/ROD/R07-91/045
Superfund Record of Decision (EPA Region 7): Lee Chemical Site, Liberty, MO. (First Remedial Action), March 1991.
PB92-964307/REB PC **A04**/MF **A01**

EPA/ROD/R07-91/046
Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB PC **A04**/MF **A01**

EPA/ROD/R07-91/049
Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB PC **A03**/MF **A01**

EPA/ROD/R07-91/052
Superfund Record of Decision (EPA Region 7): People's Natural Gas Coal Gasification Site, Dubuque, IA. (First Remedial Action), September 1991.
PB92-964301/REB PC **A05**/MF **A01**

EPA/ROD/R07-91/054
Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990.
PB92-964305/REB PC **A04**/MF **A01**

EPA/ROD/R07-91/056
Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
PB92-964302/REB PC **A03**/MF **A01**

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PB92-964401/REB PC **A03**/MF **A01**

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PB92-964402/REB PC **A04**/MF **A01**

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PB92-964510/REB PC **A07**/MF **A02**

EPA/ROD/R09-91/058
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PB92-964505/REB PC **A05**/MF **A01**

EPA/ROD/R09-91/061
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PB92-964501/REB PC **A03**/MF **A01**

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PB92-964506/REB PC **A04**/MF **A01**

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PB92-964509/REB PC **A06**/MF **A02**

EPA/ROD/R09-91/067
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PB92-964508/REB PC **A04**/MF **A01**

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PB92-964503/REB PC **A04**/MF **A01**

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PB92-964502/REB PC **A04**/MF **A01**

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PB92-964507/REB PC **A06**/MF **A02**

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PB92-964604/REB PC **A17**/MF **A04**

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Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
PB92-145564/REB PC **A06**/MF **A02**

EPA/SW/DK-92/032
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PB92-501527/REB CP **D02**

EPA/SW/DK-92/032A
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
PB92-145572/REB PC **A08**/MF **A02**

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EPA/SW/DK-92/033A
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PB92-145598/REB PC **A07**/MF **A02**

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PB92-501501/REB CP **D02**

EPA/SW/DK-92/034A
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
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PB92-171917/REB PC **A04**/MF **A01**

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PB92-169390/REB PC **A99**/MF **E08**

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EPA/530/SW-91/093N
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PB92-173210/REB PC **A05**/MF **A01**

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Air Stripping of Aqueous Solutions. Engineering Bulletin.
PB92-180033/REB PC **A02**/MF **A01**

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Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
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EPA/600/R-92/028
Annual Risk Reduction Engineering Laboratory Research Symposium (18th) Abstract Proceedings. Held in Cincinnati, Ohio on April 14-16, 1992.
PB92-166859/REB PC **A11**/MF **A03**

EPA/600/R-92/029
Report of the Great Lakes Air Toxics Research Priorities Workshop. Held at Navarre, Minnesota on March 11-13, 1991.
PB92-166933/REB PC **A03**/MF **A01**

EPA/600/R-92/030
Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
PB92-178938/REB PC **A05**/MF **A01**

EPA/600/R-92/031
Reclamation and Redevelopment of Contaminated Land. Volume 2. European Case Studies.
PB92-146166/REB PC **A13**/MF **A03**

EPA/600/R-92/032
Superfund Innovative Technology Evaluation (Site) Report for the Westinghouse Bio-Analytic Systems Pentachlorophenol (PCP) Immunoassays.
PB92-188713/REB PC **A06**/MF **A02**

EPA/600/R-92/036
GIS Technical Memorandum 3: Global Positioning Systems Technology and Its Application in Environmental Programs.
PB92-169358/REB PC **A04**/MF **A01**

EPA/600/R-92/042
Methodologies for Evaluating in situ Bioremediation of Chlorinated Solvents.
PB92-146943/REB PC **A05**/MF **A02**

EPA/600/R-92/046
Pollution Prevention Case Studies Compendium.
PB92-180165/REB PC **A06**/MF **A02**

EPA/600/R-92/049
Permeation of Multifunctional Acrylates through Three Protective Clothing Materials.
PB92-164797/REB PC **A06**/MF **A02**

EPA/600/R-92/052A
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 1. Sessions 0, 1, 2, and 3. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174663/REB PC **A19**/MF **A04**

EPA/600/R-92/052B
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 2. Sessions 4, 5, and 6. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174671/REB PC **A19**/MF **A04**

Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 4. Sessions 9, 10, 11, and 12. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174697/REB PC **A21**/MF **A04**

EPA/600/R-92/052C
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 3. Sessions 7 and 8. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174689/REB PC **A19**/MF **A04**

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EPA/600/R-92/069
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PB92-170562/REB PC **A05**/MF **A01**

EPA/600/R-92/070
User's Guide and Data Dictionary for Kenai Lakes Investigation Project.
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Development of a Core Combustion Research Program Plan for EPA.
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Developmental Toxicology: Risk Assessment and the Future.
PB92-184993/REB PC **A13**/MF **A03**

EPA/600/R-92/090
Simplified Modeling of Air Flow Dynamics in SSD Radon Mitigation Systems for Residences with Gravel Beds.
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PB92-192194/REB PC **A04**/MF **A01**

EPA/600/R-92/106
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
PB92-194000/REB PC **A06**/MF **A02**

EPA/600/R-92/107
Acid Aerosol Measurement Intercomparison Workshop. Held in Research Triangle Park, North Carolina on April 10-11, 1991.
PB92-191097/REB PC **A15**/MF **A03**

EPA/600/S-92/004
Waste Minimization Assessment for a Manufacturer of Chemicals.
PB92-203595/REB PC **A02**/MF **A01**

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EPA/600/S-92/010
Waste Minimization Assessment for a Manufacturer of Aluminum Extrusions.
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EPA/600/S-92/011
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts.
PB92-189695/REB PC **A02**/MF **A01**

EPA/600/S-92/012
Waste Minimization Assessment for a Manufacturer of Commercial Ice Machines and Ice Storage Bins.
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EPA/600/S-92/015
Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
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Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks.
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EPA/600/S-92/020
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors.
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EPA/625/2-79/021
Capsule Report: Particulate Control by Fabric Filtration on Coal-Fired Industrial Boilers.
PB92-179894/REB PC **A03**/MF **A01**

EPA/625/2-79/022
Capsule Report: Bahco Flue Gas Desulfurization and Particulate Removal System.
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EPA/625/2-79/023
Capsule Report: First Progress Report. Physical Coal-Cleaning Demonstration at Homer City, Pennsylvania.
PB92-179910/REB PC **A03**/MF **A01**

EPA/625/2-79/024
Capsule Report: Acostic Monitoring to Determine the Integrity of Hazardous Waste Dams.
PB92-179928/REB PC **A03**/MF **A01**

EPA/625/2-80/028
Capsule Report: Disposal of Flue Gas Desulfurization Wastes. Shawnee Field Evaluation.
PB92-179936/REB PC **A03**/MF **A01**

EPA/625/2-82/029
Capsule Report: Adipic Acid-Enhanced Lime/Limestone Test Results at the EPA Alkali Scrubbing Test Facility.
PB92-179944/REB PC **A03**/MF **A01**

EPA/625/2-84/031
Capsule Report: Benefits of Microprocessor Control of Curing Ovens for Solvent-Based Coatings.
PB92-179993/REB PC **A03**/MF **A01**

EPA/625/3-91/021
Report of the EPA Peer Review Workshop on Alpha2U-Globulin: Association with Renal Toxicity and Neoplasia in the Male Rat. Held in Gaithersburg, MD. on November 13-14, 1990.
PB92-166826/REB PC **A05**/MF **A01**

EPA/700/C-92/004
Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
PB92-155381/REB PC **A06**/MF **A02**

EPA/700/C-92/036A
Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
PB92-155381/REB PC **A06**/MF **A02**

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Methods for the Determination of Nonconventional Pesticides in Municipal and Industrial Wastewater.
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EPA/821/R-92/003
Economic Impact Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173533/REB PC **A15**/MF **A03**

EPA/821/R-92/004
Cost-Effectiveness Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173525/REB PC **A03**/MF **A01**

EPA/821/R-92/005
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB PC **A21**/MF **A04**

EPA/901/B-92/001
Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
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EPA/910/9-88/197
Sampling and Analysis Design for Development of Everett Harbor Action Program.
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Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
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Reference Area Performance Standards for Puget Sound.
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Bioaccumulation of Contaminants in Crabs and Clams in Bellingham Bay.
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Oil Tanker Waste Disposal Practices: A Review.
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EPA/910/9-92/003
Environmental Guidance: For Very Small Communities.
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EPA/4503-91/012A
Procedures for Establishing Emissions for Early Reduction Compliance Extensions. Volume 1. Synthetic Organic Chemical Manufacturing, Ethylene Oxide Sterilization, and Chromium Electroplating.
PB92-176221/REB PC **A05**/MF **A01**

EPA/9200.1-12A
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
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ISBN-0-16-036223-7
Inside the Hotline: A Compilation of 1991 Monthly Hotline Reports.
PB92-131390/REB PC **A04**/MF **A01**

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Determination of alpha-emitting nuclides of plutonium, americium and curium in environmental materials: Pt. 1. Sea water.
DE92614732/REB PC **A03**/MF **A01**

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Radon Reduction and Radon-Resistant Construction Demonstrations in New York State.
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Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities.
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OSWER-9200.0-03E
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB PC **E02**

OSWER-9200.1-09I-VOL-1-NO-1
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB PC **A02**/MF **A01**

OSWER-9200.1-12
Superfund Progress, Spring 1992.
PB92-963265/REB PC **A03**/MF **A01**

OSWER-9200.2-13
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
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OSWER-9200.2-14
National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
PB92-963261/REB PC **A15**/MF **A03**

OSWER-9200.3-01G
Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB PC **A01**/MF **A01**

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Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB PC **A05**/MF **A01**

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Regional Pilot Projects and Initiatives.
PB92-963259/REB PC **A01**/MF **A01**

OSWER-9203.1-01
Superfund Accelerated Cleanup Model (SACM).
PB92-963263/REB PC **A03**/MF **A01**

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Community Relations in Superfund: A Handbook.
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Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
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Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
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PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB PC **A05**/MF **A01**

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Guide to Management of Investigation-Derived Wastes.
PB92-963353/REB PC **A02**/MF **A01**

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Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB PC **A23**/MF **A04**

OSWER-9355.6-05-1
ROD Annual Report, FY1991. Volume 1.
PB92-963359/REB PC **A99**/MF **A06**

OSWER-9355.6-05-2
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB PC **A18**/MF **A04**

OSWER-9360.4-10
Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB PC **A04**/MF **A01**

OSWER-9360.6-06
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB PC **A08**/MF **A02**

