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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
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PB92-228519/REB PC **A03**/MF **A01**
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
Dec 91, 47p
See also PB91-155234.

The volume summarizes results and policy alternatives identified during a 2-year pollution prevention study of Amoco Oil Company's Yorktown Virginia Refinery, jointly sponsored as a cooperative effort of Amoco Corporation and the United States Environmental Protection Agency. A significant finding of the study was that at the facility, current and expected environmental regulatory requirements can be achieved for 20-25% of the cost of current mandated approaches. Major recommendations are: (1) Government and industry need to explore opportunities to produce better environmental results more cost effectively; (2) The authors need to improve environmental release data collection, analysis, and management; (3) EPA should provide incentives for conducting facility-wide assessments and developing multi-media release reduction strategies; (4) The authors should encourage additional public-private partnerships on environmental management issues; (5) EPA and the petroleum industry should conduct research on the potential health and ecological effects of VOCs.

Keywords: *Petroleum refining, *Pollution prevention, *Project management, Environmental protection, Regulations, US EPA, Petroleum industry, Requirements, Technical assistance, Cost effectiveness, Releasing, Volatile organic compounds, Reduction, *Yorktown(Virginia), Amoco Corporation, Multi-media releases.

PB92-228535/REB PC **A08**/MF **A02**
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
L. Curran, C. Grieves, R. Browning, D. Hanlon, and C. Crane. Sep 90, 151p
See also PB92-228519 and PB87-208062.

The report provides a detailed workplan for obtaining data and analyzing results for a 2-year pollution prevention study of Amoco Oil Company's Yorktown Virginia Refinery. The study was jointly sponsored as a cooperative effort of Amoco Corporation and the United States Environmental Protection Agency. The goals of the study include (1) a multi-media inventory of all releases entering the environment from the Refinery, (2) development of possible engineering options to reduce the releases, (3) analysis of each option in terms of release reduction potential, impact on human health risk, ecological impact, changes in future liability, etc. and (4) identification of obstacles and incentives for implementation of any of the options considered.

Keywords: *Petroleum refining, *Pollution prevention, *Project planning, Inventories, Releasing, Emissions, Reduction, Licenses, Barriers, Environmental impacts, Public health, Liabilities, *Yorktown(Virginia), Amoco Corporation, Multi-media.

PB92-228543/REB PC **A12**/MF **A03**
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Pollution Prevention Workshop.
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
Sep 91, 263p
Presented at the Pollution Prevention Workshop, Williamsburg, VA., March 25-27, 1991. See also PB92-228535.

On March 25-27, 1991, a workshop was held in Williamsburg, VA, to review Multi-media (air, water, land) data on environmental releases from Amoco Oil Company's Yorktown Virginia Refinery. Following the data review and a Refinery tour, breakout sessions were held to brainstorm on various topics including (1) process changes to reduce emissions, (2) groundwater protection, (3) criteria for ranking alternatives, (4) permitting issues, (5) general obstacles and incentives, and (6) maintenance and operating practices.

Keywords: *Petroleum refining, *Pollution prevention, *Meetings, Environmental impacts, Air pollution, Water pollution, Land pollution, Ground water, Licenses, Emissions, Reduction, Barriers, Maintenance, Operations, *Yorktown(Virginia), Amoco Corporation.

PB92-228550/REB PC **A12**/MF **A03**
Virginia Inst. of Marine Science, Gloucester Point.
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory. Final rept.
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
H. Klee, G. J. Kizier, S. Baloo, E. L. Hockman, and C. Couzens-Roberts. Jul 92, 267p
See also PB92-228634 and PB92-228543.Color illustrations reproduced in black and white. Sponsored by Virginia Inst. of Marine Science, Gloucester Point.

The report volume summarizes physical data obtained during a 2-year pollution prevention study of Amoco Oil Company's Yorktown Virginia Refinery. The study was jointly sponsored as a cooperative effort of Amoco Corporation and the United States Environmental Protection Agency. A multi-media sampling program was used to identify potential pollution sources within the Refinery. Sampling and analysis included air, surface water, groundwater, and solid waste data. Public perceptions about environmental issues of concern in the vicinity of the Refinery were also surveyed. The inventory showed that nearly 99 percent of the releases were airborne at the facility. Most of the remainder involved land disposal of solid wastes. Specific sources of major pollutants are identified.

Keywords: *Petroleum refineries, *Pollution prevention, *Waste management, Sampling, Air pollution, Surface waters, Water pollution sampling, Ground water, Solid waste disposal, Land pollution, Public opinion, Environmental impacts, Tables(Data), Maps, *Yorktown(Virginia), AMOCO Corporation, Pollution sources.

PB92-228568/REB PC **A05**/MF **A01**
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
G. J. Kizior. 16 May 91, 93p
See also PB92-228543.

In late 1989 Amoco and the U.S. Environmental Protection Agency initiated a joint project to review pollution prevention alternatives at Amoco Oil Company's Yorktown, Virginia, Refinery as a case study site. The report summarizes the solid waste emissions inventory, solids source identification, and the solid waste sampling program that was conducted at the Amoco Yorktown Refinery on September 25-27, 1990, in support of the Pollution Prevention Project. Major findings showed that the majority of solid waste generation occurs as 'end-of-pipe' solids resulting from the treatment of wastewaters from the refinery sewer. Based on a regression analysis of the composition data for samples collected during this project, major upstream contributors to these solids appear to be soils. Solids from process units are also significant contributors.

Keywords: *Petroleum refining, *Pollution prevention, *Solid waste disposal, Industrial waste treatment, Emissions, Inventories, Sampling, Waste water, Soils, Solids, Processing, Case studies, *Yorktown(Virginia), Amoco Corporation.

PB92-228576/REB PC **A12**/MF **A03**
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
C. Cozens-Roberts, V. J. Kremesec, and E. L. Hockman. Mar 91, 273p
See also PB92-228568.

At the Amoco Company refinery in Yorktown, Virginia, potential sources and sinks of groundwater contamination were evaluated to determine the affects of the plant on the subsurface. Subsurface characterization of the refinery included an extensive subsurface sampling program that included 39 soil borings, 181 monitoring wells, and 23 surface water sampling points. Groundwater flow was modeled using FTWORK, a modification of MODFLOW. Results showed that, due to above ground process piping, contamination at the Yorktown refinery was significantly less than that observed at other refineries. Free-phase hydrocarbons were only detected in one monitoring well. Metals contamination was limited to monitoring wells associated with historic waste management activities at the east end of the refinery. Contamination was detected in monitoring wells located adjacent to process units but affects were limited due to the process sewer acting as a collection point.

Keywords: *Volatile organic compounds, *Petroleum refining, *Pollution prevention, Monitoring, Subsurface drainage, Ground water, Drill holes, Soil properties, Water flow, Sampling, Observation wells, Computerized simulation, Oil wells, Contamination, Hydrocarbons, Metals, Chemical analysis, Furans, Chlorine organic compounds, *Yorktown(Virginia), Dioxin/tetrachloro-dibenzo.

PB92-228584/REB PC **A08**/MF **A02**
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Surface Water Data.
Amoco Oil Co., Naperville, IL.
S. Baloo. Aug 91, 174p
See also PB92-228568. Sponsored by Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.

The report summarizes the surface water sampling program at the Amoco Refinery at Yorktown, Virginia. This was undertaken as a part of the joint project between Amoco Corporation and the United States Environmental Protection Agency to review pollution prevention alternatives at a petroleum refinery. The surface water data provides a snapshot of surface water pollutant generation and discharge from the refinery. Different process units contribute to the total wastewater flow of 460 GPM in the refinery. Water in the ditch system, which is non-process water, is free of organic contamination. Oil and grease, phenols, ammonia and sulfides are the significant components measured in the process wastewater. The concentrations of organics in most water streams leaving the individual process units are relatively low, in the 1-5

parts per million (ppm) range. A few individual streams such as the crude desalter brine and tank water draws have high pollutant loadings. Concentrations of metals in the refinery wastewater are very low. The wastewater treatment plant is very effective in reducing the pollutant loading in the water with overall removal efficiencies greater than 99% for most organics and inorganics.

Keywords: *Volatile organic compounds, *Petroleum refining, *Pollution prevention, Monitoring, Surface waters, Drainage, Water flow, Oils, Greases, Phenols, Ammonia, Metals, Brines, Industrial waste treatment, Waste water, Concentration(Composition), Performance evaluation, *Yorktown(Virginia), Organic loadings.

PB92-228592/REB PC **A12**/MF **A03**
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1. Final rept.
Radian Corp., Austin, TX.
C. Herndon. 30 Sep 91, 253p RCN-293-052-06-03, DCN-91-293-052-03
See also PB92-228584. Sponsored by Amoco Corp./ Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.

Amoco Oil Company has initiated a joint research program (The Pollution Prevention Project) with the U.S. Environmental Protection Agency to study pollution prevention options for petroleum refinery releases to all environmental media: air, water and land. Amoco's Yorktown, Virginia, refinery was selected for the study. Amoco contracted with Radian Corporation to provide technical assistance in quantifying airborne organic vapor emissions. This is a report of those measurement activities. The data from these activities were used to explore pollution prevention options and the impact these options could have on human and environmental exposure to airborne emissions. In addition to sampling ambient air, specific emission sources--the oil/water (API) separator, underground sewer, blowdown stacks and water ponds--were also tested. Most sampling examined benzene, toluene, xylene and ethylbenzene emissions.

Keywords: *Petroleum refining, *Pollution prevention, *Air pollution, Releasing, Vapors, Emission factors, Humans, Sampling, Wind tunnels, Flue gases, Benzene, Toluene, Xylene, Measurement, Concentration(Composition), Dispersion, Graphs(Charts), *Yorktown(Virginia), Ethyl benzene.

PB92-228618/REB PC **A10**/MF **A03**
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
Resources for the Future, Inc., Washington, DC. Center for Risk Management.
H. Klee, and M. Podar. 19 Nov 91, 201p
See also PB92-228592. Sponsored by Amoco Corp./ Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.

The Amoco/EPA Pollution Prevention Project involved a number of representatives from federal and Virginia regulatory agencies, and Amoco's refining business. Participants believed that the Project could benefit from a broader perspective than these organizations along might provide. The Project Work Group selected an independent Peer Review Process which was conducted by Resource for the Future (RFF), a Washington DC think tank. A group of technical, policy and environmental experts from diverse backgrounds served as Peer Review members. The Peer Review Committee met on three occasions to discuss (1) the Project Work Plan (2) sampling data and interpretation and (3) project conclusions and recommendations. The focus of the meeting was on the general scope and content of the project.

Keywords: *Petroleum refining, *Pollution prevention, *Project planning, Advisory committees, Meetings, Technical assistance, Policies, Recommendations, Pollution Prevention Project, Yorktown(Virginia).

PB92-228634/REB PC **A05**/MF **A01**
Virginia Inst. of Marine Science, Gloucester Point.
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown, Virginia. Ecological Impacts of the Yorktown Refinery on the York River Estuarine Environment.
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
Nov 92, 84p
See also PB92-228550. Sponsored by Virginia Inst. of Marine Science, Gloucester Point.

The volume includes the findings of a two-phase (laboratory and field) assessment of the potential use of biomarkers to evaluate the impact of the Refinery effluent on the York River. The study was jointly sponsored as a cooperative effort of Amoco Corporation and the United States Environmental Protection Agency. In the laboratory phase of the study, several of the biomarkers tested responded to various dilutions of process water effluent in an apparent dose-dependent manner. In the field study, however, there was little evidence that similar exposure is occurring in fish collected from the York River mainstream. The field data did suggest PAH exposure in fish collected from the stormwater settling pond and perhaps from the creek below the pond.

Keywords: *Petroleum refineries, *Pollution prevention, *Waste management, *York River, Environmental impacts, Tests, Laboratories, Markers, Fishes, Exposure, Ponds, Field tests, Aromatic polycyclic hydrocarbons, Benthos, Bioassay, Yorktown(Virginia), Biomarkers.

PB92-228642/REB PC **A99**/MF **A06**
Research-able, Vienna, VA.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
Amoco Corp./Environmental Protection Agency, Yorktown, VA. Pollution Prevention Project.
Jan 91, 694p
See also PB92-228618. Sponsored by Research-able, Vienna, VA.

The volume provides data obtained from interviews, focus groups and a telephone survey about environmental issues of concern for people living in the vicinity of Amoco Oil Company's Yorktown, Virginia Refinery. Major concerns identified were related to land development and infrastructure support. The Refinery has a relatively low profile in the area. The most serious environmental concern identified was the management of municipal and industrial solid waste.

Keywords: *Petroleum refining, *Pollution prevention, *Environmental effects, Surveys, Public opinion, Populations, Citizen participation, Decision making, Solid waste disposal, Waste management, Land development, *Yorktown(Virginia).

PB93-110575/REB PC **A99**/MF **A06**
Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.
Technical Support Document for Land Application of Sewage Sludge. Volume 1. Final rept.
Eastern Research Group, Inc., Lexington, MA.
A. Jones, L. Beyer, M. Rookwood, J. Pacenka, and J. Bergin. Nov 92, 763p EPA/822/R-93/002
See also Volume 2, PB93-110583. Prepared in cooperation with Abt Associates, Inc., Cambridge, MA. Sponsored by Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.

The document provides the technical background and justification for the U.S. Environmental Protection Agency's (EPA) final regulation (40 CFR Part 503) covering the land application of sewage sludge. The document summarizes current practices in land application and presents data supporting the risk assessment methodology used to derive human health and environmental risk-based limits for contaminants in land applied sewage sludge. The management practices associated with land application are outlined and the different pathways by which contaminants reach highly-exposed individuals (HEIs) through land application are discussed.

Keywords: *Ground disposal, *Sewage sludge, *Pollution regulations, *Risk assessment, *Environmental health, *Environmental protection, Path of pollutants, Exposure, Waste utilization, Environmental surveys, Clean Water Act, Waste management, Requirements, Standards.

PB93-110583/REB PC **A99**/MF **E11**
Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.
Technical Support Document for Land Application of Sewage Sludge. Volume 2. Final rept.
Eastern Research Group, Inc., Lexington, MA.
A. Jones, L. Beyer, M. Rookwood, J. Pacenka, and J. Bergin. Nov 92, 967p EPA/822/R-93/001B
See also Volume 1, PB93-110575. Prepared in cooperation with Abt Associates, Inc., Cambridge, MA. Sponsored by Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.

The document provides the appendices to the Land Application Technical Support Document Volume I.

Keywords: *Ground disposal, *Sewage sludge, *Pollution regulations, *Environmental health, *Environmental protection, *Risk assessment, Standards, Waste utilization, Waste disposal, Graphs(Charts), Statistical analysis, Tables(Data), Toxicity, Concentration(Composition), Plants(Botany), Exposure.

PB93-110591/REB PC **A15**/MF **A03**
Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.
Technical Support Document for the Surface Disposal of Sewage Sludge. Final rept.
Eastern Research Group, Inc., Lexington, MA.
Nov 92, 335p EPA/822/R-93/002
Prepared in cooperation with Abt Associates, Inc., Cambridge, MA. Sponsored by Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.

The document provides the technical background and justification for the U.S. Environmental Protection Agency's (EPA) final regulation (40 CFR Part 503) covering the surface disposal of sewage sludge. The document summarizes current practices in land application and presents data supporting the risk assessment methodology used to derive human health and environmental risk-based limits for contaminants in sewage sludge placed on surface disposal sites. The management practices associated with surface disposal are outlined and the different pathways by which contaminants reach highly-exposed individuals (HEIs) through surface disposal are discussed.

Keywords: *Sewage sludge, *Waste disposal, *Public health, *Regulations, Environmental protection, Impoundments, Earth fills, Land application, Standards, Ground water, Risk assessments, Wildlife, Populations, Hazardous materials, Exposure, Soil properties, Hydrology, Disease vectors, Research management, Monitoring, *Surface waste disposal.

PB93-110617/REB PC **A11**/MF **A03**
Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.
Technical Support for the Incineration of Sewage Sludge. Final rept.
Eastern Research Group, Inc., Lexington, MA.
Nov 92, 233p EPA/822/R-93/003
Sponsored by Environmental Protection Agency, Washington, DC. Health and Ecological Criteria Div.

The document provides the technical background and justification for the U.S. Environmental Protection Agency's final regulation (40 CFR Part 503) covering the incineration of sewage sludge. The document summarizes current practices in incineration and presents data supporting the risk assessment methodology used to derive human health and environmental risk-based limits for contaminants in incinerated sewage sludge. The management practices associated with incineration are outlined and the different pathways by which contaminants reach highly-exposed individuals through incineration are discussed.

Keywords: *Sewage sludge, *Sewage treatment, *Incinerators, *Air pollution control, Public health, Regulations, Licenses, Fluidized bed processors, Operations, Scrubbers, Electrostatic precipitators, After-

burners, Risk assessments, Path of pollutants, Humans, Flue gases, Combustion products, Project management, Monitoring, Populations, Mathematical models.

PB93-148252/REB PC **A08**/MF **A02**
Agency for Toxic Substances and Disease Registry, Atlanta, GA.
Missouri Chlordane Exposure Study: A Report on Persons Who Consumed Chlordane-Contaminated Fish. Final rept.
Missouri Dept. of Health, Jefferson City.
D. W. Roberts, R. G. Evans, A. M. Murgueytio, G. M. Carlson, and H. C. Chaski. Sep 92, 173p* ATSDR/HS-93/21
Grant H75-ATH90029
Sponsored by Agency for Toxic Substances and Disease Registry, Atlanta, GA.

Since 1985, the Missouri Department of Health (MDOH) has issued fish consumption advisories based on pesticide contaminants in fish. To determine whether there was a relationship between consumption of fish from Missouri waters under consumption advisories and indicators of chlordane in human serum, MDOH conducted an exposure study from August 1989 through October 1990. Findings of the study showed that consumers of fish from contaminated areas were 4.72 times more likely to have elevated serum levels of trans-nonachlor, an indicator of chlordane, than the control group. Findings also indicated fish consumption advisories based on fish contaminant data were not valid predictors of human exposures. The levels measured were many times lower than those reported in the literature as being associated with adverse health effects.

Keywords: *Missouri River, *Mississippi River, *Fishes, *Water pollution, *Food chains, Chlordan, Pesticide residues, Contamination, Environmental exposure pathways, Public health, Risk assessment, Graphs(Charts), Tables(Data), Trans-nonachlor.

PB93-154680/REB PC **A09**/MF **A03**
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Feb 93, 196p

The document outlines the human health criteria for: Benzene, Chlordane, Chlorobenzene, Cyanides, DDT, Dieldrin, 2,4-Dimethylphenol, 2,4-Dinitrophenol, Heptachlor, Hexachlorobenzene, Hexachloroethane, Lindane, Mercury, Methylene chloride, PCBs, Pentachlorophenol, 2,3,7,8-TCDD, Toluene, Toxaphene, and Trichloroethylene.

Keywords: *Water pollution effects(Humans), *Water quality, *Public health, *Occupational safety and health, *Toxic substances, *Risk assessment, Potable water, Great Lakes, Water resources, Exposure, Phenols, Toxicity, Malignant neoplasms, Laboratory animals, Pesticides, Chlorine organic compounds, Biological effects, *Human health criteria.

PB93-154698/REB PC **A05**/MF **A01**
Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 93, 94p

The goal of the human health criteria and values for the Great Lakes is the protection of humans from unacceptable exposure to toxicants from consumption of contaminated fish, drinking water and water related to recreational activities. Emphasis is on the protection of the individual in evaluating toxicity information and its application in the derivation of criteria and values.

Keywords: *Water pollution effects(Humans), *Water quality, *Public health, *Toxic substances, *Risk assessment, Great Lakes, Biological effects, Potable water, Fishes, Recreation, Dose-response relationships, Toxicity, Malignant neoplasms, Exposure, Regulations, Environmental protection, *Human health criteria.

PB93-154722/REB PC **A04**/MF **A01**
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
S. Bradbury, C. Nolt, B. Goodman, K. Stromborg, and J. Sullivan. Apr 93, 56p
See also PB93-154656. Prepared in cooperation with Wisconsin Dept. of Natural Resources, Madison, and Fish and Wildlife Service, Green Bay, WI. Habitat Enhancement Field Office.

The document outlines, for each category of contaminant listed in the title, the relevant literature, the calculation of mammalian wildlife value, the calculation of Avian Wildlife Value, and the Great Lakes Wildlife criterion.

Keywords: *Water pollution, *Toxicity, *Wildlife, *Great Lakes, Mammals, Birds, Sensitivity, DDT, Chlorohydrocarbons, Insecticides, Chlorine organic compounds, Exposure, Dosage, Mercury(Metal), Estimates, Mathematical models, Geometry, Tables(Data), Water quality criteria, Polychlorinated biphenyls, Biphenyl/chloro, Metabolites.

PB93-154730/REB PC **A10**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
Science Applications International Corp., Falls Church, VA.
K. Fenner, M. Podar, and B. Snyder. 16 Apr 93, 225p
Contract EPA-68-C8-0066
See also PB91-127415. Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The primary purpose of the study was to develop an estimate of the incremental cost to direct dischargers resulting from the implementation of the proposed Great Lakes Water Quality Guidance (GLWQG). This estimate reflects the incremental cost of complying with permit requirements developed using the Implementation Procedures and water quality criteria proposed in the GLWQG versus permit requirements based on existing State water quality standards. Two secondary analyses were also performed, one to develop a preliminary estimate of the costs that would be incurred by indirect dischargers to publicly owned treatment works (POTWs), and another to evaluate the cost-effectiveness of the GLWQG. Finally, several sensitivity analyses were performed to evaluate the impact of several major assumptions on the estimated compliance costs. To estimate compliance costs, permit limitations and conditions based on existing State water quality standards were compared to water quality-based limitations and conditions based on the proposed GLWQG criteria and Implementation Procedures for a sample of plants. The control measures needed to comply with the proposed GLWQG-based effluent limitations were evaluated. Individual plant compliance costs were estimated for these control measures based on information on treatment technology and cost analyses available in the literature. An overall compliance cost was projected from the sample based on statistical methods.

Keywords: *Water pollution standards, *Standards compliance, *Cost analysis, *Great Lakes, Waste disposal, Sewage disposal, Implementation, Permits, Study estimates, Water pollution control, Water pollution abatement, Cost effectiveness, Requirements, Environmental monitoring, Assessments, *Water quality criteria, National Pollutant Discharge Elimination system, Publicly owned treatment works.

PB93-154748/REB PC **A09**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final rept.
RCG/Hagler, Bailly and Co., Inc., Boulder, CO.
R. Raucher, A. Dixon, and E. Trabka. 15 Apr 93, 181p
Contract EPA-68-WI-0009
Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The Regulatory Impact Analysis provides direction to the Great Lakes States and Tribes on minimum water quality standards and contains numerical water quality criteria for 32 pollutants as well as methodologies for the development of water quality criteria for additional pollutants discharged to these waters. It also provides guidance to the Great Lakes States and Tribes on antidegradation policies and standards and implementation procedures.

Keywords: *Great Lakes, *Water quality standards, *Regulations, *Water pollution abatement, Guidelines, Legal aspects, Implementation, Economic analysis, Public health, Environmental policy, Alternatives, Clean Water Act, Aquatic biology, Biological effects, Aquatic ecosystems, *Water quality criteria.

PB93-155166/REB PC **A03**/MF **A01**
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Inventory Synonym and Preferred Name File, January 1993, Documentation.
Environmental Protection Agency, Washington, DC.
Jan 93, 35p
For system on magnetic tape, see PB93-504595.

The computer-readable TSCA Chemical Substance Inventory is issued periodically to provide chemical substance information for those substances on the nonconfidential substance identity portion of the TSCA Master Inventory File. For a complete understanding of the data contained on these tapes, it is necessary to consult the introductory material of the printed 1985 Edition and the 1990 Supplement to 1985 Edition. These tapes contain no TSCA Confidential Business Information. They have been prepared by Chemical Abstracts Service, a Division of the American Chemical Society, under contract to the U.S. Environmental Protection Agency. The tapes consist of two files: Inventory Preferred Name File and Inventory Synonym Name File. The first file contains the CAS Registry Number, preferred CA Index Name, molecular formula, and other appropriate information for each non-confidential Inventory chemical substance. The entries are in ascending CAS Registry Number order. The second file is a file of synonymous chemical names for the same substances listed in the Preferred Name File. Its entries are ordered alphabetically by name with each name accompanied by the same information for the substance as appears in the Preferred Name File.

Keywords: *Chemical compounds, *Environmental surveys, Documentation, Polymers, Free radicals, Revisions, Inventories, *Toxic Substances Control Act, *Chemical Substances Inventory, CAS Registry Number, Chemical nomenclature.

PB93-159572/REB PC **A05**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Inside the Hotline: A Compilation of 1992 Monthly Hotline Reports. Annual rept.
Booz-Allen and Hamilton, Inc., Bethesda, MD.
Mar 93, 90p EPA/530/R-92/014M
Contract EPA-68-WO-0039
See also PB92-131390. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.

The document is a compilation of questions and answers, Federal Register summaries from individual monthly Hotline reports for the period of January to December 1992. It includes indices arranged by subject, regulatory citation, and statutory citation. The reader can use the document to explore the application of the regulations to different scenarios or to shed light on complex issues. Neither the answers to questions nor the Federal Register summaries are intended to fully represent or to be used in place of the regulations.

Keywords: *Hazardous materials, *Waste management, *Regulations, *Waste disposal, US EPA, Superfund, Public information, Legal aspects, Law enforcement, Emergencies, Project planning, Underground storage, Storage tanks, Proposals, Leakage, Statutes, Requirements, Standards, Indexes(Documentation), Resource Conservation and Recovery Act, Federal Register.

PB93-163236/REB PC **A07**/MF **A02**
Geostatistical Environmental Assessment Software: User's Guide. GEO-EAS 1.2.1.
Environmental Monitoring Systems Lab., Las Vegas, NV.
E. Englund, and A. Sparks. Apr 91, 130p* EPA/600/8-91/008A
For system on diskette, see PB93-504967 and PB93-504959. See also PB93-504967 and PB93-504959. Prepared in cooperation with Computer Sciences Corp., Las Vegas, NV.

The report describes how to install and use the Geo-EAS (Geostatistical Environmental Assessment Software) software package on an IBM-PC compatible computer system. A detailed example is provided showing how to use the software to conduct a geostatistical analysis of a data set. Thirteen Geo-EAS programs are documented. The principal functions of the package are the production of 2-dimensional grids and contour maps of interpolated (kriged) estimates from sample data. Other functions include data preparation, data maps, univariate statistics, scatter plots/linear regression, and variogram computation and model fitting. Extensive use of screen graphics such as maps, histograms, scatter plots and variograms help the user search for patterns, correlations, and problems in a data set. Data maps, contour maps, and scatter plots can be plotted on an HP compatible pen plotter. Individual programs can be run independently; the statistics and graphics routines may prove useful even when a full geostatistical study is not appropriate. For ease of use, the programs are controlled interactively through screen menus, and use simple ASCII data files.

Keywords: *Hazardous materials, *Transport, Solid wastes, Land pollution, Air pollution, User manuals(Computer programs), Documentation, Water pollution, *Geo-EAS computer program, Geostatistics.

PB93-163251/REB PC **A03**/MF **A01**
ASSESS User's Guide.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Dec 90, 49p EPA/SW/DK-93/044A
For system on diskette, see PB93-505295 and PB93-505154.

The report is a comprehensive user guide for the interactive program ASSESS. The program is designed to assist the user in statistically determining the quality of data from soil samples taken at a hazardous waste site. It was created to assess precision and bias in the sampling of soils. The value of ASSESS is its ability to detect and isolate error at critical steps in the sampling and measurement function. Installation is simple and is described in the user guide. The manual also covers system operation and an example of using ASSESS.

Keywords: *Soil analysis, *Hazardous materials, *Data integrity, Sampling, Precision, Bias, Soil tests, Computer graphics, Measurement, Errors, User manuals(Computer programs), Documentation.

PB93-163285/REB PC **A03**/MF **A01**
Geophysics Advisor Expert System, Version 2.0.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Oct 92, 30p EPA/SW/DK-93/042A
For system on diskette, see PB93-505162.

The expert system computer program, version 2.0, is designed to assist and educate non-geophysicists in the use of geophysics at hazardous waste sites. A series of questions are asked about the site geology, contamination problem and cultural noise. Version 2.0 also contains a database of the physical and chemical properties of 94 substances selected from EPA's first priority list. The program considers the following geophysical methods: electromagnetic induction, d.c. resistivity, seismic, magnetic, ground penetrating radar, soil gas, gravity, and radiometric techniques. Based upon the answers given to the questions, the program provides a weighted recommendation of what types of geophysical methods will most likely be useful at the site to solve such problems as the location of the subsurface contamination and some hydrogeological characterization.

Keywords: *Hazardous materials, *Detection, *Geophysics, *Sites, Contamination, Electromagnetic induction, Resistivity exploration, Radar, Magnetic detection, Seismic detection, Gravity, Radiometry, Expert systems, Documentation, Soil gases.

PB93-163715/REB PC **A10**/MF **A03**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary. Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, L. Davies-Hilliard, J. Karrie, P. Hannon, and S. Lees. Sep 92, 203p* EPA/734/R-92/001, ISBN-0-16-0362645-2
Also available from Supt. of Docs. See also PB93-163723 and PB89-164230.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. the data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The National Summary is comprised of data from 45 states.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Water supply, Water wells, Tables(Data), Drinking water.

PB93-163723/REB PC **A08**/MF **A02**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, L. Davies-Hilliard, J. Karrie, P. Hannon, and S. Lees. Aug 92, 157p* EPA/734/R-92/002
See also PB93-163715 and PB93-163731. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 1 volume is comprised of data from Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, State government, Local government, Water supply, Water wells, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Tables(Data), *EPA Region 1, Drinking water.

PB93-163731/REB PC **A08**/MF **A02**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, L. Davies-Hilliard, J. Karrie, S. Lees, and P. Hannon. Aug 92, 153p* EPA/734/R-92/003
See also PB93-163723 and PB93-163749. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 2 volume is comprised of data from New Jersey and New York.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, State government, Local government, Water supply, Water wells, New York, New Jersey, Tables(Data), *EPA Region 2, Drinking water.

PB93-163749/REB PC **A06**/MF **A02**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, L. Davies-Hilliard, J. Karrie, P. Hannon, and S. Lees. Aug 92, 111p* EPA/734/R-92/004
See also PB93-163731 and PB93-163756. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 3 volume is comprised of data from Delaware, Maryland, Pennsylvania, Virginia and West Virginia.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, State government, Local government, Water supply, Water wells, Pennsylvania, Delaware, Virginia, Maryland, West Virginia, Tables(Data), *EPA Region 3, Drinking water.

PB93-163756/REB PC **A99**/MF **E11**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2. Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, L. Davies-Hilliard, J. Karrie, P. Hannon, and S. Lees. Aug 92, 1151p* EPA/734/R-92/005
See also PB93-163749 and PB93-163764. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The region 4 volume is comprised of data from Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina and Tennessee. Due to the size of the document, Region 4 is in two volumes.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Local government, State government, Water supply, Water wells, Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Tables(Data), *EPA Region 4, Drinking water.

PB93-163764/REB PC **A21**/MF **A04**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, J. Karrie, S. Lees, L. Davies-Hilliard, and P. Hannon. Aug 92, 476p* EPA/734/R-92/006
See also PB93-163756 and PB93-163772. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 5 volume is comprised of data from Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Local government, State government, Water supply, Water wells, Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin, Tables(Data), *EPA Region 5, Drinking water.

PB93-163772/REB PC **A07**/MF **A02**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, J. Karrie, S. Lees, L. Davies-Hilliard, and P. Hannon. Aug 92, 148p* EPA/734/R-92/007
See also PB93-163764 and PB93-163780. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 6 volume is comprised of data from Arkansas, Louisiana, Oklahoma, and Texas.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Local government, State government, Water supply, Water wells, Arkansas, Louisiana, New Mexico, Oklahoma, Texas, Tables(Data), *EPA Region 6, Drinking water.

PB93-163780/REB PC **A20**/MF **A04**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, J. Karrie, S. Lees, L. Davies-Hilliard, and P. Hannon. Aug 92, 469p* EPA/734/R-92/008
See also PB93-163772 and PB93-163798. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 7 volume is comprised of data from Iowa, Kansas, Missouri and Nebraska.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Local government, State government, Water supply, Water wells, Iowa, Kansas, Missouri, Nebraska, Tables(Data), *EPA Region 7, Drinking water.

PB93-163798/REB PC **A06**/MF **A02**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, J. Karrier, S. Lees, L. Davies-Hilliard, and P. Hannon. Aug 92, 108p* EPA/734/R-92/009
See also PB93-163780 and PB93-163806. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 8 volume is comprised of data from Colorado, Montana, North Dakota, South Dakota and Wyoming.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Local government, State government, Water supply, Water wells, Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming, Tables(Data), *EPA Region 8, Drinking water.

PB93-163806/REB PC **A24**/MF **A04**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, J. Karrie, S. Lees, L. Davies-Hilliard, and P. Hannon. Aug 92, 556p* EPA/734/R-92/010
See also PB93-163798 and PB93-163814. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 9 volume is comprised of data from Arizona, California, and Hawaii.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Local government, State government, Water supply, Water wells, Arizona, California, Hawaii, Nevada, Tables(Data), *EPA Region 9, Drinking water.

PB93-163814/REB PC **A05**/MF **A01**
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington). Final rept.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
C. Hoheisel, J. Karrie, S. Lees, L. Davies-Hilliard, and P. Hannon. Aug 92, 82p* EPA/734/12-92/011
See also PB93-163806. Errata sheet inserted.

The report presents summary results on pesticide monitoring of ground water from 1971 to 1991. It is compiled from ground water monitoring projects performed primarily by federal agencies, state agencies and research institutions. The data is well and sample specific. The report is broken into a National Summary and 10 US EPA regional volumes. The information is presented as text, maps, graphs and tables on a national, EPA regional and state/county level. The Region 10 volume is comprised of data from Idaho, Oregon and Washington.

Keywords: *Pesticides, *Ground water, *Water pollution sampling, Government policies, Local government, State government, Water supply, Water wells, Alaska, Idaho, Oregon, Washington, Tables(Data), *EPA Region 10, Drinking water.

PB93-164515/REB PC **A14**/MF **A03**
Proposed Water Quality Guidance for the Great Lakes System.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
31 Mar 93, 308p

The document provides opportunity for comment on the proposed Water Quality Guidance for the Great Lakes System ('Guidance') developed under section 118(c)(2) of the Clean Water Act (CWA), as amended by section 101 of the Great Lakes Critical Programs Act of 1990 (CPA). The Guidance, once finalized, will establish minimum water quality standards, antidegradation policies, and implementation procedures for waters within the Great Lakes System in the States of New York, Pennsylvania, Ohio, Indiana, Illinois, Minnesota, Wisconsin, and Michigan, including the waters within the jurisdiction of Indian Tribes. The Great Lakes States and Tribes must adopt water quality standards, antidegradation policies, and implementation procedures for waters within the Great Lakes System which are consistent with the final Guidance.

Keywords: *Water quality, *Water pollution control, *Regulations, New York, Pennsylvania, Ohio, Indiana, Illinois, Minnesota, Wisconsin, Michigan, Sediments, Aquatic ecosystems, Bioaccumulation, Public health, Fresh water biology, *Great Lakes Region(United States), Clean Water Act.