OSWER-9360.6-08
Technical Assistance Team (TAT) Contracts Users' Manual.
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OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB PC **A02**/MF **A01**

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Characterization Protocol for Radioactive Contaminated Soils.
PB92-963354/REB PC **A02**/MF **A01**

OSWER-9834.11FS
Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB PC **A01**/MF **A01**

OSWER-9835.16
Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
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BioTrol Soil Washing System for Treatment of a Wood Preserving Site: Applications Analysis Report.
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RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils. Documentation.
PB92-119668/REB PC **A05**/MF **A01**

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Environmental Monitoring and Assessment Program: Surface Waters Implementation Plan - Northeast Pilot Lake Survey, Summer 1991.
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Time Spent in Activities, Locations, and Microenvironments: A California-National Comparison.
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RCRIS Data Element Dictionary, Version 3.0.0. Data Tape Documentation.
PB92-145515/REB PC **A25**/MF **A06**

PB92-145564/REB
Organic Contract Compliance Screening System. Software for the PC (OLM01.8 Version 1). User Manual.
PB92-145564/REB PC A06/MF A02

PB92-145572/REB
Organic Contract Compliance Screening System. Software for the PC (SOW March 1990, Version 1). User Manual.
PB92-145572/REB PC A08/MF A02

PB92-145580/REB
Organic Contract Compliance Screening System. Software for the PC (Version June 1990). User Manual.
PB92-145580/REB PC A08/MF A02

PB92-145598/REB
Inorganic Contract Compliance Screening System Software for the PC (SOW March 1990 Version 1). User Manual.
PB92-145598/REB PC A07/MF A02

PB92-146158/REB
Guide to Site and Soil Description for Hazardous Waste Site Characterization. Volume 1. Metals.
PB92-146158/REB PC A13/MF A03

PB92-146166/REB
Reclamation and Redevelopment of Contaminated Land. Volume 2. European Case Studies.
PB92-146166/REB PC A13/MF A03

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Methodologies for Evaluating In situ Bioremediation of Chlorinated Solvents.
PB92-146943/REB PC A05/MF A02

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Interlaboratory Study of Cellular Fluorescence Intensity Measurements with Fluorescein-Labeled Microbead Standards.
PB92-153881/REB PC A03/MF A01

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Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations.
PB92-154947/REB PC A11/MF A03

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Toxic Release Inventory (TRI). Documentation for the 1990 Magnetic Tape.
PB92-155381/REB PC A06/MF A02

PB92-155399/REB
Consolidated List of Chemicals Subject to Reporting under the Emergency Planning and Community Right-to-Know Act. (Title III of the Superfund Amendments and Reauthorization Act of 1986).
PB92-155399/REB PC A04/MF A01

PB92-155431/REB
Protein Adducts for Exposure Monitoring: A Computerized Database. Software and User's Manual.
PB92-155431/REB PC A03/MF A01

PB92-158542/REB
Storage of Combined Sewage in a Marine Waterbody.
PB92-158542/REB PC A03/MF A01

PB92-161199/REB
Technical Aspects of Underground Storage Tank Closure.
PB92-161199/REB PC A04/MF A01

PB92-161900/REB
Reregistration Eligibility Document (RED): Silicon Dioxide and Silica Gel.
PB92-161900/REB PC A04/MF A01

PB92-161926/REB
Reregistration Eligibility Document (RED): Carbon and Carbon Dioxide.
PB92-161926/REB PC A03/MF A01

PB92-161934/REB
Reregistration Eligibility Document (RED). Sodium Diacetate.
PB92-161934/REB PC A03/MF A01

PB92-161942/REB
Reregistration Eligibility Document (RED): Dried Blood.
PB92-161942/REB PC A03/MF A01

PB92-161959/REB
Health Effects and Dose-Response Assessment for Hydrogen Chloride Following Short-Term Exposure.
PB92-161959/REB PC A05/MF A01

PB92-161975/REB
Reregistration Eligibility Document (RED): Inorganic Nitrate/Nitrite (Sodium and Potassium Nitrates).
PB92-161975/REB PC A03/MF A01

PB92-161983/REB
Reregistration Eligibility Document (RED): Propionic Acid.
PB92-161983/REB PC A03/MF A01

PB92-162551/REB
Preliminary Use and Substitutes Analysis of Lead and Cadmium in Products in Municipal Solid Waste.
PB92-162551/REB PC A09/MF A02

PB92-162569/REB
Characterization of Products Containing Mercury in Municipal Solid Waste in the United States, 1970 to 2000.
PB92-162569/REB PC A07/MF A02

PB92-164730/REB
Radiological Survey of the Norfolk Naval Station, the Norfolk Naval Shipyard, and Newport News Shipbuilding.
PB92-164730/REB PC A03/MF A01

PB92-164748/REB
Tiered Modeling Approach for Assessing the Risks Due to Sources of Hazardous Air Pollutants.
PB92-164748/REB PC A03/MF A01

PB92-164797/REB
Permeation of Multifunctional Acrylates through Three Protective Clothing Materials.
PB92-164797/REB PC A06/MF A02

PB92-164805/REB
Sensory Evoked Potentials: Measures of Neurotoxicity.
PB92-164805/REB PC A04/MF A01

PB92-164813/REB
Evaluation of NOx Emissions from TVA Coal-Fired Power Plants.
PB92-164813/REB PC A03/MF A01

PB92-164821/REB
Concentrations from Above-Roof Releases of Laboratory Exhausts: A Wind Tunnel Study.
PB92-164821/REB PC A03/MF A01

PB92-164839/REB
Stability and Transport of Inorganic Colloids through Contaminated Aquifer Material.
PB92-164839/REB PC A02/MF A01

PB92-164847/REB
Dosimetry of Localized Accumulations of Cigarette Smoke and Radon Progeny at Bifurcations.
PB92-164847/REB PC A03/MF A01

PB92-164854/REB
Reversibility of Tributyltin-Induced Toxicity In vitro as a Function of Concentration and Duration of Exposure (C X T).
PB92-164854/REB PC A03/MF A01

PB92-164862/REB
Developmental Effects of Methyl Benzimidazolecarbamate Following Exposure during Early Pregnancy.
PB92-164862/REB PC A02/MF A01

PB92-164896/REB
Induction of Nuclear Anomalies in the Gastrointestinal Tract by Polycyclic Aromatic Hydrocarbons.
PB92-164896/REB PC A03/MF A01

PB92-164904/REB
DNA Strand Breaks Induced in Cultured Human and Rodent Cells by Chlorohydroxyfuranones, Mutagens Isolated from Drinking Water.
PB92-164904/REB PC A03/MF A01

PB92-164912/REB
Subacute and Subchronic Oral Toxicity of 1,3-Dichloropropane in the Rat.
PB92-164912/REB PC A03/MF A01

PB92-164920/REB
Comparative Subchronic Toxicity Studies of Three Disinfectants.
PB92-164920/REB PC A03/MF A01

PB92-164938/REB
Induction of Gastrointestinal Tract Nuclear Anomalies in B6C3F1 Mice by 3-Chloro-4-(Dichloromethyl)-5-Hydroxy-2(5H)-Furanone and 3,4-(Dichloro)-5-Hydroxy-2(5H)-Furanone, Mutagenic Byproducts of Chlorine Disinfection.
PB92-164938/REB PC A02/MF A01

PB92-164946/REB
Subchronic Toxicity Study of Ozonated and Ozonated/Chlorinated Humic Acids in Sprague-Dawley Rats: A Model System for Drinking Water Disinfection.
PB92-164946/REB PC A02/MF A01

PB92-164961/REB
VMT Forecasting and Tracking Guidance, Section 187.
PB92-164961/REB PC A03/MF A01

PB92-164979/REB
Phase Distributions of Airborne Polycyclic Aromatic Hydrocarbons in Two U.S. Cities.
PB92-164979/REB PC A03/MF A01

PB92-164995/REB
Clean Air Act Requirements for Trace Metals Information.
PB92-164995/REB PC A02/MF A01

PB92-165000/REB
Computer-Assisted Sperm Analysis of Rodent Epididymal Sperm Motility Using the Hamilton-Thorn Motility Analyzer.
PB92-165000/REB PC A03/MF A01

PB92-166321/REB
Isolation and Culture of Leydig Cells from Adult Rats.
PB92-166321/REB PC A03/MF A01

PB92-166339/REB
Reflex Modification and the Assessment of Sensory Dysfunction.
PB92-166339/REB PC A03/MF A01

PB92-166347/REB
Neurobehavioral Toxicology. Chapter 2.
PB92-166347/REB PC A03/MF A01

PB92-166354/REB
Preliminary Results of a Pesticide Leaching Study at Plains, Georgia.
PB92-166354/REB PC A02/MF A01

PB92-166602/REB
Application of MINTEQA2 to the Speciation of Contaminants at Globe, Arizona.
PB92-166602/REB PC A02/MF A01

PB92-166610/REB
Treating Soil Solution Samplers to Prevent Microbial Removal of Analytes.
PB92-166610/REB PC A02/MF A01

PB92-166628/REB
New Perspectives in Aquatic Redox Chemistry: Abiotic Transformations of Pollutants in Groundwater and Sediments.
PB92-166628/REB PC A03/MF A01

PB92-166636/REB
Expert Systems Show Promise for Customer Inquiries. Management and Operations.
PB92-166636/REB PC A02/MF A01

PB92-166644/REB
Fluid Modeling Simulation of Stack-Tip Downwash for Neutrally Buoyant Plumes.
PB92-166644/REB PC A03/MF A01

PB92-166651/REB
Evaluation of Gas Chromatography/Matrix Isolation Infrared Spectrometry for the Determination of Semivolatile Organic Compounds in Air Sample Extracts.
PB92-166651/REB PC A03/MF A01

PB92-166669/REB
Stability of Tropospheric OH during Ice Ages, Inter-Glacial Epochs and Modern Times.
PB92-166669/REB PC A02/MF A01

PB92-166677/REB
Sampling and Analysis of PCDDs and PCDFs in Stationary Source Emission Air Samples.
PB92-166677/REB PC A02/MF A01

PB92-166685/REB
Improved Method for Estimating Molecular Weights of Volatile Organic Compounds from Low Resolution Mass Spectra.
PB92-166685/REB PC A03/MF A01

PB92-166693/REB
Composition of Motor Vehicle Organic Emissions under Elevated Temperature Summer Driving Conditions (75 to 105 deg F).
PB92-166693/REB PC A02/MF A01

PB92-166701/REB
Polycyclic Aromatic Hydrocarbons and Their Derivatives in Indoor and Outdoor Air in an Eight-Home Study.
PB92-166701/REB PC A03/MF A01