PB93-164523/REB PC **A15**/MF **A03**
Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines. Federal Certification Test Results for 1993 Model Year.
Environmental Protection Agency, Ann Arbor, MI. Motor Vehicle Emission Lab.
1993, 327p

The regulations that apply to the control of emissions from vehicles and engines, appearing in 40 CFR Part 86, set maximum allowable limits on exhaust and evaporative emission levels. The exhaust limits are applicable to gasoline-fueled and diesel light-duty vehicles (passenger cars), light-duty trucks, and heavy-duty engines, and to gasoline-fueled motorcycles. The evaporative limits are applicable to gasoline-fueled light-duty vehicles, light-duty trucks, and heavy-duty vehicles. The report contains all of the individual tests that were required by the certification procedures.

Keywords: *Air pollution standards, *Federal test procedure, *Air pollution sampling, *Motor vehicles, Exhaust emissions, Tables(Data), Air pollution abatement, Pollution regulations, Heavy duty vehicles, Trucks, Motorcycles, Light duty vehicles, Fugitive emissions.

PB93-164531/REB PC **A05**/MF **A02**
Test Car List, 1993. Passenger Cars.
Environmental Protection Agency, Washington, DC.
13 Jan 93, 100p*

The report is a listing of the individual data that are used to determine the average fuel economy data. It contains key test parameters, actual emission levels, and actual fuel economy for each of the specific test vehicles required for the 1993 model year. The subsequent average data can be found in NTIS report number PB93-169340 or PB93-169357.

Keywords: *Motor vehicles, *Fuel economy, *Federal test procedure, *Air pollution sampling, *Exhaust gases, Automobiles, Requirements, Engines, Tables(Data).

PB93-167096/REB PC **A05**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
General Public Notification for Public Water Systems.
Kansas Univ., Lawrence. Div. of Continuing Education.
Sep 89, 91p EPA/570/9-89/002
Grant EPA-T007287-01
Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The Handbook is for owners, operators, and managers of public water systems, and discusses federal public notification regulations. Public water systems are required to comply with the federal regulations from the effective date of the rule (April 28, 1989). States with primacy are required to adopt regulations no less stringent than the federal requirements.

Keywords: *Potable water, *Water supply, *Regulations, Government policies, Public health, Water treatment, Fluoridation, Water services, Public utilities, Water quality, Protection, Water pollution, Warning systems, Drinking water, Safe Drinking Water Act of 1974, National Primary Drinking Water Regulations, Notification.

PB93-167187/REB PC **A03**/MF **A01**
Photochemical Conversion of Solar Energy in the Environment. Book chapter.
Environmental Research Lab., Athens, GA.
R. G. Zepp. c1991, 21p EPA/600/A-93/042
Pub. in Photochemical Conversion and Storage of Solar Energy, p497-515 1991.

Past research on photochemistry in the environment has focused on gas phase reactions in the atmosphere. Recently, however, environmentally significant photoreactions have been discovered in natural waters (i.e., the sea, lakes, and rivers), on soil surfaces, and in atmospheric condensed phases. These new investigations have been stimulated in part by interest in developing a scientific understanding of the role of photochemical processes in the biogeochemical cycles of various elements. In addition, other studies have explored the role of natural photochemical

processes in cleansing the environemnt of various waste materials or, in some cases, in converting the wastes to more toxic substances. In the paper, current research results on the photochemical conversion of solar energy in aquatic environments and on soil and metal oxide surfaces are presented. Rate equations and products for selected homogeneous and heterogeneous photoreactions that occur in these systems are described. Data are presented for direct and sensitized photoreactions and for sunlight-initiated free radical reactions. (Copyright (c) 1991 Kluwer Academic Publishers.)

Keywords: *Photochemical reactions, *Solar energy, Conversion, Organic compounds, Inorganic compounds, Reaction kinetics, Chemical reactivity, Photochemistry, Photolysis, Tests.

PB93-167286/REB PC **A03**/MF **A01**
Developing Improved Strategies to Determine Male Reproductive Risk from Environmental Toxins. Journal article.
Environmental Protection Agency, Washington, DC. Reproductive and Developmental Toxicology Branch.
W. E. Berndtson, and E. D. Clegg. c1992, 17p EPA/600/J-93/047, OHEA-R-469
Pub. in Theriogenology 38, p223-237, 1992. Presented at a symposium in New York on August 13, 1992. Prepared in cooperation with New Hampshire Univ., Durham. Dept. of Animal and Nutritional Sciences.

It is important that evaluation procedures for chemicals incorporate measures suitable to detect a wide range of potential effects from those chemicals. The reproductive systems are among the most sensitive to toxic insult, so it is important that effective methods be developed and applied for detection of reproductive effects and protection of reproductive capability. As adequate data on the effects of human exposures are seldom available, it is necessary then to use data from other species. Species used most frequently are rodents, rabbits, dogs and subhuman primates. Knowledge gained from research with farm species is being applied in the design of improved protocols to detect health effects. Included are important contributions in developing new evaluation tests, improved experimental design and in furthering understanding of reproductive biology. The paper addresses several testing and risk assessment issues in male reproductive toxicology that form the basis for some of the authors' research.

Keywords: *Reproduction(Biology), *Environmental pollutants, *Toxicology, Male infertility, Testis, Spermatozoa, Histology, Animals, Reprints.

PB93-167492/REB PC **A99**/MF **A06**
Air Quality Criteria for Carbon Monoxide.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Dec 91, 647p EPA/600/8-90/045F
See also PB90-195587.

The revised air quality criteria document for CO reviews and evaluates available scientific information on the health effects associated with exposure to the concentrations of CO 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 references cited in the document are, therefore, reflective of the present state of knowledge on those issues relevant to the subsequent review of the NAAQS for CO, currently set at 9 ppm (10 mg/cu m) for 8 h and 35 ppm (40 mg/cu m) for 1 h. Major gaps in knowledge also are identified. Although emphasis is placed on the presentation of health effects data, other scientific data are presented and evaluated in order to provide a better understanding of the nature, sources, distribution, measurement, and concentration of CO in the environment, as well as the measurement of population exposure to CO.

Keywords: *Carbon monoxide, *Public health, *Air pollution effects(Humans), *Air quality, *Air pollution standards, Biological effects, Occupational exposure, Environmental exposure, Pollution sources, Risk assessment, *Criteria document.

PB93-167732/REB PC **A07**/MF **A02**
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
Environmental Protection Agency, Washington, DC. Office of Policy, Planning and Evaluation.
C. A. Houston, F. C. Herot, N. S. Douglas, and A. W. Fleer. Aug 73, 132p EPA/230/1-73/026
See also PB-256 313.

The purpose of the study is to analyze the economic impact which could result from the application of alternative effluent limitation guidelines and standards of performance to be established under sections 304(b) and a306 of the Federal Water Pollution Control Act, as amended.

Keywords: *Economic impact, *Water pollution economics, *Soaps, *Detergents, Economic analysis, Clean Water Act, Alternatives, Finance, Prices, Manufacturing, Employment, Water pollution standards, Industrial plants.

PB93-167740/REB PC **A04**/MF **A01**
Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
Environmental Protection Agency, Washington, DC. Office of Water Planning and Standards.
Apr 76, 70p EPA/230/1-76/065E
See also PB92-232040.

The purpose of the study is to analyze the economic impact which could result from the application of alternative effluent limitation guidelines and standards of performance to be established under sections 304(b) and 306 of the Federal Water Pollution Control Act, as amended.

Keywords: *Water pollution economics, *Economic impact, *Chemicals industry, *Wood products, *Gums, *Water pollution abatement, Guidelines, Economic analysis, Alternatives, Performance standards, Marketing, Clean Water Act, Charcoal, Best technology, Industrial waste treatment, Point sources, Sewers, Wood oils, SIC 2861.

PB93-167757/REB PC **A07**/MF **A02**
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
Environmental Protection Agency, Washington, DC. Office of Water Planning and Standards.
Nov 76, 150p EPA/230/1-76/041A
See also PB91-145441.

The purpose of the study is to analyze the economic impact which could result from the application of alternative Pretreatment Standards to be established under Section 307(b) of the Federal Water Pollution Control Act, as amended.

Keywords: *Economic impact, *Water pollution economic, *Water pollution standards, *Copper, *Aluminum, *Metal industry, Alternatives, Industrial waste treatment, Nonferrous metals, Economic analysis, Finance, Marketing, Sewers, Clean Water Act, *Pretreatment processes.

PB93-167765/REB PC **A14**/MF **A03**
Economic Analysis of Effluent Guidelines: Mineral Mining and Processing Industry.
Environmental Protection Agency, Washington, DC. Office of Water Planning and Standards.
May 77, 320p EPA/230/2-74/059A
See also PB93-116051.

The purpose of the study was to assess the economic impact of meeting the U.S. Environmental Protection Agency regulations for pollution abatement applicable to the discharge of water streams from point sources of the mineral mining and processing industry.

Keywords: *Water pollution economics, *Water pollution abatement, *Economic impact, *Mineral industry, *Mining, Economic analysis, Pollution regulations, Compliance, US EPA, Point sources, Phosphate rocks, Sands, Gravel, Cost analysis, Water pollution control, Finance, Employment, Prices, Productivity.

PB93-167773/REB PC **A05**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Analysis and Evaluation.
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
Meta Systems, Inc., Cambridge, MA.
Feb 84, 81p EPA/440/2-84/001
See also PB86-113529. Sponsored by Environmental Protection Agency, Washington, DC. Office of Analysis and Evaluation.

The purpose of the study is to analyze the economic impact which could result from the application of effluent limitations guidelines and standards issued under Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act to the plastics molding and forming industry.

Keywords: *Economic impact, *Water pollution economics, *Water pollution standards, *Plastics industry, Economic analysis, Water pollution abatement, Clean Water Act, Plastics processing, Molding techniques, Forming techniques, Guidelines, Compliance, Cost analysis, Best technology, Marketing.

PB93-167781/REB PC **A09**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of Water Regulations and Standards.
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry. Phase 2.
Policy Planning and Evaluation, Inc., Vienna, VA.
Apr 85, 198p EPA/440/2-85/030
See also PB84-177872. Sponsored by Environmental Protection Agency, Washington, DC. Office of Water Regulations and Standards.

The study assesses the economic impacts likely to result from the effluent guidelines, limitations, and standards applicable to the nonferrous metals Phase II manufacturing industry.

Keywords: *Water pollution standards, *Economic impact, *Water pollution economics, *Metal industry, *Smelting, *Refining, Economic analysis, Nonferrous metals, Water pollution abatement, Water pollution control, Industrial waste treatment, Water quality standards, Trends, Marketing, Compliance, Best technology, Clean Water Act, Regulations, Cost analysis, Employment, Foreign trade.

PB93-168797/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Economic Benefits of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry. Final rept.
RCG/Hagler, Bailly and Co., Inc., Boulder, CO.
14 Jan 93, 169p EPA/821/R-93/001
Contract EPA-68-C8-0084
See also PB93-153989. Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The report provides an overview of the benefits analysis of the effluent limitation guidelines for offshore oil and gas facilities. Regulatory options were evaluated for two wastestreams: (1) drilling fluids (muds) and cuttings; and (2) produced water. The analysis focuses on the human health-related benefits of the regulatory options considered. These health risk reduction benefits are associated with reduced human exposure to various carcinogenic and noncarcinogenic contaminants, including lead, by way of consumption of shrimp and recreationally caught finfish from the Gulf of Mexico. Most of the health-risk reduction benefits analysis is based upon a previous report (RCG/Hagler, Bailly, January 1991), developed in support of the proposed rulemaking. Recreational, commercial, and nonuse benefits have not been estimated for these regulations, due to data limitations and the difficulty of estimating these values for effluent controls in the open-water marine environment.

Keywords: *Offshore drilling, *Water pollution economics, *Water pollution effects, *Risk assessment, *Public health, Economic impact, Regulations, Water pollution abatement, Food chains, Marine biology, Gas production, Economic analysis, Guidelines, Water pollution standards, Oil recovery, Path of pollutants, Exposure, Ecosystems, Waste water, Drilling fluids.

PB93-168805/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Estimation of the Cost of Using Chemical Protective Clothing.
Little (Arthur D.), Inc., Cambridge, MA.

A. D. Schwope, and E. R. Renard. 1993, 11p EPA/600/A-93/052
Contract EPA-68-C9-0037
Pub. in Proceedings of the Performance of Protective Clothing, v4 p972-981. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The U.S. Environmental Protection Agency, either directly or through its Superfund contractors, is a major user of chemical protective clothing. The purpose of the study was to develop estimates for the cost of using this clothing. These estimates can be used to guide purchase decisions and use practices. For example, economic guidelines would assist in decisions pertinent to single-use versus reusable clothing. Eight cost elements were considered: (1) purchase cost, (2) the number of times an item is used, (3) the number of items used per day, (4) cost of decontamination, (5) cost of inspection, (6) cost of maintenance, (7) cost of storage, and (8) cost of disposal. Estimates or assumed inputs for each of these elements were developed based on labor costs, fixed costs, and recurring costs. The cost elements were combined into an economic (mathematical) model having the single output of cost/use. By comparing cost/use for various use scenarios, conclusions are readily reached as to the optimum economics for purchase, use, and reuse of the clothing. In general, clothing should be considered disposable if its purchase cost is less than its average cost/use per use for the anticipated number of times it will be reused.

Keywords: *Cost estimates, *Protective clothing, *Chemical compounds, *Economic analysis, *Occupational safety and health, *Industrial safety, Decontamination, Inspection, Maintenance, Storage, Waste disposal, Utilization, Reuse, Reprints.

PB93-168813/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Evaluation of Portable Gas Chromatographs.
IIT Research Inst., Chicago, IL.
R. E. Berkley, M. Miller, J. C. Chang, K. Oliver, and C. Fortune. 1993, 14p EPA/600/A-93/053
Contracts EPA-68-D8-0002, EPA-68-D0-0106
See also PB90-127374 and PB93-121051. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC., and Battelle Columbus Labs., OH. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

Limits of detection, linearity of responses, and stability of response factors and retention times for five commercially-available portable gas chromatographs (PGC) were determined during laboratory evaluation. The PGCs were also operated at the French Limited Superfund site near Houston, TX during startup of bioremediation. Concentrations of volatile organic compounds (VOC) at the site were slightly above ambient background levels. Concurrent collocated grab samples were collected periodically in canisters and analyzed by Method TO-14 using a mass-selective detector. Canister data were taken to indicate correct concentrations and were used to assess the accuracy of PGC data. Durability, reliability, and complexity of operation of PGCs were also evaluated. The principal goal of the study was to determine the best way to use each instrument as a monitor for airborne VOCs.

Keywords: *Gas chromatography, *Volatile organic compounds, *Air pollution, *Portable equipment, Superfund, Remedial action, Waste disposal, Hazardous material, Evaluation.

PB93-168821/REB PC **A03**/MF **A01**
XonTech, Inc., Van Nuys, CA.
Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
J. D. Pleil, C. R. Fortune, M. Yoong, and K. D. Oliver. 1993, 13p EPA/600/A-93/054
See also PB92-206432. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC. Sponsored by XonTech, Inc., Van Nuys, CA.

Whole-air sampling was performed before and after the start-up of the bioremediation of an industrial (primarily petrochemical) waste lagoon in Crosby Texas, near Houston. Four 'Sector Samplers' were deployed at the four corners of the French Limited Superfund Site. These samplers collect air into one of two SUMMA polished canisters depending upon wind direction and speed. When the wind blows at the sampler from across the waste lagoon, air is routed to the 'IN' sector canister, otherwise sample is collected in the 'OUT' sector canister. As such, each sampler provides its own background sample, and, upon gas chromatographic analysis, individual compounds can be associated with the waste lagoon. Five sets of 24-hour sector samples were taken; the first set was collected prior to the start of the bioremediation effort and the remaining four sets were taken sequentially for four 24-hour periods after the start-up of the procedure.

Keywords: *Volatile organic compounds, *Biological treatment, *Remedial action, *Superfund, *Air pollution sampling, *Waste management, Industrial waste, Petrochemical plants, Air pollution detection, Chemical analysis, Wind velocity, Wind speed, Lagoons(Ponds), Crosby(Texas).

PB93-168839/REB PC **A02**/MF **A01**
Analysis of Protocol Gases: An On-Going Quality Assurance Audit.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
A. P. Hines. Mar 93, 10p EPA/600/A-93/055

EPA has initiated a national QA program on the suppliers of Protocol Gases. In the program, which will operate continuously, Protocol Gases are obtained and analyzed by EPA. The results of the EPA analysis are then compared to the Certificate of Analysis supplied with the Protocol Gas. Reported here is a comparison between the assay results obtained by EPA on Protocol Gases for SO2 and NO and the concentrations provided by the suppliers of the Protocol Gases. The results are being released on the Technology Transfer Network operated by the Office of Air Quality Planning and Standards of the EPA, Durham, N.C.

Keywords: *Quality assurance, *Standards, *Air pollution, *Gas analysis, Auditing, Certification, Chemical analysis, Nitrogen oxide(NO), Sulfur dioxide, US EPA, Comparison, *Protocol gases, Standard reference materials.

PB93-168847/REB PC **A03**/MF **A01**
Effects of Kraft Mill Effluent on the Sexuality of Fishes: An Environmental Early Warning.
Environmental Research Lab., Gulf Breeze, FL.
W. P. Davis, and S. A. Bortone. 1992, 17p EPA/600/A-93/056
Pub. in Chemically Induced Alterations in Sexuality of Fishes, p113-127 1992. See also PB91-199893. Prepared in cooperation with University of West Florida, Pensacola. Dept. of Biology.

Arrhenoid or masculinized female fish species of the live-bearing family, Poeciliidae, have been observed for over thirteen years in specific southern streams which receive waste effluents from pulping mills. The complex mixture of organic compounds in kraft mill effluent (KME) has inhibited specific identification of causal agent(s). However, microbially degraded phytosterols (e.g. sitosterol or stigmastanol) in experimental exposures induce the same intersexual states that characterize affected female poeciliids sampled from KME streams. KME-polluted streams often exhibit a drastic reduction of fish species diversity and degrees of physiological stress, all of which suggests reduced reproduction in surviving forms. A potential ontogenetic or developmental response is demonstrated in American eels captured in one of these streams as well. The authors examine available information, including laboratory and experimental field exposures, and suggest directions for additional research as well as the need for environmental concern.

Keywords: *Animal sex behavior, *Water pollution effects(Animals), *Fresh water fishes, *Environmental monitoring, *Pulp mills, Stream pollution, Species diversity, Reprints, Poeciliidae.

PB93-168862/REB PC **A02**/MF **A01**
Research and Information Needs Related to Nonpoint Source Pollution and Wetlands in the Watershed: An EPA Perspective. Journal article.
Corvallis Environmental Research Lab., OR.
B. J. Ethridge, and R. K. Olson. c1992, 10p EPA/600/J-93/052
Pub. in Ecological Engineering, v1 p149-156 1992. Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR.

Two related Environmental Protection Agency (EPA) efforts, wetlands protection and nonpoint source pollution control, fail to fully consider landscape factors when making site-specific decisions. The paper discusses the relationship of the two programs and the use of created and natural wetlands to treat nonpoint source (NPS) pollution. Recommendations to improve the programs include increased technical transfer of existing information, and more research on construction methods and siting of created wetlands to effectively manage NPS pollution. Additional research is also needed to determine (1) the maximum pollutant loading rates to assure the biological integrity of wetlands, (2) the effectiveness of current land-use practices in protecting habitat and water quality functions, (3) wetland functions as pollutant sinks, (4) NPS pollution threats to wildlife, (5) practical watershed models, and (6) indicators and reference sites for monitoring wetland condition. Model watershed demonstrations, jointly implemented by the research and conservation communities, are recommended as a means of integrating research results. (Copyright (c) 1992 - Elsevier Science Publishers B.V.)

Keywords: *Nonpoint sources, *Wetlands, *Water pollution control, *Environmental monitoring, *Natural resources management, US EPA, Watersheds, Biological effects, Wildlife, Technology transfer, Indicators, Land use, Water quality, Habitats, Reprints, Natural wetlands, Created wetlands.

PB93-168870/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Precollege Education: A Vital Component if Sustainable Agriculture is to Take Root. Journal article.
ManTech Environmental Technology, Inc., Corvallis, OR.
S. Henderson. c1992, 11p EPA/600/J-93/053
Pub. in Jnl. of Sustainable Agriculture, v2 n3 p153-161 1992. Sponsored by Corvallis Environmental Research Lab., OR.

Proponents of sustainable agriculture must recognize that the precollege school system (K-12) is an essential place to begin disseminating information that will allow individuals to understand the implications of different agricultural practice in terms of their own health, the health of their environment, and the maintenance of their food supply. Science education in the United States is undergoing reform, providing an excellent opportunity to use sustainable agriculture as a theme in teaching science. Efforts are underway to make science more relevant to real world situations through the establishment of partnerships between subject matter experts and educators. Scientists, farmers, and teachers can form alliances that will enhance student's knowledge of both sustainable agriculture and science.

Keywords: *Agriculture, *Environmental protection, *Education, Soil conservation, Environmental impact, Secondary schools, United States, Science, Public health, Case studies, Curriculum development, Reprints, Sustainable agriculture.

PB93-168904/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
EPA Bibliography on Surface Contamination. Journal article.
IT Corp., Cincinnati, OH.
K. A. Brackett, S. D. Seitz, and P. J. Clark. c1992, 10p EPA/600/J-93/056
Contract EPA-68-C9-0036
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

As a part of the attempt to maintain technical currency, the Toxics Control Branch, Risk Reduction Engineering Laboratory of the USEPA conducts an ongoing review of the literature dealing with surface contamination. Originally, this effort dealt primarily with asbestos

in surface dust, but it has since been widened to include lead and other toxic materials which are likely to occur in the indoor environment.

Keywords: *Bibliographies, *Surface analysis, *Contamination, *Toxic substances, Asbestos, Lead(Metal), US EPA, Air pollution effects(Materials), Radioactive materials, Radiation effects, Water pollution effects(Materials), Environmental monitoring, Waste disposal, Environmental transport, Sampling, Reprints, *Surface contamination.

PB93-168912/REB PC **A02/MF A01**
Environmental Research Lab., Gulf Breeze, FL. Center for Marine and Estuarine Disease Research.
Infection Intensity of 'Perkinsus marinus' Disease in 'Crassostrea virginica' (Gmelin, 1791) from the Gulf of Mexico Maintained under Different Laboratory Conditions. Journal article.
Texas Univ. Medical Branch at Galveston. Marine Biomedical Inst.
W. S. Fisher, J. D. Gauthier, and J. T. Winstead. c1992, 9p EPA/600/J-93/057, , CONTRIB-769
Grant NA89AA-D-SG139
Pub. in Jnl. of Shellfish Research, v11 n2 p363-369 1992. Sponsored by Environmental Research Lab., Gulf Breeze, FL. Center for Marine and Estuarine Disease Research, and Texas A and M Univ. at Galveston. Sea Grant Coll. Program.

A protozoan parasite, Perkinsus marinus, has been responsible for infection and mortality of eastern oysters, Crassostrea virginica, since before 1950. Studies on the course of infection intensity (incidence) in individual animals have been restricted by the need to sacrifice animals for diagnosis, so quantitative association of disease intensity with environmental conditions and individual survival has not been accomplished. A recently developed hemolymph assay provided the means to quantitate infection intensity from live oysters. Application of this technique demonstrated progression of P. marinus intensity in Gulf of Mexico oysters maintained in laboratory aquaria in fed and unfed conditions at different test temperatures (18 - 27 C) and salinities (6 - 36 ppt). In one experiment, incidences over eight weekly samplings were 10 (sup 0.09) hypnospores/ml hemolymph/week for low temperature/low salinity conditions and 10 (sup 0.36) hypnospores/ml hemolymph/week for high temperature/high salinity conditions. Temperature was more influential than salinity in P. marinus incidence and oyster mortalities.

Keywords: *Oysters, *Protozoan infections, *Mexico Gulf, *Laboratories, Temperature, Mortality, Salinity, Reprints, *Perkinsus marinus, Crassostrea virginica.

PB93-168920/REB PC **A02/MF A01**
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
D. P. Middaugh, S. M. Resnick, S. E. Lantz, C. S. Heard, and J. G. Mueller. c1993, 8p EPA/600/J-93/058, CONTRIB-777
See also PB92-129733. Prepared in cooperation with Technical Resources, Inc., Gulf Breeze, FL., and SBP Technologies, Inc., Gulf Breeze, FL.
Pub. in Archives of Environmental Contamination and Toxicology 24, p165-172 1993.

A Gram-negative bacterium, Pseudomonas sp. strain SR3, was isolated from soil at a former wood treatment plant in north central Florida. The ability of this bacterium to degrade pentachlorophenol (PCP) was confirmed by growing cells in a basal salts medium in which PCP was the only source of carbon and energy. Degradation from a measured concentration of PCP was observed within 120 h of incubation in the presence of PCP-induced cells of Pseudomonas sp. strain SR3. Microtox 5 min EC50 toxicity tests revealed that aqueous solutions of PCP, measured concentrations 39-40 microgram/ml were toxic but that final biodegraded samples, 0.0006 microgram PCP/ml were nontoxic. However, bioassays with embryonic inland silversides, Menidia beryllina, showed that the biodegraded samples were embryotoxic or teratogenic. Results indicate that while biodegradation of PCP was nearly complete, intermediate metabolites of the degradation process or undergraded impurities in PCP were toxic or teratogenic.

Keywords: *Pesticides, *Toxicology, *Fishes, *Nonmammalian embryo, *Biodeterioration, Pseudomonas, Teratogenic compounds, Water pollution effects(Animals), Reprints, *Phenol/pentachloro, Menidia beryllina.

PB93-168938/REB PC **A03**
National Science Foundation, Washington, DC.
Bacterial Metabolism of Naphthalene: Construction and Use of Recombinant Bacteria to Study Ring Cleavage of 1,2-Dihydroxynaphthalene and Subsequent Reactions. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
R. W. Eaton, and P. J. Chapman. c1992, 15p EPA/600/J-93/059, CONTRIB-795
Grant NSF-USE90-50802
Pub. in Jnl. of Bacteriology, v174 n23 p7542-7554 Dec 92. Sponsored by National Science Foundation, Washington, DC.

The reactions involved in the bacterial metabolism of naphthalene to salicylate have been reinvestigated by using recombinant bacteria carrying genes cloned from plasmid NAH7. When intact cells of Pseudomonas aeruginosa PAO1 carrying DNA fragments encoding the first three enzymes of the pathway were incubated with naphthalene, they formed products of the dioxygenase-catalyzed ring cleavage of 1,2-dihydroxynaphthalene. These products were separated by chromatography on Sephadex G-25 and were identified by (1)H and (13)C nuclear magnetic resonance spectroscopy and gas chromatography-mass spectrometry as 2-hydroxychromene-2-carboxylate (HCCA) and trans-o-hydroxybenzylidenepyruvate (tHBPA). HCCA was detected as the first reaction product in these incubation mixtures by its characteristic UV spectrum, which slowly changed to a spectrum indicative of an equilibrium mixture of HCCA and tHBPA. Isomerization of either purified product occurred slowly and spontaneously to give an equilibrium mixture of essentially the same composition. tHBPA is also formed from HCCA by the action of an isomerase enzyme encoded by plasmid NAH7. The gene encoding this enzyme, nahD, was cloned on a 1.95-kb KpnI-Bg/II fragment. Extracts of Escherichia coli JM109 carrying this fragment catalyzed the rapid equilibration of HCCA and tHBPA. Metabolism of tHBPA to salicylaldehyde by hydration and aldol cleavage is catalyzed by a single enzyme encoded by a 1-kb MluI-StuI restriction fragment. A mechanism for the hydratase-aldolase-catalyzed reaction is proposed. (Copyright (c) 1992 American Society for Microbiology.)

Keywords: *Pseudomonas aeruginosa, *Escherichia coli, *Metabolism, *Naphthalene, Bacterial genes, Plasmids, Bacterial DNA, Genetic recombination, Liquid chromatography, Enzymes, Molecular cloning, Biotransformation, Mass fragmentography, Reprints, *Dihydroxynaphthalenes.

PB93-168946/REB PC **A02**
Environmental Research Lab., Gulf Breeze, FL.
Sequence, Genomic Organization of the EcoRI-A Fragment of 'Autographa californica' Nuclear Polyhedrosis Virus, and Identification of a Viral-Encoded Protein Resembling the Outer Capsid Protein VP8 of Rotavirus. Journal article.
Texas A and M Univ., College Station. Dept. of Entomology.
S. C. Braunagel, K. D. Daniel, L. M. Reilly, L. A. Guarino, and T. Hong. c1992, 8p EPA/600/J-93/060
Grants NIH-GM47552, NIH-AI27450
Pub. in Virology 191, p1003-1008 1992. Sponsored by Environmental Research Lab., Gulf Breeze, FL., National Institutes of Health, Bethesda, MD., and Texas Agricultural Experiment Station, College Station.

The author present the sequence and genomic organization of the EcoRI-A fragment of the Autographa californica multicapsid nuclear polyhedrosis virus, which represents 11% of the AcMNPV genome. Fifteen putative open reading frames and their respective amino acid sequences are described. One open reading frame is similar to the VP8 protein of rotavirus. (Copyright (c) 1992 Academic Press, Inc.)

Keywords: *Baculoviridae, *Viral proteins, *Rotaviruses, *Capsid, Viral genes, Open reading frames, Deoxyribonuclease EcoRI, Amino acid sequence, Base sequence, Reprints.

PB93-168953/REB PC **A03/MF A01**
Annual Cycle of Blood Chemistry Parameters in Striped Mullet ('Mugil cephalus' L.) and Pinfish ('Lagodon rhomboides' L.) from the Gulf of Mexico. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
L. C. Folmar, T. Moody, S. Bonomelli, and J. Gibson. c1992, 15p EPA/600/J-93/061
Pub. in Jnl. of Fish Biology 41, p999-1011 1992. Prepared in cooperation with University of West Florida, Pensacola.

Annual cycle measurements were made on serum sodium (Na), potassium (K), chloride (Cl), iron (Fe), magnesium (Mg), calcium (Ca), carbon dioxide (CO2), total protein (TP), albumin (Albg), cholesterol (Chol), triglycerides (Trig), inorganic phosphorous (Pi), uric acid (Uric), blood urea Nitrogen (BUN), creatinine (Crea), glucose (Glu), lactate dehydrogenase (LD-L), alkaline phosphatase (ALP), aspartate aminotransferase (AST), alanine aminotransferase (ALT) and creatine kinase (CK) in the striped mullet (Mugil cephalus) and the pinfish (Lagodon rhomboides). For each parameter, mean, standard deviation and coefficient of variation (CV) are reported. The lowest CVs were associated with the electrolytes and the higher CVs with serum enzymes. The lowest variability for most parameters was observed in the vitellogenic and prespawning period. (Copyright (c) 1992 The Fisheries Society of the British Isles.)

Keywords: *Blood chemical analysis, *Mexico Gulf, Enzymes, Graphs(Charts), Electrolytes, Reprints, *Pinfish, *Striped mullet, Mugil cephalus, Lagodon rhomoboides.

PB93-168961/REB PC **A03/MF A01**
Effects of Chemical Contaminants on Blood Chemistry of Teleost Fish: A Bibliography and Synopsis of Selected Effects. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
L. C. Folmar. c1993, 41p EPA/600/J-93/062
Pub. in Environmental Toxicology and Chemistry, v12 n2 p337-375 1993. See also PB93-168979.

The purpose of the article is to provide a bibliography of those publications which describe the effects of chemical contaminants (both organic and inorganic) on serum chemistry and hematology of teleost fish with a brief synopsis of those effects. Also included is a review of 'normal' or 'reference' values for various blood chemistry parameters and hormones measurable in a number of fish species.

Keywords: *Fishes, *Blood chemical analysis, *Water pollution effects(Animals), *Chemical water pollutants, Hormones, Reference values, Enzymes, Electrolytes, Species diversity, Hematology, Reprints.

PB93-168979/REB PC **A02/MF A01**
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
L. C. Folmar, S. Bonomelli, T. Moody, and J. Gibson. c1993, 6p EPA/600/J-93/063
Pub. in Archives of Environmental Contamination and Toxicology, v24 p83-86, 1993. See also PB93-168961. Prepared in cooperation with University of West Florida, Pensacola. Dept. of Biology.

Injections of 3 ml/kg CCl4 caused significant elevations in the serum enzymes alanine aminotransferase (ALT), aspartate aminotransferase (AST), creatine kinase (CK) and lactate dehydrogenase (LD-L). Serum lipids and total protein were significantly lower, while serum glucose was significantly greater. Serum protein electrophoresis showed disassociation of albumin. Seawater species appear more tolerant of nitrite intoxication than freshwater species. Concentrations of fenthion as high as 30% of the 48-hr LC50 did not inhibit serum cholinesterase or alter serum chemistry.

Keywords: *Blood chemical analysis, *Water pollution effects(Animals), *Sodium nitrite, *Carbon tetrachloride, *Fenthion, Enzymes, Electrophoresis, Lactate dehydrogenase, Creatine kinase, Aspartate aminotransferase, Reprints, *Pinfishes, Lagodon rhomboides.

PB93-168987/REB PC **A02/MF A01**
Environmental Research Lab., Gulf Breeze, FL.

Genus- and Group-Specific Hybridization Probes for Determinative and Environmental Studies of Sulfate-Reducing Bacteria. Journal article.
Illinois Univ. at Urbana-Champaign. Dept. of Veterinary Pathobiology.
R. Devereux, M. D. Kane, J. Winfrey, and D. A. Stahl.
c1992, 10p EPA/600/J-93/064
Grant N00014-88-K-0093
Pub. in Systematic and Applied Microbiology 15, p601-609 1992. Sponsored by Environmental Research Lab., Gulf Breeze, FL., and Office of Naval Research, Arlington, VA.

A set of six oligonucleotides, complementary to conserved tracts of 16S rRNA from phylogenetically-defined groups of sulfate-reducing bacteria, was characterized for use as hybridization probes in determinative and environmental microbiology. Four probes were genus specific and identified Desulfobacterium spp., Desulfobacter spp., Desulfobulbus spp., or Desulfovibrio spp. The other two probes encompassed more diverse assemblages. One probe was specific for the phylogenetic lineage composed of Desulfococcus multivorans, Desulfosarcina variabilis, and Desulfobotulus sapovorans. The remaining probe was specific for Desulfobacterium spp., Desulfobacter spp., D. multivorans, D. variabilis, and D. sapovorans. Temperature of dissociation was determined for each probe and the designed specificities of each were evaluated by hybridizations against closely related nontargeted species. In addition, each probe was screened by using a 'phylogrid' membrane which consisted of nucleic acids from sixtyfour non-targeted organisms representing a diverse collection of eukarya, archaea, and bacteria. The value of these probes to studies in environmental microbiology was evaluated by hybridizations to 16S rRNAs of sulfate-reducing bacteria present in marine sediments.

Keywords: *Sulfate-reducing bacteria, *Nucleic acid hybridization, *Oligonucleotide probes, Species diversity, Ribosomal RNA, Temperature, Binding sites, Phylogeny, Base sequence, Sequence alignment, Reprints.

PB93-168995/REB PC **A02**/MF **A01**
Fate of 'Bacillus sphaericus' 2362 Spores in Nontarget Invertebrates. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
A. A. Yousten, E. F. Benfield, and F. J. Genthner.
c1992, 6p EPA/600/J-93/065
Pub. in Microb Releases 1, p161-164 1992. See also PB92-129774. Prepared in cooperation with Virginia Polytechnic Inst. and State Univ., Blacksburg. Dept. of Biology.