PB92-166719/REB
Tedlar Bag Sampling System for Toxic Organic Compounds in Source Emission Sampling and Analysis.
PB92-166719/REB PC A01/MF A01

PB92-166727/REB
High-Volume Impactor for Sampling Fine and Coarse Particles.
PB92-166727/REB PC A02/MF A01

PB92-166735/REB
Microbial Degradation of Toluene under Sulfate-Reducing Conditions and the Influence of Iron on the Process.
PB92-166735/REB PC A02/MF A01

PB92-166743/REB
Personnel Protection through Reconnaissance Robotics at Superfund Remedial Sites.
PB92-166743/REB PC A02/MF A01

PB92-166750/REB
Use of Four-Dimensional Data Assimilation in a Limited-Area Mesoscale Model Part 2: Effects of Data Assimilation within the Planetary Boundary Layer.
PB92-166750/REB PC A03/MF A01

PB92-166768/REB
Limited PCB Antagonism of TCDD-Induced Malformations in Mice.
PB92-166768/REB PC A02/MF A01

PB92-166776/REB
Examination of the Anticonvulsant Properties of Voltage-Sensitive Calcium Channel Inhibitors in Amygdala Kindled Seizures.
PB92-166776/REB PC A02/MF A01

PB92-166784/REB
Advanced Emission Speciation Methodologies for the Auto/Oil Air Quality Improvement Research Program. 1. Hydrocarbons and Ethers.
PB92-166784/REB PC A03/MF A01

PB92-166792/REB
QSARs for Predicting Biotic and Abiotic Reductive Transformation Rate Constants of Halogenated Hydrocarbons in Anoxic Sediment Systems.
PB92-166792/REB PC A03/MF A01

PB92-166800/REB
QSARs for Predicting Reductive Transformation Rate Constants of Halogenated Aromatic Hydrocarbons in Anoxic Sediment Systems.
PB92-166800/REB PC A03/MF A01

PB92-166818/REB
Reductive Transformations of Halogenated Aromatic Hydrocarbons in Anaerobic Water-Sediment Systems: Kinetics, Mechanisms and Products.
PB92-166818/REB PC A03/MF A01

PB92-166826/REB
Report of the EPA Peer Review Workshop on Alpha2U-Globulin: Association with Renal Toxicity and Neoplasia in the Male Rat. Held in Gaithersburg, MD. on November 13-14, 1990.
PB92-166826/REB PC A05/MF A01

PB92-166834/REB
Health Assessment Document for Vermiculite.
PB92-166834/REB PC A03/MF A01

PB92-166842/REB
General Methods for Remedial Operations Performance Evaluations.
PB92-166842/REB PC A03/MF A01

PB92-166859/REB
Annual Risk Reduction Engineering Laboratory Research Symposium (18th) Abstract Proceedings. Held in Cincinnati, Ohio on April 14-16, 1992.
PB92-166859/REB PC A11/MF A03

PB92-166867/REB
Bioaccumulation of Contaminants in Crabs and Clams in Bellingham Bay.
PB92-166867/REB PC A03/MF A01

PB92-166875/REB
Sampling and Analysis Design for Development of Everett Harbor Action Program.
PB92-166875/REB PC A04/MF A01

PB92-166883/REB
Beyond the Border: Environmental Management in Washington and British Columbia.
PB92-166883/REB PC A08/MF A02

PB92-166891/REB
Neanthes Long-Term Exposure Experiment: Further Evaluation of the Relationship between Juvenile Growth and Reproductive Success.
PB92-166891/REB PC A03/MF A01

PB92-166917/REB
Reference Area Performance Standards for Puget Sound.
PB92-166917/REB PC A08/MF A02

PB92-166925/REB
Controlling Odorous Emissions from Iron Foundries.
PB92-166925/REB PC A03/MF A01

PB92-166933/REB
Report of the Great Lakes Air Toxics Research Priorities Workshop. Held at Navarre, Minnesota on March 11-13, 1991.
PB92-166933/REB PC A03/MF A01

PB92-166941/REB
Theoretical Evaluation of Stability of Volatile Organic Chemicals and Polar Volatile Organic Chemicals in Canisters.
PB92-166941/REB PC A03/MF A01

PB92-166958/REB
Natural Basement Ventilation as a Radon Mitigation Technique.
PB92-166958/REB PC A03/MF A01

PB92-166966/REB
Pilot-Scale Evaluation of the Thermal Stability POHC Incinerability Ranking.
PB92-166966/REB PC A11/MF A03

PB92-169358/REB
GIS Technical Memorandum 3: Global Positioning Systems Technology and Its Application in Environmental Programs.
PB92-169358/REB PC A04/MF A01

PB92-169390/REB
Proceedings on the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (6th). Held in Seattle, Washington on December 3-7, 1991.
PB92-169390/REB PC A99/MF E08

PB92-169523/REB
EPCRA Section 313 Roadmaps Database. User's Manual. (Version 2.2) (for Microcomputers).
PB92-169523/REB PC A05/MF A01

PB92-170166/REB
Air Pollution Effects on Biodiversity.
PB92-170166/REB PC A15/MF A03

PB92-170174/REB
Research Strategy for Electric and Magnetic Fields: Research Needs and Priorities.
PB92-170174/REB PC A04/MF A01

PB92-170190/REB
Superfund Innovative Technology Evaluation Program Demonstration Plan for Westinghouse Bio-Analytic Systems Pentachlorophenol Immunoassays.
PB92-170190/REB PC A08/MF A02

PB92-170562/REB
Evaluation of the Chemical Resistance of Geotextiles, Geonet and Pipe.
PB92-170562/REB PC A05/MF A01

PB92-170570/REB
Guide for Conducting Treatability Studies under CERCLA: Soil Washing. Interim Guidance.
PB92-170570/REB PC A03/MF A01

PB92-170588/REB
Guide for Conducting Treatability Studies under CERCLA: Soil Washing: Quick Reference Fact Sheet.
PB92-170588/REB PC A02/MF A01

PB92-171370
14C Source Apportionment Technique Applied to Wintertime Urban Aerosols and Gases for the EPA Integrated Air Cancer Project.
PB92-171370 Not available NTIS

PB92-171909/REB
Air/Superfund National Technical Guidance Study Series. Guideline for Predictive Baseline Emissions Estimation Procedures for Superfund Sites.
PB92-171909/REB PC A03/MF A01

PB92-171917/REB
Air Superfund National Technical Guidance Study Series. Screening Procedures for Estimating the Air Impacts of Incineration at Superfund Sites.
PB92-171917/REB PC A04/MF A01

PB92-171925/REB
Air Superfund National Technical Guidance Study Series. Estimation of Air Impacts for the Excavation of Contaminated Soil.
PB92-171925/REB PC A04/MF A01

PB92-171958/REB
RED Facts: Sodium and Calcium Hypochlorite Salts.
PB92-171958/REB PC A02/MF A01

PB92-171966/REB
Status of Selected Air Pollution Control Programs, February 1992.
PB92-171966/REB PC A09/MF A02

PB92-173210/REB
Innovative Treatment Technologies: Semi-Annual Status Report. (Third Edition).
PB92-173210/REB PC A05/MF A01

PB92-173293/REB
Drinking Water Criteria Document for Antimony.
PB92-173293/REB PC A05/MF A01

PB92-173301/REB
Drinking Water Criteria Document for Beryllium.
PB92-173301/REB PC A08/MF A02

PB92-173319/REB
Drinking Water Criteria Document for Cyanide.
PB92-173319/REB PC A08/MF A02

PB92-173327/REB
Drinking Water Criteria Document for Dalapon.
PB92-173327/REB PC A04/MF A01

PB92-173335/REB
Quantification of Toxicological Effects for Dichloromethane.
PB92-173335/REB PC A03/MF A01

PB92-173343/REB
Drinking Water Criteria Document for Di(2-Ethylhexyl) Adipate.
PB92-173343/REB PC A05/MF A01

PB92-173350/REB
Drinking Water Criteria Document for Dinoseb.
PB92-173350/REB PC A05/MF A01

PB92-173368/REB
Drinking Water Criteria Document for Diquat.
PB92-173368/REB PC A05/MF A01

PB92-173376/REB
Drinking Water Criteria Document for Endothall.
PB92-173376/REB PC A05/MF A01

PB92-173384/REB
Drinking Water Criteria Document for Endrin.
PB92-173384/REB PC A10/MF A03

PB92-173392/REB
Drinking Water Criteria Document for Glyphosate.
PB92-173392/REB PC A03/MF A01

PB92-173400/REB
Drinking Water Criteria Document for Hexachlorobenzene.
PB92-173400/REB PC A10/MF A03

PB92-173418/REB
Drinking Water Criteria Document for Hexachlorocyclopentadiene.
PB92-173418/REB PC A06/MF A02

PB92-173426/REB
Drinking Water Quantification of Toxicologic Effects for Nickel.
PB92-173426/REB PC A05/MF A01

PB92-173434/REB
Drinking Water Criteria Document for Oxamyl (VYDATE).
PB92-173434/REB PC A05/MF A01

PB92-173442/REB
Drinking Water Criteria Document for Phthalic Acid Esters (PAES).
PB92-173442/REB PC A14/MF A03

PB92-173459/REB
Drinking Water Criteria Document for Polycyclic Aromatic Hydrocarbons (PAHs).
PB92-173459/REB PC A20/MF A04

PB92-173467/REB
Drinking Water Criteria Document for Picloram.
PB92-173467/REB PC A04/MF A01

PB92-173475/REB
Drinking Water Criteria Document for Simazine.
PB92-173475/REB PC A05/MF A02

PB92-173483/REB
Drinking Water Criteria Document for Thallium.
PB92-173483/REB PC A06/MF A02

PB92-173491/REB
Drinking Water Criteria Document for Trichlorobenzenes.
PB92-173491/REB PC A05/MF A01

PB92-173509/REB
Drinking Water Criteria Document for 1,1,2-Trichloroethane.
PB92-173509/REB PC A05/MF A01

PB92-173525/REB
Cost-Effectiveness Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173525/REB PC A03/MF A01

PB92-173533/REB
Economic Impact Analysis of Proposed Effluent Limitations Guidelines and Standards for the Pesticide Manufacturing Industry.
PB92-173533/REB PC A15/MF A03

PB92-173541/REB
Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology for the Pesticide Chemical Industry. Proposed. (Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards).
PB92-173541/REB PC A21/MF A04

PB92-173566/REB
Transportation Control Measure Information Documents.
PB92-173566/REB PC A19/MF A04

PB92-174051/REB
Radon Reduction and Radon-Resistant Construction Demonstrations in New York State.
PB92-174051/REB PC A20/MF A04

PB92-174317/REB
Reactive Transport of Suspended Particles: Mechanisms and Modeling.
PB92-174317/REB PC A13/MF A03