Predatory stonefly larvae (Paragnetina media) acquired Bacillus sphaericus spores by eating spore-laden midge larvae. Leaf-shredding stonefly larvae (Pteronarcys proteus) and cranefly larvae (Tipula abdominalis) acquired spores by feeding on contaminated leaf discs. Upon switching to uncontaminated diets, both stonefly larvae eliminated the spores. Cranefly larvae, however, retained 18% of the spores in the posterior gut for up to 5 weeks, although spores were eliminated from the highly alkaline foregut. Spores recovered in cranefly fecal material had lost toxicity to mosquito larvae. (Copyright (c) Springer-Verlag 1992.)

Keywords: *Bacterial spores, *Invertebrates, *Biological pest control, Larva, Feces, Insects, Aquatic biology, Reprints, *Bacillus sphaericus, *Nontarget species, Paragnetina media, Pteronarcys proteus, Tipula abdominalis, Culex quinquefasciatus.

PB93-169001/REB PC **A02**/MF **A01**
Use of a Novel Plasmid to Monitor the Fate of a Genetically Engineered 'Pseudomonas putida' Strain. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
F. J. Genthner, R. P. Campbell, and P. H. Pritchard.
c1992, 9p EPA/600/J-93/066
Pub. in Molecular Ecology 1, p137-143 1992. See also PB91-206870. Prepared in cooperation with Technical Resources, Inc., Gulf Breeze, FL.

Plasmid pSI30 was constructed to increase the sensitivity of detection of a genetically engineered microorganism (GEM) and its recombinant DNA in environmental samples. The broad host-range, mobilizable plasmid contained chlorocatechol (clc) degradative genes, antibiotic resistance genes (ampicillin and kanamycin), and a fragment of eukaryotic DNA. The clc genes encode enzymes that convert 3-chlorocatechol to maleylacetic acid permitting the host, Pseudomonas putida RC-4, to grow on 3-chlorobenzoate. The catabolic phenotype was exploited using enrichment procedures to detect RC-4(pSI30) cells, freeliving in the water column or when irreversibly bound to surfaces. The eukaryotic DNA sequence provided a unique target allowing positive identification by DNA:DNA hybridization. In flow-through microcosms, RC-4(pSI30), undetectable as freeliving cells, was found by enrichment as irreversibly bound sessile forms. These experiments revealed the stability of pSI30 and its utility in a combination detection system for tracking the survival of a GEM and its DNA in environmental samples.

Keywords: *Pseudomonas putida, *Genetic engineering, Antibiotic resistance, Plasmids, Deoxyribonucleic acids, Nucleic acid hybridization, Aquatic microbiology, Biodeterioration, Phenotype, Growth, Reprints.

PB93-169019/REB PC **A02**/MF **A01**
National Science Foundation, Washington, DC.
Extreme Clonal Diversity and Divergence in Populations of a Selfing Hermaphroditic Fish. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
B. J. Turner, J. F. Elder, T. F. Laughlin, W. P. Davis, and D. S. Taylor. cNov 92, 7p EPA/600/J-93/067
Grant NSF-BSR85-06417
Pub. in Proceedings of National Academy of Sciences, v89 p10643-10647 Nov 92. 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.

Recombination is unknown in natural populations of Rivulus marmoratus, a selfing hermaphrodite, and genetic variation is likely due to mutation alone. DNA fingerprinting with an array of microsatellite (e.g., (CT)sub 9) and minisatellite (e.g. the 33.15 core sequence) probes reveals very high clonal diversity within samples of 7 Floridian populations, 5 contain about as many clones as there are individuals. There are 42 clones among 58 individual surveyed (mean = 1.4 individuals/clone), a level of genetic diversity unprecedented among clonal animals. Moreover, all of the probes recognize the same clones even though, at high hybridization stringencies, there is little overlap in the fingerprint patterns they generate. This suggests that most sympatric clones differ by multiple and independent mutational steps. In one population studied in detail, the average number of mutational steps separating two clones is estimated at about 9-10, and may be substantially higher. The mutational discontinuities among sympatric clones make it unlikely that they evolved by the accumulation of neutral mutations in populations that are otherwise genetically uniform. The data argue that the mixing of unrelated individuals from different local populations occurs to an extent previously unappreciated and/or that divergence of clones is mediated by natural selection. In confirmed, the latter would be a serious challenge to current ideas on the predominant role of recombination in promoting the evolution of biological novelty.

Keywords: *Fishes, *Variation(Genetics), *Hermaphroditism, DNA fingerprinting, Satellite DNA, Nucleic acid hybridization, Mutations, DNA probes, Reprints, *Rivulus marmoratus.

PB93-169027/REB PC **A02**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Selection of a 'Pseudomonas cepacia' Strain Constitutive for the Degradation of Trichloroethylene. Journal article.
Technical Resources, Inc., Gulf Breeze, FL.
M. S. Shields, and M. J. Reagin. c1992, 9p EPA/600/J-93/068, , CONTRIB-790
Contract EPA-68-03-3479
See also PB90-129537. Prepared in cooperation with University of West Florida, Pensacola. Center for Environmental Diagnostics and Bioremediation. Sponsored by Environmental Research Lab., Gulf Breeze, FL.
Pub. in Applied and Environmental Microbiology, v58 n12 p3977-3983 Dec 92.

Tn5 insertion mutants of Pseudomonas cepacia G4 that were unable to degrade trichloroethylene (TCE), toluene, or phenol or to transform m-trifluoromethyl phenol (TFMP) to 7,7,7-trifluoro-2-hydroxy-6-oxo-2,4-heptadienoic acid (TFHA) were produced. Spontaneous reversion to growth on phenol or toluene as the sole source of carbon was observed in one mutant strain, G4 5223, at a frequency of about .0004 per generation. One such revertant, G4 5223-PR1, metabolized TFMP to TFHA and degraded TCE. Unlike wild-type G4, G4 5223-PR1 constitutively metabolized both TFMP and TCE without aromatic induction. G4 5223-PR1 also degraded cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, and 1,1-dichloroethylene and oxidized naphthalene to alpha naphthol constitutively. G4 5223-PR1 exhibited a slight retardation in growth rate at TCE concentrations of greater than or equal to 530 microM, whereas G4 (which was unable to metabolize TCE under the same noninducing growth conditions) remained unaffected. The constitutive degradative phenotype of G4 5223-PR1 was completely stable through 100 generations of nonselective growth. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Biodeterioration, *Trichloroethylene, Growth, Toluene, Phenols, DNA insertion elements, Mutation, Chlorine organic compounds, Reprints, *Pseudomonas cepacia.

PB93-169035/REB PC **A03**/MF **A01**
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
M. L. Kent, J. Ellis, J. W. Fournie, S. C. Dawe, and J. W. Bagshaw. c1992, 11p EPA/600/J-93/069
Prepared in cooperation with Department of Fisheries and Oceans, Nanaimo (British Columbia). Pacific Biological Station, and Scanmar Seafood Ld., Sechelt (British Columbia).
Pub. in Diseases of Aquatic Organisms, v14 p81-89, 3 Nov 92.

A systemic infection with a hexamitid flagellate resembling Hexamita salmonis caused high mortality in chinook salmon Oncorhynchus tshawytscha reared at a seawater netpen farm in British Columbia, Canada. Affected fish were anemic and had swollen abdomens containing serosanguinous ascites and large blood clots. They also had an enlarged, mottled and congested liver, and an enlarged kidney and spleen. Numerous parasites were observed in the blood. The most remarkable histological changes were found in the liver and kidney. Livers of affected fish showed edema, congestion and inflammation. The renal interstitium was moderately hyperplastic due to proliferation of hemoblasts. The systemic infection was transmitted in the laboratory to chinook by intraperitoneal injection, by gavage of infected ascites and by waterborne exposure (in both fresh and sea water) with a mixture of infected ascites and tissue. The infection was also transmitted in fresh and sea water by cohabitation with infected chinook. Atlantic salmon were refractory to the infection. Based on the ease of transmission of the parasite in both fresh and sea water, and the high mortality associated with the infection, the disease poses a potentially serious threat to aquaculture of chinook salmon. (Copyright (c) Inter-Research 1992.)

Keywords: *Protozoan infections, *Fish diseases, *Salmon, Mortality, Ascites, Kidney, Hyperplasia, Edema, Inflammation, Tissues(Biology), Reprints, *Hexamita salmonis, Onchorhynchus tshawytscha.

PB93-169043/REB PC **A03**/MF **A01**
Texas A and M Univ. at Galveston. Sea Grant Coll. Program.
Occurrence of Agglutinins in the Pallial Cavity Mucus of Oysters. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
W. S. Fisher. c1992, 15p EPA/600/J-93/070, CONTRIB-737
Grant NA89AA-D-SG139
Pub. in Jnl. Exp. Mar. Biol. Ecol. 162, p1-13 1992. Sponsored by Texas A and M Univ. at Galveston. Sea Grant Coll. Program.

Mucus and fluid from the pallial (mantle) cavity of eastern oysters Crassostrea virginica Gmelin from Chesapeake Bay and Galveston Bay were found to agglutinate a variety of vertebrate erythrocytes (RBC) and bacteria. Agglutinating activity of pallial cavity fluid was probably due to dissociation of agglutinins from mucus on the external surfaces of organs. Agglutination titers of pallial cavity fluid from individual Galveston Bay oysters for six different RBC were positively correlated with high significance, indicating a strong interdepend-

ence regardless of RBC specificity. The relative agglutinating activity for different RBC by tissue explants and homogenized tissues (mantle, gill, digestive gland and adductor muscle) was similar to the relative activity of the pallial cavity fluid; mantle and gill tissue had the greatest agglutinating capacity over all RBC, whereas the adductor muscle had the least. Positive correlation was detected between agglutination titers of pallial cavity fluid (for different RBC) and titers of hemolymph agglutinins from the same oysters. It is hypothesized that agglutinins in the pallial cavity and hemolymph have a common source. The results of the explant and homogenate assays can be interpreted to suggest that the source is mantle and gill tissues. (Copyright (c) 1992 Elsevier Science Publishers BV.)

Keywords: *Oysters, *Chemical analysis, *Agglutinins, *Mucus, Erythrocytes, Hemolymph, Vibrio, Hemagglutination tests, Tissues(Biology), Reprints, *Pallial cavity, Crassostrea virginica.

PB93-169050/REB PC **A03**/MF **A01**
Evaluation of Sampling Strategies to Characterize Dissolved Oxygen Conditions in Northern Gulf of Mexico Estuaries. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
J. K. Summers, and V. D. Engle. c1993, 13p EPA/600/J-93/071, CONTRIB-745
Pub. in Environmental Monitoring and Assessment 24, p219-229 1993. Prepared in cooperation with Technical Resources, Inc., Gulf Breeze, FL.

Dissolved oxygen was continuously monitored in eight sites of northern Gulf of Mexico estuaries in August, 1990. Monte Carlo analyses on subsamples of the data were used to evaluate several commonly used monitoring strategies. Monitoring strategies which involve single point sampling of dissolved oxygen may often misclassify an estuary as having good water quality. In the case of shallow, often well-mixed estuaries that experience diurnal cycles, such monitoring often does not occur at night, during the time of lowest dissolved oxygen concentration. The authors' objective was to determine the minimum sampling effort required to correctly classify a site in terms of the observed frequency of hypoxia. Tests concluded that the most successful classification strategy used the minimum dissolved oxygen concentration from a continuously sampled 24-hour period. (Copyright (c) 199e Kluwer Academic Publishers.)

Keywords: *Estuaries, *Mexico Gulf, *Dissolved oxygen, *Water quality, *Sampling, *Environmental monitoring, Concentration(Composition), Biological indicators, Fishes, Benthos, Site surveys, Water pollution effects, Hypoxia, Performance evaluation, Reprints.

PB93-169068/REB PC **A02**/MF **A01**
Conjugal Gene Transfer to Aquatic Bacteria Detected by the Generation of a New Phenotype. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
T. Barkay, C. Liebert, and M. Gillman. c1993, 10p EPA/600/J-93/072, CONTRIB-779
See also PB89-120901, PB90-129511, PB90-129529 and PB91-163782. Prepared in cooperation with Technical Resources, Inc., Gulf Breeze, FL.
Pub. in Applied and Environmental Microbiology, v59 n3 p807-814 Mar 93.

An experimental approach based on the assembly of genes of a catabolic pathway was used to detect transconjugants in aquatic communities. Resistance to phenylmercury acetate was established in transconjugants when wide-host-range conjugal plasmids containing merB, the gene encoding organomercurial lyase, were transferred to strains from aquatic communities that had been acclimated to inorganic mercury. These communities were enriched for populations containing merA, the gene encoding mercuric reductase. Conjugation was confirmed, using the plasmids' encoded antibiotic resistance patterns and by hybridization with a eukaryotic gene. Three merB-conjugal plasmids, belonging to incompatibility groups W (pGTE16), P1 (pGTE26), and N (pGTE25) were prepared. Transfers by filter matings of pGTE16 and pGTE26 from Pseudomonas aeruginosa PA01 to indigenous strains, were at efficiencies of .045 and .0048 transconjugants/potential recipient (inorganic mercury resistant strains), respectively. These efficiencies were from one or two orders of magnitude below those observed for intraspecies matings with single strains. The third plasmid, pGTE25, was not stably maintained in P. aeruginosa donors and its transfer from Escherichia coli donors was below the level of detection. Characterized transconjugant strains were shown to be Pseudomonas spp. Thus, recipient bacteria with the ability to expand their mercury resistance patterns to organomercurials are abundance in aquatic communities. The utility of the experimental approach to studies in microbial ecology and to environmental management is discussed.

Keywords: *Transfection, *Aquatic microbiology, *Phenotype, *Genetic conjugation, Plasmids, Escherichia coli, Pseudomonas aeruginosa, Phenylmercuric acetate, Microbial drug resistance, Deoxyribonucleic acids, Bacterial genes, Reprints, Mercuric reductase.

PB93-169076/REB PC **A02**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Oxidation of Nitrapyrin to 6-Chloropicolinic Acid by the Ammonia-Oxidizing Bacterium 'Nitrosomonas europaea'. Journal article.
Minnesota Univ., St. Paul. Dept. of Genetics and Cell Biology.
T. Vannelli, and A. B. Hooper. cJul 92, 7p EPA/600/J-93/073
Grants EPA-R-816157-0-10, NA86AA-D-56112
Pub. in Applied and Environmental Microbiology, v58 n7 p2321-2325 Jul 92. See also PB90-264185. Sponsored by Environmental Research Lab., Gulf Breeze, FL., and Minnesota Sea Grant Program, Duluth.

Suspensions of Nitrosomonas europaea catalyzed the oxidation of the commercial nitrification inhibitor nitrapyrin (2-chloro-6-(trichloromethyl)-pyridine). Rapid oxidation of nitrapyrin (at a concentration of 10 microM) required the concomitant oxidation of ammonia, hydroxylamine, or hydrazine. The turnover rate was highest in the presence of 10 mM ammonia (0.8 nmol of nitrapyrin per min/mg of protein). The product of the reaction was 6-chloropicolinic acid. By the use of (18)O2, it was shown that one of the oxygens in 6-chloropicolinic acid came from diatomic oxygen and that the other came from water. Approximately 13% of the radioactivity of (2,6-(14)C) nitrapyrin was shown to bind to cells. Most (94%) of the latter was bound indiscriminately to membrane proteins. The nitrapyrin bound to membrane proteins may account for the observed inactivation of ammonia oxidation. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Ammonia, *Biodeterioration, Oxidation, Hydrazines, Hydroxylamines, Mass spectroscopy, Gas chromatography, Liquid chromatography, Oxygen, Membrane proteins, Reprints, *Nitrosomonas europaea, *Nitrapyrin, *6-chloropicolinic acid.

PB93-169084/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Feasibility of Including Fugitive PM-10 Emissions Estimates in the EPA Emissions Trends Report.
Pechan (E.H.) and Associates, Inc., Durham, NC.
W. Barnard, and P. Carlson. Sep 90, 47p EPA/450/4-91/005B
Contract EPA-68-02-4400
See also PB92-216910. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The report describes the results of Part 2 of a two part study. Part 2 was to evaluate the feasibility of developing regional emission trends for PM-10. Part 1 was to evaluate the feasibility of developing VOC emission trends, on a regional and temporal basis. These studies are part of the effort underway to improve the national emission trends. Part 1 is presented in a separate report. The categories evaluated for the feasibility of developing regional emissions estimates were: unpaved roads, paved roads, wind erosion, agricultural tilling, construction activities, feedlots, burning, landfills, mining and quarrying unpaved parking lots, unpaved airstrips and storage piles.

Keywords: *Fugitive emissions, *Particulates, *Air pollution, Feasibility studies, US EPA, Trends, Study estimates, Roads, Storage, Runways, Burning, Cultivation, Regional analysis, Wind erosion, Construction, Earth fills, Mining, Parking facilities.

PB93-169100/REB PC **A06**/MF **A02**
Reregistration Eligibility Document (RED): Oxalic Acid.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Dec 92, 120p EPA/738/R-92/004

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 Reregistration Eligibility Document (or RED) for oxalic acid 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, *Oxalic acid, Toxicology, Risk assessment, Public health, Ecology, Labels, Path of pollutants, Guidelines, Tables(Data), Environmental effects, Regulations, *Reregistration, Federal Insecticide Fungicide and Rodenticide Act, CAS 144-62-7.

PB93-169126/REB PC **A13**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Contingency Analysis Modeling for Superfund Sites and Other Sources. Final rept.
Science Applications International Corp., Reston, VA.
D. Christensen, and G. D. Kaiser. Jan 93, 291p EPA/454/R-93/001
Contract EPA-68-D0-0122
See also PB86-245248, PB89-134340 and PB91-141820. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The report provides information on contingency modeling for a wide range of different accidental release scenarios of hazardous air pollutants that might take place at Superfund and other sites. The scenarios are used to illustrate how atmospheric dispersion models, including dense gas models, should be applied. Particular emphasis is made on the input data that is needed for proper applications of models. Flow charts direct the user to specific sections where various scenarios are discussed. A check list of items that should be discussed before running the model is provided. Several examples are provided to specifically show how to apply the models so as to produce a credible analysis for a particular release scenario.

Keywords: *Hazardous materials, *Air pollution control, *Contingency planning, *Waste management, *Computerized simulation, Atmospheric diffusion, Superfund, Pollution sources, Industrial wastes, Accidents, Leakage, Scenarios, Source terms, Meteorology, Air quality dispersion models, Dense gas models.

PB93-169134/REB PC **A14**/MF **A03**
Regional Nonpoint Source Program Summary.
Environmental Protection Agency, Chicago, IL. Water Div.
R. Edwards, G. Partee, and F. Fleming. Nov 92, 313p EPA/910/9-91/035
See also PB90-141003 and PB91-152660.

The Regional Nonpoint Source Program Summary outlines the major components of the strategies for controlling nonpoint source (NPS) water pollution in EPA Region 10. The document was developed from the Clean Water Act Section 319 Nonpoint Source Assessments, NPS Management Programs and related documents for Alaska, Idaho, Oregon, Washington and for the Colville Confederated Tribes. The water resources and associated land uses vary widely both within and between the four states in EPA Region 10. The primary purpose of the NPS Assessments and Management Programs is to provide the states and tribes with a new blueprint for implementing integrated programs to address priority NPS water quality problems. The focus is needed in order to identify innovative funding opportunities and to effectively direct limited resources toward the highest priority issues and waterbodies. A secondary purpose of the Assessments and Management Programs involves the fulfill-

ment of Clean Water Act requirements in order for states and tribes to compete for Section 319 grants for implementing NPS controls. The Regional NPS Program Summary provides a synthesis of these documents in order to improve understanding of the programs and to assist in their implementation.

Keywords: *Nonpoint sources, *Water quality management, *Water pollution abatement, *Water pollution control, *Environment management, Assessments, Clean Water Act, Implementation, State programs, Alaska, Idaho, Oregon, Washington(State), Pollution sources, Pollution regulations, Coastal Zone Management Act, Colville Confederated Tribes, EPA region 10.

PB93-169340/REB PC **A04**/MF **A01**
Fuel Economy Guide, 1993. 3-Number.
Environmental Protection Agency, Washington, DC.
3 Sep 92, 66p*
See also PB93-111193.

For each model year, the Energy Policy and Conservation Act requires that a compilation of fuel economy values be provided to the public. These data are intended to help consumers compare the fuel economy of similar-sized cars, light-duty trucks, and special purpose vehicles. The adjusted fuel economy values are provided for city, highway, and a combination of city and highway driving. In addition, the interior volume and estimated annual fuel costs are provided. The individual data generated for each of the model types can be found in the NTIS report number PB93-164531.

Keywords: *Fuel economy, *Motor vehicles, Cost analysis, Study estimates, Energy conservation, Tables(Data), Energy Policy and Conservation Act.

PB93-169357/REB PC **A04**/MF **A01**
Fuel Economy Guide, 1993. 6 Number.
Environmental Protection Agency, Washington, DC.
13 Jan 93, 69p*

For each model year, the Energy Policy and Conservation Act requires that a compilation of fuel economy values be provided to the public. These data are intended to help consumers compare the fuel economy of similar-sized cars, light-duty trucks, and special purpose vehicles. The adjusted and unadjusted fuel economy values are provided for city, highway, and a combination of city and highway driving. The unadjusted, or as tested, fuel economy values are calculated during the testing of a vehicle on a chassis dynamometer. The adjusted fuel economy values have been adjusted to reflect conditions which would normally be encountered during actual driving. In addition, the interior volume and estimated annual fuel costs are provided. The individual data generated for each of the model types can be found in the NTIS report number PB93-164531.

Keywords: *Fuel economy, *Motor vehicles, Energy conservation, Public information, Cost analysis, Study estimates, Tables(Data), Energy Policy and Conservation Act.

PB93-169365/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Petitions to Delist Hazardous Wastes: A Guidance Manual. Second Edition.
Science Applications International Corp., Falls Church, VA.
Mar 93, 155p EPA/530/R-93/007
See also PB85-194488. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

EPA developed the guidance document to assist facilities in preparing delisting petitions for the exclusion of listed hazardous wastes. The manual provides general information on hazardous waste delisting, discusses sampling strategies and testing protocols in detail, and presents a step-by-step approach to compiling a complete delisting petition. This updated edition incorporates recent changes in RCRA regulations, agency policies, and delisting criteria. It also reflects the current emphasis on ground-water monitoring data and new concepts such as upfront delistings.

Keywords: *Hazardous materials, *Waste management, Manuals, Sampling, Listings, Water pollution sampling, Ground water, Regulations, Criteria, Guidelines, US EPA, *Delisting petitions, Resource Conservation and Recovery Act.

PB93-169845/REB PC **A03**/MF **A01**
Markets for Recovered Glass. Technical rept.
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Dec 92, 35p EPA/530/SW-90/071A
See also PB90-215112 and PB90-240516.

The study describes the operation of markets for cullet, or crushed scrap glass. It concentrates on post-consumer cullet in the municipal solid waste stream, although it provides limited information on other glass as well. The study addresses how the markets are structured, what influences the supply of and demand for markets, what projections can be made about the markets, and how government policies to increase recycling might affect these markets.

Keywords: *Glass recycling, *Recycled materials, *Market research, Solid waste collection systems, Supply and demand, Government policies, Economic forecasting, Glass industry, Cullet.

PB93-170116/REB PC **A99**/MF **A06**
Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Proceedings of the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (7th). Held in Minneapolis, Minnesota on December 8-12, 1992.
Waste Watch Center, Andover, MA.
Jan 93, 699p* EPA/530/R-93/008
Grant EPA-901909-01
See also PB92-169390. Prepared in cooperation with Governmental Refuse Collection and Disposal Association, Silver Spring, MD. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

The report is a compendium of presentations made at the Seventh Annual Household Hazardous Waste Management Conference. The topics included are: Indoor air pollution; Municipal solid waste; Waste recycling; Paints; Batteries; and Medical wastes disposal; Pesticides; Toxicity; Cleaning agents; Fluorescent lamps; Education; Public information; and Health and safety concerns.

Keywords: *Household wastes, *Waste management, *Meetings, Hazardous materials, US EPA, Waste recycling, Paints, Electric batteries, Fluorescent lamps, Toxicity, Education, Public information, Waste minimization, Source reduction.

PB93-170132/REB PC **A03**/MF **A01**
Markets for Recovered Aluminum.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Apr 93, 34p EPA/530/SW-90/072A

The study describes the operation of the markets for scrap aluminum as an example of how recycling markets are structured, what factors influence the supply of and demand for materials, what projections can be made about recycling markets, and how government policies to increase recycling may affect these markets.

Keywords: *Aluminum, *Metal recycling, *Market analysis, Supply(Economics), Demand(Economics), Forecasting, Materials recovery, Government policies, Recycled materials.

PB93-172914/REB PC **A05**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Characterization of Emissions from the Simulated Open-Burning of Non-Metallic Automobile Shredder Residue. Final rept. Feb 89-Oct 92.
Acurex Environmental Corp., Research Triangle Park, NC.
J. V. Ryan, and C. C. Lutes. Mar 93, 82p EPA/600/R-93/044
Contract EPA-68-DO-0141
See also PB90-126004. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report gives results of a study in which the open combustion of a non-metallic waste product called 'fluff' was simulated and the resulting emissions collected and characterized to gain insight into the types and quantities of these air pollutants. (NOTE: The reclamation process for recyclable ferrous and non-ferrous metals from scrap automobiles generates fluff consisting of a combination of glass, plastics, rubber, wood products, and electrical wiring. The waste product is often stockpiled or landfilled. A number of the stockpiles have caught fire, resulting in the emission of many air pollutants). Samples were collected and analyzed for volatile and semivolatile organics, particulate, and metal aerosols. Typical combustion process gases--carbon dioxide, carbon monoxide, nitric oxide, oxygen, and unburned hydrocarbons--were monitored continuously. Of 11 metal aerosols characterized, cadmium, copper, lead, and zinc were found in significant quantities.

Keywords: *Residues, *Combustion products, *Air pollution control, Automobiles, Scrap, Glass, Plastics, Elastomers, Shredders, Emission, Aerosols, Stockpiles, Earth fills, Air pollution sampling, Volatile organic compounds, Carbon dioxide, Hydrocarbons, Nitrogen oxide, Metals, Cadmium, Lead(Metal), *Fluff, Stationary sources.

PB93-172922/REB PC **A09**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991. Rept. for Feb-Sep 91.
Florida Univ., Gainesville. Dept. of Nuclear Engineering Sciences.
D. E. Hintenlang. Mar 93, 180p EPA/600/R-93/052
Grant EPA-R-817367
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab., and Florida Dept. of Community Affairs, Tallahassee.

The workshop brought together experts in various aspects of modeling the behavior and origin of indoor radon, with the objective of evaluating models for potential integration and application to Florida buildings and the Florida Radon Research Program (FRRP). The workshop provided guidance for the use of theoretical modeling as an aid to the development of codes for radon resistant buildings. Presentations addressed: general modeling methods and strategies, radon and soil gas entry models, radon mitigation methods modeling, indoor air transport modeling, and integration of diagnostic and empirical measurements to support modeling.

Keywords: *Radon, *Indoor air pollution, *Pollution control, *Meetings, Mathematical models, Soils, Gases, Measurement, Infiltration, Buildings, Ventilation, Concentration(Composition), Residential buildings, Foundations, Mitigation, Stationary sources.

PB93-172930/REB PC **A05**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Evaluation of Portable Multisorbent Air Samplers for Use with an Automated Multitube Analyzer. Final rept. Mar-Sep 92.
Battelle Columbus Labs., OH.
A. J. Pollak, S. M. Gordon, and D. J. Moschandreas.
Mar 93, 91p EPA/600/R-93/053
Contract EPA-68-D0-0007
See also PB87-168688 and AD-A192 435. Prepared in cooperation with Illinois Inst. of Tech., Chicago. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

The objective of the study was to evaluate the operational characteristics of the Perkin-Elmer Model STS 25 Sequential Tube Sampler and IITRI/IIT (IIT Research Institute/Illinois Institute of Technology) Total Isolated-by-Microenvironment Exposure (TIME) monitor. Both units use multisorbent carbon-based sampling tubes to collect volatile organic compounds (VOCs) in ambient air and a analytical procedure that does not require cryogens for analysis. A Perkin Elmer Auto Thermal Desorption System (Model ATD 400) was used to process the collection tubes for analysis of the target species (VOCs listed in the EPA TO-14

method). The Model STS 25 is designed to sample air with up to 24 tubes, one at a time for a preset period of time. The TIME monitor is designed to measure total exposure to volatile organics and apportion the exposure into its micro-environmental components indoor (workplace/residential), outdoor or in-transit. The TIME unit uses ultrasound reflection to identify a subject's location. Very good precision for collection and analysis of these volatile organic compounds was achieved.

Keywords: *Air samplers, *Volatile organic compounds, Activated carbon, Sorbents, Evaluation, Air pollution monitoring, Chemical analysis, Gas chromatography.

PB93-172948/REB PC **A07**/MF **A02**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils. Final rept.
PRC Environmental Management, Inc., McLean, VA.
E. Bates. Dec 92, 150p EPA/540/AR-92/010
Contracts EPA-68-03-3484, EPA-68-CO-0047
See also PB93-131787. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The STC demonstration was conducted under EPA's Superfund Innovative Technology Evaluation (SITE) Program in November, 1990, at the Selma Pressure Treating (SPT) wood preserving site in Selma, California. The SPT site was contaminated with both organics, predominantly pentachlorophenol (PCP), inorganics, mainly arsenic, chromium, and copper. Extensive sampling and analyses were performed on the waste both before and after treatment to compare physical, chemical, and leaching characteristics of raw and treated wastes. STC's contaminated soil treatment process was evaluated based on contaminant mobility measured by numerous leaching tests, structural integrity of the solidified material, measured by physical and engineering tests and morphological examinations; and economic analysis, using cost information supplied by STC and the results of the SITE demonstration, the vendor's design and test data, and other laboratory and field applications of the technology. It discusses the advantages, disadvantages, and limitations, as well as estimated costs of the technology.

Keywords: *Soil treatment, *Solidification, *Stabilization, *Hazardous materials, *Waste treatment, Remedial action, Wood preservatives, Land pollution control, Immobilization, Silicate minerals, Organic compounds, Inorganic compounds, Economic analysis, Materials handling, Pentachlorophenol, *Silicate Technology Corporation, Superfund Innovative Technology Evaluation Program, Innovative treatment technology.

PB93-173060/REB PC **A02**/MF **A01**
Assessing Potential Exposures from Routine Use of VOC-Contaminated Groundwater. Symposium paper.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
V. R. Highsmith, A. B. Lindstrom, and T. J. Buckley. 22 Feb 93, 8p EPA/600/A-93/058

Three identical experiments were conducted in a single residence to assess potential exposures that may result from the routine household use of VOC-contaminated groundwater. Each experiment was based on a single 20-min shower using contaminated groundwater containing 185-367 microgram/l benzene. Study objectives included: assessing potential exposures that may occur throughout the residence from routine household use of contaminated groundwater; examining the relationships between short- versus long-term exposure measurement techniques; and testing a multi-disciplinary protocol for total human exposure monitoring. Integrated 20-, 60-, and 240-min indoor VOC samples were collected in the shower stall, bathroom, master bedroom, and living room using Tenax GC and/or SUMMA polished evacuated canisters. Grab syringe samples were collected over various times at each indoor sampling location. Personal Tenax GC samples and water samples were also collected. Breath, blood, and urine samples were collected from the shower-exposed subject. Maximum benzene concentrations in the shower stall ranged from 758-1673 micrograms/cu m. Benzene concentrations in the bathroom and adjacent master bedroom approached 500 micrograms/cu m and 125 micrograms/cu m, respectively. A summary of microenvironmental and exposure assessment results of these experiments are presented in the report.

Keywords: *Indoor air pollution, *Exposure, *Volatile organic compounds, Aerosols, Benzine, Monitoring, Humans, Inhalation, Dosage, Concentration(Composition), Sampling, Assessments, Path of pollutants, Gas chromatography, Mass spectroscopy, Households, Rooms.

PB93-173078/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Evaluation of Emissions from Masonry Heaters and Masonry Fireplaces in Homes.
OMNI Environmental Services, Inc., Beaverton, OR.
S. G. Barnett, R. C. McCrillis, and R. B. Crooks. 1993, 16p EPA/600/A-93/059
Contract EPA-68-D0-0120
Presented at the Annual Meeting of Air and Waste Management Association (85th), Kansas City, Mo., June 21-26, 1992. See also PB91-125641. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper reports results of the first in-home evaluation of emissions from masonry fireplaces and heaters. Five conventional masonry fireplaces and two advanced-technology Rosin masonry fireplaces were monitored for particulate matter (PM) and carbon monoxide (CO), using the automated woodstove emissions sampler (AWES) sampling system for 1-week periods in the Portland, Oregon, area. Two potentially clean-burning masonry heaters, a Grundofen and a Contraflow, were also evaluated. Emissions from the conventional fireplaces averaged 24.9 g/kg PM and 107 g/kg CO, higher than earlier (mostly laboratory) results and over twice as high as EPA's AP-42 value. Emissions from the underfire-air Contraflow heater were 5.6 g/kg PM and 41.0 g/kg CO. Emissions of 1.4 g/kg PM and 83 g/kg CO from the overfire-air Grundofen heater demonstrate the clean-burning potential of this type of technology.

Keywords: *Stoves, *Air pollution control, *Particulates, Fireplaces, Residential buildings, Space heating, Carbon dioxide, Carbon monoxide, Emission, Samplers, Performance evaluation, Field tests, Standards, Monitoring, Stationary sources, Wood stoves.

PB93-173094/REB PC **A03**/MF **A01**
Technological Options for Acid Rain Control.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
F. T. Princiotta, and C. B. Sedman. 1993, 27p EPA/600/A-93/061
Presented at the Electric Utility Business Environment Conference, Denver, CO., March 17, 1993. See also PB88-143995 and PB91-197202.

The paper discusses technological options for acid rain control. Compliance with Title IV of the Clean Air Act Amendments of 1990 will require careful scrutiny of a number of issues before selecting control options to reduce sulfur dioxide (SO2) and nitrogen oxide (NOx) emissions. One key consideration is the effect of fuel switching or control technology upon the existing dust collector, with additional air toxics legislation looming ahead. A number of likely SO2 and NOx retrofit technologies and estimated costs are presented, along with results of retrofit case studies. New hybrid particulate controls are also being developed to meet future requirements.

Keywords: *Acid rain, *Air pollution control, *Air pollution abatement, Sulfur dioxide, Nitrogen oxides, Clean Air Act, Compliance, Particulates, Acidification, Fuel substitution, Precipitation(Meteorology), Requirements, Dust collectors.

PB93-173102/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Physical Properties of Fluorinated Propane and Butane Derivatives as Alternative Refrigerants.
Clemson Univ., SC. Dept. of Chemistry and Geology.
A. Beyerlein, D. DesMarteau, S. Hwang, N. Smith, and P. Joyner. 1993, 33p EPA/600/A-93/062
Grant EPA-R-815134
Presented at ASHRAE Meeting, Chicago, IL., January 23-27, 1993. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper presents physical property measurements for 24 fluorinated propane and butane derivatives and one fluorinated ether which include melting point, boiling point, vapor pressure below the boiling point, heat of vaporization at the boiling point, critical properties (temperature and density), and liquid-phase heat capacities at 40 C. Measured vapor pressures are reported to the critical temperature for four of the compounds: HFC-227ea, HFC-245cb, HFC-236ea, and HFE-125a. These measured data, combined with estimated vapor-phase densities, heat capacities, and vapor pressures, may be used to evaluate the potentials of these chemicals as alternative refrigerants. Modified corresponding states methods, using HFC-134a as a reference fluid, are presented as a way to obtain the needed estimated data, and the accuracy of these methods is judged by comparisons with measured data.