PB92-174408/REB
Cape Cod Waste Water Renovation and Retrieval System, a Study of Water Treatment and Conservation First Year of Operation.
PB92-174408/REB PC A10/MF A03

PB92-174655/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174655/REB PC E99/MF E99

PB92-174663/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 1. Sessions 0, 1, 2, and 3. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174663/REB PC A19/MF A04

PB92-174671/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 2. Sessions 4, 5, and 6. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174671/REB PC A19/MF A04

PB92-174689/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 3. Sessions 7 and 8. Held in Hollywood, Florida, on April 11-14, 1989.
PB92-174689/REB PC A19/MF A04

PB92-174697/REB
Proceedings: 1989 International Conference on Municipal Waste Combustion. Volume 4. Sessions 9, 10, 11, and 12. Held in Hollywood, Florida on April 11-14, 1989.
PB92-174697/REB PC A21/MF A04

PB92-174721/REB
National Home and Garden Pesticide Use Survey.
PB92-174721/REB PC E99/MF E99

PB92-174739/REB
National Home and Garden Pesticide Use Survey Final Report. Executive Summary.
PB92-174739/REB PC A03/MF A01

PB92-174747/REB
National Home and Garden Pesticide Use Survey. Final Report. Volume 1. Executive Summary, Results, and Recommendations.
PB92-174747/REB PC A16/MF A03

PB92-174754/REB
National Home and Garden Pesticide Use Survey. Final Report. Volume 2. Survey Design, Implementation, and Analysis Methods.
PB92-174754/REB PC A07/MF A02

PB92-176221/REB
Procedures for Establishing Emissions for Early Reduction Compliance Extensions. Volume 1. Synthetic Organic Chemical Manufacturing, Ethylene Oxide Sterilization, and Chromium Electroplating.
PB92-176221/REB PC A05/MF A01

PB92-176353/REB
Air Quality Criteria for Oxides of Nitrogen.
PB92-176353/REB PC E99/MF E99

PB92-176361/REB
Air Quality Criteria for Oxides of Nitrogen. Volume 1.
PB92-176361/REB PC A20/MF A04

PB92-176379/REB
Air Quality Criteria for Oxides of Nitrogen. Volume 2.
PB92-176379/REB PC A99/MF A06

PB92-176387/REB
Air Quality Criteria for Oxides of Nitrogen. Volume 3.
PB92-176387/REB PC A23/MF A04

PB92-178227/REB
Catalogue and Directory of New England States and Regional GIS Organizations and Activities, and an Assessment of Their Future GIS Needs.
PB92-178227/REB PC A13/MF A03

PB92-178938/REB
Dense Nonaqueous Phase Liquids: A Workshop Summary. Held in Dallas, Texas on April 16-18, 1991.
PB92-178938/REB PC A05/MF A01

PB92-178946/REB
Wetlands Research Plan FY92-96: An Integrated Risk-Based Approach.
PB92-178946/REB PC A07/MF A02

PB92-178953/REB
Pilot-Scale Incineration of PCB-Contaminated Sediments from the New Bedford Harbor Hot Spot Superfund Site.
PB92-178953/REB PC A09/MF A03

PB92-178961/REB
User's Guide and Data Dictionary for Kenai Lakes Investigation Project.
PB92-178961/REB PC A03/MF A01

PB92-178979/REB
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Bench and Laboratory Studies.
PB92-178979/REB PC A03/MF A01

PB92-178987/REB
Statistical Issues in Environmental Monitoring and Assessment.
PB92-178987/REB PC A03/MF A01

PB92-178995/REB
Kinetic Properties of Malic Dehydrogenase from Three Cultivars of Rice.
PB92-178995/REB PC A03/MF A01

PB92-179001/REB
Innovative Treatment Technologies: Overview and Guide to Information Sources.
PB92-179001/REB PC A20/MF A04

PB92-179019/REB
Reductive Dechlorination of Trichloroethylene in Anoxic Aquifer Material from Picatinny Arsenal, New Jersey.
PB92-179019/REB PC A02/MF A01

PB92-179027/REB
Pollution Impacts at the Stand and Ecosystem Levels.
PB92-179027/REB PC A03/MF A01

PB92-179035/REB
Methods Used in Determination of Cholinesterase Activity.
PB92-179035/REB PC A03/MF A01

PB92-179043/REB
Incineration Data on Arsenic and Lead Emissions.
PB92-179043/REB PC A03/MF A01

PB92-179050/REB
Column Studies on BTEX Biodegradation under Microaerophilic and Denitrifying Conditions.
PB92-179050/REB PC A03/MF A01

PB92-179068/REB
Monitoring of the Estrous Cycle in the Laboratory Rodent by Vaginal Lavage.
PB92-179068/REB PC A03/MF A01

PB92-179076/REB
Measuring Sexual Behavior in the Female Rat.
PB92-179076/REB PC A03/MF A01

PB92-179084/REB
Collection of Interstitial Fluid and Seminiferous Tubule Fluid from the Rat Testis.
PB92-179084/REB PC A03/MF A01

PB92-179092/REB
Distribution, Speciation, and Transformation of Chromium in Contaminated Soils and Aquifer Sediments.
PB92-179092/REB PC A02/MF A01

PB92-179100/REB
Biotransformation of CIS-1,2-Dichloroethylene in Aquifer Material from Picatinny Arsenal, Morris County, New Jersey.
PB92-179100/REB PC A03/MF A01

PB92-179118/REB
Modeling Contaminant Transport through Subsurface Systems.
PB92-179118/REB PC A03/MF A01

PB92-179126/REB
Spatial Variability of Geochemical and Hydrologic Properties of Subsurface Materials in a Sand and Gravel Aquifer, Cape Cod, Massachusetts.
PB92-179126/REB PC A02/MF A01

PB92-179134/REB
Effect of the Geochemical Environment on Heavy-Metal Transport in Ground Water.
PB92-179134/REB PC A03/MF A01

PB92-179142/REB
Toxicity of Ammonia, Nitrite, and Nitrate to Fishes.
PB92-179142/REB PC A03/MF A01

PB92-179159/REB
Use of Pilot Columns for Predicting Full-Scale GAC Performance.
PB92-179159/REB PC A03/MF A01

PB92-179670/REB
Demonstration of Waste Treatment Technologies.
PB92-179670/REB PC A02/MF A01

PB92-179688/REB
U.S. Environmental Protection Agency Research Program on the Environmental Impacts and Control of Highway Deicing Salt Pollution.
PB92-179688/REB PC A03/MF A01

PB92-179696/REB
Compliance Concerns with the New Coliform Regulation.
PB92-179696/REB PC A02/MF A01

PB92-179704/REB
Opportunistic Organisms and the Water Supply Connection.
PB92-179704/REB PC A03/MF A01

PB92-179712/REB
Comparison of Methods for Determination of Dissolved Inorganic Carbon (DIC).
PB92-179712/REB PC A03/MF A01

PB92-179720/REB
Comprehensive Evaluation of a Field Test Kit for Lead.
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PB92-179845/REB PC A02/MF A01

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Visions of the Future in Drinking Water Microbiology.
PB92-179852/REB PC A02/MF A01

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PB92-179894/REB PC A03/MF A01

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Capsule Report: Bahco Flue Gas Desulfurization and Particulate Removal System.
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Capsule Report: First Progress Report. Physical Coal-Cleaning Demonstration at Homer City, Pennsylvania.
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PB92-179928/REB PC A03/MF A01

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PB92-179936/REB PC A03/MF A01

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Capsule Report: Adipic Acid-Enhanced Lime/Limestone Test Results at the EPA Alkali Scrubbing Test Facility.
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PB92-179993/REB
Capsule Report: Benefits of Microprocessor Control of Curing Ovens for Solvent-Based Coatings.
PB92-179993/REB PC A03/MF A01

PB92-180009/REB
Guideline Series: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry.
PB92-180009/REB PC A09/MF A03

PB92-180017/REB
Alternative Control Techniques Document: For PM-10 Emissions from Ferrous Foundries.
PB92-180017/REB PC A07/MF A02

PB92-180025/REB
In situ Soil Flushing. Engineering Bulletin.
PB92-180025/REB PC A02/MF A01

PB92-180033/REB
Air Stripping of Aqueous Solutions. Engineering Bulletin.
PB92-180033/REB PC A02/MF A01

PB92-180041/REB
Control of Air Emissions from Materials Handling during Remediation. Engineering Bulletin.
PB92-180041/REB PC A02/MF A01

PB92-180058/REB
Granular Activated Carbon Treatment. Engineering Bulletin.
PB92-180058/REB PC A02/MF A01

PB92-180066/REB
Chemical Oxidation Treatment. Engineering Bulletin.
PB92-180066/REB PC A02/MF A01

PB92-180074/REB
Chemical Enhancements to Pump-and-Treat Remediation. Ground Water Issue.
PB92-180074/REB PC A03/MF A01

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NEXRAD Precipitation Information Application Forum Climate and Global Change.
PB92-180082/REB PC A03/MF A01

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Directory of Mine Waste Characterization and Drainage Quality Contacts in Western Governors' Association Member States.
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Enabling Document for Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants.
PB92-180132/REB PC A07/MF A02

PB92-180157/REB
Chlorinated Dioxins and Furans in the General U.S. Population: NHATS FY87 Results.
PB92-180157/REB PC A12/MF A03

PB92-180165/REB
Pollution Prevention Case Studies Compendium.
PB92-180165/REB PC A06/MF A02

PB92-180173/REB
Asia Pacific Cleaner Production Conference: Cooperative Approaches in Minimising Hazardous Wastes. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180173/REB PC A02/MF A01

PB92-180181/REB
Asia Pacific Cleaner Production Conference: International Legislative Trends. Held in Melbourne, Australia on February 24-27, 1992.
PB92-180181/REB PC A02/MF A01

PB92-180199/REB
Application of Modified Aluminon and GFAAS Methods to Beryllium Determination in Drinking Water.
PB92-180199/REB PC A02/MF A01

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Fuzzy Logic Control of AC Induction Motors.
PB92-180207/REB PC A02/MF A01

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Potential Impacts of Increased Solar UV-B on Global Plant Productivity.
PB92-180223/REB PC A03/MF A01

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Methods of Assessing Responses of Trees, Stands and Ecosystems to Air Pollution (Chapter 7).
PB92-180231/REB PC A04/MF A01

PB92-180249/REB
What Is the Potential of Forest Management to Slow the Increase of Atmospheric CO2.
PB92-180249/REB PC A03/MF A01

PB92-180256/REB
NATO Workshop on the Atmospheric Methane Cycle. Held in Mt. Hood, Oregon on October 6-11, 1991. Working Group Report on Methane Sources and Sinks.
PB92-180256/REB PC A03/MF A01