Keywords: *Environmental chemical substitutes, *Air pollution abatement, *Refrigerants, Butanes, Propanes, Alternatives, Physical properties, Fluorine organic compounds, Performance evaluation, Ethers, Critical point, Study estimates, Comparison, HFC 227ea, HFC 245cb, HFC 236ea, HFE 125a.

PB93-173110/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Using a Neural Network to Estimate Solvent Consumption. Rept. for Apr-Jun 92.
Capone (Ronald L.) and Associates, Arlington, VA.
R. L. Capone, and P. J. Chappell. 1993, 6p EPA/600/A-93/063
Presented at IEEE Conference on Artificial Intelligence for Applications (9th), Orlando, FL., March 1-5, 1993. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses a neural network, using the back-propagation paradigm, that is taught the relationship between employment in the graphic arts industry--(Standard Industrial Classification Code (SIC) 27)--and economic variables and solvent consumption by SIC 27. The project is a proof of concept whose objective is to a relationship using national-level data, which are known, and apply it to estimating solvent consumption on the county level, where data are thus far not available. The network accurately learns a relationship from national data. Although definitive testing is not yet possible due to data limitations, there are indications that the national relationship can be used to estimate county-level solvent consumption. Network inputs are SIC 27 employment, productivity for the current and 1 prior year, and an eight-element 'signature' of quarterly economic changes in output from non-durable industries. One hidden layer of two processing elements connects the 11-element input layer to a 1-element output layer. NeuralWare Professional II Plus Version 4.0 was used as the platform. Training requires 30,000 iterations and results in a Pearson's r value of 0.99. The best result achieved by ordinary least squares regression was 0.93.

Keywords: *Neural networks, *Solvents, *Study estimates, *Pollutants, *Environmental surveys, Forecasting, Graphic arts, Printing inks, Economic impact, Productivity, SIC 27.

PB93-173128/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil. Symposium paper.
Research Triangle Inst., Research Triangle Park, NC.
P. M. Grohse, K. K. Luk, L. L. Hodson, B. M. Wilson, and W. F. Gutknecht. 1993, 23p EPA/600/A-93/064
Contract EPA-68-D1-0009
See also PB91-144311. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

A rapid, simple, inexpensive, and relatively accurate field test method for the determination of lead (Pb) in paints, dusts, and soils has been developed. The

method involves the ultrasonic leaching of 0.1g - 0.5g of the sample in 5 mL of 25% (v/v) nitric acid for 30 minutes followed by colormetric measurement with a commercially available field test kit. A variety of actual field samples and several National Institute of Standards and Technology (NIST) Standard Reference Materials (SRMs) were tested using the proposed method. Results were compared with those obtained employing a microwave, total digestion method followed by inductively coupled plasma emission measurement. Lead recovery and method precision were better than 84% and 11%, respectively, for a variety of SRMs and field samples. No species encountered in the samples were found to interfere in the measurement.

Keywords: *Lead(Metal), *Field tests, *Chemical analysis, Hazardous materials, Paints, Dust, Soil analysis, Houses, Extraction, Leaching, Colorimetric analysis, Inductively coupled plasma emission spectroscopy.

PB93-173136/REB PC **A03**/MF **A01**
Agricultural Pesticide Emissions Associated with Common Crops in the United States.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
W. G. Benjey. 1993, 18p EPA/600/A-93/065
See also PB86-171394, PB91-205021 and PB92-110394. Prepared in cooperation with National Oceanic and Atmospheric Administration, Research Triangle Park, NC. Atmospheric Sciences Modeling Div.

Annual emissions for the year 1987 from the application of agricultural pesticides have been estimated by crop type by county for the United States using a geographic information system. The emissions estimates are based upon computed volatilization rates accounting for the properties of each pesticide, evaporation rates, mode of application (surface or soil incorporation) and percent of interception by leaves. Key pesticide properties include the Henry's Law constant, half-life in soil and the organic carbon partitioning coefficient. The volatilization rates are multiplied by the amount of pesticide applied by crop acreage in each county as determined from agricultural census and pesticide sales data. The geographic distribution of the dominant emissions, such as atrazine and diazinon, etc. are presented by crop type and state. For a given pesticide, the geographic variability is controlled principally by amount applied and water availability as reflected in evaporation rates.

Keywords: *Pesticides, *Agricultural chemicals, *Fugitive emissions, *United States, Air pollution, Evaporization, Farm crops, Statistical data, States (United States), Weight (Mass).

PB93-173144/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
R-245ca: A Potential Far-Term Alternative for R-11. Journal article.
Acurex Corp., Research Triangle Park, NC.
N. D. Smith, K. Ratanaphruks, M. W. Tufts, and A. S. Ng. c1993, 7p EPA/600/J-93/075
Contract EPA-68-DO-0141
Pub. in ASHRAE Jnl., v35 n2 p19-23, Feb 93. See also PB93-106805. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The article discusses 1,1,2,2,3-pentafluoropropane (R-245ca) as a potential far-term alternative for R-11. Although 1,1-dichloro-2,2,2-trifluoroethane (R-123) is generally recognized as the leading alternative refrigerant for near-term use to replace R-11 and is being adopted by chiller manufacturers for use in new equipment and (to some extent) by users to retrofit existing equipment, due to its chlorine content and consequent potential to deplete stratospheric ozone, it is subject to future production phaseout and therefore is viewed as a transitional alternative. Because several years are normally required to thoroughly evaluate any new candidate alternative for toxicity, environmental acceptability, end-use applicability, production viability, and cost, and to bring the new chemical to market, EPA/AEERL initiated a project in 1988 to investigate an array of new potential alternative chemicals. This effort recently has revealed several promising new candidate refrigerants, including the one discussed in the article.

Keywords: *Air pollution abatement, *Environmental chemical substitutes, *Refrigerants, Fluorohydrocarbons, Propanes, Alternatives, Freons, Toxicity, Environmental effects, Cost analysis, Thermophysical properties, Performance evaluation, *Propane/pentafluoro, Ethane/dichloro-trifluoro, R-245ca, R-11, R-123.

PB93-173151/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Development of Source Testing, Analytical, and Mutagenicity Bioassay Procedures for Evaluating Emissions from Municipal and Hospital Waste Combustors. Journal article Feb 91-Feb 92.
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
R. R. Watts, P. M. Lemieux, R. A. Grote, R. W. Lowans, and R. W. Williams. c1992, 10p EPA/600/J-93/076
Contract EPA-68-02-4456
Pub. in Environmental Health Perspectives, v98 p227-234 1992. Prepared in cooperation with National Inst. of Environmental Health Sciences, Research Triangle Park, NC. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses research aimed at developing new testing equipment and procedures that will allow a more comprehensive assessment of the complex mixture of organics that is present in stack emissions. These efforts are directed specifically toward development of source testing equipment and procedures, analytical procedures, and bioassay procedures. The objectives of this study were to field test two types of high-volume source dilution samplers, collect stack samples for use in developing analytical and mutagenicity bioassay procedures, and determine mutagenicity of organics associated with emission particles from two municipal waste incinerators. Data are presented for particle concentrations and emission rates, extractable organic concentrations and emission rates, and Salmonella (Ames) mutagenic potency and emission rates. The mutagenic emission rates and emission factors are compared to those of other incinerators and combustion sources.

Keywords: *Air pollution sampling, *Bioassay, *Air pollution detection, *Chemical analysis, *Mutagen screening, Municipal wastes, Hospital solid wastes, Incineration, Waste disposal, Concentration(Composition), Emission factors, Extraction, Distillation, Reprints.

PB93-173169/REB PC **A02**/MF **A01**
Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans: Removal from Flue Gas and Distribution in Ash/Residue of a Refuse-Derived Fuel Combustor. Journal article Jan 89-May 91.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. G. Brna, and J. D. Kilgroe. c1992, 8p EPA/600/J-93/077
Pub. in Chemosphere, v25 n7-10 p1381-1386 1992. See also PB91-162537 and PB91-191429.

The paper gives results of an early-1989 investigation of the effect of changing combustion and flue gas cleaning (FGC) system variables on the performance of these systems. Using information from earlier characterization tests at the same site (Mid-Connecticut facility in Hartford), performance data on a refuse-derived fuel (RDF) combustor and its lime spray dryer absorber/fabric filter (FGC) system were obtained under good, intermediate, and poor combustor operation and high, normal, and low sulfur dioxide (SO_2) control by the FGC system. The independent combustion system variables included steam load, air supply rate, and its distribution. For the FGC system, the outlet gas temperature from the spray dryer absorber served as an easily measurable surrogate for the approach to saturation temperature, while SO_2 concentration in the flue gas at the fabric filter outlet continuously represented the lime stoichiometry. Test data included acid gas, trace organic, trace metal, and particulate concentrations, as well as material collection for the determination of ash/residue composition and production rates. In addition, process data and RDF feed and ash/residue generation rates were obtained. Correlations between combustion conditions and furnace emission of organic pollutants are presented.

Keywords: *Polychlorinated dibenzodioxins, *Polychlorinated dibenzofurans, *Air pollution control, *Flue gases, *Combustors, Refuse derived fuels, Municipal wastes, Waste disposal, Performance evaluation, Ashes, Residues, Fabric filters, Calcium oxides, Particulates, Absorbers(Materials), Reprints, *Flue gas cleaning.

PB93-173177/REB PC **A03**/MF **A01**
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches. Journal article Feb 91-Jul 92.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
D. B. Henschel. c1992, 18p EPA/600/J-93/078
Pub. in Indoor Air, v2 p272-287 1992. See also PB91-125831 and PB92-120443.

The paper discusses the state of the art of alternative technologies for reducing radon concentrations in the living areas of houses with crawl-space foundations. For the two most promising technologies-sub-membrane depressurization (SMD) and crawl-space depressurization-the effects of individual house design, house operation, system design, system operation, and geological variables on system performance have been evaluated. SMD is consistently the most effective technique. Evaluation of the effects of the various house and mitigation system variables indicates that the major data gaps are: (1) the conditions under which crawl-space depressurization might be preferred over SMD; (2) the optimal method for distributing suction beneath a SMD membrane under different conditions; (3) the optimal degree of SMD membrane sealing required under different conditions; (4) the conditions under which it may be possible to leave a portion of the crawl-space uncovered; and (5) the durability of SMD the other systems.

Keywords: *Radon, *Indoor air pollution, *Houses, *Air pollution control, Alternatives, Reviews, State of the art, Design criteria, Performance evaluation, Mitigation, Installation, Comparison, Reprints, *Submembrane depressurization systems, *Crawlspace submembrane depressurization systems, Active soil depressurization systems.

PB93-173664/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Simulation of Nonazeotropic Refrigerant Mixtures for Use in a Dual-Circuit Refrigerator/Freezer with Countercurrent Heat Exchangers. Journal article.
Maryland Univ., College Park. Dept. of Mechanical Engineering.
J. C. Bare, C. L. Gage, R. Radermacher, and D. Jung. c1991, 10p EPA/600/J-93/079
Grant EPA-R-817111
Pub. in ASHRAE Transactions, v97 pt2 p69-76 1991. See also PB93-131688. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses a refrigerator/freezer (RF) system that has two complete and independent refrigeration cycles for the two compartments. It uses a nonazeotropic refrigerant mixture (NARM) in each cycle and countercurrent heat exchangers throughout. In a standard cabinet, this RF appears to provide energy savings of 24%, compared to current U.S. RF designs. The NARMs modeled with the best performance included R-32/-152a, R-22/-142b, and R-32/-142b. An 18% improvement can be expected from the dual-circuit system using R-12 alone, and an additional 6% improvement can be gained by replacing R-12 with the selected NARMs in countercurrent heat exchangers. The advantages of the system include greatly reduced energy consumption, easy temperature and humidity control for each compartment, no humidity or odors transferred between compartments, and increased time between defrost cycles.

Keywords: *Refrigerants, *Refrigerators, *Air pollution abatement, Heat exchangers, Freezers, Environmental chemical substitutes, Freons, Fluorohydrocarbons, Performance evaluation, Computerized simulation, Mixtures, Reprints.

PB93-173672/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

Corona Destruction: An Innovative Control Technology for VOCs and Air Toxics. Journal article.
Acurex Environmental Corp., Research Triangle Park, NC.
C. M. Nunez, G. H. Ramsey, W. H. Ponder, J. H. Abbott, and L. E. Hamel. c1993, 8p EPA/600/J-93/080
Contract EPA-68-D0-0141
Pub. in Jnl. Air and Waste Management Association, v43 p242-247, Feb 93. See also PB92-206622. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper discusses the work and results to date leading to the demonstration of the corona destruction process at pilot scale. The research effort in corona destruction of volatile organic compounds (VOCs) and air toxics has shown significant promise for providing a valuable contribution to critical EPA and national goals of attaining the ozone standard in more than 100 nonattainment areas nationwide and reducing the health effects associated with exposures to hazardous air pollutants. The corona destruction technology could be especially useful in future years in helping industry meet the residual risk requirements of the Clean Air Act of 1990. Since 1988, EPA has conducted research in the area of corona destruction of VOCs and air toxics. EPA's interest in corona destruction of molecular species started with modeling of a point-plane reactor for destroying toxic organic compounds. The emerging concern for excessive concentrations of ambient ozone (for which many VOCs are precursors), the need to develop technology to control low concentration streams, and the economic advantages of ambient temperature operation provided impetus for the work on high intensity corona reactor devices. The purpose of this work is to develop an industrial scale corona reactor capable of efficiently and cost-effectively destroying VOCs and air toxics at ambient temperature and pressure. (Copyright (c) 1993 Air and Waste Management Association.)

Keywords: *Volatile organic compounds, *Air pollution control equipment, *Electric corona, *Toxic substances, Ozone, Technology innovation, Air pollution standards, Clean Air Act, Economic analysis, Performance evaluation, Reprints, *Corona destruction reactors.

PB93-173680/REB PC **A03**/MF **A01**
Institute of Environmental Health and Engineering, Beijing (China).
Chemical Characterization of Indoor Air of Homes from Communes in Xuan Wei, China, with High Lung Cancer Mortality Rate. Journal article.
Battelle, Columbus, OH.
J. Chuang, S. Cao, Y. Xian, B. Harris, and J. Mumford. c1992, 11p EPA/600/J-93/081
Pub. in Atmospheric Environment, v26A n12 p2193-2201 1992 and Also Presented at IAQ 1990, Toronto, July 29-August 3, 1990. See also PB87-129524, PB88-242565 and PB90-245671. Sponsored by Institute of Environmental Health and Engineering, Beijing (China), and Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

In a rural county, Xuan Wei, China, the lung cancer mortality rate is among China's highest, especially in women. This mortality rate is more associated with indoor air burning of smoky coal, as opposed to smokeless coal or wood, for cooking and heating under unvented conditions. Homes using different fuels from communes with high and low lung cancer mortality rates were sampled for particulate matter (<10 micrometers) and semivolatile organics. The fine particles obtained from homes using smoky coal contained highest concentrations of organic matter (> 70%), including PAH, followed by homes using wood and smokeless coal. The major components present in the smoky coal filter samples were PAH and alkylated PAH. The smokeless coal filter samples exhibited profiles which were similar to the smoky coal samples except that some sulfur compounds were found. The estimated concentration levels of PAH in the smokeless coal samples were about one to two orders of magnitude lower than those of the smoky coal samples. In addition to PAH, aliphatic compounds and fatty acids were the major components found in the wood samples. Selected sample extracts from homes using smoky coal were fractionated into four fractions, and the results showed that the PAH and polar fractions have high mutagenic activity. Chemical characterization of the PAH fraction indicated that concentrations of some alkylated PAH were higher than those of their parent compounds. Chemical characterization of the polar fractions showed that nitrogen heterocyclic compounds are present.

Keywords: *Indoor air pollution, *Pulmonary neoplasms, *Epidemiology, *Mortality, *Air pollution effects(Humans), Malignant neoplasms, Smoke, Aromatic polycyclic hydrocarbons, Wood, Coal, Mutagens, Respiratory diseases, Lungs, Exposure, Combustion products, Reprints, Xuan Wei County(China).

PB93-173698/REB PC **A02**/MF **A01**
Accumulation of Polychlorinated Organic Contaminants from Sediment by Three Benthic Marine Species. Journal article.
Environmental Research Lab., Narragansett, RI.
R. J. Pruell, N. I. Rubinstein, B. K. Taplin, J. A. LiVolsi, and R. D. Bowen. c1993, 10p EPA/600/J-93/082, ERLN-1331
Pub. in Archives of Environmental Contamination and Toxicology, v24 p290-297 1993. Prepared in cooperation with Science Applications International Corp., Narragansett, RI.

A laboratory experiment was conducted to measure the accumulation of selected polychlorinated compounds by marine benthos exposed to environmentally contaminated sediment. Sandworms (Nereis virens), clams (Macoma nasuta), and grass shrimp (Palaemonetes pugio) were exposed to sediment collected from the Passaic River, New Jersey. All three species accumulated 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDF) and polychlorinated biphenyls (PCBs) from the sediment. In addition, a recently identified sulfur containing analog of tetrachlorinated dibenzofurans. The objectives of the study were to determine the relative bioavailability of 2,3,7,8-TCDD, 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDF) and selected PCB congeners from bottom sediments as well as to examine the relationship between contaminant concentrations in sediments and biota.

Keywords: *Benthos, *Exposure, *Sediments, *Water pollution effects, *Passaic River, Tests, Measurement, Chlorine organic compounds, Herbicides, Furans, Oxygen organic compounds, Concentration(Composition), Clams, Shrimps, Bioassay, Experimental design, Chemical analysis, Graphs(Charts), New Jersey, Reprints, Polychlorinated biphenyls, Dioxin/tetrachloro-dibenzo, Bioaccumulation, Nereis virens, Sand worms.

PB93-173706/REB PC **A03**/MF **A01**
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California. Journal article.
Environmental Research Lab.-Narragansett, Newport, OR.
R. C. Swartz, D. W. Schults, J. O. Lamberson, R. J. Ozretich, and J. K. Stull. c1991, 13p EPA/600/J-93/083, ERLN-N139
Pub. in Marine Environmental Research, v31 p215-225 1991. Prepared in cooperation with Los Angeles County Sanitation Districts, Whittier, CA.

The toxicity of sediment to the amphipod Rhepoxynius abronius was determined in the laboratory for 5 cm vertical sections of sediment cores collected at two sites on the Palos Verdes Shelf near the Los Angeles County Sanitation Districts' municipal wastewater outfalls and at two reference sites in Santa Monica Bay, California. The vertical distribution of sediment toxicity near the outfalls was significantly correlated with profiles of total organic carbon and sediment chemical contamination (total oil/grease, p,p'-DDE, PCBs (Aroclor 1242), di(2-ethylhexyl)phthalate, Cd, Cr, Pb). Dating of core horizons showed that sediment toxicity also was significantly correlated with the historic record of the mass emission rate of suspended solids from the outfalls. The vertical profile showed that toxicity of surficial sediments, increased after the initiation of the discharge in the 1950s, remained relatively high until the early 1970s, and then decreased after the implementation of source control and improved effluent treatment. (Copyright (c) 1991 Elsevier Science Publishers Ltd, England.)

Keywords: *Water pollution effects, *Sediments, *Toxicity, Sewage disposal, Palos Verdes Shelf, Santa Monica Bay, Outfall sewers, Sediment-water interfaces, Amphipoda, Chemical compounds, Vertical distribution, Reprints, Rhepoxynius abronius, Total organic carbon.

PB93-173714/REB PC **A03**/MF **A01**
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects. Journal article.
Environmental Research Lab.-Narragansett, Newport, OR.
S. P. Ferraro, R. C. Swartz, F. A. Cole, and D. W. Shults. c1991, 27p EPA/600/J-93/084, ERLN-N143
Pub. in Estuarine, Coastal and Shelf Science, v33 p383-407 1991. See also PB87-170775 and PB91-177188.

As pollution from the Los Angeles County Sanitation Districts (LACSD) outfalls decreased between 1980 and 1983, the macrobenthic community partially recovered and surficial (0-2 cm deep) sediment contamination and toxicity decreased at 60 m water depth along a pollution gradient from the outfalls. Pollution from the LACSD outfalls continued to decrease but macrobenthic conditions and surficial sediment quality deteriorated 1 km, was unchanged 3 km, and improved 5-15 km from the LACSD outfalls between 1983 and 1986. The net effect of natural phenomena is indicated when ecosystem changes occur in the opposite direction from that expected under prevailing pollution conditions. The authors data suggest that the net effect of natural phenomena (e.g. winter storms, El Nino) on the benthos was greater than LACSD wastewater effects 1 km, about equal to LACSD wastewater effects 3 km, and less than the LACSD wastewater effects 5-15 km from the outfalls at the LACSD 1983-86 mass emission rate. Since natural phenomena may have an effect on the benthos = or > 3 years of LACSD wastewater effects, short-term benthic changes must be interpreted cautiously at the study site.

Keywords: *Environmental impact assessments, *Benthos, *Water pollution effects, *Temporal distribution, *Environmental monitoring, Sewage disposal, Outfall sewers, Waste water, Industrial wastes, Aquatic ecosystems, Sediment transport, Environmental transport, Reprints, Los Angeles County(California).

PB93-173722/REB PC **A03**/MF **A01**
Effect of the Distribution System on Drinking-Water Quality. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. M. Clark, J. A. Goodrich, and L. J. Wymer. c1993, 11p EPA/600/J-93/085
Pub. in Jnl. Water SRT-AQUA, v42 n1 p30-38, Feb 93. See also PB89-103352 and PB92-235662.

The Safe Drinking Water Act and its Amendments has focused interest on the factors that cause the deterioration of water between the treatment plant and the consumer. The distribution system itself can contribute to this deterioration. Numerous examples of waterborne disease outbreaks have demonstrated the importance of the distribution system in preventing disease. Water-quality propagation models can be used to study the factors that contribute to water quality deterioration. These models have been used in many locations to study contaminant propagation. The paper describes the application of contaminant propagation models in the South Central Connecticut Regional Water Authority (USA). The fluoride feed was cut off at the water treatment plant to calibrate the model and determine residence times in the system. An extensive simulation of the system was conducted to predict conservative contaminant propagation and chlorine decay. After completing the simulation study a sampling program was conducted to verify the results from the model. In general the field results verified the model predictions. Water quality varied widely over the service area. Long retention times in storage tanks and pipe wall demand, especially in dead end sections, caused significant losses in chlorine residuals.

Keywords: *Water quality management, *Potable water, *Water pollution, *Distribution systems, Water distribution, Deterioration, Mathematical models, Storage tanks, Contaminants, Diseases, Pollution regulations, Bacteria, Environmental transport, Chlorine, Water pollution sampling, Case studies, Connecticut, Reprints, Safe Drinking Water Act of 1974.

PB93-173730/REB PC **A03**/MF **A01**
Pollution Prevention for Cleaner Air: EPA's Air and Energy Engineering Research Laboratory. Journal article.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
E. M. Shaver. c1992, 12p EPA/600/J-93/086
Pub. in Pollution Prevention Review, v3 n1 p41-50 Winter 1992-93. See also PB87-210761, PB92-141555, PB92-224278 and PB93-157725.

The article discusses the role of EPA's Air and Energy Engineering Research Laboratory (AEERL) in pollution prevention research for cleaner air. For more than 20 years, AEERL has been conducting research to identify control approaches for the pollutants and sources which contribute to air quality problems. The Laboratory has successfully developed and demonstrated cost-effective sulfur dioxide, nitrogen oxides, and particulate control technologies for fossil fuel combustion sources. More recently, it has expanded its research activities to include indoor air quality, radon, organic control, stratospheric ozone depletion, and global warming. AEERL also develops inventories of air emissions of many types. Over the last several years, it has made substantial efforts to expand research on pollution prevention as the preferred choice for air emissions reduction.

Keywords: *Air pollution abatement, *Research, *Air quality, *Air pollution control, US EPA, Indoor air pollution, Radon, Organic compounds, Ozone depletion, Stratasphere, Global warming, Greenhouse effect, Reprints, *Air and Energy Engineering Research Laboratory, Emission inventories.

PB93-173920/REB PC **A99**/MF **A06**
Agency for International Development, Washington, DC. Office of Agriculture.
Sustainable Agriculture and the Environment in the Humid Tropics. Final rept.
National Research Council, Washington, DC.
c1993, 718p ISBN-0-309-04749-8
Library of Congress catalog card no. 92-36869. Sponsored by Agency for International Development, Washington, DC. Office of Agriculture.

The book provides strategies for sustainable land use that can halt needless deforestation, further degradation of land, and the irreversible loss of biological resources. A 15-member committee of international experts presents a practical discussion of 12 major land use options that regional and national leaders can use in making decisions to boost food production and local income while protecting the natural resource base. Recommendations are offered for developing the technologies needed for sustainable agriculture and recovery of degraded lands, and a strategy is presented for changing current policies and incentives that often encourage environmentally destructive land use practices. An appendix addresses emissions of greenhouse gases from tropical deforestation and land use. The report also profiles seven humid tropical countries and points to examples of successful land restoration.

Keywords: *Tropical regions, *Land management, *Cultivation, *Pollution control, Land use, Deforestation, Greenhouse effect, Brazil, Cote D'Ivoire, Indonesia, Malaysia, Land reclamation, Mexico, Phillippines, Zaire, *Natural resources management, *Sustainable agriculture, Biodiversity.

PB93-173953/REB PC **A02**/MF **A01**
RED Facts: Oxalic Acid. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Dec 92, 6p EPA/738/F-92/014
See also PB93-169100.

All pesticides sold or used in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the law requires that pesticides which were first registered years ago be reregistered to ensure that they meet today's more stringent standards. Oxalic acid is registered for use as a disinfectant to control bacteria and germs, and as a sanitizer, in toilet bowls, urinals and bathroom premises. Oxalic acid also has many diverse, non-pesticidal, manufacturing and industrial uses including use in fabric printing and dyeing; bleaching straw hats; removing paint, varnish, rust or ink stains; and cleaning wood.

Keywords: *Oxalic acid, *Disinfectants, *Toxic substances, *Pesticides, Regulations, Risk assessment, Exposure, Utilization, Public health, Environmental effects, Labels, Requirements, US EPA, *Reregistration, Chemical information fact sheet, Use patterns.

PB93-173961/REB PC **A07**/MF **A02**
Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.
Commercial Marine Vessel Contributions to Emission Inventories. Final rept.
Booz-Allen and Hamilton, Inc., Los Angeles, CA. Transportation Consulting Div.
7 Oct 91, 144p
Sponsored by Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.

The Clean Air Act Amendments of 1990 require the U.S. Environmental Protection Agency (EPA) to conduct a survey of emissions from combustion engines associates with non-road vehicles and stationary sources. Among the emission source categories under scrutiny of the EPA are commercial marine vessels. This group of sources includes revenue vessels operated on U.S. ports and waterways in such diverse pursuits as international and domestic trade, port and ship service, offshore and coastal industry, and passenger transport. For the purposes of the study, EPA is assessing commercial marine vessel operations at selected ports around the country which are characterized by a high level of commercial marine vessel activity. Booz-Allen has been retained by the EPA to assist in developing emission inventories from marine vessels for up to six ports, based on vessel arrival/departure data, are believed to exhibit high levels of marine generated emissions. Booz-Allen developed a listing of the top 20 major ports in terms of total vessel activity (as measured by annual tonnage of cargo and annual vessel calls).

Keywords: *Air pollution sampling, *Exhaust emissions, *Ships, *Marine engines, Marine transportation, Emission factors, Clean Air Act, Carbon monoxide, Ozone, Nitrogen oxides, Sulfur dioxide, Particulates, Commercial transportation, Concentration(Composition), Air pollution control, *Emission inventories, *Nonroad vehicles, National Ambient Air Quality Standards.

PB93-173979/REB PC **A22**/MF **A04**
Environmental Protection Agency, Washington, DC. Economic and Statistical Analysis Branch.
Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
Eastern Research Group, Inc., Lexington, MA.
M. F. Kaplan, and E. M. Sigler. Jan 93, 520p EPA/821/R-93/004
Contracts EPA-68-C0-0080, EPA-68-C8-0084
See also PB93-167039. Sponsored by Environmental Protection Agency, Washington, DC. Economic and Statistical Analysis Branch.

The document is an economic impact analysis prepared in support of the promulgation of effluent limitations guidelines and standards of performance for drilling and production wastes for the offshore oil and gas industry. The report analyzes the economic impact of alternative regulatory options considered for drilling fluids, drill cuttings, produced water, produced sand, and treatment, workover, and completion fluids.

Keywords: *Offshore drilling, *Water pollution economics, *Economic impact, *Oil recovery, *Gas production, *Water pollution abatement, Guidelines, Natural gas industry, Petroleum industry, New source performance standards, Best technology, Water pollution control, Regulations, Cost analysis, Finance, Compliance, Alternatives, Waste water, Drilling, Waste management.

PB93-173987/REB PC **A05**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Air/Superfund National Technical Guidance Study Series. Volume 1. Overview of Air Pathway Assessments for Superfund Sites (Revised). Interim final rept.
Radian Corp., Austin, TX.
B. Eklund. Nov 92, 86p EPA/450/1-89/001A
Supersedes PB90-113374. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The document introduces and provides an overview of air pathway assessments for Superfund sites. The specific objectives of the document are to (1) introduce the basic elements of air pathway assessments (APA) for Superfund sites; (2) identify and discuss the key issues related to APA work; and (3) identify the best sources of published information and guidance for each typical component of APA work. An APA is a systematic evaluation of the potential or actual effects on air quality of an emission source such as a Superfund site. The APA may involve modeling or monitoring to estimate these effects. The primary components of an APA are: characterization of air emission sources; determination of the effects of atmospheric processes such as transport and dilution; and evaluation of the exposure potential at receptors of interest.

Keywords: *Superfund, *Environmental exposure pathway, *Risk assessment, *Air pollution monitoring, Air flow, Remedial action, Occupational safety and health, Point sources.

PB93-173995/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. Air Emissions from Area Sources: Estimating Soil and Soil-Gas Sample Number Requirements. Final rept.
Pacific Environmental Services, Inc., Herndon, VA.
W. Westbrook. Mar 93, 52p EPA/451/R-93/002
Contract EPA-68-D0-0124
See also PB90-270588. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The document provides guidance regarding the necessary number of soil gas or soil samples needed to estimate air emissions from area sources. The Manual relies heavily on statistical methods discussed in Appendix C of Volume II of Air/Superfund National Technical Guidance Study Series (EPA 1990) and Chapter 9 of SW-846 (EPA 1986). The techniques in the manual are based on recognizing the inhomgeniety of an area, by observation or screening samples, before samples are taken. Each of the identified zones are then sampled, using random sampling techniques, and statistics calculated separately for each zone before combining the statistics to provide an estimate for the entire area. The statistical techniques presented may also be used to analyze other types of data and provide measures such as mean, variance, and standard deviation. The methods presented in the Manual are based on small sample methods. Application of the methods to data which are appropriately analyzed by large sample methods or to data which is not normally distributed will give erroneous results.

Keywords: *Air pollution sampling, *Soil gases, *Soil surveys, *Sampling, *Hazardous materials, Superfund, Guidelines, Statistical analysis, Study estimates, Data collections, Hazardous materials spills, Waste disposal, Area sources.

PB93-174027/REB PC **A17**/MF **A04**
Environmental Research Lab., Athens, GA.
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
AScI Corp., Athens, GA.
J. A. Mullins, R. F. Carsel, J. E. Scarbrough, and A. M. Ivery. Mar 93, 400p EPA/600/R-93/046
Contract EPA-68-C0-0054
See also PB85-158913. Sponsored by Environmental Research Lab., Athens, GA.

PRZM-2 links two subordinate models--PRZM and VADOFT--in order to predict pesticide transport and transformation down through the crop root and unsaturated zones. PRZM is a one-dimensional, finite difference model that accounts for pesticide fate in the crop root zone. This release of PRZM-2 incorporates several features in addition to those simulated in the original PRZM code--specifically, soil temperature simulation, volatilization and vapor phase transport in soils, irrigation simulation, microbial transformation, and a method of characteristics algorithm to eliminate numerical dispersion. PRZM is now capable of simulating transport and transformation of the parent compound and as many as two daughter species. VADOFT is a one-dimensional, finite element code that solves the Richard's equation for flow in the unsaturated zone. The user may make use of constitutive relationships

between pressure, water content, and hydraulic conductivity to solve the flow equations. VADOFT may also simulate the fate of two parent and two daughter products. The PRZM and VADOFT codes are linked together with the aid of a flexible execution supervisor that allows the user to build loading models that are tailored to site-specific situations. In order to perform probability-based exposure assessments, the code is also equipped with a Monte Carlo pre- and post-processor.

Keywords: *Pesticides, *Computerized simulation, *Path of pollutants, User manuals(Computer programs), Ground water, Monte Carlo method, Environmental transport, Land pollution, Water pollution, Soil erosion, Soil gases, Irrigation, Vaporizing, Soil temperature, Soil-water-plant relationships, Vadose water, *PRZM-2 model, Pesticide root zone models, Vadose zone flow and transport model.

PB93-174332/REB PC **A05/MF A01**
Environmental Protection Agency, Ann Arbor, MI. Certification Div.
Methodology to Estimate Nonroad Equipment Populations by Nonattainment Areas. Final rept.
Energy and Environmental Analysis, Inc., Arlington, VA.
30 Sep 91, 92p
Contract EPA-68-CO-0065
See also PB93-161735. Sponsored by Environmental Protection Agency, Ann Arbor, MI. Certification Div.

The Clean Air Act Amendments of 1990 require that EPA conduct a study to determine the contribution of nonroad equipment to the emission inventories of selected nonattainment areas. The contribution is determined by the population of nonroad equipment in a given area, the average load factor at which the equipment's engine is used, the average annual hours of use of the equipment, the horsepower of the engine, and the emission factor attributable to the engine. Since a nonattainment area is a conglomeration of counties within a state, or across states, it is necessary to estimate the county level equipment populations. Engine sales data or equipment population data, however, are not available at the county level, but only at the national and state level. Therefore, a methodology that distributes equipment populations from these levels of aggregation to the county level must be developed. The report presents EEA's methodology to estimate equipment populations for the 24 nonattainment areas included in EPA's study. The report also presents national data on load factors, annual usage, and horsepower.

Keywords: *Exhaust emissions, *Air pollution sampling, Concentration(Composition), Clean Air Act, Engines, US EPA, Study estimates, Logging(Industry), Airports, Pollution regulations, Construction equipment, Agricultural machinery, Marine engines, Industrial trucks, Gardening, Recreation, *Emission inventories, *Nonroad equipment, Nonroad engines.

PB93-174464/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Recalculation of Screening Level Concentrations for Nonpolar Organic Contaminants in Marine Sediments. Final rept.
Battelle, Columbus, OH.
J. M. Neff, J. Q. Word, and T. C. Gulbransen. Dec 87, 15p EPA/812/B-92/004
Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The document reviews the marine databases to identify synonymies and inappropriate taxonomic distinctions, and to eliminate data sets in which the taxonomy was suspected of being inaccurate.

Keywords: *Organic compounds, *Sediments, *Marine environment, *Systematics, *Taxonomy, *Water pollution effects, Revisions, Data bases, Quality control, Marine biology, Bioaccumulation, Sediment-water interfaces, *Sediment quality criteria, *Screening level concentrations.