PB92-180264/REB
Improvement of Performance of Variable Probability Sampling Strategies.
PB92-180264/REB PC A02/MF A01

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Probability Sampling and Population Inference in Monitoring Programs.
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Ozonation/Post-Chlorination of Humic Acid: A Model for Predicting Drinking Water Disinfection By-Products.
PB92-180280/REB PC A03/MF A01

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Radon Prevention in the Design and Construction of Schools and other Large Buildings.
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Serological Cross-Reactions between 'Escherichia coli' O157 and other Species of the Genus 'Escherichia'.
PB92-180306/REB PC **A01**/MF **A01**

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Cloning and Expression of a Lignin Peroxidase Gene from 'Streptomyces viridosporus' in 'Streptomyces lividans'.
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PB92-180868/REB PC **A03**/MF **A01**

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Oil and Gas Field Emissions Survey.
PB92-184977/REB PC **A14**/MF **A03**

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Potential Impacts of Climate Change on Pacific Northwest Forest Vegetation.
PB92-184985/REB PC **A03**/MF **A01**

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Developmental Toxicology: Risk Assessment and the Future.
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Pesticide Fact Sheet Number 111.1: Calcium Arsenate (Tolerance Revocation).
PB92-186410/REB PC **A01**/MF **A01**

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Chesapeake Bay Striped Bass Fishery Management Plan: Chesapeake Bay Program. Annual Progress Report from the Chesapeake Executive Council.
PB92-186428/REB PC **A03**/MF **A01**

PB92-186436/REB
Chesapeake Bay Bluefish Fishery Management Plan. Chesapeake Bay Program Agreement Commitment Report.
PB92-186436/REB PC **A04**/MF **A01**

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Chesapeake Bay Waterfowl Policy and Management Plan (Agreement Committment Report).
PB92-186451/REB PC **A03**/MF **A01**

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Committed Obligated Expected Expenditures Plan (COEEP).
PB92-186469/REB PC **A03**/MF **A01**

PB92-186477/REB
Chesapeake Bay Weakfish and Spotted Seatrout Fishery Management Plan: An Agreement Commitment Report from the Chesapeake Executive Council.
PB92-186477/REB PC **A03**/MF **A01**

PB92-188515/REB
Technical Resource Document: Batch-Type Procedures for Estimating Soil Adsorption of Chemicals.
PB92-188515/REB PC **A06**/MF **A02**

PB92-188663/REB
Report to Congress on Ocean Dumping, 1987-1990.
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Superfund Innovative Technology Evaluation (Site) Report for the Westinghouse Bio-Analytic Systems Pentachlorophenol (PCP) Immunoassays.
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Waste Minimization Assessment for a Manufacturer of Metal Bands, Clamps, Retainers, and Tooling.
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Impacts of Climate Change on Rice Yield: Evaluation of the Efficacity of Different Modeling Approaches.
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Clinical Biochemistry.
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Stability of Air Toxic Gases Listed in Title III Clean Air Act Amendments.
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Current and Future Environmental Role of Atmospheric Methane: Model Studies and Uncertainties.
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Acidic Episodes in Surface Waters in Europe.
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Doing the Right Thing (Book Reviews).
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PB92-188952/REB PC **A02**/MF **A01**

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PB92-188960/REB PC **A03**/MF **A01**

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Characteristics of the U.S. EPA's Office of Pesticide Programs' Toxicity Information Databases.
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Introduction and Summary. Genotoxicity and Carcinogenicity Databases: An Assessment of the Present Situation.
PB92-188986/REB PC **A01**/MF **A01**

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Kinetochore-Staining of Spermatid Micronuclei: Studies of Mice Treated with X-Radiation or Acrylamide.
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Measurement of the Biotransfer and Time Constant of Radon from Ingested Water by Human Breath Analysis.
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Comparison of Screening Approaches, 1992.
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PB92-189059/REB
Characterization of Chemical Kindling with the Pesticide Endosulfan.
PB92-189059/REB PC **A02**/MF **A01**

PB92-189067/REB
Metabolism of Benzo(a)Pyrene and Persistence of DNA Adducts in the Brown Bullhead 'Ictalurus nebulosus'.
PB92-189067/REB PC **A02**/MF **A01**

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Carcinogen-DNA Adducts in Cultures of Rat and Human Hepatocytes.
PB92-189075/REB PC **A02**/MF **A01**

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Cigarette Smoke-Induced DNA Adducts in the Respiratory and Nonrespiratory Tissues of Rats.
PB92-189083/REB PC **A02**/MF **A01**

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Genetic Activity Profile Database.
PB92-189091/REB PC **A02**/MF **A01**

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National Toxicology Program: Review of Current DHHS, DOE, and EPA Research Related to Toxicology, Fiscal Year 1991.
PB92-189141/REB PC **A14**/MF **A03**

PB92-189158/REB
National Toxicology Program: Annual Plan for Fiscal Year 1991.
PB92-189158/REB PC **A11**/MF **A03**

PB92-189315/REB
Health Advisory for 2,4- and 2,6-Dinitrotoluene (DNT).
PB92-189315/REB PC **A10**/MF **A03**

PB92-189695/REB
Waste Minimization Assessment for a Manufacturer Producing Galvanized Steel Parts.
PB92-189695/REB PC **A02**/MF **A01**

PB92-189703/REB
Waste Minimization Assessment for a Manufacturer of Metal-Plated Display Racks.
PB92-189703/REB PC **A02**/MF **A01**

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Inactive and Abandoned Noncoal Mines.
PB92-190107/REB PC **E99**/MF **E99**

PB92-190115/REB
Inactive and Abandoned Noncoal Mines. Volume 1. A Scoping Study.
PB92-190115/REB PC A07/MF A02

PB92-190123/REB
Inactive and Abandoned Noncoal Mines. Volume 2. State Reports.
PB92-190123/REB PC A19/MF A04

PB92-190131/REB
Inactive and Abandoned Noncoal Mines. Volume 3. Appendix State Reports.
PB92-190131/REB PC A14/MF A03

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Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs.
PB92-190149/REB PC E99

PB92-190156/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 1. Summary Report.
PB92-190156/REB PC A04/MF A01

PB92-190164/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 2. State Reports of Western Governors' Association Mine Waste Task Force States.
PB92-190164/REB PC A99

PB92-190172/REB
Projected Regulatory, Programmatic and Fiscal Impacts of EPA's Strawman-II on State Mine Waste Management Programs. Volume 3. Appendix State Reports Interstate Coalition on Mine Waste.
PB92-190172/REB PC A14

PB92-190230/REB
Control of VOC Emissions from Ink and Paint Manufacturing Processes.
PB92-190230/REB PC A09/MF A02

PB92-190248/REB
Air Quality Atlas.
PB92-190248/REB PC A03/MF A01

PB92-190263/REB
Gridded Model Information Support System (GMISS) User's Guide. Volume 3. Model Concentration Data Retrieval Subsystem.
PB92-190263/REB PC A05/MF A01

PB92-190271/REB
Measurement Solution: Using a Temporary Total Enclosure for Capture Efficiency Testing.
PB92-190271/REB PC A07/MF A02

PB92-190289/REB
Methods for the Determination of Nonconventional Pesticides in Municipal and Industrial Wastewater.
PB92-190289/REB PC A99/MF E06

PB92-190438/REB
Status of Pesticides in Reregistration and Special Review.
PB92-190438/REB PC A14/MF A03

PB92-190446/REB
Review of the National Ambient Air Quality Standards for Ozone Assessment of Scientific and Technical Information. OAQPS Staff Paper.
PB92-190446/REB PC A17/MF A03

PB92-191097/REB
Acid Aerosol Measurement Intercomparison Workshop. Held in Research Triangle Park, North Carolina on April 10-11, 1991.
PB92-191097/REB PC A15/MF A03

PB92-191105/REB
Reregistration Eligibility Document (RED): Heptachlor.
PB92-191105/REB PC A06/MF A02

PB92-191113/REB
Comparison of Airborne Asbestos Levels Determined by Transmission Electron Microscopy (TEM) Using Direct and Indirect Transfer Techniques.
PB92-191113/REB PC A04/MF A01

PB92-191121/REB
Surfactant-Enhanced Solubilization of Tetrachloroethylene and Degradation Products in Pump and Treat Remediation.
PB92-191121/REB PC A03/MF A01

PB92-191139/REB
Surface-Charge Repulsive Effects on the Mobility of Inorganic Colloids in Surface Systems. Annual Colloid and Surface Science Symposium (65th). Held in Norman, Oklahoma on June 17-19, 1991.
PB92-191139/REB PC A03/MF A01

PB92-191147/REB
Exposure Assessment Modeling for Hydrocarbon Spills into the Subsurface: Sensitivity to Soil Properties.
PB92-191147/REB PC A03/MF A01

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Acid Aerosol Measurement Methods: Studies of Extraction and Analytical Effects.
PB92-191154/REB PC A02/MF A01

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Customer/Supplier Accountability and Quality Assurance (QA) Program Implementation.
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Solidification/Stabilization: Is It Always Appropriate.
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Development of Predictive Structure-Biodegradation Relationship Models with the Use of Respirometrically Generated Biokinetic Data.
PB92-191196/REB PC A03/MF A01

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Waste Minimization Assessment for a Manufacturer of Aluminum Extrusions.
PB92-192137/REB PC A02/MF A01

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PB92-192145/REB PC A02/MF A01

PB92-192152/REB
Spatial and Temporal Analysis of Non-Urban Ozone Concentrations over the Eastern United States Using Rotated Principal Component Analysis.
PB92-192152/REB PC A02/MF A01

PB92-192160/REB
Open Path Ambient Measurements of Pollutants with a DOAS System.
PB92-192160/REB PC A02/MF A01

PB92-192178/REB
Performance of Automated Ambient SO2 Analyzers with Respect to a Proposed 5-Minute Ambient Air Quality Standard.
PB92-192178/REB PC A03/MF A01

PB92-192186/REB
Gas Chromatographic Elution Patterns of Chlorinated Dioxins versus Column Polarity.
PB92-192186/REB PC A02/MF A01

PB92-192194/REB
Effects of Natural and Forced Basement Ventilation on Radon Levels in Single Family Dwellings.
PB92-192194/REB PC A04/MF A01

PB92-192202/REB
Sensitivity of Modeled Ozone Concentrations to Uncertainties in Biogenic Emissions.
PB92-192202/REB PC A10/MF A03

PB92-192764/REB
Implementing Protective Actions for Radiological Incidents at Other Than Nuclear Power Reactors. Proceedings of a Workshop. Held in Montgomery, Alabama on September 25-26, 1991.
PB92-192764/REB PC A05/MF A01

PB92-192798/REB
RED Facts: Heptachlor.
PB92-192798/REB PC A02/MF A01

PB92-192806/REB
Waste Minimization Assessment for a Manufacturer of Motor Vehicle Exterior Mirrors.
PB92-192806/REB PC A01/MF A01

PB92-192889/REB
Technical Assistance Document: Performance Audit Procedures for Opacity Monitors.
PB92-192889/REB PC A12/MF A03

PB92-194000/REB
Quality Assurance Support for the National Atmospheric Deposition Program and National Trends Network Monitoring Activities. Fourth Progress Report, 1990-1991.
PB92-194000/REB PC A06/MF A02

PB92-195635/REB
Simplified Modeling of Air Flow Dynamics in SSD Radon Mitigation Systems for Residences with Gravel Beds.
PB92-195635/REB PC A05/MF A01

PB92-195643/REB
Water Quality Model for a River Receiving Paper Mill Effluents and Conventional Sewage.
PB92-195643/REB PC A03/MF A01

PB92-195650/REB
Disease Incidence and Potential Mechanisms of Defense for MSX-Resistant and -Susceptible Eastern Oysters Held in Chesapeake Bay.
PB92-195650/REB PC A02/MF A01

PB92-195668/REB
Comparative Acute Sensitivity of Larval Topsmelt, 'Atherinops affinis', and Inland Silverside, 'Menidia beryllina', to 11 Chemicals.
PB92-195668/REB PC A02/MF A01

PB92-195676/REB
Synthetic Substrata for Propagation and Testing of Soil and Sediment Organisms.
PB92-195676/REB PC A03/MF A01

PB92-195692/REB
Mixed-Species Colonization of Solid Surfaces in Laboratory Biofilms.
PB92-195692/REB PC A03/MF A01

PB92-195700/REB
Spongiosis Hepatis: Chemical Induction, Pathogenesis, and Possible Neoplastic Fate in a Teleost Fish Model.
PB92-195700/REB PC A03/MF A01

PB92-195718/REB
Characterization of Stress-Responsive Behavior in 'Pseudomonas aeruginosa' PAO: Isolation of Tn3-lacZYA Fusions with Novel Damage-Inducible (din) Promoters.
PB92-195718/REB PC A02/MF A01

PB92-195734/REB
Preparation and Regeneration of Protoplasts of 'Colletotrichum gloeosporioides' f. p. 'Aeschynomene'.
PB92-195734/REB PC A02/MF A01

PB92-195759/REB
Laboratory Spawning of Topsmelt, 'Atherinops affinis', with Notes on Culture and Growth of Larvae.
PB92-195759/REB PC A02/MF A01

PB92-195767/REB
Detection of Horizontal Gene Transfer by Natural Transformation in Native and Introduced Species of Bacteria in Marine and Synthetic Sediments.
PB92-195767/REB PC A02/MF A01

PB92-195775/REB
Reproductive Ecology of the Inland Silverside, 'Menidia beryllina', (Pisces: Atherinidae) from Blackwater Bay, Florida.
PB92-195775/REB PC A03/MF A01

PB92-195783/REB
Abundant Males in Populations of a Selfing Hermaphrodite Fish, 'Rivulus marmoratus', from Some Belize Cays.
PB92-195783/REB PC A02/MF A01

PB92-195791/REB
Selection of Surrogates for a Genetically Engineered Microorganism with Cellulolytic Capability for Ecological Studies in Streams.
PB92-195791/REB PC A03/MF A01

PB92-195809/REB
Effects of Operating Variables on PAH Emissions and Mutagenicity of Emissions from Woodstoves (Journal Article).
PB92-195809/REB PC A02/MF A01

PB92-195817/REB
Sorbent/Urea Slurry Injection for Simultaneous SO2/NOx Removal.
PB92-195817/REB PC A02/MF A01

PB92-195825/REB
Methods for Assessing Rat Sperm Motility.
PB92-195825/REB PC A02/MF A01

PB92-195833/REB
Comparative Immunosuppression of Various Glycol Ethers Orally Administered to Fisher 344 Rats.
PB92-195833/REB PC A02/MF A01

PB92-195841/REB
Induction of Prophage Lambda by Chlorinated Organics: Detection of Some Single-Species/Single-Site Carcinogens.
PB92-195841/REB PC A03/MF A01

PB92-195858/REB
Reliability of Selected Tests from the Neurobehavioral Evaluation System.
PB92-195858/REB PC A02/MF A01

PB92-195866/REB
Prophage Induction by DNA Topoisomerase II Poisons and Reactive-Oxygen Species: Role of DNA Breaks.
PB92-195866/REB PC A03/MF A01

PB92-195874/REB
Drinking Water from Agriculturally Contaminated Groundwater.
PB92-195874/REB PC A03/MF A01

PB92-195882/REB
Use of Marsh Plants for Toxicity Testing of Water and Sediment.
PB92-195882/REB PC A03/MF A01

PB92-195890/REB
Mosquito Control Pesticides: Adverse Impacts to Freshwater Aquatic and Marine Organisms.
PB92-195890/REB PC A02/MF A01

PB92-195908/REB
Predictions of Azeotropes Formed from Fluorinated Ethers, Ethanes, and Propanes.
PB92-195908/REB PC A03/MF A01

PB92-195916/REB
Landfill Gas Utilization: Options, Benefits, and Barriers.
PB92-195916/REB PC A03/MF A01

PB92-195924/REB
Analysis of Emissions from Residential Oil Furnaces and Comparison with Woodstove Emissions.
PB92-195924/REB PC A03/MF A01

PB92-195932/REB
Novel Method of Reducing Transient Emissions from Rotary Kiln Incinerators through Modified Waste Packaging.
PB92-195932/REB PC A02/MF A01

PB92-195940/REB
Parametric Evaluation of Powdered Activated Carbon Injection for Control of Mercury Emissions from a Municipal Waste Combustor.
PB92-195940/REB PC A03/MF A01

PB92-195957/REB
Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. Report to the Legislative Commission on Minnesota Resources.
PB92-195957/REB PC A07/MF A02

PB92-195973/REB
Design and Optimization of a Refrigeration System.
PB92-195973/REB PC A03/MF A01

PB92-195981/REB
Analysis of Emissions from Residential Oil Furnaces.
PB92-195981/REB PC A03/MF A01

PB92-195999/REB
Meteorological and Site Influences Affecting the Comparison of Nephelometer and Photographic Determinations of Light Extinction at Rural Sites in the Eastern United States.
PB92-195999/REB PC A03/MF A01

PB92-196005/REB
Guide for Using the Empirical Kinetics Modeling Approach Interface (EKMAI).
PB92-196005/REB PC **A03**/MF **A01**

PB92-196021/REB
Environmental Guidance: For Very Small Communities.
PB92-196021/REB PC **A03**/MF **A01**

PB92-196047/REB
Oil Tanker Waste Disposal Practices: A Review.
PB92-196047/REB PC **A03**/MF **A01**

PB92-196054/REB
Potential Uses of Phosphogypsum and Associated Risks. Background Information Document.
PB92-196054/REB PC **A06**/MF **A02**

PB92-196351/REB
Waste Minimization Assessment for a Manufacturer of Commercial Ice Machines and Ice Storage Bins.
PB92-196351/REB PC **A02**/MF **A01**

PB92-198258/REB
Using a Flame Ionization Detector (FID) Continuously Measure Toxic Organic Vapors in a Paint Spray Booth.
PB92-198258/REB PC **A03**/MF **A01**

PB92-198548/REB
Preliminary Risk Assessment for Viruses in Municipal Sewage Sludge Applied to Land.
PB92-198548/REB PC **A09**/MF **A03**

PB92-198654/REB
Directory of OAQPS Information Services, May 1992.
PB92-198654/REB PC **A03**/MF **A01**

PB92-203595/REB
Waste Minimization Assessment for a Manufacturer of Chemicals.
PB92-203595/REB PC **A02**/MF **A01**

PB92-501329/REB
RETC Code for Quantifying the Hydraulic Functions of Unsaturated Soils (for Microcomputers).
PB92-501329/REB CP **D02**

PB92-501501/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW February 1988) (for Microcomputers).
PB92-501501/REB CP **D02**

PB92-501519/REB
Inorganic Contract Compliance Screening System (ICCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501519/REB CP **D02**

PB92-501527/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW March 1990) (Version 1) (for Microcomputers).
PB92-501527/REB CP **D02**

PB92-501535/REB
Organic Contract Compliance Screening System (OCCSS) Software (SOW OLM01.8 Version January 1992) (Version 1) (for Microcomputers).
PB92-501535/REB CP **D02**

PB92-501774/REB
Consolidated List of Chemical Subject to Reporting under the Emergency Planning and Community Right to Know Act. SARA Section 302 Extremely Hazardous Substances, CERCL Hazardous Substances and SARA Section 313 Toxic Chemicals (Title III, List of Lists) (for Microcomputers).
PB92-501774/REB CP **D02**

PB92-501816/REB
Toxic Release Inventory (TRI), 1990.
PB92-501816/REB CP **T14**

PB92-501873/REB
Protein Adducts for Exposure Monitoring: A Computerized Database (CPAD) (Version 1) (for Microcomputers).
PB92-501873/REB CP **D02**

PB92-501899/REB
Complex Effluent Toxicity Information System (CETIS) (for Microcomputers).
PB92-501899/REB CP **D04**

PB92-501972/REB
Roadmaps to Sources of Information on Chemicals Listed in the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313. Toxic Release Inventory (for Microcomputers).
PB92-501972/REB CP **D04**

PB92-592290/REB
Resource Conservation and Recovery Information System (RCRIS) Extract Tape.
PB92-592290/REB CP **T01**

PB92-592380/REB
Enforcement Document Retrieval System (EDRS) Master File (1972-April 1992).
PB92-592380/REB Subscription$1,440.00

PB92-592390/REB
Enforcement Document Retrieval System (EDRS) Update File (November 14, 1991 to April 22, 1992).
PB92-592390/REB CP **T99**

PB92-963252/REB
Superfund: Focusing on the Nation at Large. 1991 Update.
PB92-963252/REB PC **A05**/MF **A01**

PB92-963253/REB
National Priorities List Sites Set (1991).
PB92-963253/REB PC **E99**/MF **E99**

PB92-963256/REB
Progress Toward Implementing Superfund, Fiscal Year 1990: A Report to the Congress.
PB92-963256/REB PC **E05**/MF **A04**

PB92-963259/REB
Regional Pilot Projects and Initiatives.
PB92-963259/REB PC **A01**/MF **A01**

PB92-963260/REB
Congressional Limits for FY 92 Alternative Remedial Contracting Strategy (ARCS) Program Management Costs.
PB92-963260/REB PC **A01**/MF **A01**