PB93-174472/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Water Regulations and Standards.
Regulatory Applications of Sediment Criteria. Final rept.
Battelle Ocean Sciences, Duxbury, MA.
23 Jun 87, 50p
See also PB85-174209. Sponsored by Environmental Protection Agency, Washington, DC. Office of Water Regulations and Standards.

The report briefly describes the development of sediment criteria, discusses their utility and appropriate regulatory applications, and recommends steps to enhance the acceptance of sediment criteria by the regulatory and regulated communities.

Keywords: *Regulations, *Sediment-water interfaces, *Water pollution effects, *Environmental protection, *Land pollution abatement, Biological effects, US EPA, Chemical properties, Legal aspects, Clean Water Act, *Sediment quality criteria, Marine Protection Research and Sanctuaries Act, Resource Conservation and Recovery Act, Toxic Substances Control Act, Federal Insecticide Fungicide and Rodenticide Act, National Ocean Program Act.

PB93-174506/REB PC **A04/MF A01**
Environmental Protection Agency, Washington, DC. Office of Municipal Pollution Control.
Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
Environmental Resources Management-Southeast, Inc., Marietta, GA.
J. Zirschky, and J. Walker. 1993, 73p EPA/430/9-87/010
Contract EPA-68-01-7108
See also PB85-138634. Sponsored by Environmental Protection Agency, Washington, DC. Office of Municipal Pollution Control.

Four municipal wastewater treatment authorities have selected the Carver-Greenfield light oil sludge drying (C-C) system for dewatering their sewage sludge. Ocean County, New Jersey; the Mercer County Utility Authority (Trenton, New Jersey); the City of Los Angeles, California; and the Los Angeles, California, County Sanitation Districts are currently designing or constructing C-G systems. The report was written to summarize the considerable amount of information on the C-G process that was disseminated at the workshop. The objective of the document is to summarize the key points of the seminar and other follow-up information to assist both the attendees and other individuals who may be considering the C-G process. Suggestions for improving the design and construction procedures as well as the EPA/state funding mechanisms are included in the report.

Keywords: *Meetings, *Sludge drying, *Sewage sludge, *Dewatering, Information dissemination, Technology innovation, Design criteria, Recommendations, Operations, Fluidizing, Performance evaluation, Sewage treatment, Energy consumption, California, New Jersey, Oils, Centrifuging, *Carver-Greenfield drying process, Hydroextractors.

PB93-174514/REB PC **A04/MF A01**
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
May 92, 66p EPA/812/B-92/008
See also PB92-112101, PB93-174522 and PB93-159002.

The U.S. Environmental Protection Agency promulgated National Primary Drinking Water Regulations for lead and copper on June 7, 1991. The document provides monitoring guidance for water systems serving 50,001 to 100,000 persons. It discusses lead and copper tap water monitoring, water quality parameter monitoring, lead and copper source water monitoring and analytical methods. It also gives tap water and source water monitoring schedules and sample forms.

Keywords: *Potable water, *Water pollution sampling, *Lead(Metal), *Copper, *Water quality, Environmental monitoring, Regulations, Sources, Distribution systems, Corrosion, Public health, US EPA, Corrosion prevention, Water analysis, Requirements, Sample preparation, Plumbing, Piping systems, Performance standards, Water distribution, *National Primary Drinking Water Regulations.

PB93-174522/REB PC **A03/MF A01**
Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
May 92, 40p EPA/812/B-92/004
See also PB93-174530.

The U.S. Environmental Protection Agency promulgated National Primary Drinking Water Regulations for lead and copper on June 7, 1991. The document gives monitoring guidance for water systems serving 101 to 500 persons. It tells how to conduct a materials evaluation to identify lead and copper sampling sites, how and when to collect lead and copper tap water samples, how and when to collect water quality parameter samples, and how and when to collect lead and copper source water samples. It also gives schedules and sample forms and worksheets.

Keywords: *Potable water, *Water pollution sampling, *Lead(Metal), *Copper, *Water quality, Environmental monitoring, Regulations, Sources, Distribution systems, Corrosion, Public health, Performance standards, US EPA, Corrosion prevention, Water analysis, Requirements, Sample preparation, Plumbing, Piping systems, Water distribution, *National Primary Drinking Water Regulations.

PB93-174530/REB PC **A03/MF A01**
Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
May 92, 40p EPA/812/B-92/005
See also PB93-174548.

The U.S. Environmental Protection Agency promulgated National Primary Drinking Water Regulations for lead and copper on June 7, 1991. The document provides monitoring guidance for water systems serving 501 to 3,300 persons. It tells how to conduct a materials evaluation to identify lead and copper sampling sites, how and when to collect lead and copper tap water samples, how and when to collect water quality parameter samples and how and when to collect lead and copper source water samples. It also provides schedules and sample forms and worksheets.

Keywords: *Potable water, *Water pollution sampling, *Lead(Metal), *Copper, *Water quality, Environmental monitoring, Regulations, Sources, Distribution systems, Corrosion, Public health, Performance standards, US EPA, Corrosion prevention, Water analysis, Requirements, Sample preparation, Plumbing, Piping systems, Water distribution, *National Primary Drinking Water Regulations.

PB93-174548/REB PC **A03/MF A01**
Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
May 92, 40p EPA/812/B-92/006
See also PB93-174563.

The U.S. Environmental Protection Agency promulgated National Primary Drinking Water Regulations for lead and copper on June 7, 1991. The document gives monitoring guidance for water systems serving 3,301 to 10,000 persons. It tells how to conduct a materials evaluation to identify lead and copper sampling sites, how and when to collect lead and copper tap water samples, how and when to collect water quality parameter samples, and how and when to collect lead and copper source water samples. It also gives schedules and sample forms and worksheets.

Keywords: *Potable water, *Water pollution sampling, *Lead(Metal), *Copper, *Water quality, Environmental monitoring, Regulations, Distribution systems, Corrosion, Corrosion prevention, Performance standards, US EPA, Water analysis, Requirements, Sample preparation, Plumbing, Piping systems, Water distribution, Sources, Public health, *National Primary Drinking Water Regulations.

PB93-174555/REB PC **A04**/MF **A01**
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Mar 92, 66p EPA/812/B-92/007
See also PB93-174514.

The U.S. Environmental Protection Agency promulgated National Primary Drinking Water Regulations for lead and copper on June 7, 1991. The publication gives monitoring guidance for water systems serving 10,001 to 50,000 persons. It discusses lead and copper tap water monitoring, water quality parameter monitoring and lead and copper source water monitoring. It also gives tap water and source water monitoring schedules and provides sample forms.

Keywords: *Potable water, *Water pollution sampling, *Lead(Metal), *Copper, *Water quality, Environmental monitoring, Regulations, Sources, Distribution systems, Water distribution, Corrosion, Corrosion prevention, Public health, Performance standards, US EPA, Water analysis, Requirements, Sample preparation, Plumbing, Piping systems, *National Primary Drinking Water Regulations.

PB93-174563/REB PC **A04**/MF **A01**
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
May 92, 68p EPA/812/B-92/009
See also PB93-174555.

The U.S. Environmental Protection Agency promulgated National Primary Drinking Water Regulations for lead and copper on June 7, 1991. The document provides monitoring guidance for water systems serving >100,000 persons. It discusses lead and copper tap water monitoring, water quality parameter monitoring, lead and copper source water monitoring and analytical methods. It also gives tap water and source water monitoring schedules and sample forms.

Keywords: *Potable water, *Water pollution sampling, *Lead(Metal), *Copper, *Water quality, Environmental monitoring, Regulations, Sources, Distribution systems, Corrosion, Public health, Performance standards, US EPA, Corrosion prevention, Water analysis, Requirements, Sample preparation, Plumbing, Piping systems, Water distribution, *National Primary Drinking Water Regulations.

PB93-174613/REB PC **A06**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Regulatory Impact Analysis of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry. Final rept.
RCG/Hagler, Bailly and Co., Inc., Boulder, CO.
14 Jan 93, 110p EPA/821/R-93/002
Contract EPA-68-C8-0084
See also PB93-167310 and PB93-173939. Sponsored by *Environmental Protection Agency, Washington, DC.* Office of the Assistant Administrator for Water.

For all major rulemaking actions, Executive Order 12291 *requires a Regulatory Impact Analysis (RIA), in* which benefits of the regulation are compared to costs imposed by the regulation. The report presents the Environmental Protection Agency's (EPA, or the Agency) RIA of the final rule on the effluent limitations guidelines for the Offshore Subcategory of the Oil and Gas Extraction Industry. The principal requirement of the Executive Order is that the Agency perform an analysis comparing the benefits of the regulation to the costs that the regulation imposes. Three types of benefits are analyzed in this RIA: quantified and monetized benefits; quantified and non-monetized benefits; and non-quantified and non-monetized benefits.

Keywords: *Water pollution abatement, *Offshore drilling, *Oil recovery, *Gas production, *Regulations, Water pollution economics, Comparison, Guidelines, Petroleum industry, Natural gas industry, Drilling, Benefit cost analysis, Alternatives, Economic impact, Cost analysis, Compliance, Socioeconomic factors, *Regulatory impact analysis.

PB93-174753/REB PC **E99**/MF **E99**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991.
American Solar Energy Society, Boulder, CO.
c1992, 4104p-in 7v*
Set includes PB93-174761 through PB93-174829. See also DE88770197 and DE88770209. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

No abstract available.

PB93-174761/REB PC **A24**/MF **A04**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 1.
American Solar Energy Society, Boulder, CO.
M. E. Arden, S. M. A. Burley, and M. Coleman. c1992, 572p* EPA/600/R-93/058A
See also Volume 1, Part 2, PB93-174779. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Also available in set of 7 reports PC E99/MF E99, PB93-174753.

Contents: Photovoltaic Thin-Film Materials and Devices; Photovoltaic High Efficiency and Applications; Photovoltaic Modeling and Batteries; Large-Scale Photovoltaic Applications; Small-Scale Photovoltaic Applications; Photovoltaic Applications; Photovoltaic Utility Issues; Photovoltaic Issues; Posters -- Photovoltaic Materials, Characterization Techniques, and System Models; Posters -- Photovoltaic Systems; Solar Thermal Electric.

Keywords: *Photovoltaic power supplies, *Solar energy conversion, *Solar cells, *Meetings, Photovoltaic power plants, Electric batteries, Thin films, Materials, Efficiency, Uses.

PB93-174779/REB PC **A25**/MF **A06**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 2.
American Solar Energy Society, Boulder, CO.
M. E. Arden, S. M. A. Burley, and M. Coleman. c1992, 583p* EPA/600/R-93/058B
See also Volume 1, Part 1, PB93-174761 and Volume 2, Part 1, PB93-174787. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Also available in set of 7 reports PC E99/MF E99, PB93-174753.

Contents: Wind Energy Experiences; Wind Energy Systems Performance; Wind Systems Applications and Hydropower; Utility and Regulatory Issues; Solar Hydrogen Technologies; Biotechnology; Bio-Chemical Conversion; Biofuels; Radiation Instruments, Measurements; Radiation Models; Radiation Models, Simulation; Radiation Resources; Use of Radiation Data; Renewable Resource Posters.

Keywords: *Solar energy conversion, *Biotechnology, *Meetings, Photovoltaic power supplies, Windpower *utilization, Wind turbines, Hydroelectric power stations,* Hydrogen production, Solar radiation, Radiation monitoring, Insolation, Regulations, Biomass, Uses.

PB93-174787/REB PC **A99**/MF **A06**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
American Solar Energy Society, Boulder, CO.
M. E. Arden, S. M. A. Burley, and M. Coleman. c1992, 640p* EPA/600/R-93/058C
See also Volume 1, Part 2, PB93-174779 and Volume 2, Part 2, PB93-174795. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Also available in set of 7 reports PC E99/MF E99, PB93-174753.

Topics discussed in Volume 2, Part 1 include solar collectors, solar water heating, and solar cooling systems.

Keywords: *Solar energy conversion, *Solar water heating, *Solar cooling systems, *Solar collectors, *Meetings, Solar water heaters, Flat plate collectors, Heat storage.

PB93-174795/REB PC **A99**/MF **A06**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 2.
American Solar Energy Society, Boulder, CO.
M. E. Arden, S. M. A. Burley, and M. Coleman. c1992, 691p* EPA/600/R-93/058D
See also Volume 2, Part 1, PB93-174787 and Volume 3, Part 1, PB93-174803. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Also available in set of 7 reports PC E99/MF E99, PB93-174753.

Topics covered in Volume 2, Part 2, include Concentrating Collectors; Solar Heat Storage; Central Receivers; Dish Collectors; Line-Focus Collectors; Detoxification and Materials; Solar Heat; Desalination; Solar Ponds; Solar Drying.

Keywords: *Solar energy conversion, *Solar collectors, *Meetings, Compound parabolic concentrators, Solar concentrators, Solar furnaces, Solar drying, Solar heating, Solar cooling systems, Solar ponds, Heat storage, Detoxification, Desalination, Uses.

PB93-174803/REB PC **A99**/MF **A06**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 1.
American Solar Energy Society, Boulder, CO.
M. E. Arden, S. M. A. Burley, and M. Coleman. c1992, 672p* EPA/600/R-93/058E
See also Volume 2, Part 2, PB93-174795 and Volume 3, Part 2, PB93-174811. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Also available in set of 7 reports PC E99/MF E99, PB93-174753.

Topics covered in Volume 3, Part 1 include Solar Building Designs; Zero-Energy Building Designs; Emerging Architecture; Vernacular Architecture; Passive Commercial Buildings; *Daylighting; Atriums; Passive Strategies* and Materials; Transparent Insulation; Convection and Mass; Comfort; Passive Cooling; Passive Computer Analysis.

Keywords: *Solar energy conversion, *Solar houses, *Buildings, *Meetings, Solar architecture, Solar cooling, Solar heating, Residential buildings, Commercial *buildings, Computerized simulation, Thermal insulation,* Heat storage, Daylighting, Convection, Comfort, Atriums.

PB93-174811/REB PC **A99**/MF **A06**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 2.
American Solar Energy Society, Boulder, CO.
M. E. Arden, S. M. A. Burley, and M. Coleman. c1992, 670p* EPA/600/R-93/058E
See also Volume 3, Part 1, PB93-174803 and Volume 4, PB93-174829. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Also available in set of 7 reports PC E99/MF E99, PB93-174753.

Topics discussed in Volume 3, Part 2 include Passive Computer Analysis; Monitored Passive Modules; Extended Passive Monitoring; Passive Non-Computer Design Tools; Sustainability; Environmental Effects; National Solar Programs; Developing Country Applications; Technology Transfer; Socio-Economic Posters; Education.

Keywords: *Solar energy conversion, *Buildings, *Meetings, Solar houses, Solar heating, Space heating, Commercial buildings, Office buildings, Computerized simulation, Socio-economic factors, Developing countries, Technology transfer, Environmental impacts, Education, Uses.

PB93-174829/REB PC **A13/MF A03**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 4.
American Solar Energy Society, Boulder, CO.
M. E. Arden, S. M. A. Burley, and M. Coleman. c1992, 276p* EPA/600/R-93/058G
See also Volume 3, Part 2, PB93-174811. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Also available in set of 7 reports PC E99/MF E99, PB93-174753.

Contents: Farrington Daniels Award Address; Keynote Addresses; International Plenary Session; Buildings Invited Session; Utilities and Space Power Invited Sessions; State-of-the-Art Sessions; Technical Papers; Errata; Index.

Keywords: *Solar energy conversion, *Meetings, Solar power satellites, Solar concentrators, Solar cooling, Solar heating, Solar houses, Solar ponds, Energy conservation, State of the art, Developing countries, Flat plate collectors, Photovoltaic power supplies, Daylighting, Buildings, Uses.

PB93-175040/REB PC **A04/MF A01**
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
Reactions of Potential Organic Water Contaminants with Aqueous Chlorine and Monochloramine. Final rept.
Old Dominion Univ., Norfolk, VA. Dept. of Chemistry and Biochemistry.
F. E. Scully, and W. N. White. Sep 91, 75p EPA/700/R-92/006
Contract EPA-68-D9-0166
Prepared in cooperation with Vermont Univ., Burlington. Dept. of Chemistry, and Versar, Inc., Columbia, MD. Sponsored by Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.

Aqueous chlorine and monochloramine are the two most widely used disinfectants of drinking waters in the U.S. The reactions of these two disinfectants with various organic functional groups in order to predict which classes of chemical substrates might be most likely to undergo transformations under drinking water conditions are reviewed. For those reactions for which kinetic data are available, the half-lives of substances containing these functional groups is estimated. Where possible, known reaction mechanisms are identified and structure activity relationships are discussed.

Keywords: *Water pollution, *Potable water, *Disinfectants, *Water chemistry, Chloramines, Chlorine, Organic compounds, Pesticides, Fertilizers, Agricultural chemicals, Sources, Reviews, Reaction kinetics, Structure-activity relationships, Chemical reaction mechanisms.

PB93-175479/REB PC **A03/MF A01**
What to Do Before You 'Nuke' Your Multiple Hearth Furnace: Practical Tips and Techniques for Improving Operation, Reducing Emissions and Meeting the Regulations.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
F. M. Lewis, L. A. Lundberg, H. E. Bostian, E. P. Crumpler, and W. G. DeWees. 1993, 18p EPA/600/A-93/066
See also PB91-151480 and PB92-151554. Presented at the 'Future Direction of Municipal Sludge (Biosolids) Management: Where We Are and Where We're Going' WEF Specialty Conference, Portland, OR., July 26-30, 1992. Prepared in cooperation with Lewis (F. Michael), El Segundo, CA., SE Technologies, Inc., Bridgeville, PA., and DEECO, Inc., Cary, NC.

The paper emphasizes several approaches for improving the operation of multiple hearth sludge incinerators. First, it is highly recommended that auxiliary fuel be added above the combustion hearth, to the maximum practical extent. Secondly, means should be provided to increase gas-phase mixing and turbulence within each hearth, to minimize the formation of localized oxygen-starved regions (pyrolysis pathways) and reduce the kinetic limitations on the destruction of volatile organics and products of incomplete combustion. One should also consider means to improve wet scrubbing system performance, as it complements the combustion process in controlling a variety of related emissions.

Keywords: *Sewage sludge, *Sludge disposal, *Incinerators, *Air pollution control, Combustion products, Furnaces, Operations, Emission, Air pollution control equipment, Volatile organic compounds, Scrubbers, Improvement, Performance evaluation, Monitoring, Regulations.

PB93-175487/REB PC **A03/MF A01**
Emissions from Sludge Incinerators with Venturi and Tray Scrubbers and Wet Electrostatic Precipitators: Metals, Chromium and Nickel Compounds, and Organics.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
H. E. Bostian, W. G. DeWees, E. P. Crumpler, and F. M. Lewis. 1993, 17p EPA/600/A-93/067
See also PB91-151522 and PB92-151547. Prepared in cooperation with DEECO, Inc., Cary, NC., and Lewis (F. Michael), El Segundo, CA.

A comprehensive test program was developed to determine the ratios of hexavalent to total chromium and nickel subsulfide to total nickel for a typical municipal wastewater sludge incinerator under normal combustion conditions and improved combustion conditions. Emissions of metals, hexavalent chromium, nickel subsulfide, polychlorinated dibenzodioxins and furans (PCDD/PCDFs), semi-volatile and volatile organic compounds, carbon monoxide (CO), and total hydrocarbons (THCs) from two multiple hearth incinerators and a fluidized bed incinerator were measured. The emissions were controlled at each unit with venturi scrubbers and, on two of the units, emissions from wet electrostatic precipitators (ESPs) were determined. Flue gas sampling was conducted at the inlet and outlet of the air pollution control devices at three separate sites. Gas concentrations, mass emission rates, metals-to-particulate ratios, and emissions factors were reported. Analytical results for the process samples were reported.

Keywords: *Sewage treatment, *Sludge disposal, *Incinerators, *Air pollution control, Sampling, Combustion products, Scrubbers, Electrostatic precipitators, Chemical analysis, Particulates, Chromium organic compounds, Nickel inorganic compounds, Hydrocarbons, Herbicides, Chlorine organic compounds, Volatile organic compounds, Concentration(Composition), Flue gases, Chromatographic analysis, Tables(Data).

PB93-175495/REB PC **A03/MF A01**
Continuous Monitoring of Total Hydrocarbon Emissions from Sludge Incinerators.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
H. E. Bostian, E. P. Crumpler, P. D. Koch, J. T. Chehaske, and J. C. Hagele. 1993, 17p EPA/600/A-93/068
Presented at the 'Future Direction of Municipal Sludge (Biosolids) Management: Where We Are and Where We're Going' Conference, Portland, OR., July 26-30, 1992, v1 p353-367. Prepared in cooperation with Water Pollution Control Federation, Alexandria, VA., Pacific Environmental Services, Inc., Herndon, VA., DEECO, Inc., Cary, NC., and Lewis (F. Michael), El Segundo, CA.

The U.S. Environmental Protection Agency (EPA), Office of Water (OW) drafted risk-based sludge regulations (for incineration and a variety of other options) under Section 405d of the Clean Water Act. Under consideration for the final regulation is a provision for continuously monitoring total hydrocarbon (THC) emissions as a method of controlling organic emissions from sludge incineration. The monitoring would have to demonstrate that the THC stack emissions were not exceeding a concentration limit. Continuous analyzers for THC, CO, and oxygen (O2) were installed and operated at two facilities, both of which employed multiple-hearth furnaces (MHFs) to incinerate wastewater sludge. In addition, EPA requested an evaluation of the use of these monitors to assist with incinerator operation.

Keywords: *Sludge disposal, *Incinerators, *Waste water, Water pollution monitoring, Hydrocarbons, Combustion products, Exhaust gases, Multiple-hearth furnaces, Sewage sludge, Clean Water Act.

PB93-175503/REB PC **A03/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Atmospheric Releases of Hexavalent Chromium from Hard Chromium Plating Operations.
University of Central Florida, Orlando.
M. S. Hall, J. D. Dietz, C. D. Cooper, R. L. Wayson, and D. Bauman. 1992, 13p EPA/600/A-93/069
Grant EPA-R-817586
Presented at American Electroplaters and Surface Finishers Society's Annual SUR/FIN Conference, Atlanta, GA., June 22-25, 1992, p767-776. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The study represents an assessment of airborne fugitive hexavalent chromium concentrations at these facilities. In an effort to develop a model for stack emissions of Cr(VI), EPA data were reviewed and a correlation for chromium emissions was reported versus ampere-hours and plating bath volume. A modification of a stack sampling train was constructed to accommodate fugitive sampling efforts made at two hard chrome plating facilities. The levels found at both sites, for the most part, were below detection limits of 4 micrograms cu m and 6 micrograms cu m for the 1st and 2nd plant, respectively. The annual emission rates from Plants 1 and 2 are < 0.5 and < 1 lb Cr(VI) per year, respectively.

Keywords: *Chromium, *Air pollution monitoring, *Electroplating, Toxicity, Carcinogens, Air flow, Exhaust gases, Airborne wastes, Industrial plants, Mathematical models, Fugitive emissions, Hexavalent chromium, Hard chrome plating.

PB93-175511/REB PC **A03/MF A01**
Simulation of Performance of Chlorine-Free Fluorinated Ethers and Fluorinated Hydrocarbons to Replace CFC-11 and CFC-114 in Chillers. Rept. for Nov 91-Apr 92.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
J. C. Bare. 1993, 24p EPA/600/A-93/070
See also PB93-106805. Presented at ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) Meeting, Chicago, IL., January 23-27, 1993.

The paper discusses simulation of the performance of chlorine-free fluorinated ethers and fluorinated hydrocarbons as potential long-term replacements for CFC-11 and -114. Modeling has been done with in-house refrigeration models based on the Carnahan-Starling-DeSantis Equation of State to determine the performance of these chlorine-free compounds in a variety of refrigeration applications. In the future, a standard compressor calorimeter using an oil-free diaphragm compressor will be used to evaluate the performance these chlorofluorocarbons and their proposed alternatives at EPA/AEERL's Stratospheric Ozone Refrigeration Laboratory at Research Triangle Park, NC.

Keywords: *Ethers, *Fluorine organic compounds, *Substitution, *Air pollution control, Fluorohydrocarbons, Ozone, Refrigerants, Halohydrocarbons, Thermodynamic properties, Mathematical models, Point sources, Fluorinated ethers.

PB93-175529/REB PC **A03/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Alternate Performance Standard Project: Interpreting the Post-Construction Test.
Southern Research Inst., Birmingham, AL.

A. D. Williamson, and S. E. McDonough. 1993, 19p
EPA/600/A-93/071
Grant EPA-R-814621
See aiso PB88-213970, PB91-234443 and PB91-234468. Presented at the AARST (American Association of Radon Scientists and Technologies) Conference, Rockville, MD., October 9-12, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The paper describes the results of a project commissioned by the State of Florida, in cooperation with the U.S. Environmental Protection Agency, as one portion of the Florida Radon Research Program (FRRP). The purpose of the FRRP is to provide technical support for a statewide Building Standard for Radon-Resistant Construction currently in the rulemaking process. In this case the information provides technical background for a post-construction radon test specified as a performance element of the code which accompanies the prescriptive alternative that does not incorporate active radon reduction systems.

Keywords: *Florida, *Radon, *Natural radioactivity, *Standards, Houses, Building codes, Seasonal variations, Indoor air pollution, Radiation monitoring, Radiation hazards, Levels, Exposure, Radiation dosage, Polk County(Florida), Alachua County(Florida), Dade County(Florida), Leon County(Florida).

PB93-175537/REB PC **A02**/MF **A01**
Department of Energy, Washington, DC. Environmental Sciences Div.
Laboratory Studies on the Stability and Transport of Inorganic Colloids Through Natural Aquifer Material (Chapter 49).
Robert S. Kerr Environmental Research Lab., Ada, OK.
R. W. Puls, and R. M. Powell. c1993, 6p EPA/600/A-93/072
See also PB92-158690. Presented at 'Manipulation of Groundwater Colloids for Environmental Restoration' Workshop, Manteo, NC., October 15-18, 1990, p305-307 1993. Prepared in cooperation with ManTech Environmental Technology, Inc., Ada, OK. Sponsored by Department of Energy, Washington, DC. Environmental Sciences Div.

Colloids are generally defined as inorganic or organic particles with diameters less than 10 microns. Colloidal material may be released from the soil or geologic matrix and transported large distances given favorable hydrological and geochemical conditions. Once released, the primary factors controlling colloidal transport in subsurface systems are colloidal stability, flow rate, and the nature of the solid matrix through which ground water flows. In addition to having a high surface area per unit mass, colloids such as clay minerals and iron oxides are also extremely reactive sorbents for metals and other contaminants. If mobile in subsurface systems, these colloids can effect the migration of sorbed contaminants much larger distances than current transport models would predict. Column experiments were run to determine the effects of pH, flow rate, ionic strength, electrolyte composition, particle size and particle concentration on colloidal stability and transport.

Keywords: *Arsenates, *Colloids, *Environmental transport, *Water pollution, *Aquifers, Inorganic compounds, Stability, Permeability, Flow rate, Iron oxides, Ground water, Ions, Clay minerals, Electrolytes, Particle size, Adsorption, Porous media, Concentration(Composition), Reprints.

PB93-175545/REB PC **A02**/MF **A01**
Performance and Cost Evaluation of Bioremediation Techniques for Fuel Spills. Book chapter.
Robert S. Kerr Environmental Research Lab., Ada, OK.
C. H. Ward, J. T. Wilson, D. H. Kampbell, and S. Hutchins. 1993, 10p EPA/600/A-93/073
Pub. in In-situ Bioremediation Symposium '92, Ontario, Canada, September 20-24, 1992, p15-21. See also PB89-219976. Prepared in cooperation with Rice Univ., Houston, TX. Dept. of Environmental Science and Engineering.

Soils and ground water beneath the U.S. Coast Guard Air Station at Traverse City, MI, have been contaminated with separate spills of aviation gasoline and JP-4 jet fuel. Contamination from both plumes has affected a shallow water table aquifer consisting of a medium grained sand. This site has been the location of a cooperative effort between the U.S. Coast Guard and U.S. EPA to extensively characterize the site to determine three dimensional extent of contamination, local hydrogeology, geochemistry of the solids and water, and nature of microbial activity. Evaluation concerning feasibility and cost of three innovative bioremediation techniques has also been completed at the Air Station. One evaluation demonstrated the use of hydrogen peroxide as the electron acceptor to enhance aerobic biodegradation in a portion of the aviation gasoline area. Nitrate was used as the electron acceptor for a portion of the JP-4 jet fuel contamination. Bioventing of a second portion of the aviation gasoline contamination was the third innovative technique evaluated. Each treatment reduced benzene levels to less than 5 micrograms/l, with 25% to 60% reduction in total fuel levels. For these evaluations, bioventing had the lowest capital and operating costs, followed by nitrate addition and finally hydrogen peroxide.

Keywords: *Oil spills, *Storage tanks, *Ground water, *Water pollution control, Biodeterioration, Aviation gasoline, Microorganism control(Sewage), Leakage, Underground tanks, Aquifers, Aerobic processes, Nitrates, Waste treatment, Anaerobic processes, Hydrogen peroxide, Venting, Saturated soils, Operating costs, Performance evaluation, Traverse City(Maine).

PB93-175552/REB PC **A03**/MF **A01**
Immunoassay for p-Nitrophenol in Urine (Chapter XX).
Environmental Monitoring Systems Lab., Las Vegas, NV.
K. R. Rogers, and J. M. Van Emon. 1993, 12p EPA/600/A-93/074

Urinary excretion of nitrophenol metabolites is an important index of human exposure to organophosphate pesticides. In particular, p-nitrophenol, a major urinary metabolite of parathion, can be used as a biomarker of human exposure. Immunoassay methods have been recently described for detection of p-nitrophenol. In the present paper, the effects of a urine matrix on the detection of p-nitrophenol are reported using both fluorescence and absorbance-based ELISAs. A competition format using the enzyme-amplified catalysis of 4-nitrophenyl phosphate or 4-methylumbelliferyl phosphate was used to report the analyte concentration. The presence of urine during the antibody-analyte interaction inhibited product formation in the final step of the assay and shifted the inhibition curves to the right, increasing the apparent I50 values for p-nitrophenol. The various urine samples collected from volunteers, not occupationally exposed to parathion, varied in their ability to inhibit color information and increase I50 values.

Keywords: *Nitrophenols, *Urinalysis, *Immunoassay, Enzyme-linked immunosorbent assay, Occupational exposure, Organophosphate insecticides, Biological markers, Fluorescence spectometry, Reprints.

PB93-175560/REB PC **A03**/MF **A01**
Characterizing Material Sources and Sinks: Current Approaches (Part 2. Chemical and Physical Characterization). Journal article Jun 90-Jan 91.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
B. A. Tichenor. c1993, 18p EPA/600/J-93/087
Pub. in Annals of the New York Academy of Sciences, v641 p63-78, 30 Apr 92. See also PB89-234332 and PB91-110131.

The paper discusses methods for characterizing chemical emissions from material sources, including laboratory, dynamic chamber, and full-scale studies. Indoor sources and their interaction with sinks play a major role in determining indoor air quality (IAQ). Techniques for evaluating the behavior of indoor sinks are presented. Procedures for analyzing chamber test data to produce emission rates and adsorption/desorption rate constants are discussed, as is the use of these results in IAQ models to predict occupant exposure. Thoughts on how to link biological responses to source and sink emissions are presented, and source testing methods based on biological responses are briefly touched on. Finally, recommendations for future research are given.

Keywords: *Construction materials, *Indoor air pollution, *Air quality, *Air pollution detection, *Buildings, *Air pollution sampling, Pollution sources, Chemical analysis, Test chambers, Experimental design, Field tests, Desorption, Adsorption, Public health, Exposure, Emission factors, Extraction, Gas chromatography, Mass spectroscopy, Biological effects, Reprints, *Furnishings.

PB93-175578/REB PC **A03**/MF **A01**
Modeling Indoor Concentrations and Exposures. Journal article Sep-Nov 90.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
L. E. Sparks. c1993, 12p EPA/600/J-93/088
Pub. in Annals of the New York Academy of Sciences, v641 p102-111, 30 Apr 92. See also PB89-133607, PB90-110131, and PB90-262858.

The paper discusses the use of an indoor air quality model, EXPOSURE, to predict pollutant concentrations and exposures. The effects of indoor air pollutants depend on the concentrations of the pollutants and the exposure of individuals to the pollutants. The air pollutant concentrations are determined by the complex interactions of sources, sinks, in-building air movement, and air exchange between the indoors and the outdoors. Individual exposure to indoor pollutants is determined by the indoor pollutant concentrations and individual activity patterns. An assessment of the effects of indoor pollutant must include analysis of these complex interactions to ensure that the analysis is done under realistic conditions.

Keywords: *Air pollution sampling, *Public health, *Air pollution effects(Humans), *Indoor air pollution, *Buildings, *Mathematical models, Exposure, Concentration(Composition), Ventilation, Air flow, Air quality, Reprints, *EXPOSURE model.

PB93-175586/REB PC **A03**/MF **A01**
Acute Effects of Ozone on Heart Rate and Body Temperature in the Unanesthetized, Unrestrained Rat Maintained at Different Ambient Temperatures. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
W. P. Watkinson, A. A. Aileru, S. M. Dowd, D. L. Doerfler, and J. S. Tepper. c1993, 18p EPA/600/J-93/089
Pub. in Inhalation Toxicology, v5 n1 p129-147 Jan 93. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

The present studies were conducted to investigate the concentration-response characteristics of acute ozone (O3) exposure on the cardiovascular and thermoregulatory function of the unanesthetized, unrestrained rat, and to examine the modulating effects produced by changes in ambient temperature (T(sub a)) on the induced toxic response. For all studies, groups of male Fischer 344 rats (n=4-6/group) were implanted with radiotelemetry transmitters and allowed to recover overnight. The transmitters permitted continuous monitoring of electrocardiogram (ECG) and body core temperature (T(sub co)); heart rate (HR) was derived from the ECG signal. Frequency of breathing (f) was obtained in selected experiments by means of a Fenn box. All animals were monitored according to the following protocol: control (filtered air; 0.25 h); exposure (O3; 2 h); recovery (filtered air; 3-18 h). For the concentration-response experiments, O3 concentration was varied from 0.25-1.0 ppm and all exposures were conducted at an T(sub a) of 18-z0 C. Significant decreases in HR and T(sub co) were demonstrated at O3 concentrations as low as 0.37 ppm.

Keywords: *Ozone, *Air pollution effects(Animals), *Body temperature, *Heart rate, Rats, Anesthesia, Temperature, Radio telemetry, Electrocardiography, Dose-response relationships, Reprints.

PB93-175594/REB PC **A02**
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
International Validation of a Neurobehavioral Screening Battery: The IPCS/WHO Collaborative Study. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
V. S. Moser, and R. C. MacPhail. c1992, 8p EPA/600/J-93/090
Contract EPA-68-02-4450
Pub. in Toxicology Letters 64/65, p217-223 1992. See also PB84-240811 and PB86-217742. Sponsored by

Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.