PB92-963261/REB
National Oil and Hazardous Substances Pollution Contingency Plan (The NCP).
PB92-963261/REB PC **A15**/MF **A03**

PB92-963262/REB
Superfund Policy Forum Update, Volume 1, Number 1, February 1992.
PB92-963262/REB PC **A02**/MF **A01**

PB92-963263/REB
Superfund Accelerated Cleanup Model (SACM).
PB92-963263/REB PC **A03**/MF **A01**

PB92-963264/REB
OSWER Superfund Telephone Directory, May 1992.
PB92-963264/REB PC **E02**

PB92-963265/REB
Superfund Progress, Spring 1992.
PB92-963265/REB PC **A03**/MF **A01**

PB92-963266/REB
Correction of FY-92 Superfund Program Management Manual Definitions.
PB92-963266/REB PC **A01**/MF **A01**

PB92-963267/REB
Superfund Progress - Aficionado's Version (Progress as of March 31, 1992).
PB92-963267/REB PC **A03**/MF **A01**

PB92-963341/REB
Community Relations in Superfund: A Handbook.
PB92-963341/REB PC **A12**/MF **A03**

PB92-963348/REB
OPA Q's and A's: Overview of the Oil Pollution Act of 1990.
PB92-963348/REB PC **A02**/MF **A01**

PB92-963349/REB
PREscore Software. Users Manual and Tutorial. Version 1.0.
PB92-963349/REB PC **A05**/MF **A01**

PB92-963350/REB
Presentations EPA-State Soil Standards Conference. Held in Crystal City, Virginia on January 29, 1991.
PB92-963350/REB PC **A08**/MF **A02**

PB92-963351/REB
Summary of Treatment Technology Effectiveness for Contaminated Soil.
PB92-963351/REB PC **A23**/MF **A04**

PB92-963352/REB
Regional Quality Control Guidance for NPL Candidate Sites.
PB92-963352/REB PC **A04**/MF **A01**

PB92-963353/REB
Guide to Management of Investigation-Derived Wastes.
PB92-963353/REB PC **A02**/MF **A01**

PB92-963354/REB
Characterization Protocol for Radioactive Contaminated Soils.
PB92-963354/REB PC **A02**/MF **A01**

PB92-963358/REB
Considerations in Ground-Water Remediation at Superfund Sites and RCRA Facilities: Update.
PB92-963358/REB PC **A03**/MF **A01**

PB92-963359/REB
ROD Annual Report, FY1991. Volume 1.
PB92-963359/REB PC **A99**/MF **A06**

PB92-963360/REB
ROD Annual Report, FY1991. Volume 2.
PB92-963360/REB PC **A18**/MF **A04**

PB92-963403/REB
Superfund Emergency Response Actions: A Summary of Federally-Funded Removals. Fifth Annual Report - Fiscal Year 1990.
PB92-963403/REB PC **A08**/MF **A02**

PB92-963407/REB
Technical Assistance Team (TAT) Contracts Users' Manual.
PB92-963407/REB PC **A09**/MF **A02**

PB92-963408/REB
Removal Program Representative Sampling Guidance. Volume 1. Soil.
PB92-963408/REB PC **A04**/MF **A01**

PB92-963603/REB
Overview of the Off-Site Policy for OSCs and RPMs.
PB92-963603/REB PC **A01**/MF **A01**

PB92-963606/REB
Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) under CERCLA.
PB92-963606/REB PC **A03**/MF **A01**

PB92-963703/REB
Superfund Record of Decision (EPA Region 1): Union Chemical, South Hope, ME. (First Remedial Action), December 1990.
PB92-963703/REB PC **A13**/MF **A03**

PB92-963704/REB
Superfund Record of Decision (EPA Region 1): Nyanza Chemical Waste Dump, Operable Unit 2, Ashland, MA. (Second Remedial Action), September 1991.
PB92-963704/REB PC **A09**/MF **A02**

PB92-963705/REB
Superfund Record of Decision (EPA Region 1): Mottolo Pig Farm, Raymond, NH. (First Remedial Action), March 1991.
PB92-963705/REB PC **A08**/MF **A02**

PB92-963805/REB
Superfund Record of Decision (EPA Region 2): Love Canal (93rd Street School), Niagara County, City of Niagara Falls, NY. (Third Remedial Action), (Amendment), May 1991.
PB92-963805/REB PC **A03**/MF **A01**

PB92-963806/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 3), Lakehurst, NJ. (Fourth Remedial Action), September 1991.
PB92-963806/REB PC **A04**/MF **A01**

PB92-963808/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center (Operable Unit 1), Lakehurst, NJ. (First Remedial Action), February 1991.
PB92-963808/REB PC **A04**/MF **A01**

PB92-963809/REB
Superfund Record of Decision (EPA Region 2): Asbestos Dump, New Vernon Road and White Bridge Road Sites, Passaic Township, Meyersville, NJ. (Second Remedial Action), September 1991.
PB92-963809/REB PC **A04**/MF **A01**

PB92-963810/REB
Superfund Record of Decision (EPA Region 2): Naval Air Engineering Center, (Operable Unit 2), Lakehurst, NJ. (Second Remedial Action), February 1991.
PB92-963810/REB PC **A04**/MF **A01**

PB92-963811/REB
Superfund Record of Decision (EPA Region 2): Chemsol, Inc., Piscataway, Middlesex County, NJ. (First Remedial Action), September 1991.
PB92-963811/REB PC **A04**/MF **A01**

PB92-963904/REB
Superfund Record of Decision (EPA Region 3): Middletown Air Field Site, Middletown, PA. (Second Remedial Action), December 1990.
PB92-963904/REB PC **A04**/MF **A01**

PB92-963905/REB
Superfund Record of Decision (EPA Region 3): Hellertown Manufacturing Company, Hellertown Borough, Northampton County, PA. (First Remedial Action), September 1991.
PB92-963905/REB PC **A04**/MF **A01**

PB92-963906/REB
Superfund Record of Decision (EPA Region 3): Hebelka Auto Salvage Yard, Weisenber Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963906/REB PC **A03**/MF **A01**

PB92-963907/REB
Superfund Record of Decision (EPA Region 3): Dorney Road Landfill Site, Upper Macungie Township, Lehigh County, PA. (Second Remedial Action), September 1991.
PB92-963907/REB PC **A05**/MF **A01**

PB92-963909/REB
Superfund Record of Decision (EPA Region 3): USA Aberdeen, Michaelsville, MD. (First Remedial Action), September 1991.
PB92-963909/REB PC **A03**/MF **A01**

PB92-963910/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - PDO, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963910/REB PC **A03**/MF **A01**

PB92-963911/REB
Superfund Record of Decision (EPA Region 3): USA Letterkenny - Southeastern Area, Chambersburg, PA. (First Remedial Action), August 1991.
PB92-963911/REB PC **A04**/MF **A01**

PB92-963912/REB
Superfund Record of Decision (EPA Region 3): Whitmoyer Laboratories (Operable Unit 2), Lebanon County, PA. (Second Remedial Action), December 1990.
PB92-963912/REB PC **A05**/MF **A01**

PB92-963913/REB
Superfund Record of Decision (EPA Region 3): Strasburg Landfill, Newlin Township, Chester County, PA. (Second Remedial Action), June 1991.
PB92-963913/REB PC **A04**/MF **A01**

PB92-963914/REB
Superfund Record of Decision (EPA Region 3): Halby Chemical, Wilmington, New Castle County, DE. (First Remedial Action), June 1991.
PB92-963914/REB PC **A06**/MF **A02**

PB92-963915/REB
Superfund Record of Decision (EPA Region 3): Brodhead Creek, Stroudsburg, PA. (First Remedial Action), March 1991.
PB92-963915/REB PC **A06**/MF **A02**

PB92-963916/REB
Superfund Record of Decision (EPA Region 3): USA Aberdeen Proving Ground, Edgewood, MD. (First Remedial Action), September 1991.
PB92-963916/REB PC **A05**/MF **A01**

PB92-963917/REB
Superfund Record of Decision (EPA Region 3): Heleva Landfill Site, Lehigh County, PA. (First Remedial Action), (Amendment), September 1991.
PB92-963917/REB PC **A03**/MF **A01**

PB92-963918/REB
Superfund Record of Decision (EPA Region 3): Industrial Drive Operable Unit 2, Williams Township, PA. (Second Remedial Action), March 1991.
PB92-963918/REB PC **A05**/MF **A01**

PB92-963919/REB
Superfund Record of Decision (EPA Region 3): NCR Corporation (Millsboro Plant), Sussex County, Millsboro, DE. (First Remedial Action), August 1991.
PB92-963919/REB PC **A05**/MF **A01**

PB92-963920/REB
Superfund Record of Decision (EPA Region 3): AVCO Lycoming-Williamsport Division, Lycoming County, Williamsport, PA. (First Remedial Action), June 1991.
PB92-963920/REB PC **A05**/MF **A01**

PB92-964002/REB
Superfund Record of Decision (EPA Region 4): USAF Robins Air Force Base, Warner Robins, Houston County, GA. (First Remedial Action), June 1991.
PB92-964002/REB PC **A04**/MF **A01**

PB92-964003/REB
Superfund Record of Decision (EPA Region 4): Monsanto Superfund Site, Augusta, GA. (First Remedial Action), December 1990.
PB92-964003/REB PC **A04**/MF **A01**

PB92-964004/REB
Superfund Record of Decision (EPA Region 4): Tri-City Industrial Disposal Site, Bullitt County, Brooks, KY. (First Remedial Action), August 1991.
PB92-964004/REB PC **A14**/MF **A03**

PB92-964005/REB
Superfund Record of Decision (EPA Region 4): Aberdeen Pesticide Dumps, Moore County, Aberdeen, NC. (First Remedial Action), (Amendment), September 1991.
PB92-964005/REB PC **A07**/MF **A02**

PB92-964006/REB
Superfund Record of Decision (EPA Region 4): Smith's Farm Site (First Operable Unit), Bullitt County, Brooks, KY. (First Remedial Action), (Amendment), September 1991.
PB92-964006/REB PC **A10**/MF **A03**

PB92-964007/REB
Superfund Record of Decision (EPA Region 4): Petroleum Products Corporation Site, Operable Unit 1, Pembroke Park, Broward County, FL. (First Remedial Action), October 1990.
PB92-964007/REB PC **A04**/MF **A01**

PB92-964008/REB
Superfund Record of Decision (EPA Region 4): Sangamo/Twelve-Mile Creek, Lake Hartwell PCB Contamination Site, Pickens, SC. (First Remedial Action), December 1990.
PB92-964008/REB PC **A11**/MF **A03**