A neurobehavioral screening battery consisting of a functional observational battery (FOB) and an automated measure of motor activity is the subject of an international collaborative study. Eight laboratories (four in Europe, four in the U.S.) are participating in the study, which is sponsored by the International Programme on Chemical Safety within the World Health Organization. Representatives from each laboratory received training on testing procedures and the study protocol during a 2-day workshop. Each laboratory then conducted studies using positive control chemicals to demonstrate their proficiency with the techniques. For motor activity studies, each laboratory had to show acute increases and decreases in activity produced by triadimefon and chlorpromazine, respectively. Using the FOB, each laboratory had to detect certain neurological syndromes: tremorigenic activity of a single dose of p,p'-DDT, cholinergic signs with parathion, and neuromuscular deficits with short-term (1-2 weeks) repeated administration of acrylamide. In the formal studies, the effects of seven chemicals are currently being determined following both acute and 4-week exposures. The chemicals include triethyl tin, acrylamide, parathion, p,p'-DDT, toluene, lead acetate, and N,N'-methylene bisacrylamide. Each laboratory also determines a maximum-tolerated dose for each compound as well as the time of peak effect following acute exposure.

Keywords: *Toxic substances, *Nervous system, *Behavior, Interlaboratory comparisons, Exposure, Dose-response relationships, Reprints, *Functional observational battery.

PB93-175602/REB PC **A02**/MF **A01**
Characterization of Disulfoton-Induced Behavioral and Neurochemical Effects Following Repeated Exposure. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
J. Llorens, K. M. Crofton, H. A. Tilson, S. F. Ali, and W. R. Mundy. c1993, 9p EPA/600/J-93/091
Pub. in Fundamental and Applied Toxicology 20, n2 p163-169 1993. See also PB91-171728. Prepared in cooperation with National Center for Toxicological Research, Jefferson, AR. Div. of Reproductive and Developmental Toxicology.

The experiments examined the relationship between behavioral alterations and neurochemical changes in rats exposed repeatedly to disulfoton, an organophosphate cholinesterase inhibitor. Male Long-Evans rats were injected ip for 30 days with 0, 0.5, 1, or 2 mg/kg of disulfoton in corn oil. Clinical signs and motor activity were measured during the course of repeated exposure. Cognitive function, as measured in the Morris water maze, and passive avoidance procedures were assessed near the end of the dosing regimen. Regional brain acetylcholinesterase (AChE) activity was measured during the course of dosing while the total number of muscarinic receptors was measured at the end of the dosing regimen. Disulfoton affected the acquisition of water maze performance, but had no effect on passive avoidance acquisition or retention. Repeated exposure to disulfoton decreased brain AChE activity and the number of (3H)quinuclidinyl benzilate binding sites.

Keywords: *Toxicity, *Disulfoton, *Cholinesterase inhibitors, Rats, Dose-response relationships, Acetylcholinesterase, Motor activity, Cognition, Brain, Nervous system, Reprints.

PB93-175610/REB PC **A01**/MF **A01**
Summary of Workshop III: Evoked Potentials. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.
D. Otto, and K. Murata. c1993, 5p EPA/600/J-93/092
Pub. in Environmental Research 60, n1 p79-81 1993. See also PB86-158565.

The application of visual (VEP) and chemosensory evoked potentials (CSEP) in occupational and environmental health is briefly reviewed. VEPs have been used extensively in experimental neurotoxicology and play an increasing role in human neurotoxicity testing. The similarity of VEP waveforms in different species renders them useful for cross-species extrapolation. CSEPs, used in conjunction with traditional psychophysical tests and rating scales, offer a promising new approach to the study of indoor air pollution.

Keywords: *Visual evoked potentials, *Occupational safety and health, *Environmental health, *Brainstem auditory evoked potentials, *Somatosensory evoked potentials, Magnetics, Reprints.

PB93-175628/REB PC **A02**/MF **A01**
Importance of Experimenter-Blind Procedure in Neurotoxicology (Mini-Review). Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.
V. A. Benignus. c1993, 7p EPA/600/J-93/093
Pub. in Neurotoxicology and Teratology, v15 n1 p45-49 1993. Prepared in cooperation with North Carolina Univ. at Chapel Hill. Dept. of Psychology.

The importance of having the investigator blind to the experimental condition of a human subject was demonstrated using meta analysis of 43 reports of the effects of carbon monoxide (CO) on behavior. It was shown that 75% of single-blind studies found significant CO effects as opposed to only 26% of double-blind studies (difference was significant, $p < 0.005$). It was also not possible to show that the difference could have been due to different CO exposure levels, different statistical practices, or different study group sizes. The failure to follow double-blind procedure has been partly responsible for disagreement about the effects of CO reported in the literature. Investigator blinding is also important in laboratory animal research. (Copyright (c) 1993 Pergamon Press Ltd.).

Keywords: *Toxicology, *Experimental data, *Air pollution effects(Humans), Double-blind method, Statistical analysis, Neurotoxins, Carbon monoxide, Exposure, Tables(Data), Reprints, Single-blind method, Meta-analysis.

PB93-175636/REB PC **A03**/MF **A01**
Environmental Health Research and Testing, Inc., Research Triangle Park, NC.
Genetic Toxicology of Putative Nongenotoxic Carcinogens. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Genetic Toxicology Div.
M. A. Jackson, H. F. Stack, and M. D. Waters. c1993, 38p EPA/600/J-93/094
Pub. in Mutation Research, v296 n3 p241-277 1993. Sponsored by Environmental Health Research and Testing, Inc., Research Triangle Park, NC.

The report examines a group of putative nongenotoxic carcinogens that have been cited in the published literature. Using short-term test data from the U.S. Environmental Protection Agency/International Agency for Research on Cancer genetic activity profile (EPA/IARC GAP) database, these agents are classified on the basis of their mutagenicity emphasizing three genetic endpoints: gene mutation, chromosomal aberration and aneuploidy. On the basis of results of short-term tests for these effects, criteria was defined for evidence of mutagenicity (and nonmutagenicity) these criteria were applied in classifying the group of putative nongenotoxic carcinogens. The results from this evaluation based on the EPA/IARC GAP database are presented along with a summary of the short-term test data for each chemical and the relevant carcinogenicity results from the NTP, Gene-Tox and IARC databases. The data clearly demonstrate that many of the putative nongenotoxic carcinogens that have been adequately tested in short-term bioassays induce gene or chromosomal mutations or aneuploidy. (Copyright (c) 1993 Elsevier Science Publishers B.V.)

Keywords: *Toxicology, *Carcinogens, *Mutagenicity tests, Aneuploidy, Biological assays, Organic compounds, Chromosomal aberrations, Humans, Reprints, Genetic activity profile, Gene mutations, Putative nongenotoxic carcinogens, Short term tests.

PB93-175644/REB PC **A02**/MF **A01**
Relationship between Serum Cholinesterase Activity and the Change in Body Temperature and Motor Activity in the Rat: A Dose-Response Study of Diisopropyl Fluorophosphate. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
C. J. Gordon, and L. Fogelson. c1993, 7p EPA/600/J-93/095
Pub. in Neurotoxicology and Teratology, v15 n1 p21-25 Jan 93. See also PB93-158658.

Risk assessment of the neurotoxicology of organophosphate (OP) pesticides calls for a thorough understanding of the relationship between tissue cholinesterase (ChE) activity and changes in behavioral and autonomic responses to OP treatment. To address this issue, motor activity, core and skin temperature, and serum ChE activity were measured 2 h after rats of the Long-Evans strain were treated with the OP, diisopropyl fluorophosphate (DFP) at a dose of 0, 0.1, 0.25, 0.5, 0.75, 1.0, 1.25, and 1.5 mg/kg (SC). DFP doses $>$ or $=$ 0.25 mg/kg led to significant decreases in serum ChE activity, whereas doses of $>$ or $=$ 0.5 mg/kg caused reductions in motor activity and body temperature. The highest dose of DPF caused an increase in tail skin temperature, indicating an elevation in skin blood flow. A hockey stick regression analysis was used to determine threshold inhibition in ChE activity associated with depressions in motor activity and colonic temperature. The threshold serum ChE activity, relative to controls for inhibition of motor activity and reduction in body temperature was 46%. A wide range in individual motor activity and colonic temperature responses was noted when the inhibition in ChE activity exceeded threshold levels. This may be indicative of marked genetic variability to ChE inhibition. That is, rats appear to be either responsive or unresponsive when subjected to extreme inhibition in ChE activity. This pattern has been reported in other rodents and may represent a fundamental aspect of ChE toxicity. (Copyright (c) 1993 Pergamon Press Ltd.)

Keywords: *Cholinesterase, *Body temperature, *Motor activity, *Isoflurophosphate, *Organophosphorus insecticides, Dose-response relationships, Blood, Variation(Genetics), Cholinesterase inhibitors, Reprints.

PB93-175651/REB PC **A03**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages. Journal article.
M.D. Anderson Cancer Center, Houston, TX.
A. Jeevan, S. Ullrich, V. V. Dizon, and M. L. Kripke. c1992, 12p EPA/600/J-93/096
Grant EPA-R-816748
Pub. in Photodermatology, Photoimmunology, and Photomedicine 9, p255-263 Oct 92. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.

In the study the authors report that mice injected with supernatants from keratinocyte cultures exposed to UV radiation were impaired in host resistance to BCG. Both the induction and the elicitation of the delayed type hypersensitivity (DTH) reaction were suppressed following the intravenous injection of supernatants from the UV-irradiated keratinocytes, in a dose-dependent manner. Furthermore, injecting supernatants from the UV-irradiated keratinocytes interfered with the elimination of viable bacteria from the lymphoid organs. In order to determine whether macrophages were the target of the UV-induced keratinocyte-derived suppressive cytokine, macrophages were isolated from mice injected with the suppressive cytokine and the uptake and intracellular killing of BCG in vitro was studied. The suppressive cytokine and the uptake and intracellular killing of BCG in vitro was studied. The suppressive factor significantly reduced the uptake of BCG by the macrophages but not the rate of intracellular killing. These findings suggest that the suppressive cytokine interferes with the elimination of bacteria in vivo by interfering with the initial step in bacterial clearance, uptake of the bacteria by host macrophages. These results indicate that soluble mediators released from UV-irradiated keratinocytes may be involved in the UV-induced systemic suppression of immunity to BCG and they may act by interfering with certain macrophage functions.

Keywords: *Keratinocytes, *Phagocytosis, *Macrophages, *Mycobacterium bovis, *Delayed hypersensitivity, Ultraviolet rays, Mice, Spleen, Peritoneal cavity, Reprints.

PB93-175669/REB PC **A02**/MF **A01**
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
M. B. Genter, J. Llorens, J. P. O'Callaghan, D. B. Peele, and K. T. Morgan. c1992, 10p EPA/600/J-93/097
Pub. in Jnl. of Pharmacology and Experimental Therapeutics, v263 n3 p1432-1439 Dec 92. Prepared in cooperation with North Carolina State Univ. at Raleigh. Dept. of Toxicology, ManTech Environmental Technology, Inc., Research Triangle Park, NC., and Chemical Industry Inst. of Toxicology, Research Triangle Park, NC.

Following a pilot study which revealed olfactory epithelial degeneration induced by beta,beta'-iminodipropionitrile (IDPN), dose-response and time-course analyses were undertaken to further characterize the effects of IDPN on the olfactory system. Male rats were sacrificed at multiple time points ranging from 24 hrs after a single dose to 56 days after three consecutive daily doses of IDPN (0-400 mg/kg i.p.). Nasal cavities were fixed, decalcified and embedded in paraffin; 5 micrometer sections were stained with hematoxylin and eosin, middle neurofilament protein antibody or olfactory marker protein antiserum. Olfactory bulbs were removed for slot blot analyses of glial fibrillary acidic protein, synapsin 1 and p38. Twenty-four hours after treatment with 200 or 400 mg/kg IDPN, there was severe, highly site-specific mucosal degeneration in the dorsal-medial nasal cavity; regeneration was incomplete 8 weeks later. IDPN increased olfactory bulb glial fibrillary acidic protein, peaking 7 days after three daily 400 mg/kg doses, and remaining significantly elevated 8 weeks after treatment.

Keywords: *Olfactory bulb, *Toxicity, Epithelium, Rats, Dose-response relationships, Glial fibrillary acidic protein, Synapsins, Pathology, Immunohistochemistry, Time factors, Binding sites, Reprints, *Iminodipropionitriles.

PB93-175677/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.
Interleukin-8 Expression in Normal Nasal Epithelium and Its Modulation by Infection with Respiratory Syncytial Virus and Cytokines Tumor Necrosis Factor, Interleukin-1, and Interleukin-6. Journal article.
TRC Environmental Corp., Chapel Hill, NC.
S. Becker, H. S. Koren, and D. C. Henke. c1993, 10p EPA/600/J-93/098
Contract EPA-68-DO-0110
Pub. in American Jnl. of Cell Molecular Biology, v8 n1 p20-27 1993. Prepared in cooperation with North Carolina Univ. at Chapel Hill. Dept. of Medicine. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.

Inflammation in the nasal and airway tissue caused by allergens, microbial infection and air pollution is likely to be regulated by inflammatory mediators produced by airway epithelial cells. We have therefore investigated the baseline expression of a number of cytokine genes known to be important inducers and modulators of inflammation, in freshly isolated human nasal epithelium. Cells were obtained by superficial scraping of turbinate tissue and cDNA for PCR amplification was reverse transcribed directly from lysates of 3,000-5,000 epithelial cells using random hexamers. Constitutive expression of high levels of IL-8 mRNA but undetectable levels of GM-CSF, IL-1 or TNF mRNA were found after PCR amplification of the cDNA. However, amplification of cytokine cDNAs reverse transcribed from purified RNA from pool scrapings of 8 subjects (approximately 100 x the amount of cDNA/PCR assay) revealed low level expression of TNF, IL-6 and GM-CSF, IL-beta but not of IL-1 alpha mRNA. Infection with respiratory syncytial virus (RSV) or stimulation of nasal epithelium for 4 hours with TNF or IL-1 in vitro, resulted in a 4 to 10 fold increase in IL-8 mRNA expression but not in the expression of detectable levels of mRNA for the other cytokines.

Keywords: *Interleukin-8, *Epithelium, *Nose(Anatomy), *Cytokines, *Respiratory syncytial virus, Tumor necrosis factor, Interleukin-1, Interleukin-6, Granulocyte-macrophage colony-stimulating factor, Messenger RNA, Polymerase chain reaction, Immunohistochemistry, Biosynthesis, Reprints.

PB93-175685/REB PC **A02**/MF **A01**
Comparative Ability of Various PCBs, PCDFs, and TCDD to Induce Cytochrome P450 1A1 and 1A2 Activity Following 4 Weeks of Treatment (Short Communication). Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
M. J. De Vito, W. E. Maier, J. J. Diliberto, and L. S. Birnbaum. c1993, 8p EPA/600/J-93/099
Pub. in Fundamental and Applied Toxicology 20, n1 p125-130 1993. See also PB89-125041.

The toxic equivalency factors (TEF) have been proposed for dibenzo-p-dioxins, dibenzofurans and polychlorinated biphenyls (PCBs). The proposed TEFs, which are presently being evaluated in the authors' laboratory are currently used to estimate the potential health risk associated with exposure to complex mixtures containing these chemicals. Hepatic cytochrome P-450 1A1 and 1A2 activities were determined for all chemicals tested and compared to those from TCDD treated mice. These initial studies indicate that the interim TEFs for the dibenzofurans adequately predict the relative induction potency for these compounds. However, the TEFs proposed for the 'dioxin-like' PCBs overestimate the potency of these compounds by factors of 10-10,000. The present study indicates that more experimental data is required before TEFs for PCBs are used in regulatory decision making. (Copyright (c) 1993 by the Society of Toxicology.)

Keywords: *Chlorine organic compounds, *Toxicity, *Public health, Tests, Exposure, Risk assessment, Mice, Biphenyl, Oxygen heterocyclic compounds, Industrial wastes, Enzymes, Reduction, Reprints, *Toxic equivalency factors, Polychlorinated biphenyls, Biphenyl/chloro, Dioxin/tetrachloro-dibenzo, Chloronated dibenzofurans, Cytocrome P-450.

PB93-175693/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
Near-Lifetime Exposure of the Rat to a Simulated Urban Profile of Nitrogen Dioxide: Pulmonary Function Evaluation. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
J. S. Tepper, D. L. Costa, D. W. Winsett, M. A. Stevens, and D. L. Doerfler. c1993, 10p EPA/600/J-93/100
Contract EPA-68-02-4450
Pub. in Fundamental and Applied Toxicology 20, n1 p88-96 1993. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.

To investigate the potential for near-ambient levels of nitrogen dioxide (NO2) to induce functional lung damage, groups of rats were exposed to air or a simulated urban profile of NO2 (0.5 ppm, 1.5 ppm peak) for 1, 3, 13, 52, or 78 weeks. The dynamic, static, and diffusional characteristics of the lung were evaluated postexposure in anesthetized rats. Furthermore, for the 13-, 52-, and 78-week groups, additional animals were tested after a 6-, 26-, or 17-week period in filtered air, respectively. Breathing patterns and mechanics were also assessed postexposure in a parallel group of similarly exposed unanesthetized rats during filtered air and 4 and 8% carbon dioxide (CO2) challenge. No significant NO2 effects were found for the nitrogen washout, compliance, lung volumes, diffusion capacity of carbon monoxide, or upstream airway resistance. However, at 78 weeks, a significant reduction in Delta FEF25, an estimate of convexity in the later portion of the forced expiratory flow volume curve, was observed. Decreases in Delta FEF25 suggest premature small airway closure. In the unanesthetized rat, frequency of breathing was decreased and tidal volume, expiratory resistance, and inspiratory and expiratory times were generally increased. For several of these variables, the largest response also occurred at 78-weeks and seemed to be exacerbated by CO2 challenge. Data from both unanesthetized and anesthetized pulmonary function tests suggest the presence of small airway obstruction or premature closing.

Keywords: *Nitrogen dioxide, *Air pollution effects(Animals), *Respiratory function tests, *Urban areas, Rats, Carbon dioxide, Carbon monoxide, Airway resistance, Exposure, Anesthesia, Reprints.

PB93-175701/REB PC **A03**/MF **A01**
Acute Effects of Ethanol on Pattern Reversal and Flash-Evoked Potentials in Rats and the Relationship to Body Temperature. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
W. K. Boyes, B. E. Hetzler, and R. S. Dyer. c1993, 14p EPA/600/J-93/101
Pub. in International Jnl. of Psychophysiology, v14 p27-39 1993. Prepared in cooperation with Lawrence Univ., Appleton, WI. Dept. of Psychology.

The effects of acute ethanol treatment on flash and pattern reversal visual evoked potentials (FEPs and PREPs, respectively) were examined in three experiments using Long-Evans rats. The relationships of evoked potential parameters with blood ethanol concentration and body temperature were examined. In Experiment 1, rats were treated i.p. with vehicle or 0.5, 1.0 or 2.0 g ethanol/kg body weight, and tested 30 min later. The 2.0 g/kg group had prolonged latencies of PREP peaks, no changes in PREP peak-to-peak amplitudes, and lower body temperatures than saline-treated controls. The peak latency shifts were significantly correlated with both blood ethanol concentration and body temperature, and were of a magnitude to be expected from similar changes in body temperature alone. Experiment 2 measured both PREPs and paired-flash FEPs in rats 30 min after injection of either 0, 0.5 or 2.0 g/kg ethanol. PREP changes were found following treatment with the high dose which were similar to those of Experiment 1. Some FEP peak latencies were prolonged and peak-to-peak amplitudes were reduced by both doses of ethanol, despite the fact that body temperatures were reduced at only the high dose. At 2.0 g/kg ethanol, the FEP changes in latency, but not amplitude, were in accordance with what would be expected from body temperature changes alone. The third study attempted to investigate the role of reduced body temperature in producing the visual evoked potential changes by testing at room temperatures of 22 or 30 C. Contrary to expectations, the rats receiving 2 g/kg ethanol were approx. 1 C cooler than controls at both room temperatures. (Copyright (c) 1993 Elsevier Science Publishers B.V.)

Keywords: *Ethanols, *Body temperature, *Visual evoked potentials, *Patterns, *Toxicology, Rats, Graphs(Charts), Reaction time, Dose-response relationships, Reprints.

PB93-175719/REB PC **A02**/MF **A01**
Differential Hepatotoxicity and Cytochrome P450 Responses of Fischer-344 Rats to the Three Isomers of Dichlorobenzene. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
J. W. Allis, J. E. Simmons, D. E. House, B. L. Robinson, and E. Berman. c1992, 10p EPA/600/J-93/102
Pub. in Jnl. of Biochemical Toxicology, v7 n4 p257-264 Nov 92.

The acute hepatotoxicity and response of hepatic cytochrome P450 to treatment with the three isomers of dichlorobenzene (DCB) have been investigated. The objectives were to estimate the onset of toxicity and to further elucidate the role of cytochrome P450 in the metabolism and toxicity of these compounds. In a study design employing one animal per dose level, Fischer-344 rats were gavaged with up to 25 different dosages, then evaluated 24 h later. Hepatic necrosis, serum alanine aminotransferase, and serum aspartate aminotransferase exhibited similar patterns demonstrating that ortho-DCB (o-DCB) was the most toxic in terms of both earliest onset and degree of response at higher dosages. For these three endpoints, meta-DCB (m-DCB) exhibited a lesser toxicity. Para-DCB (p-DCB) did not cause changes in these three endpoints, but hepatic degenerative changes were found. Total hepatic cytochrome P450 responses were also different after treatment with each isomer. The o-DCB produced a dose-dependent decrease in P450 beginning at dosages lower than the onset of necrosis and appeared to be a suicide substrate for P450. The m-DCB treatment increased P450 at dosages below the onset of necrosis and decreased P450 at higher dosages, with the decline preceding the onset of hepatocyte death. (Copyright (c) 1992 VCH Publishers, Inc.)

Keywords: *Cytochrome P-450, *Liver, *Toxicity, Dose-response relationships, Rats, Isomers, Alanine aminotransferase, Aspartate aminotransferase, Substrate specificity, Necrosis, Reprints, *Dichlorobenzenes.

PB93-175727/REB PC **A02**/MF **A01**
Twenty-Four Hour Rhythms of Selected Ambient Temperature in Rat and Hamster. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
C. J. Gordon. c1993, 9p EPA/600/J-93/103
Pub. in Physiology and Behavior, v53 n2 p257-263 Feb 93. See also PB92-124619.

The purpose of the study was to assess the effect of time of day on the behavioral thermoregulatory patterns of nocturnal rodents, the Long-Evans (LE) rat, Fischer 344 (F344) rat, and the golden hamster. Individual animals were placed in a temperature gradient for 4 days while selected ambient temperature (ST(sub a)) and motor activity (MA) were monitored. Food was provided at the cold and warm ends of the gradient and water was provided ad lib. All animals eventually showed a 24-h rhythm of ST(sub a) and MA characterized by a preference for cooler T(sub a)s during the dark period which coincided with an increase in MA. Both rat strains had ST(sub a)s of about 28 C during the light period that decreased to 22-24 C during the dark period. The F344 rat developed a ST(sub a) rhythm by the second day in the gradient, whereas the LE strain required 4 days. The hamster exhibited relatively warm ST(sub a)s of 32-33 C during the light period that decreased to 26-28 C during the dark period. The nocturnal preference for cooler ST(sub a)s contradicts a current concept of an elevation in set point of the thermoregulatory system. However, the data also suggest that behavioral and autonomic thermoregulatory effectors may operate independently in the control of night time elevations in body temperature. (Copyright (c) 1993 Pergamon Press Ltd.)

Keywords: *Rats, *Hamsters, *Circadian rhythm, *Body temperature regulation, Motor activity, Animal behavior, Graphs(Charts), Reprints.

PB93-175735/REB PC **A02**/MF **A01**
Anomalous Phosphorylated Neurofilament Aggregations in Central and Peripheral Axons of Hens Treated with Tri-Ortho-Cresyl Phosphate (TOCP). Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.
K. F. Jensen, D. M. Lapadula, J. K. Anderson, N. Haykal-Coates, and M. B. Abou-Donia. c1992, 8p EPA/600/J-93/104
Pub. in Jnl. of Neuroscience Research, v33 n3 p455-460 Nov 92. Prepared in cooperation with Duke Univ. Medical Center, Durham, NC. Dept. of Pharmacology.

Previous biochemical studies demonstrated a dramatic increase in phosphorylation of cytoskeletal proteins that occurs early in organophosphorus ester-induced delayed neurotoxicity (OPIDN). In the report the authors present immunohistochemical evidence that there is anomalous aggregation of phosphorylated neurofilaments within central and peripheral axons following organophosphate exposure. The morphology, location, and time of appearance of these aggregations are consistent with the hypothesis that the aberrant phosphorylation of cytoskeletal elements is an antecedent to the focal axonal swelling and degeneration characteristic of OPIDN. (Copyright (c) 1992 Wiley-Liss, Inc.)

Keywords: *Tritolyl phosphates, *Axons, *Intermediate filaments, Phosphorylation, Chickens, Kinases, Immunohistochemistry, Organophosphorus compounds, Peripheral nerves, Spinal cord, Reprints.

PB93-175743/REB PC **A02**/MF **A01**
Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
T. B. Martonen, I. Katz, K. Fults, and A. J. Hickey. c1992, 8p EPA/600/J-93/105
Pub. in Pharmaceutical Research, v9 n12 p1634-1639 Dec 92. Prepared in cooperation with Duke Univ., Durham, NC. Dept. of Mechanical Engineering and Materials Science, and Illinois Univ. at Chicago. Dept. of Pharmacology.

Analytical estimates of the respirable fractions on inhaled pharmaceutical aerosols are obtained by inertial sampling techniques. The respirable fraction may be defined as that portion of the particle size distribution less than a designated diameter. The diameter size below which particles were considered respirable in these studies was 6.4 micrometers. In clinical practice, a variety of particle size distributions may be related to a single respirable fraction. Herein, three respirable fractions were each defined by six particle size distributions. The deposition patterns of aerosols exhibiting these particle size characteristics were examined in a mathematical model. The analytically defined respirable fractions were compared with predicted lung deposition values. Under clearly defined breathing conditions, there is a correlation between the nominal respirable fraction and deposition. However, it was concluded that the variations which occur in breathing parameters within patient populations may not allow a single analytically derived respirable fraction to be appropriate for all individual subjects. (Copyright (c) 1992 Plenum Publishing Corporation.)

Keywords: *Aerosols, *Drug administration routes, *Drugs, Mathematical models, Particle size distribution, Lungs, Respiration, Humans, Reprints.

PB93-175750/REB PC **A02**/MF **A01**
Effects of Prenatal Administration of Azo Dyes on Testicular Development in the Mouse: A Structure Activity Profile of Dyes Derived from Bensidine, Dimethylbenzidine, or Dimethoxybenzidine. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.
L. E. Gray, and J. S. Ostby. c1993, 9p EPA/600/J-93/106
Pub. in Fundamental and Applied Toxicology, v20 n2 p177-183 Feb 93.

Prenatal exposure to the dye Congo red causes a reduction in the number of germ cells in male and female offspring. In the current investigation, nine other dyes structurally related to Congo red were evaluated for developmental testicular toxicity and the structural component of the dyes responsible for the prenatal-induction of germ cell aplasia was determined. Pregnant mice were dosed orally on days 8-12 of gestation with a benzidine-, dimethylbenzidine-, or a dimethoxybenzidine-based dye. The testes of male offspring exposed to the benzidine-based dyes Congo red, diamine blue or chlorazol black E were small and contained tubules completely devoid of germ cells. The dimethylbenzidine-based dyes, trypan blue, Evans blue and benzopurpurin 4 B, and the dimethoxybenzidine-based dye, Chicago sky blue, were without testicular effects. Azole diazo component 48, a dimethoxybenzidine congener, and two other diazo dyes, naphthol blue black and Sudan III also had no effect on the testes of the male offspring. The results of these studies demonstrate that only the benzidine-, but not dimethyl- or dimethoxybenzidine-based dyes produce persistent hypospermato-genesis in the testis of the mouse as a consequence of fetal exposure.

Keywords: *Azo dyes, *Toxicology, *Testis, *Prenatal exposure delayed effects, *Spermatogenesis, Structure-activity relationships, *Benzidines, Mice, Organ weight, Reprints, Dimethylbenzidine, Dimethoxybenzidine.

PB93-175768/REB PC **A03**/MF **A01**
Endpoints of Spermatotoxicity in the Rat After Short Duration Exposures to Fourteen Reproductive Toxicants. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
R. E. Linder, L. F. Strader, V. L. Slott, and J. D. Suarez. c1992, 17p EPA/600/J-93/107
Pub. in Reproductive Toxicology, v6 p491-505 Nov 92. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

Multiple endpoints of spermatotoxicity in short in vivo tests were investigated in several chemicals which produce minimal to severe subchronic reproductive effects. Six chemicals (boric acid, dinoseb, 2,5-hexanedione, methoxychlor, metronidazole, ornidazole) produced spermatotoxicity. Chlordimeform was equivocal while pp'-DDT, n-hexane, and sodium chlorite were negative. Chemicals with known acute effects (benomyl, busulfan, EGME, nitrobenzene) elicited expected responses. Testicular histology, sperm head counts, cauda sperm counts, sperm morphology and velocity were the most sensitive endpoints, but histopathology was the most consistent indicator of damage. The data suggested that most chemicals which produce moderate sperm damage are detectable in a short duration test. Multiple endpoints enhanced interpretations, identified cellular targets, and provided insight on mechanisms. The responses often predicted effects seen in subchronic exposures. The short test could be used as a screen in SAR studies or to prioritize further evaluations. As a supplement, the short test could enhance the design and interpretation of longer tests.

Keywords: *Spermatozoa, *Reproduction(Biology), *Toxicology, *Toxic substances, In vivo analysis, Structure-activity relationships, Sperm motility, Pathology, Testis, Epididymis, Tables(Data), Reprints.

PB93-175776/REB PC **A08**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10. Final rept.
JACA Corp., Fort Washington, PA.
M. J. Fitzpatrick, and R. Ellefson. Sep 92, 152p EPA/452/R-93/001
Contract EPA-68-W9-0080
See also PB83-127480, PB83-127498 and PB86-230083. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The guidance document sets forth procedures and identifies sources of information that will assist State and local air pollution control agencies in determining Reasonably Available Control Technology (RACT) for PM-10 (particulate matter having a nominal aerometric diameter of 10 microns or less) emission from existing stationary sources on a case-by-case basis. It provides an annotated bibliography of documents to aid in identifying the activities that cause PM-10 emissions as well as applicable air pollution control measures and their effectiveness in reducing emissions. The most stringent state total particulate matter (PM) emission limits are identified for several categories of PM-10 sources and compared to available emission test data. Finally, guidance is provided on procedures for estimating total capital investment and total annual cost of the control measures which are generally used to control PM-10 emissions.

Keywords: *Particulates, *Air pollution control, Instructions, Emission, Technical assistance, Economic factors, Industries, Guidelines, Cost effectiveness, US EPA, State government, Local government, Government agencies, *Stationary sources, Emission limits, PM-10, Case studies.

PB93-175784/REB PC **A10**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
Evaluation of Environmental Marketing Terms in the United States.
Abt Associates, Inc., Cambridge, MA.
5 Feb 93, 203p EPA/741/R-92/003
Contract EPA-68-D9-0169
Sponsored by Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.

The study is a comprehensive examination of the use of environmental marketing terms in the United States as of mid-1992. Topics discussed in the report include: (1) issues involved in the use of environmental marketing terms; (2) consumer understanding of these terms; (3) trends in the use of environmental terms in consumer product labeling and advertising; (4) cases where environmental marketing claims have been avoided or discontinued; and (5) proposed and existing definitions of environmental marketing terms. The report was prepared in response to a call for federal action by many groups involved in environmental marketing, and is designed to serve two main purposes. For state and federal policy makers seeking to promulgate guidelines or regulations governing environmental marketing terms, it provides an analytical foundation on which to base policy decisions. For those generally interested in environmental marketing, it serves as a comprehensive source of information about the major issues involved. It does not advocate a particular position or course of action.

Keywords: *Marketing, *Regulations, *Environmental protection, *United States, Consumer protection, Recycling, Marking, Packaging, Guidelines, Environmental marketing, FTC(Federal Trade Commission).

PB93-176956/REB PC **A05**/MF **A02**
RCRA Implementation Plan, FY 1993. Directive (Final).
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Apr 92, 98p* EPA/530/R-92/017, OSWER DIRECTIVE-9420.00-08
See also PB91-211813.

The FY'93 RCRA Implementation Plan defines national priority activities for the RCRA Subtitle C hazardous waste program, the RCRA compliance monitoring and enforcement program, and the RCRA Subtitle D municipal and industrial solid waste program. The plan continues the strategic management framework begun by EPA and the states in FY'92. The report includes facility priority setting and evaluation, permitting, corrective action, states as primary implementors of the RCRA program, waste minimization, biennial reporting system, capacity assurance plans, comprehensive state ground-water planning, compliance monitoring and enforcement, accountability, and municipal and industrial solid waste management.

Keywords: *Superfund, *Waste management, *Hazardous materials, Industrial wastes, Municipal wastes, Earthfills, Pollution regulations, Guidelines, Implementation, *RCRA(Resource Conservation and Recovery Act), Priority ranking system, Landfills.

PB93-176980/REB PC **A11**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of the Administrator.
Greening of World Trade: A Report to EPA from the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology. Final rept.
National Advisory Council for Environmental Policy and Technology, Washington, DC. Trade and Environment Committee.
G. Stanley, K. von Moltke, S. Hudson, R. Repetto, and C. A. Cummings. Apr 93, 242p* ISBN-0-16-041702-3, EPA/100/R-93/002
Also available from Supt. of Docs. Sponsored by Environmental Protection Agency, Washington, DC. Office of the Administrator.

The document sums up the work of the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology, a Federal Advisory Committee to the EPA Administrator. It includes 10 major articles by national experts on such current topics as the Montreal Protocol on Substances That Deplete the Ozone Layer, changes in the General Agreement on Tariffs and Trade (GATT) dispute resolution mechanism, and the necessary role of environmental safeguards in the North American Free Trade Agreement (NAFTA). Industry, government policy makers, and university academics are vitally concerned about international trade, environmental standards and economics. The title explains why environmental regulations can strengthen economies and describes the complications inherent in the two sometimes competing arenas of trade and environment. In short, the title is on the cutting edge of the green issues with which national capitals around the globe are concerned.

Keywords: *International trade, *Environmental protection, Economic development, Government policies, Citizen participation, Competition, Laws, GATT(General Agreement on Tariffs and Trade), NAFTA(North American Free Trade Agreement), OECD(Organization for Economic Cooperation and Development).

PB93-177178/REB PC **A99**
Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
Environmental Protection Agency, Washington, DC. Office of Waste Programs Enforcement.
Apr 93, 842p
Supersedes PB93-134237. See also PB93-177160 and PB93-177186.
Also available in set of 10 reports PC A99, PB93-177137.

When expending Superfund monies at a CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) site, EPA must conduct a search to identify parties with potential financial responsibility for remediation of uncontrolled hazardous waste sites. EPA regional Superfund Waste Management Staff issue a notice letter to the potentially responsible party (PRP). Data from the notice letter is used to form the Site Enforcement Tracking System (SETS). The data includes PRP name and address, company contact person, the date the notice was issued, and the related CERCLA site name and identification number.

Keywords: *Law enforcement, *Superfund, *Sites, *Waste management, Searching, Identification systems, Financing, Cleanup, US EPA, Letters, Corporations, Waste disposal, *Potential responsible party, Comprehensive Environmental Response Compensation and Liability Act(CERCLA), Listings, EPA region 4.