PB92-964009/REB
Superfund Record of Decision (EPA Region 4): Medley Farms, Cherokee County, Gaffney, SC. (First Remedial Action), May 1991.
PB92-964009/REB PC **A09**/MF **A02**

PB92-964010/REB
Superfund Record of Decision (EPA Region 4): USA Anniston Army Depot, (Groundwater Operable Unit), Calhoun County, Anniston, AL. (First Remedial Action), September 1991.
PB92-964010/REB PC **A03**/MF **A01**

PB92-964011/REB
Superfund Record of Decision (EPA Region 4): Wrigley Charcoal Site, Hickman County, Wrigley, TN. (First Remedial Action), September 1991.
PB92-964011/REB PC **A08**/MF **A02**

PB92-964012/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 4), Roane County, Oak Ridge, TN. (Third Remedial Action), September 1991.
PB92-964012/REB PC **A03**/MF **A01**

PB92-964013/REB
Superfund Record of Decision (EPA Region 4): Oak Ridge Reservation (USDOE), (Operable Unit 2), Oak Ridge, TN. (First Remedial Action), June 1991.
PB92-964013/REB PC **A03**/MF **A01**

PB92-964104/REB
Superfund Record of Decision (EPA Region 5): Novaco Industries, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964104/REB PC **A03**/MF **A01**

PB92-964105/REB
Superfund Record of Decision (EPA Region 5): Rasmussen's Dump Site, Green Oak Township, Livingston County, MI. (First Remedial Action), March 1991.
PB92-964105/REB PC **A09**/MF **A02**

PB92-964106/REB
Superfund Record of Decision (EPA Region 5): G and H Industrial Landfill Site, Macomb County, MI. (First Remedial Action), December 1990.
PB92-964106/REB PC **A06**/MF **A02**

PB92-964107/REB
Superfund Record of Decision (EPA Region 5): Main Street Well Field, Elkhart, IN. (Second Remedial Action), March 1991.
PB92-964107/REB PC **A05**/MF **A01**

PB92-964108/REB
Superfund Record of Decision (EPA Region 5): Folkertsma Refuse Site, Walker, MI. (First Remedial Action), June 1991.
PB92-964108/REB PC **A05**/MF **A01**

PB92-964109/REB
Superfund Record of Decision (EPA Region 5): Conrail Railyard, Elkhart County, IN. (First Remedial Action), June 1991.
PB92-964109/REB PC **A04**/MF **A01**

PB92-964110/REB
Superfund Record of Decision (EPA Region 5): Verona Well Field Site, Battle Creek, MI. (Second Remedial Action), June 1991.
PB92-964110/REB PC **A08**/MF **A02**

PB92-964111/REB
Superfund Record of Decision (EPA Region 5): Fadrowski Drum Disposal Site, Franklin, WI. (First Remedial Action), June 1991.
PB92-964111/REB PC **A05**/MF **A01**

PB92-964112/REB
Superfund Record of Decision (EPA Region 5): Motor Wheel Disposal Site, Lansing, MI. (First Remedial Action), September 1991.
PB92-964112/REB PC **A04**/MF **A01**

PB92-964113/REB
Superfund Record of Decision (EPA Region 5): Washington County Landfill, Lake Elmo, MN. (Second Remedial Action), November 1990.
PB92-964113/REB PC **A05**/MF **A01**

PB92-964114/REB
Superfund Record of Decision (EPA Region 5): Anderson Development Company Site, Lenawee County, Adrian, MI. (First Remedial Action), (Amendment), September 1991.
PB92-964114/REB PC **A03**/MF **A01**

PB92-964115/REB
Superfund Record of Decision (EPA Region 5): Allied Chemical and Ironton Coke, Ironton, OH. (Second Remedial Action), December 1990.
PB92-964115/REB PC **A06**/MF **A02**

PB92-964116/REB
Superfund Record of Decision (EPA Region 5): Enviro-Chem (Northside Sanitary Landfill), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964116/REB PC **A03**/MF **A01**

PB92-964117/REB
Superfund Record of Decision (EPA Region 5): Northside Sanitary Landfill (Enviro-Chem), Zionsville, IN. (First Remedial Action), (Amendment), June 1991.
PB92-964117/REB PC **A03**/MF **A01**

PB92-964118/REB
Superfund Record of Decision (EPA Region 5): Summit National Liquid Disposal Service, Deerfield, OH. (First Remedial Action), (Amendment), November 1990.
PB92-964118/REB PC **A03**/MF **A01**

PB92-964119/REB
Superfund Record of Decision (EPA Region 5): Pine Bend Sanitary Landfill, Dakota County, City of Inver Grove Heights, MN. (First Remedial Action), September 1991.
PB92-964119/REB PC **A03**/MF **A01**

PB92-964120/REB
Superfund Record of Decision (EPA Region 5): Pagel's Pit Site, Winnebago County, IL. (First Remedial Action), June 1991.
PB92-964120/REB PC **A04**/MF **A01**

PB92-964121/REB
Superfund Record of Decision (EPA Region 5): MacGillis and Gibbs/Bell Lumber and Pole Co., New Brighton, MN. (First Remedial Action), September 1991.
PB92-964121/REB PC **A03**/MF **A01**

PB92-964122/REB
Superfund Record of Decision (EPA Region 5): Zanesville Well Field Site, Zanesville, OH. (First Remedial Action), September 1991.
PB92-964122/REB PC **A04**/MF **A01**

PB92-964201/REB
Superfund Record of Decision (EPA Region 6): Cimarron Mining Site, Operable Unit 2, Carrizozo, NM. (Second Remedial Action), September 1991.
PB92-964201/REB PC **A06**/MF **A02**

PB92-964202/REB
Superfund Record of Decision (EPA Region 6): Petro-Chemical (Turtle Bayou), Liberty County, TX. (Second Remedial Action), September 1991.
PB92-964202/REB PC **A07**/MF **A02**

PB92-964301/REB
Superfund Record of Decision (EPA Region 7): People's Natural Gas Coal Gasification Site, Dubuque, IA. (First Remedial Action), September 1991.
PB92-964301/REB PC **A05**/MF **A01**

PB92-964302/REB
Superfund Record of Decision (EPA Region 7): Ellisville Area Site, St. Louis County, Ellisville, MO. (First Remedial Action), (Amendment), September 1991.
PB92-964302/REB PC **A03**/MF **A01**

PB92-964303/REB
Superfund Record of Decision (EPA Region 7): Hastings Groundwater Contamination (Operable Unit 10), Hastings, NE. (Seventh Remedial Action), September 1991.
PB92-964303/REB PC **A03**/MF **A01**

PB92-964305/REB
Superfund Record of Decision (EPA Region 7): Kem-Pest Laboratories Site, Cape Girardeau County, MO. (Second Remedial Action), December 1990.
PB92-964305/REB PC **A04**/MF **A01**

PB92-964306/REB
Superfund Record of Decision (EPA Region 7): E.I. Dupont De Nemours (County Road X23), Lee County, West Point, IA. (First Remedial Action), May 1991.
PB92-964306/REB PC **A04**/MF **A01**

PB92-964307/REB
Superfund Record of Decision (EPA Region 7): Lee Chemical Site, Liberty, MO. (First Remedial Action), March 1991.
PB92-964307/REB PC **A04**/MF **A01**

PB92-964401/REB
Superfund Record of Decision (EPA Region 8): Hill Air Force Base, Operable Unit 2, Chemical Disposal Pit 3, Site WP07, Davis and Weber Counties, UT. (First Remedial Action), September 1991.
PB92-964401/REB PC **A03**/MF **A01**

PB92-964402/REB
Superfund Record of Decision (EPA Region 8): Broderick Wood Products, Adams County, CO. (First Remedial Action), (Amendment), September 1991.
PB92-964402/REB PC **A04**/MF **A01**

PB92-964501/REB
Superfund Record of Decision (EPA Region 9): South Bay Asbestos Area, San Jose, CA. (First Remedial Action), (Amendment), June 1991.
PB92-964501/REB PC **A03**/MF **A01**

PB92-964502/REB
Superfund Record of Decision (EPA Region 9): National Semiconductor (Monolithic Memories), CA. (First Remedial Action), September 1991.
PB92-964502/REB PC **A04**/MF **A01**

PB92-964503/REB
Superfund Record of Decision (EPA Region 9): Monolithic Memories (Advanced Micro Devices - Arques) (National Semiconductor), CA. (First Remedial Action), September 1991.
PB92-964503/REB PC **A04**/MF **A01**

PB92-964505/REB
Superfund Record of Decision (EPA Region 9): Teledyne Semiconductor (Spectra Physics), Mountain View, CA. (First Remedial Action), March 1991.
PB92-964505/REB PC **A05**/MF **A01**

PB92-964506/REB
Superfund Record of Decision (EPA Region 9): Van Waters and Rogers, San Jose, CA. (First Remedial Action), September 1991.
PB92-964506/REB PC **A04**/MF **A01**

PB92-964507/REB
Superfund Record of Decision (EPA Region 9): Signetics (Advanced Micro Devices 901) (TRW Microwave), Sunnyvale, CA. (First Remedial Action), September 1991.
PB92-964507/REB PC **A06**/MF **A02**

PB92-964508/REB
Superfund Record of Decision (EPA Region 9): Castle Air Force Base, Merced County, CA. (First Remedial Action), August 1991.
PB92-964508/REB PC **A04**/MF **A01**

PB92-964509/REB
Superfund Record of Decision (EPA Region 9): Indian Bend Wash Area (Operable Units 1, 4, 5, 6), AZ. (Second Remedial Action), September 1991.
PB92-964509/REB PC **A06**/MF **A02**

PB92-964510/REB
Superfund Record of Decision (EPA Region 9): Atlas Asbestos Mine, Fresno County, CA. (Second Remedial Action), February 1991.
PB92-964510/REB PC **A07**/MF **A02**

PB92-964602/REB
Superfund Record of Decision (EPA Region 10): Northwest Transformer-Mission Pole, Whatcom County, WA. (First Remedial Action), (Amendment), September 1991.
PB92-964602/REB PC **A03**/MF **A01**

PB92-964603/REB
Superfund Record of Decision (EPA Region 10): Bangor Naval Submarine Base, Site F (Operable Unit 2), Bangor, WA. (First Remedial Action), September 1991.
PB92-964603/REB PC **A03**/MF **A01**

PB92-964604/REB
Superfund Record of Decision (EPA Region 10): Commencement Bay-Nearshore/Tideflats (Operable Unit 7), Tacoma, WA. (Third Remedial Action), December 1990.
PB92-964604/REB PC **A17**/MF **A04**

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PB92-174747/REB PC **A16**/MF **A03**

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13. /REB									
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15. /REB									
16. /REB									
17. /REB									
18. /REB									
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