PB93-178226/REB PC **A08**/MF **A02**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Quality Assurance and Quality Control in the Development and Application of Ground-Water Models. Final rept. 23 Sep 88-22 Sep 91.
Butler Univ., Indianapolis, IN. Holcomb Research Inst.
P. K. M. van der Heijde, and O. A. Elnawawy. Sep 92, 168p EPA/600/R-93/011
Contract EPA-CR-815363
See also PB89-224497. Prepared in cooperation with Colorado School of Mines, Golden. International Ground Water Modeling Center, and Indiana Univ., Indianapolis. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

The report provides background information on quality assurance and defines the role of quality assurance and quality control in ground-water modeling. A functional and practical quality-assurance methodology is presented which is written from the perspective of the model user and the decision-maker in need of technical information on which to base decisions. An important part of quality assurance is code testing and performance evaluation. A section is included on code testing and performance evaluation presenting the three-level testing procedure developed by the International Ground Water Modeling Center, the development of test problems and related benchmarks for the first two test levels, and a discussion of the implementation of the testing procedure.

Keywords: *Ground water, *Mathematical models, *Hydrology, *Water pollution, Quality assurance, Quality control, Subsurface investigations, Flow measurement, Aquifers.

PB93-178234/REB PC **A07**/MF **A02**
Determination of the Strong Acidity of Atmospheric Fine-Particles (<2.5 mum) Using Annular Denuder Technology. Standard Method, Enhanced Method.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
L. J. Purdue. Nov 92, 135p EPA/600/R-93/037
See also PB87-233318.

The report is a standardized methodology description for the determination of strong acidity of fine particles (less than 2.5 micrometers) in ambient air using annular denuder technology. The methodology description includes two parts: Part A - Standard Method and Part B - Enhanced Method. The Standard Method utilizes a denuder for removing ammonia and a filter assembly for determination of atmospheric strong acidity fine particle aerosols in ambient air, but does not account for potential interferences from nitric acid, ammonium nitrate aerosol or other ammonium salts which might bias the acidity measurement. The Enhanced Method adds an additional denuder upstream of the filter assembly to selectively remove acid gases (nitric acid vapors, nitrous acid and sulfur dioxide) from the gas stream prior to filtration. In addition, backup nylon and citric acid impregnated filters are used to correct for biases due to the dissociation of ammonium nitrate aerosol.

Keywords: *Acidity, *Air pollution monitors, *Fines, Aerosols, Particles, Filters, Atmospheric composition, Quality control, Performance evaluation, Annular denuders.

PB93-178242/REB PC **A05**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Dry Deposition Flux Calculations for the National Dry Deposition Network. Rept. for Jan 91-Sep 92.
Environmental Science and Engineering, Inc., Durham, NC.
J. F. Clarke, and E. S. Edgerton. Apr 93, 100p* EPA/600/R-93/065
Contract EPA-68-02-4451
See also PB90-208570 and PB91-181784. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

The National Dry Deposition Network (NDDN) was established in 1987 to document the magnitude, spatial variability, and trends in dry deposition of ozone and acidic particles and gases across the United States. Currently, the network consists of 50 stations: 41 in the eastern United States and 9 in the western United States. The NDDN will be assimilated into the Clean Air Status and Trends Network (CASTNet). Dry deposition is not measured directly in the NDDN, but is determined by an inferential approach, i.e., dry deposition fluxes are calculated as the product of measured ambient concentration and modeled deposition velocity. Chemical species include O3, sulfate, nitrate, sulfur dioxide, and nitric acid. The temporal resolution for the dry deposition calculations is hourly for O3 and weekly for the acidic particles and gases. The report describes the dry deposition calculation method used in the NDDN/CASTNet program and presents dry deposition data for the network for 1990 and 1991. Sources of uncertainty in the calculations are discussed.

Keywords: *Ozone, *Air pollution sampling, *Acidification, *Deposition, United States, Sulfates, Nitrates, Nitric acid, Sulfur dioxide, Meteorology, Seasonal variations, Environmental transport, Atmospheric diffusion, Mathematical models, Tables(Data), Graphs(Charts), *National Dry Deposition Network, Flux calculations.

PB93-178259/REB PC **A09**/MF **A02**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
IT Environmental Programs, Inc., Cincinnati, OH.
M. Dosani, J. Hessling, M. L. Smith, A. Jones, and W. R. Mahaffey. Apr 93, 185p EPA/600/R-93/066
Contract EPA-68-C9-0036
Prepared in cooperation with ECOVA Corp., Redmond, WA. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

A pilot-scale test of the slurry-phase bioremediation technology was performed by ECOVA Corporation (ECOVA) at the U.S. EPA Test and Evaluation (T&E) facility from May 8 through July 10, 1991 (12 weeks). The slurry-phase bioreactors were tested on a creosote-contaminated soil from the Burlington Northern Superfund Site in Brainerd, Minnesota. The results of the bench-scale study (performed by ECOVA prior to the pilot-scale study) were used to optimize a pilot-scale bioreactor system containing 64 liters of 30 percent slurry (soil:water, w/v). The pilot-scale phase utilized an inoculum of indigenous polynuclear aromatic hydrocarbon (PAH) degraders (9.3 x 10 to the 7th power per gram of soil), an inorganic nitrogen supplement in the form of NH(4-)N, and a media broth containing potassium, phosphate, magnesium, calcium, and iron to achieve an overall reduction. During the study, levels of soil-bound and liquid-phase PAHs, total petroleum hydrocarbons (TPHs), nutrients, pH, dissolved oxygen, temperature, toxicity, and microbial activity were monitored.

Keywords: *Creosote, *Soils, *Bioreactors, *Slurries, Polycyclic aromatic hydrocarbons, Biodegradation, Chemical analysis, Dissolved gases, pH value, Toxicity, Microorganisms, Solid wastes, Liquid wastes, Temperature, Brainerd(Minnesota), Best available technology.

PB93-178994/REB PC **A03**/MF **A01**
Pesticide Reregistration Progress Report.
Environmental Protection Agency, Arlington, VA. Special Review and Reregistration Div.
Jan 93, 24p EPA/738/R-93/001
See also PB92-224328.

The report is produced by the Special Review and Reregistration Division (SRRD), Office of Pesticide Pro-

grams, U.S. Environmental Protection Agency (EPA), on progress towards pesticide reregistration as mandated under 1988 amendments to the Federal Insecticide, Fungicide, and Rodenticide Act. The report shows the status of reregistration through the first quarter of the 1993 fiscal year. SRRD is in the process of re-evaluating the format and information in the Progress Report, as a result of the October 1992 Customer Survey sent to the recipients of the report. Results of the survey will be incorporated in the April 1993 issue of the report.

Keywords: *Pesticides, *Toxic substances, *Regulations, Reviews, Chemical compounds, Tolerances(Physiology), Ecology, Decision making, Requirements, Surveys, Law enforcement, Risk assessment, Compliance, US EPA, *Reregistration, Federal Insecticide Fungicide and Rodenticide Act, Case studies.

PB93-179000/REB PC **A03**/MF **A01**
Marine and Estuarine Protection: Programs and Activities.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Feb 89, 45p EPA/503/9-89/002
See also PB91-168393.

The booklet describes: the mission of the current problems and threats to the coastal and marine waters of the US; the Office of Marine and Estuarine Protection of EPA; EPA's ocean dumping and plastics programs; EPA's point source control activities; near-coastal waters activities; and associated federal legislation.

Keywords: *US EPA, *Estuaries, *Environmental protection, *Marine environments, *Coasts, Ocean environments, Ocean dumping, Water quality, Great Lakes, Wetlands, Pollution regulations, Programs, Water law.

PB93-179885/REB PC **A05**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
LDCRS Flow from Double-Lined Landfills and Surface Impoundments.
GeoSyntec Consultants, Atlanta, GA.
R. Bonaparte, and B. A. Gross. Apr 93, 76p EPA/600/R-93/070
Contract EPA-68-CO-0068
See also PB87-191383. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The report presents field data on the measured flows of liquid from the leakage detection, collection, and removal systems (LDCRSs) of 28 double-lined surface impoundment facilities. For each facility, information on design and operation is presented, as is an evaluation of the sources of the measured flow. Potential sources include leakage through the top liner, precipitation that percolates into the LDCRS during construction, water that infiltrates through the bottom liner and enters the LDCRS, and consolidation of any clay component of the top liner.

Keywords: *Waste management, *Leakage, *Hazardous materials, *Earth fills, *Surface impoundment, *Fluid flow, Waste disposal, Linings, Land pollution control, Performance evaluation, Quality assurance, Design, Construction, Data collection, *Leakage detection collection and removal systems, Geomembranes.

PB93-179927/REB PC **A04**/MF **A01**
Health Effects Inst., Cambridge, MA.
Mechanisms of Aldehyde-Induced Bronchial Reactivity: Role of Airway Epithelium. Research rept. Jul 86-Jan 91.
Cincinnati Univ. Medical Center, OH.
G. D. Leikauf. c1991, 56p HEI/RR-92/49
Sponsored by Health Effects Inst., Cambridge, MA.

The purpose of the study was to determine whether exposures to environmentally relevant concentrations of two aldehydes of low molecular weight were associated with impaired airway function. Specifically, the study addressed questions of the relative irritant potency of formaldehyde and acrolein on the induction of increased bronchial reactivity to acetylcholine in guinea pigs. The relationship of bronchial reactivity to epithelial damage and inflammation were also examined after both in vivo and in vitro exposures.

Keywords: *Bronchi, *Air pollution effects(Animals), *Aldehydes, Eicosanoids, Toxicology, Guinea pigs, Epithelium, Leukotrienes, Prostaglandins, Acrolein, Formaldehyde, Mitogens.

PB93-179935/REB PC **A03**/MF **A01**
Health Effects Inst., Cambridge, MA.
Role of Ozone in Tracheal Cell Transformation. Research rept. Mar 88-Apr 91.
Lovelace Biomedical and Environmental Research Inst., Albuquerque, NM. Inhalation Toxicology Research Inst.
D. G. Thomassen, J. R. Harkema, J. D. Sun, N. D. Stephens, and W. C. Griffith. cApr 92, 43p HEI/RR-92/50
Sponsored by Health Effects Inst., Cambridge, MA.

Tracheal epithelial cells isolated from rats exposed to 0, 0.12, 0.5, or 1.0 parts per million (ppm) ozone for six hours per day, five days per week, for one, two, or four weeks were examined in culture for increases in the frequency of preneoplastic variants. Although cells from these rats did not exhibit such increases, exposed tracheas did show dose-dependent morphological changes. Rat tracheal epithelial cells exposed once, for 40 minutes, to approximately 0.7 ppm or 10 ppm ozone also showed no increase in the frequency of preneoplastic transformation, compared with control cells. In contrast, epithelial cells exposed in culture to 0.7 ppm ozone twice weekly for almost five weeks exhibited an increased frequency of preneoplastic variants compared with control cultures. Rat tracheal epithelial cells were also exposed to highly- or weakly-transforming doses of the chemical carcinogen N-methyl-N'-nitro-N-nitrosoguanidine and to 0.7 ppm ozone. When a single ozone exposure preceded the high level of carcinogen, the transforming potency of the carcinogen was reduced. When a single low dose of carcinogen preceded multiple ozone exposures, there was no statistically significant interaction between the effects of ozone and the carcinogen on transformation.

Keywords: *Ozone, *Air pollution effects(Animals), *Trachea, *Cell transformation, Precancerous conditions, Rats, Epithelium, Cell survival.

PB93-179943/REB PC **A03**/MF **A01**
Health Effects Inst., Cambridge, MA.
Carbon Monoxide Exposure of Subjects with Documented Cardiac Arrhythmias. Research rept. Aug 87-Jul 91.
Saint Louis Univ., MO. School of Medicine.
B. R. Chaitman, T. E. Dahms, S. Byers, L. W. Carroll, and L. T. Younis. cSep 92, 48p HEI/RR-92/52
Sponsored by Health Effects Inst., Cambridge, MA.

The authors studied 30 subjects with well-documented coronary artery disease who had an average of at least 30 ventricular ectopic beats per hour over a 20-hour monitoring interval. Subjects were selected and enrolled in a randomized double-blind study; the carbon monoxide exposure was designed to result in 3% or 5% carboxyhemoglobin levels, as measured by gas chromatography. Total and repetitive ventricular arrhythmias were measured for four specific time intervals: (1) two hours before carbon monoxide exposure; (2) during the two-hour carbon monoxide exposure; (3) six hours after carbon monoxide exposure; and (4) approximately 10 hours after exposure, or the remaining recording interval on the Holter monitor. There was no increase in ventricular arrhythmia frequency after carbon monoxide exposure, regardless of the level of carboxyhemoglobin or the type of activity. During steady-state conditions at rest, the number of ventricular ectopic beats per hour was 115 + or - 153 (SD) for room air exposure (0.7% carboxyhemoglobin), 121 + or - 171 for the lower carbon monoxide exposure (3.2% carboxyhemoglobin), and 94 + or - 129 for the higher carbon monoxide exposure (5.1% carboxyhemoglobin). The frequency of complex ventricular ectopy was not altered at the levels of carbon monoxide studied. Secondary analysis of the impact of carbon monoxide on ventricular ectopic beat frequency stratified by baseline ejection fraction, baseline ventricular ectopic beat frequency, and exercise-induced ST-segment changes did not indicate an effect of carbon monoxide on ventricular arrhythmias. However, patients with symptomatic ventricular arrhythmias and symptomatic myocardial ischemia were excluded from the present study.

Keywords: *Carbon monoxide, *Air pollution effects(Humans), *Arrhythmia, Double-blind method, Randomized controlled trials, Carboxyhemoglobin, Myocardial ischemia.

PB93-179950/REB PC **A03**/MF **A01**
Health Effects Inst., Cambridge, MA.
Effects of Formaldehyde on Xenotransplanted Human Respiratory Epithelium. Research rept. Aug 86-Apr 91.
Institute for Cancer Research, Philadelphia, PA.
A. J. P. Klein-Szanto, H. Ura, S. Momiki, D. Bonfil, and S. Litwin. cJul 92, 37p HEI/RR-92/51
Sponsored by Health Effects Inst., Cambridge, MA.

A laboratory animal model that permits the exposure of xenotransplanted human respiratory epithelium to formaldehyde was used to study the effects of formaldehyde alone or in combination with a carcinogenic metabolite of benzo(a)pyrene, benzo(a)pyrene diol epoxide. Epithelial cells obtained from autopsies of 20 full-term human fetuses or infants less than one year old were isolated, amplified in vitro, inoculated into rat tracheas from which the epithelial layer had been removed, and then transplanted subcutaneously into irradiated athymic nude mice. Four weeks after transplantation, the tracheal transplants were implanted with silastic devices containing 0, 0.5, 1, or 2 mg of powdered formaldehyde (Study 1). The tracheal transplants were examined histologically 2, 4, 8, or 16 weeks after transplantation. Before killing, all animals were injected with a single pulse of tritiated thymidine. A maximum effect was visible two weeks after exposure; 2 mg of formaldehyde produced numerous areas of epithelial erosion and inflammation. All doses produced areas of hyperplastic epithelium and areas of atrophic epithelium. The labeling indices showed dose dependence between two and four weeks after the initiation of exposure. These studies show that low doses of formaldehyde can elicit a proliferative response in human infant tracheobronchial epithelium that is not preceded by a massive toxic effect. Similar studies using xenotransplanted human adult nasal respiratory epithelium (Study 2) showed a response pattern similar to that of Study 1. In Study 3, using cells from 11 human infants, formaldehyde applied simultaneously or sequentially with benzo(a)pyrene diol epoxide did not induce epithelial alterations different from those observed with formaldehyde alone. This indicated that, under the doses and exposure conditions used, it was not possible to observe any cocarcinogenic or promoting effects of formaldehyde on the human infant tracheobronchial epithelium.

Keywords: *Formaldehyde, *Trachea, *Air pollution effects(Humans), *Air pollution effects(Animals), Epithelium, Heterologous transplantation, Rats, Mice, Benzo(a)pyrene, Hyperplasia, Kinetics, Autoradiography.

PB93-180321/REB PC **A04**/MF **A01**
Federal Highway Administration, Baltimore, MD. Maryland Div.
Evaluation of Mitigation for Acid Aluminum Leachate from a Highway Fill in Garrett County, Maryland. Research rept. (Final).
Maryland State Highway Administration, Baltimore.
J. W. Gracie. 19 Nov 92, 69p FHWA/MD-89/14
Sponsored by Federal Highway Administration, Baltimore, MD. Maryland Div.

The effectiveness of a man-made sphagnum bog in reducing acidity and removing aluminum from an acidic leachate is evaluated. Although some effectiveness is demonstrated, the bog does not retain its ability to function as a result of physical changes due to uncontrolled sediment deposition in it.

Keywords: *Backfills, *Leachates, *Mitigation, *Remedial action, Leaching, Acids, Maryland, Chemical analysis, Pollution, Separation, Highway construction, *Acid-Aluminum Leachate, Garrett County(Maryland), Sphagnum bog.

PB93-180818/REB PC **A04**/MF **A01**
Consensus Method for Determining Groundwaters under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA).
Manchester Environmental Lab., Port Orchard, WA.
J. Vasconcelos, and S. Harris. Oct 92, 60p EPA/910/9-92/029

The Microscopic Particulate Analysis (MPA) is a consensus methodology developed for the purpose of

identifying those drinking water supplies that are under the direct influence of surface water. The method describes in detail sample collection, equipment and supplies needed, sample processing, analyst qualifications and interpretive analysis. Once this determination has been made, those ground waters directly influenced by surface water will be required to comply with the requirements as set forth in the U.S. Environmental Protection Agency Surface Water Treatment Rule (SWTR).

Keywords: *Ground water, *Surface-ground water relationships, *Water pollution sampling, Surface waters, Subsurface flow, Base flow, Filtration, Pathogenic bacteria, Aquatic microorganisms, Water quality, Water analysis, Surface Water Treatment Rule, Safe Drinking Water Act, Microscopic particulate analysis.

PB93-180826/REB PC **A06**/MF **A02**
Alternative Control Technology Document: Carbon Reactivation Processes. Final rept.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Dec 92, 103p EPA/453/R-92/019

The purpose of the Alternative Control Technology (ACT) document is to provide technical information to address air emissions of volatile organic compounds (VOC) from carbon reactivation processes, some of which are subject to RCRA regulations. The document contains technical information on carbon reactivation process operations, air emission rates, control technologies, and environmental and cost impacts of alternative control technologies.

Keywords: *Hazardous materials, *Volatile organic compounds, *Air pollution control, Regulations, Activated carbon, Design criteria, Incinerators, Scrubbers, Adsorption, Removal, Columns(Process engineering), Emissions, Cost analysis, Carbon reactivation processes.

PB93-180834/REB PC **A03**/MF **A01**
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Mar 93, 26p EPA/812/R-93/002

The paper recounts how four Maine communities sought and found institutional solutions to drinking water problems. Each scenario describes the system, outlines the problems, reviews the chronology of events, points out the lessons learned and gives the system's current status.

Keywords: *Water management, *Water distribution(Applied), *Distribution systems, *Water pollution control, *Maine, Compliance, Rural areas, Communities, Cost analysis, Water districts, Regulations, Legislation, Citizen participation, *Drinking water, *Public water systems, Institutions, Case studies, Safe Drinking Water Act.

PB93-180842/REB PC **A04**/MF **A01**
Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Dec 91, 55p EPA/570/9-91/035
Includes brochure Helping Small Systems Comply with the Safe Drinking Water Act: The Role of Restructuring. See also PB89-187413 and PB91-179010.

The manual shows how to accomplish small system restructuring. Part 2 of the report defines restructuring options and describes the benefits of various types of restructuring. Part 3 explains how to implement restructuring. Part 4 describes the role of the drinking water regulator in restructuring, and Part 5 is a troubleshooting guide to overcoming barriers to restructuring. Appendix A provides additional case studies of restructuring.

Keywords: *Training devices, *Water pollution standards, *Potable water, Case studies, Standards compliance, Implementation, Regulations, State government, Water distribution, Operation and maintenance, Economic analysis, *Small systems, *Restructuring, Safe Drinking Water Act of 1986.

PB93-180859/REB PC **A03**/MF **A01**
Spray Characteristics of Two Types of Fuel Injectors. Technical rept.
Environmental Protection Agency, Ann Arbor, MI. Technology Development Group.
J. P. Hahn, F. J. Hamady, and K. H. Hellman. Mar 93, 15p EPA/AA/TDG-93/05

The report describes the results of two types of fuel injectors intended for possible application in alcohol-fueled automotive engines. A laser diffraction technique was used to quantify the fuel spray droplet sizes and volume concentration for two different types of fuel injectors.

Keywords: *Fuel injectors, *Motor vehicle engines, *Size determination, *Sprays, Automotive fuels, Spraying, Pressure, Diffraction, Drop size, Droplets.

PB93-180867/REB PC **A04**/MF **A01**
National Public Water System Supervision Program. FY 1992 Compliance Report.
Environmental Protection Agency, Washington, DC. Office of Ground Water and Drinking Water.
Mar 93, 75p

The report discusses sources of drinking water contamination, distribution of water systems by size, and compliance and noncompliance with federal regulations.

Keywords: *Potable water, *Water supply, *Water quality, *Water treatment, Water pollution, Regulations, Public health, Compliance, Violations, Path of pollutants, Turbidity, Microorganisms, Radioactive contaminants, Pesticides, Organic compounds, *Drinking water, Noncompliance, Community water system, Nontransient noncommunity water system, Transient noncommunity water system.

PB93-180875/REB PC **A06**/MF **A02**
Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.
Evaluation of Methodologies to Estimate Nonroad Mobile Source Usage.
Sierra Research, Inc., Sacramento, CA.
P. Heirigs, and R. G. Dulla. 19 Mar 93, 107p SR93-03-02, EPA/420/R-93/003
Contract EPA-68-C1-0079
See also PB92-126960. Sponsored by Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.

The purpose of the study was to determine whether the current 'top-down' methodologies that have been employed to develop nonroad mobile source emission inventories for nonattainment communities accurately reflect local activity levels. A total of 10 nonroad equipment categories were investigated. They include: lawn and garden equipment, airport service equipment, recreational, construction, light commercial, industrial, agricultural and logging equipment. The report also reviews the recent nonroad emission inventory studies, the development of alternative methodologies and the evaluation of methodologies. Finally, the study identified some of the difficulties associated with developing very detailed, county-level nonroad equipment activity estimates.

Keywords: *Mobile pollutant sources, *Exhaust emissions, *Air pollution sampling, Study estimate., Reviews, Motor vehicles, Construction equipment, Agricultural machinery, Internal combustion engines, Recreation, Motorcycles, Gardening, Logging(Industry), Airports, *Emission inventories, *Nonroad vehicles.

PB93-180883/REB PC **A02**/MF **A01**
Measurement of Biogenic Emissions from Corn.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
S. A. Meeks, B. W. Gay, and B. E. Tilton. 1993, 10p EPA/600/A-93/075
See also PB84-124981 and PB90-197955. Presented at the Emissions Inventory Conference, Durham, NC., October 21, 1992.

A pilot study was conducted to determine whether techniques for measuring biogenic emissions from tree saplings, branches, and leaves could be adapted to the measurement of biogenic emissions from individual plants of agricultural species. Measurements were then made to determine possible biogenic emissions from corn (Zea mays L.), an agricultural crop of significant economic importance in the US as well as in other parts of the world. Biogenic emissions from corn were expected to be low, based on work of other investigators; but corn biomass represents a substantial fraction of agricultural land-use in the US, such that the total impact on air quality could be appreciably more than expected from the reported emission rate alone. Measurements were made of emissions from mature single corn plants and from corn seedlings, using a modification of the established branch enclosure technique. Air samples from the Teflon plant enclosure chamber were collected at an exit port by means of a gas-tight syringe, and transferred into Teflon bags for temporary storage and transport to the laboratory for cryogenic preconcentration and analysis by GC-FID. Experimental enclosure and measurement procedures are presented, along with preliminary results.

Keywords: *Natural emissions, *Corn, *Air pollution sampling, Air quality, Environmental monitoring, Farm crops, Land use, Plants(Botany), Air pollution detection, Gas analysis, Chromatographic analysis, Concentration(Composition).

PB93-180891/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. Validation Study at Fossil Fuel Plant.
Radian Corp., Research Triangle Park, NC.
M. D. Jackson, J. E. Knoll, M. R. Midgett, J. F. McGaughey, and J. T. Bursey. 1993, 12p EPA/600/A-93/076
Contract EPA-68-D1-0010
See also PB92-178979. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

The Clean Air Act Amendments of 1990 (CAAA), Title III, present a need for stationary source sampling and analytical methods for the list of 189 toxic air pollutants. The U.S. Environmental Protection Agency (EPA) has used VOST and SemiVOST sampling and analytical methods for a wide variety of volatile and semivolatile organic compounds in the past, but these methodologies have been completely validated for only a few of the organic compounds. The applicability of VOST and SemiVOST techniques to the halogenated organic compounds listed in Title III of the Clean Air Act Amendments of 1990 has been evaluated under laboratory conditions for chromatographic separation, mass spectrometric response, sorbent recovery and analytical method detection limit. Dynamic spiking techniques for the sampling trains (both gaseous and liquid dynamic spiking) were also evaluated in the laboratory. In the study, the VOST and SemiVOST methods were evaluated in the field at a fossil fuel power plant. The source was selected to provide actual stationary source emissions with the compounds of interest present in trace amounts or not present. The paper presents the results of the field validation of the VOST and SemiVOST sampling and analytical methods.

Keywords: *Air pollution sampling, *Air pollution detection, *Volatile organic compounds, *Validation, *Halogen organic compounds, Clean Air Act, Industrial wastes, Fossil-fuel power plants, Chemical analysis, Chromatographic analysis, Quality control, Quality assurance, Standards, Mass spectroscopy, Stationary sources, Statistical analysis, Performance evaluation, *VOST method, *SemiVOST method, VOST(Volatile Organic Sampling Train), EPA method 0030, EPA method 0010.

PB93-180909/REB PC **A02**/MF **A01**
Air Filter Particle-Size Efficiency Testing for Diameters Greater Than 1 mu m. Rept. for Nov 87-Aug 88.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
D. S. Ensor, J. T. Hanley, and L. E. Sparks. 1988, 9p EPA/600/A-93/077
Presented at the ASHRAE annual meeting, Ontario (Canada), June 28, 1988. Prepared in cooperation with Research Triangle Inst., Research Triangle Park, NC.

The characterization of indoor air cleaner efficiency over a wide range of particle diameters (from 0.01 to

30 micrometers) is desired to understand performance when these devices are placed in service. The paper discusses tests of air filter particle-size efficiency for diameters greater than 1 micrometer. Evaluation of air cleaner efficiencies in this size range can be quite demanding, depending on the required accuracy. Such particles have sufficient mass to require consideration of sedimentation and inertial losses. The challenge aerosol is usually generated by dispersion of a dry powder or by liquid spray. In-duct particle measurements are preferred to extractive instruments because of particle loss in sampling tubes. Large particles are also sensitive to non-isokinetic sampling effects.

Keywords: *Air pollution control equipment, *Air filters, *Particle size, *Aerosols, *Indoor air pollution, Performance evaluation, Air pollution sampling, Air cleaning, Air quality.

PB93-180917/REB PC **A03**/MF **A01**
Sorption and Reemission of Formaldehyde by Gypsum Wallboard. Rept. for Jun 90-Aug 92.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
J. C. S. Chang. 1993, 25p EPA/600/A-93/078
See also PB88-251657 and DE86012632. Presented at the ASHRAE IAQ '92 Conference, San Francisco, CA., October 18-21, 1992.

The paper gives results of an analysis of the sorption and desorption of formaldehyde by unpainted wallboard, using a mass transfer model based on the Langmuir sorption isotherm. The sorption and desorption rate constants are determined by short-term experimental data. Long-term sorption and desorption curves are developed by the mass transfer model without any adjustable parameters. Compared with other empirically developed models, the mass transfer model has more extensive applicability and provides an elucidation of the sorption and desorption mechanism that empirical models cannot. The mass transfer model is also more feasible and accurate than empirical models for applications such as scale-up and exposure assessment. For a typical indoor environment, the model predicts that gypsum wallboard is a much stronger sink for formaldehyde than for other indoor air pollutants such as tetrachloroethylene and ethylbenzene. The strong sink effects are reflected by the high equilibrium capacity and slow decay of the desorption curve.

Keywords: *Formaldehyde, *Indoor air pollution, *Sorption, *Desorption, *Mathematical models, Mass transfer, Wallboard, Construction materials, Buildings, Gypsum, Insulation, Study estimates, Comparison.

PB93-180925/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Regional Modeling Analysis of the Dependencies of Atmospheric Oxidants to Perturbations in NOx and Hydrocarbon Emissions. Symposium paper.
Computer Sciences Corp., Research Triangle Park, NC.
R. Mathur, and K. L. Schere. 1993, 10p EPA/600/A-93/080
Contract EPA-68-WO-0043
See also PB83-207688, PB89-194252 and PB92-108786. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

Atmospheric distribution of photochemical oxidants has been a subject of interest and concern not only because of their deleterious effects on human health and vegetation, but also because of their crucial role in determining the chemical composition of the atmosphere. The paper examines some issues related to the distribution and production of photochemical species and presents an analysis of results obtained from applications of a comprehensive three-dimensional regional scale photochemical model over the northeast United States. The Regional Oxidant Model (ROM) is used to simulate the response of various photochemical species to specific anthropogenic emissions strategies involving NOx and hydrocarbon reductions. Domain and temporal averages of predicted concentrations are examined for various species. Their relative influence on oxidant chemistry over the modeled domain is investigated. The relative benefits of reductions in NOx and hydrocarbon emissions on predicted ozone levels are also examined. Overall, model predictions show good qualitative agreement with expected trends.

Keywords: *Atmospheric chemistry, *Air pollution, *Oxidizers, *Regional analysis, Nitrogen oxides, Hydrocarbons, Photochemical reactions, Ozone, Trends, Three-dimensional calculations, Concentration(Composition), Temporal distribution, Troposphere, *Northeast Region(United States), Regional Oxidant Model.

PB93-180933/REB PC **A02**/MF **A01**
Air Emissions Testing.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
L. D. Johnson. 1993, 8p EPA/600/A-93/081
See also PB86-176047, PB88-173364 and PB89-221360.

The article presents a brief overview of air emission sampling methods and analysis procedures related to stationary sources such as incinerators, power plants, and industrial boilers. It is intended primarily for the laboratory chemist or manager who is familiar with samples and methods associated with water or waste sources, but not with those associated with air and stack gas emissions.

Keywords: *Air pollution sampling, *Point sources, *Flue gases, Incinerators, Electric power plants, Boilers, Combustion products, Chemical analysis, Volatile organic compounds.

PB93-180941/REB PC **A02**/MF **A01**
Mite Antigen Concentrations in House Dust and the Occurrence of Wheezing in Children with Dust Mite Allergy.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
F. W. Henderson, A. B. Lindstrom, M. A. Beck, D. M. Barnes, and M. M. Henry. 1993, 7p EPA/600/A-93/082
Prepared in cooperation with North Carolina Univ. at Chapel Hill. Dept. of Pediatrics.

The authors studied the relationship between dust mite antigen concentrations in house dust samples and the occurrence and frequency of wheezing in 58 children with dust mite allergy (wheal > or = 4 mm. mean diameter in response to a prick test with either D. farinae or D pteronyssinus antigen). According to their parents, 15 subjects had never experienced recurrent wheezing, 8 had a history of past recurrent wheezing but no recent wheezing, and 35 had a history of recent wheezing. Spirometry data were obtained with a water seal spirometer and a limited dose methacholine challenge (total cumulative dose = 6.4 micromoles) was performed. Dust samples were obtained from 6 sites in each home: the child's mattress, blanket, pillow, bedroom floor, and the recreation room couch and floor. Der fl antigen concentrations were assayed using a monoclonal antibody based ELISA and expressed as ng/gm sieved dust. Concentrations of Der fl were > or = 10,000 ng/gm in at least one microenvironment in the bedrooms of 86 percent of subjects. Mean concentrations of mite antigen in different micro-environments did not differ significantly for dust mite allergic children with and without histories of recent wheezing. Among children who had experienced recent wheezing, mean concentrations of mite antigen tended to be higher in dust samples from homes of the 19 children who had experienced > or = 5 episodes of recent wheeze than in samples from the homes of 16 children who had experienced fewer episodes of recent wheezing; however, differences in mean concentrations of Der fl in the microenvironments sampled were not statistically significant. Similarly, Der fl levels in dust samples were not related to spirometry, or to methacholine responsiveness.

Keywords: *Dust, *Allergies, *Asthma, Enzyme-linked immunosorbent assay, Indoor air pollution, Epidemiology, *Dust mite antigens.

PB93-180958/REB PC **A03**/MF **A01**
Protecting Confidentiality in Establishment Surveys. Book chapter.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
L. H. Cox. c1993, 29p EPA/600/A-93/083
Pub. in International Monograph on Survey Methods in Establishment Surveys, 1993.

The invited chapter for an International Monograph on Survey Methods in Establishment Surveys summarizes methods for protecting respondent confidentiality in establishment surveys and includes open research problems and an extensive bibliography.

Keywords: *Surveys, *Methodology, *Confidentiality, Data acquisition, Statistical samples, Statistical data, Network flows, Data integrity, Parallel processing.

PB93-180966/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Visual Inspection and AHERA Clearance at Asbestos Abatement Sites.
IT Corp., Cincinnati, OH.
J. R. Kominsky, R. W. Freyberg, J. A. Brownlee, D. R. Gerber, and T. J. Powers. c1991, 16p EPA/600/A-93/084
Contract EPA-68-C0-0016
See also PB86-116522, PB89-233449 and PB90-171778. Prepared in cooperation with New Jersey State Dept. of Health, Trenton. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Asbestos abatement carried out in schools is subject to regulations under the Asbestos Hazard Emergency Response Act (AHERA) of 1986. The AHERA rule (40 CFR Part 763) specifies a bifactorial process for determining when an asbestos abatement site is clean enough for the primary containment barriers to be removed. The process consists of a thorough visual inspection of surfaces for debris, residue, or dust to establish that a 'no dust criterion' has been achieved. After the abatement site has passed a thorough visual inspection, air samples are collected under aggressive sampling conditions; i.e., air blowers are used to dislodge fibers from surfaces and circulating fans keep the fibers suspended during sampling. The air samples are analyzed by transmission electron microscopy (TEM). If no visible debris, residue, or dust is detected by the unaided eye, the site is more likely to pass the TEM clearance air test specified in the AHERA rule. Data from a previous EPA study were evaluated to examine the relationship between passing a thorough visual inspection and the AHERA clearance test. The purpose of the paper is to examine the relationship between passing a visual inspection and the AHERA TEM clearance test.

Keywords: *Asbestos, *Air pollution abatement, *School buildings, *Visual inspection, Air pollution sampling, Pollution regulations, Comparison, Transmission electron microscopy, On-site inspection, Indoor air pollution, Concentration(Composition), *TEM clearance air test, Asbestos Hazard Emergency Response Act, Cleanup operations.

PB93-180974/REB PC **A03**/MF **A01**
Analysis of DNA Strand Breaks Induced in Rodent Liver in vivo, Hepatocytes in Primary Culture, and a Human Cell Line by Chlorinated Acetic Acids and Chlorinated Acetaldehydes. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
L. W. Chang, F. B. Daniel, and A. B. DeAngelo. c1992, 14p EPA/600/J-93/108
Pub. in Environmental and Molecular Mutagenesis 20, n4 p277-288 Dec 92. See also PB92-164904.

An alkaline unwinding assay was used to quantitate the induction of DNA strand breaks (DNA SB) in the livers of rats and mice treated in vivo, in rodent hepatocytes in primary culture, and in CCRF-CEM cells, a human lymphoblastic leukemia cell line, following treatment with tri- (TCA), di- (DCA), and mono- (MCA) chloroacetic acid and their corresponding aldehydes, tri- (chloral hydrate, CH), di- (DCAA) and mono- (CAA) chloroacetaldehyde. The continuous exposure of mice to 5 g/L DCA in the drinking water for 7 and 14 days did not induce appreciable hepatic DNA SB (< 10% at 14 days), although peroxisome proliferation, as evidenced by an increased cyanide-insensitive palmitoyl CoA oxidase (PCO) activity, was stimulated to 490% (7 days) and 652% (14 days) of control. Under this protocol, DENA (0.1 g/L) produced DNA damage after both 7 days (73% of control) and 14 days (57% of control).

Keywords: *DNA damage, *Liver, *Acetic acids, *Aldehydes, *Chlorohydrocarbons, Rats, Cultured cells, Mice, Mutagens, Humans, Reprints.

PB93-180982/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Distribution of Cardiac Output during Diurnal Changes of Activity in Rats. Journal article.
Georgia Univ., Athens. Dept. of Pharmacology and Toxicology.
M. D. Delp, R. O. Manning, J. V. Bruckner, and R. B. Armstrong. c1991, 10p EPA/600/J-93/109
Grant NIH-AM-37098
Pub. in American Jnl. of Physiology, v261 n5 pt2 pH1487-H1493 Nov 91. Sponsored by Health Effects Research Lab., Research Triangle Park, NC., and National Institutes of Health, Bethesda, MD.

Rat locomotor and feeding behavior varies on a diurnal basis: at night the animals actively forage and eat, whereas during the day they are more inactive and somnolent. At night, cardiac output is higher, presumably for enhanced perfusion of the active muscles to support increased metabolism and for enhanced perfusion of the digestive organs to support increased digestion and nutrient absorption. Conversely, it is hypothesized that during the daytime, blood flow to these two tissues is relatively low. The purpose of this study was to test these hypotheses by measuring cardiac output and the distribution of cardiac output in rats at various times in the diurnal cycle (8:00 A.M., 4:00 P.M., and 8:00 P.M.). (Copyright (c) 1991 the American Physiological Society.)

Keywords: *Heart function tests, *Diurnal variations, Rats, Motor activity, Body temperature, Muscles, Heart, Brain, Lung, Gastrointestinal system, Skin, Bones, Reproductive system, Reprints.

PB93-180990/REB PC **A03**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Physiological Pharmacokinetic Modeling of Inhaled Trichloroethylene in Rats. Journal article.
Georgia Univ., Athens. Dept. of Pharmacology and Toxicology.
C. E. Dallas, J. M. Gallo, R. Ramanathan, S. Muralidhara, and J. V. Bruckner. c1991, 14p EPA/600/J-93/110
Pub. in Toxicology and Applied Pharmacology 110, n2 p303-314 Sep 91. See also PB90-198631. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

The pharmacokinetics of trichloroethylene (TCE) was characterized during and following inhalation exposures of male Sprague-Dawley rats. The blood and exhaled breath TCE time-course data were used to formulate and assess the accuracy of predictions of a physiologically based pharmacokinetic (PB-PK) model for TCE inhalation. Fifty or 500 ppm TCE was inhaled by unanesthetized rates of 325-375g for 2 hrs through a miniaturized one-way breathing valve. Repetitive samples of the inhaled and exhaled breath streams, as well as arterial blood, were collected concurrently during and for 3 hrs following the exposures and analyzed fo TCE by headspace gas chromatography. Respiratory rates and volumes were continuously monitored and used in conjunction with the pharmacokinetic data to delineate uptake and elimination profiles. Levels of TCE in the exhaled breath attained near steady-state soon after the beginning of exposures, and were then directly proportional to the inhaled concentration. Exhaled breath levels of TCE in rats were similar in magnitude to values previously published for TCE inhalation exposures of humans. The uptake and elimination profiles were accurately simulated by the PB-PK model for both the 50 and 500 ppm TCE exposure levels. Such a model may be quite useful in risk assessments in predicting internal (i.e., systemically absorbed) doses of TCE and other volatile organics under a variety of exposure scenarios.

Keywords: *Trichloroethylene, *Pharmacokinetics, *Physiology, *Toxicology, Environmental pollutants, Rats, Humans, Respiration, Reprints.

PB93-181006/REB PC **A02**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Cytokine (Tumor Necrosis Factor, IL-6, and IL-8) Production by Respiratory Syncytial Virus-Infected Human Alveolar Macrophages. Journal article.
ABB Environmental Services, Inc., Chapel Hill, NC.
S. Becker, J. Quay, and J. Soukup. c1991, 8p EPA/600/J-93/111
Contract EPA-68-DO-0110
Pub. in the Jnl. of Immunology, v147 n12 p4307-4312 Dec 91. See also PB92-209352. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

Human alveolar macrophages (AM) are susceptible to infection with respiratory syncytial virus (RSV), but the infection is abortive after the initial cycles of virus replication. We have investigated if RSV infection of AM results in the production of cytokines TNF, IL-6, and IL-8, all of which may modulate inflammatory and immune responses to the virus, as well as may directly protect respiratory epithelial cells against spread of infection. A semiquantitative PCR technique was employed to investigate the induction and expression of cytokine mRNA at various times after infection. Within 1 hour after interaction with RSV, increased mRNA levels were found for all three cytokines. Peak exp.ession of the mRNAs occurred at 3-6 hours. The virus most effectively induced TNF expression > IL-6mRNA > IL-8 mRNA as compared to cytokine mRNA expression induced by bacterial endotoxin (1 microgram/ml). Inactive virus was almost as effective as live virus in inducing and maintaining increased IL-6 and IL-8 mRNA over 16 hours, while live RSV was necessary for TNF mRNA expression. Protein concentrations of the different cytokines in the supernatants of infected AM reflected the increased levels of mRNAs in the cells. Despite the high levels of cytokines with possible antiviral activity (TNF and IL-6) in the AM supernatants, neither supernatants nor recombinant TNF protected bronchial epithelial cells (BEAS) from infection with RSV. However, TNF,IL-1, and RSV, but not IL-6, induced IL-8 and IL-6 mRNA expression by the BEAS, suggesting that cytokines produced by RSV infected AM are more important in modulating the inflammatory response in infection than directly interfering with virus infection/replication.

Keywords: *Cytokines, *Respiratory syncytial virus, *Alveolar macrophages, Tumor necrosis factor, Interleukin-6, Interleukin-8, Messenger RNA, Virus replication, Cultured cells, Polymerase chain reaction, Reprints.

PB93-181014/REB PC **A01**/MF **A01**
Health Effects Research Lab., Research Triangle Park, NC.
Electrophoresis Gel Buffer Recirculator for under Twenty Dollars. Journal article.
ManTech Environmental Technology, Inc., Research Triangle Park, NC.
P. C. Hartig, and J. A. Davis. c1992, 3p EPA/600/J-93/112
Pub. in BioTechniques, v12 n4 p506 Apr 92. Sponsored by Health Effects Research Lab., Research Triangle Park, NC.

Procedures requiring extended periods of electrophoresis frequently require recirculation of the gel buffer in order to reduce gel artifacts. Here the authors describe a recirculation device which can be built inexpensively and will fit many different model gel boxes.

Keywords: *Electrophoresis, *Buffers, Deoxyribonucleic acids, Medical equipment, Reprints, *Recirculators.

PB93-181022/REB PC **A03**/MF **A01**
Steroidogenic Assessment Using Ovary Culture in Cycling Rats: Effects of Bis(2-Diethylhexyl) Phthalate on Ovarian Steroid Production. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.
J. W. Laskey, and E. Berman. c1993, 11p EPA/600/J-93/113
Pub. in Reproductive Toxicology, v7 n1 p25-33 Feb 93. See also PB89-237481 and DE82007897.

In vitro whole-ovary culture in rats was used to characterize ovarian steroidogenesis and to evaluate changes produced by in vivo exposure to bis(2-diethylhexyl) phthalate (DEHP). Steroidogenic profiles (progesterone (P4), estradiol (E2), and testosterone (T)) from minced ovary cultures were obtained in untreated immature and mature rats, and from mature rats treated with DEHP. A one-hour incubation without human chorionic gonadotropin (hCG) was used to produce a basal steroidogenic profile. Three one-hour incubations with hCG were used to produce a stimulated profile. Using a multivariate statistical analysis, a combination of basal and stimulated ovarian steroid profiles correctly identified the stage of the cycle all untreated rats. Alone, basal or stimulated ovarian steroid profiles correctly identified the stage of the cycle in more than 90% of the rats. The statistical analysis using a combination of variables (multivariate) indicated that DEHP treated rats were significantly different ($P < 0.001$) from sham treated rats. In fact, the alteration caused by DEHP in the in vitro ovarian steroidogenic profile was most apparent in rats on vaginal diestrus and estrus. In DEHP-treated rats in diestrus, ovarian steroidogenesis appeared to shift to the production of more T and E2 than in untreated rats in diestrus.

Keywords: *Ovary, *Steroids, *Estrus, *Toxicology, Biosynthesis, Rats, In vitro analysis, Chorionic gonadotropins, In vivo analysis, Reprints, *Phthalic acid/bis(2-diethylhexyl).

PB93-181030/REB PC **A02**/MF **A01**
Effect of Methoxychlor on Ovarian Steroidogenesis: Role in Early Pregnancy Loss. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
A. M. Cummings, and J. Laskey. c1993, 9p EPA/600/J-93/114
Pub. in Reproductive Toxicology, v7 n1 p17-25 Feb 93. See also PB89-237481 and PB90-100918.

Exposure to methoxychlor (MXC) during early pregnancy impairs implantation and reduces serum levels of progesterone. The study was designed to examine the effect of MXC on ovarian steroidogenesis during early pregnancy. Pregnant rats were treated with MXC at 0, 25, 50, 100, 250, or 500 mg/kg/day during Days 1-8 of pregnancy and killed on Day 9. At this time ovaries were removed and incubated in vitro to assess secretion rate of progesterone, estradiol, and testosterone. Steroid hormones in media and serum were assayed by radioimmunoassay. Although in vivo treatment with MXC reduced serum progesterone, no effect on the ovarian secretion of progesterone was detected in vitro. Conversely, MXC had no effect on serum estradiol, but incubating ovaries in vitro revealed a reduction in the rate of ovarian estradiol secretion. The differential changes in serum levels and in vitro whole ovary secretion of progesterone and estradiol may reflect opposing effects of MXC on hepatic steroid hormone metabolism. The authors suggest that MXC appears to accelerate hepatic metabolism of progesterone and reduce the metabolism and clearance rate of estradiol.

Keywords: *Ovary, *Steroids, *Toxicology, *Methoxychlor, *Reproduction(Biology), Biosynthesis, Ovum implantation, Animal pregnancy, Rats, Progesterone, Estradiol, Testosterone, Pesticides, Liver, Metabolism, Reprints.

PB93-181048/REB PC **A01**/MF **A01**
DNA Isolation from Small Tissue Samples Using Salt and Spermine. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Genetic Toxicology Div.
J. A. Ross, G. B. Nelson, and K. L. Holden. c1991, 4p EPA/600/J-93/115
Pub. in Nucleic Acids Research Jnl., v19 n21 p6053-6054 Nov 91. Prepared in cooperation with Environmental Health Research and Testing, Inc., Research Triangle Park, NC.

Common DNA isolation methods rely upon protein denaturation by organic solvents such as phenol and chloroform. These solvents pose some risk to the user and require special disposal procedures. The authors have previously reported a method for isolating DNA from peripheral blood lymphocytes by precipitation with spermine. This procedure was less effective with other tissues, especially lung, and the spermine precipitates often took several days to dissolve in buffer. The authors have modified their procedure to include a pre-extraction of proteins with concentrated NaCl, essentially as described by Miller et al. This current, improved procedure provides good recovery of purified DNA even with small samples (< 200 mg) and a variety of tissue and cell types.

Keywords: *Deoxyribonucleic acids, *Spermine, *Tissues(Biology), Purification, Lymphocytes, Phenols, Chloroform, Solvents, Precipitin tests, Reprints.

PB93-181055/REB PC **A02/MF A01**
Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
H. S. Koren, R. B. Devlin, S. Becker, R. Perez, and W. F. McDonnell. c1991, 8p EPA/600/J-93/117
Pub. in Toxicologic Pathology, v19 n4 pt1 Oct 91. See also PB92-232792. Prepared in cooperation with North Carolina Univ. at Chapel Hill. Center for Environmental Medicine and Lung Biology, and ABB Environmental Services, Inc., Chapel Hill, NC.

Acute exposure of humans to 0.4 ppm ozone results in reversible respiratory function decrements, and cellular and biochemical changes leading to the production of substances which can mediate inflammation and acute lung injury. The purpose of the study was to determine whether inflammatory changes occur relatively rapidly (within 1h) following exposure to ozone, or if the cascade of events which are initiated by ozone and lead to inflammation, take some time to develop. The authors exposed 10 healthy volunteers twice: once to filtered air and once to 0.4 ppm ozone. Each exposure lasted for 2h at an exercise level of 60 1/min, and bronchoalveolar lavage was performed 1h following exposure. The data from the study were exposed to 03 under identical conditions except that bronchoalveolar lavage was performed 18h following exposure. The results of the present study demonstrate that 03 is capable of inducing rapid cellular and biochemical changes in the lung. These changes were detectable as early as 1h following a 2h exposure of humans to ozone. The profiles of these changes were different at 1h and 18h following ozone exposures. Bronchoalveolar lavage fluid had levels of neutrophils, IL-6, and prostaglandin E2 that were higher at 1h than at 18h post exposure.

Keywords: *Ozone, *Air pollution effects(Humans), *Biological markers, *Inflammation, *Lung, Bronchoalveolar lavage fluid, Cytokines, Neutrophils, Prostaglandins, Reprints.

PB93-181063/REB PC **A03/MF A01**
Health Effects Research Lab., Research Triangle Park, NC.
Breakage and Binding of DNA by Reaction Products of Hypochlorous Acid with Aniline, 1-Napthylamine, or 1-Naphthol. Journal article.
North Carolina Univ. at Chapel Hill. Center for Environmental Medicine and Lung Biology.
W. J. Kozumbo, S. Agarwal, and H. S. Koren. c1992, 11p EPA/600/J-93/118
Pub. in Toxicology and Applied Pharmacology 115, n1 p107-115 Jul 92. Sponsored by Health Effects Research Lab., Research Triangle Park, NC., and National Institutes of Health, Bethesda, MD.

Inhaled tobacco smoke and urban smog can elicit inflammatory neutrophils into the lung. They also contain aryl compounds absorbed to particles which, when phagocytized by neutrophils or monocytes trigger intraphagosomal and extracellular release of hypochlorous acid (HOC1), a potently reactive oxidant. Using aniline, 1-naphthylamine and 1-napthol (1-NOH) as model pollutant compounds, we examined whether HOC1 (OC1) could potentially transform phagocytized compounds into genotoxic products. Compounds (15-25 micro M) were first reacted with HOC1 (25-150 micro M) in phosphate buffer and then used to treat diploid human lung fibroblasts or purified DNA. DNA single-strand breaks/alkali-labile sites were assayed in cells by DNA alkaline elution, and binding of HOC1-reacted ((14)C) 1NOH to purified DNA was analyzed by scintillation spectrometry. Neither HOC1 nor compounds alone could break DNA, but HOC1-reacted compounds induced up to 400 red equivalents of DNA damage.

Keywords: *DNA damage, *Deoxyribonucleic acids, *Aniline, *1-napthylamine, *Naphthols, *Hypochlorous acids, Binding sites, Toxicology, Neutrophils, In vitro analysis, Ultraviolet spectrophotometry, Antioxidants, Fibroblasts, Reprints.

PB93-181071/REB PC **A03/MF A01**
Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Reproductive Toxicology Branch.
L. E. Gray, J. S. Ostby, R. J. Kavlock, and R. Marshall. c1992, 14p EPA/600/J-93/119
Pub. in Fundamental and Applied Toxicology 19, n4 p411-422 Oct 92. See also PB90-129305. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

The study describes the relationship between gonadal agenesis and fertility in male and female mice exposed in utero to the diazo dye Congo red (CR). Maternal CR treatment inhibited testicular and ovarian function in the offspring after oral administration of 1 or 0.5 g/kg/day on Gestational Days 8-12. The testes of male offspring from CR-exposed dams were small in size and contained hypospermatogenic seminiferous tubules. However, despite the fact that testis weight was reduced by more than 70% in some males, they displayed normal levels of fertility when mated to untreated females for over 10 months. In contrast, female offspring from CR-exposed dams produced only about half as many litters and pups as the control pairs did under long-term mating conditions. In summary, prenatal exposure to the dye CR affects the gonads of both male and female offspring, but only the female offspring display reduced fertility.

Keywords: *Congo red, *Toxicity, *Male infertility, Testis, Ovary, Dose-response relationships, Seminiferous tubules, Litter size, Organ weight, Graafian follicles, Reprints.

PB93-181089/REB PC **A02/MF A01**
Human Upper Respiratory Tract Responses to Inhaled Pollutants with Emphasis on Nasal Lavage. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Clinical Research Branch.
H. S. Koren, and R. B. Devlin. c1992, 8p EPA/600/J-93/120
Pub. in Annals of the New York Academy of Sciences 41, p215-224 Nov 92. See also PB91-115881.

A set of symptoms has been described during the past two decades which has been called the 'sick building syndrome'. These symptoms include eye, nose, and throat irritation; headache; mental fatigue; and respiratory distress. It is likely that volatile organic compounds (VOC) present in synthetic materials used in homes and office buildings contribute to these symptoms. However, there have been few studies in which humans have been exposed to known amounts of VOC under carefully controlled conditions. In the study 14 subjects have been exposed to a mixture of VOC (25 mg/cu m total hydrocarbon) representative of what is found in new homes and office buildings. Since irritation of the nose and throat are symptoms often associated with the upper respiratory tract and may result from an inflammatory response in the upper airways, the authors have used nasal lavage to monitor neutrophil (PMN) influx into the nasal passages following exposure to VOC. The authors report statistically significant increases in PMNs both immediately after a four hour exposure to VOC, as well as 18 hours later.

Keywords: *Air pollution effects(Humans), *Respiratory system, *Nose(Anatomy), *Indoor air pollution, Signs and symptoms, Neutrophils, Inflammation, Reprints, *Nasal lavage, Sick buildings, Volatile organic compounds.

PB93-181097/REB PC **A03/MF A01**
Extrapolation Modeling of Aerosol Deposition in Human and Laboratory Rat Lungs. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
T. B. Martonen, Z. Zhang, and Y. Yang. c1992, 24p EPA/600/J-93/121
Pub. in Inhalation Toxicology 4, n4 p303-324 Nov 92. See also PB91-109587. Prepared in cooperation with Rhode Island Univ., Kingston. Dept. of Mechanical Engineering, and North Carolina Univ. at Chapel Hill. Center for Environmental Medicine and Lung Biology.

Laboratory test animals are often used as surrogates in exposure studies to assess the potential threat to human health following inhalation of airborne contaminants. To aid in the interpretation and extrapolation of data to man, dosimetric considerations need to be addressed. Therefore, a mathematical model describing the behavior and fate of inhaled particulate matter within the respiratory tracts of man and rats has been developed. In the computer simulations, the CO2 concentrations of inhalation exposure chamber atmospheres are controlled to produce desired breathing patterns in the rat which mimic human breathing patterns as functions of physical activity levels. Herein, deposition patterns in human and rat lung airways are specifically examined as functions of respiratory intensities and particle parameters. The model provides a basis for the re-evaluation of data from past experiments, and, perhaps most importantly, permits new inhalation exposure tests to be designed and conducted in a sound scientific manner regarding this endpoint: the extrapolation of results to human conditions.

Keywords: *Aerosols, *Air pollution effects(Humans), *Air pollution effects(Animals), *Lung, Humans, Rats, Carbon dioxide, Biological models, Trachea, Bronchi, Reprints.

PB93-181105/REB PC **A02/MF A01**
Comments on Recent Data for Particle Deposition in Human Nasal Passages. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
T. B. Martonen, and Z. Zhang. c1992, 10p EPA/600/J-93/122
Pub. in Jnl. of Aerosol Science, v23 n6 p667-674 Nov 92. See also PB93-181121. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC., and Rhode Island Univ., Kingston. Dept. of Mechanical Engineering.

The deposition of inhaled particles within human nasal passages has important toxicologic and pharmacologic applications. However, experimental data quantitating factors affecting particle deposition are rare. The authors have evaluated findings from investigations employing either replica nasopharyngeal (NP) casts or surrogate model airways and compared them to each other and to human subject results. For ultrafine particles, studies using casts and models are incompatible, measured deposition values from the latter being lower by an entire order of magnitude. Possible sources of discrepancies between the data are suggested herein. Studies with diverse NP replicates, however, have yielded consistent deposition data over a wide particle size range, about 0.005 - 7 micrometers. Cast experiments underestimate, but in a systematic manner, in vivo information over a 0.5 - 3 micrometers interval. It is recommended, therefore, that NP replica cast data, rather than NP model airway data, be used to simulate human passages. For extrapolation modeling purposes, an original empirical formula based upon a logistic theory is derived which describes deposition over a particle size range of three orders of magnitude. (Copyright (c) 1992 Pergamon Press Ltd.)

Keywords: *Particles, *Air pollution effects(Humans), *Nose(Anatomy), Pharynx, Particle size, Mathematical models, Reprints.

PB93-181113/REB PC **A02/MF A01**
EPA Priorities for Biologic Markers Research in Environmental Health. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
J. R. Fowle, and K. Sexton. c1992, 9p EPA/600/J-93/123
Pub. in Environmental Health Perspectives, v98 p235-241 Nov 92. See also PB91-211912 and PB93-116168.

Recent advances in molecular and cellular biology allow for measurement of biologic events or substances that may provide markers of exposure, effect or susceptibility in humans. The application of these new and emerging techniques to environmental health offers the possibility of significantly reducing the uncertainties that traditionally hamper risk assessments. The EPA health research program places a high priority on the validation of appropriate biologic markers and their application to high priority Agency issues. The rationale for EPA's biomarker research program is presented and future research directions are discussed. Exposure biomarkers will receive most of the research emphasis in the near term, particularly body burden indicators of exposures to high priority chemicals, such as benzene, ozone, selected heavy metals, and organophosphate pesticides. Research on effects bio-

markers will attempt to validate the relationship between the observed biological effects and adverse health consequences in humans, especially for cancer, pulmonary toxicity, neurotoxicity, and reproductive/developmental toxicity.

Keywords: *Biological markers, *Environmental health, Exposure, Epidemiology, Risk assessment, Toxicity, Pollution effects(Humans), Public health, Reprints, *Biomarkers.

PB93-181121/REB PC **A03**/MF **A01**
Interspecies Modeling of Inhaled Particle Deposition Patterns. Journal article.
Health Effects Research Lab., Research Triangle Park, NC. Environmental Toxicology Div.
T. B. Martonen, Z. Zhang, and Y. Yang. c1992, 15p EPA/600/J-93/124
Pub. in Jnl. of Aerosol Science, v23 n4 p389-406 Jul 92. See also PB93-181105. Prepared in cooperation with Rhode Island Univ., Kingston. Dept. of Mechanical Engineering, and North Carolina Univ. at Chapel Hill. Center for Environmental Medicine and Lung Biology.

To evaluate the potential toxic effects of ambient contaminants or therapeutic effects of airborne drugs, inhalation exposure experiments can be performed with surrogate laboratory animals. Herein, an interspecies particle deposition theory is presented for physiologically based pharmacokinetic modeling. It is derived to improve animal testing protocols. The computer code describes the behavior and fate of particles in the lungs of human subjects and a selected surrogate, the laboratory rat. In the simulations CO2 is integrated with exposure chamber atmospheres, and its concentrations regulated to produce rat breathing profiles corresponding to selected levels of human physical activity. The dosimetric model is used to calculate total, compartmental (i.e., tracheobronchial and pulmonary), and localized distribution patterns of inhaled particles in rats and humans for comparable ventilatory conditions. It is demonstrated that the model can be used to predetermine the exposure conditions necessary to produce deposition patterns in rats that are equivalent to those in humans at prescribed physical activities.

Keywords: *Species diversity, *Particles, *Air pollution effects(Humans), Pharmacokinetics, Rats, Humans, Lung, Carbon dioxide, Graphs(Charts), Reprints.

PB93-181139/REB PC **A03**/MF **A01**
Repeated Maternal Separation in the Neonatal Rat: Cellular Mechanisms Contributing to Brain Growth Sparing. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
C. Lau, A. M. Cameron, L. L. Antolick, and M. E. Stanton. c1992, 14p EPA/600/J-93/125
Pub. in Jnl. of Developmental Physiology 17, p265-276 Dec 92. See also PB93-141406. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC.

Separation of neonates from their dam has been shown to evoke acutely a variety of biochemical responses, typified by depression of ornithine decarboxylase (ODC) activity. In the current study where rat pups were removed from their nursing dams for 6 h, ODC activities in the liver, heart, kidney and lung were markedly suppressed, but the enzyme in the brain was not altered during the early postnatal ages. These data suggest that the brain was protected from maternal separation insults, a homeostatic response mediated in part, by an increase of circulating corticosterone and glycogen mobilization fromperipheral tissues, particularly the liver. In addition, the authors examined whether these responses were extended to pups who were subject to repeated episodes of maternal deprivation, and whether the stress paradigm might be associated with corresponding changes of cellular growth and maturation.

Keywords: *Newborn animals, *Brain, *Growth, Rats, Ornithine decarboxylase, Graphs(Charts), Kidney, Liver, Heart, Body weight, Organ weight, Lung, Proteins, Deoxyribonucleic acids, Reprints, *Maternal separation.

PB93-181147/REB PC **A02**/MF **A01**
Competition Potentials of Environmentally Applied Bacteria with Human Fecal Microbiota. Journal article.
Health Effects Research Lab., Research Triangle Park, NC.
G. M. Nelson, L. D. Claxton, J. P. Creason, and S. E. George. c1992, 9p EPA/600/J-93/126
Pub. in Environmental Toxicology and Chemistry, v11 n11 p1627-1633 Nov 92. See also PB91-207076. Prepared in cooperation with Environmental Health Research and Testing, Inc., Research Triangle Park, NC.

One of the potential human health effects associated with the environmental release of microorganisms is colonization of the intestinal tract. The study uses serial transfer techniques to monitor the in vitro survival and competition with human fecal microbiota of Pseudomonas aeruginosa strains BC16 and AC869. Strain BC16 was isolated from a commercial product for polychlorinated biphenyl (PCB) degradation, and AC869 is a 3,5-dichlorobenzoate degrader. In addition, a mouse intestinal isolate, Pseudomonas aeruginosa strain PAMG, was studied as a positive control. Results were compared to previously published mouse fecal microbiota studies. Quantitative comparison of fecal microbiota populations enumerated on selective media found human and mouse cultures to be nearly identical. Survival of the competitor strains was also similar in both the human and the mouse systems. By culture 5 of the human serial transfer experiments, strains AC869 and PAMG were present at significantly higher levels than strain BC16. In previous serial transfer experiments with mouse fecal flora, strain AC869 was present at a higher level than strains PAMG and BC16 by culture 5. No alterations of the microbiota populations due to the addition of a competitor strain were found. The system can be helpful in identifying environmental strains with a high potential for colonizing the intestinal tract.

Keywords: *Pseudomonas aeruginosa, *Biological pest control, Health hazards, Feces, Humans, Genetic engineering, Intestines, In vitro analysis, In vivo analysis, Polychlorobiphenyl compounds, Graphs(Charts), Reprints.

PB93-181154/REB PC **A02**/MF **A01**
Program to Analyze Aquifer Test Data and Check for Validity with the Jacob Method. Journal article.
Environmental Protection Agency, Washington, DC. Office of Research and Development.
M. S. Field. c1993, 8p EPA/600/J-93/127, OHEA-E-493
Pub. in Ground Water, v31 n2 Mar-Apr 92.

The Jacob straight-line method of aquifer analysis deals with the late-time data and small radius of the Theis type curve which plot as a straight line if the drawdown data are plotted on an arithmetic scale and the time data on a logarithmic (base 10) scale. Correct analysis with the Jacob method normally assumes that (1) the data lie on a straight line, (2) the value of the dimensionless time factor is less than 0.01, and (3) the site's hydrogeology conforms to the method's assumptions and limiting conditions. Items 1 and 2 are usually considered for the Jacob method, but item 3 is often ignored, which can lead to incorrect calculations of aquifer parameters. A BASIC computer program was developed to analyze aquifer test data with the Jacob method to test the validity of its use. Aquifer test data are entered into the program and manipulated so that a slope and time intercept of the straight line drawn through the data (excluding early-time and late-time data) can be used to calculate transmissivity and storage coefficient. Late-time data are excluded to eliminate the effects of positive and negative boundaries. The time-drawdown data then are converted into dimensionless units to determine if the Jacob method's assumptions are valid for the hydrogeologic conditions under which the test was conducted.

Keywords: *Aquifers, *Water pollution monitoring, Aquifer testing, Computer programs, Computerized simulation, Hydrogeology, Drawdown, Transmissivity, Storage coefficient, Fluid flow, Reprints, Jacob Straight-Line Method.

PB93-181162/REB PC **A03**/MF **A01**
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects. Journal article.
Environmental Research Lab., Narragansett, RI.
R. M. Burgess, K. A. Schweitzer, R. A. McKinney, and D. K. Phelps. c1993, 14p EPA/600/J-93/128, ERLN-1187
See also PB91-132811. Prepared in cooperation with Chemical Waste Management, Inc., North Dartmouth, MA.

The toxicity that contaminated sediments may introduce into the water column has not been measured extensively. In order to quantify this potential toxicity, the seawater overlying two uncontaminated and three contaminated marine sediments was evaluated in the laboratory with the sea urchin Arbacia punctulata fertilization test. Concentrations of polychlorinated biphenyls (PCBs) and copper, as representative contaminants, were also measured. To characterize sources of toxicity, samples were chemically manipulated using reversed-phase chromatography, cation exchange, and chelation. Water column toxicity and contaminant concentrations were higher in the suspended exposures than in bedded exposures. Interstitial water toxicity and contaminant concentrations were generally greater than either bedded or suspended exposures. Chemical manipulation indicated that the observed toxicity in water column exposures was probably caused by metallic and/or nonionic organic contaminants. Conversely, manipulation of interstitial waters did not result in significantly reduced toxicity, suggesting that other toxicants such as ammonia and hydrogen sulfide may be active.

Keywords: *Sediments, *Water pollution effects, *Marine biology, *Toxicity, *Benthos, Sediment-water interfaces, Exposure, Field tests, Experimental design, Chemical analysis, Aquatic ecosystems, Reprints, Water columns.

PB93-181170/REB PC **A03**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Passive Sampling of Groundwater Monitoring Wells without Purging: Multilevel Well Chemistry and Tracer Disappearance. Journal article.
ManTech Environmental Technology, Inc., Ada, OK.
R. M. Powell, and R. W. Puls. c1993, 28p EPA/600/J-93/129
Pub. in Jnl. of Contaminant Hydrology, v12 p51-77 Feb 93. See also PB91-168419 and PB92-114503. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

It is essential that the sampling techniques utilized in groundwater monitoring provide data that accurately depicts the water quality of the sampled aquifer in the vicinity of the well. Due to the large amount of monitoring activity currently underway in the U.S.A. it is also important that the techniques be efficient. The study examines the differences in water chemistry between the casing and screened interval volumes of four wells at a field site, then compares the results to purged values for the same wells. Tracer experiments, utilizing both colloidal particles and dissolved species as tracers, are presented to illustrate differences in natural flushing between the screened and cased intervals. The data from the tracer removal were then utilized to estimate groundwater flow velocities in the vicinities of the boreholes. The possibility exists that such passive sampling techniques would be useful at many of the sites currently undergoing routine monitoring.

Keywords: *Ground water, *Water pollution sampling, *Water quality, *Aquifers, Observation wells, Tracer techniques, Water flow, Environmental transport, Concentration(Composition), Water chemistry, Colloids, Reprints.

PB93-181188/REB PC **A02**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture. Journal article.
Oak Ridge National Lab., TN.
B. T. Walton, M. S. Hendricks, C. W. Francis, W. H. Griest, and R. Merriweather. c1993, 9p EPA/600/J-93/130
Contract EPA-68-C8-0058
See also PB83-150888. Prepared in cooperation with Tennessee Univ., Knoxville. Graduate Program in Environmental Toxicology. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

In the study, the authors used a zero headspace extractor (ZHE) vessel to measure the soil sorption parti-

tion coefficients (K(sub p)) for a mixture of 16 volatile and semivolatile organic compounds commonly present at hazardous waste sites. The sorption partition coefficients were compared with sorption data predicted from the n-octanol/water partition coefficient (K(sub ow)) of each compound. The findings provide a basis for extrapolation of sorption data for individual compounds to mixtures of compounds with high vapor pressures. In addition, the potential utility of a ZHE for soil sorption measurements of volatile compounds is demonstrated. (Copyright (c) 1992, ASA, CSSA, SSSA.)

Keywords: *Soil analysis, *Sorption, *Volatile organic compounds, *Hazardous materials, *Environmental transport, *Land pollution, Soil contamination, Water pollution, Waste disposal, Comparison, Mixtures, Extraction, Laboratory equipment, Reprints, *Partition coefficients, Zero headspace extractors.

PB93-181196/REB PC **A03**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Aerobic Soil Microcosms for Long-Term Biodegradation of Hydrocarbon Vapors. Journal article.
Massachusetts Univ., Amherst. Dept. of Civil Engineering.
R. J. Richards, D. W. Ostendorf, and M. S. Switzenbaum. c1992, 16p EPA/600/J-93/131
Grant EPA-R-816821
Pub. in Hazardous Wastes and Hazardous Materials, v9 n4 1992. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

Characterization and understanding of hydrocarbon vapor behavior and persistence in the subsurface is essential for the complete evaluation of a petroleum hydrocarbon spill site. The aims of the research project included the development of laboratory protocols for the preparation of aerobic soil microcosms using aseptic field soil samples, and for the gas chromatographic analysis of hydrocarbon vapor biodegradation based on vapor samples obtained from these microcosms. The results were applied to a mathematical model from which rigorously controlled estimates of Michaelis-Menten type maximum rate parameters were produced. The latter were compared to independently derived estimates of the same kinetics parameter, and were used to establish whether any depth-dependence on this parameter exists. The maximum rate parameter value for the mid-depth soil range was found to be a successful test of previously acquired field data.

Keywords: *Oil pollution, *Hydrocarbons, *Biodeterioration, *Land pollution control, *Microbial degradation, *Soil gases, Long term effects, Soil microorganisms, Aerobic conditions, Hazardous materials, Reaction kinetics, Biochemistry, Gas chromatography, Oil spills, Underground storage, Storage tanks, Reprints.

PB93-181204/REB PC **A03**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Hydrocarbon Vapor Diffusion in Intact Core Sleeves. Journal article.
Massachusetts Univ., Amherst.
D. W. Ostendorf, E. E. Moyer, Y. Xie, and R. V. Rajan. c1993, 14p EPA/600/J-93/132
Grant EPA-R-816821
Pub. in Groundwater Water Monitoring and Remediation, v13 p139-150 (Winter). See also PB91-196642. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

The diffusion of 2,2,4-trimethylpentan (TMP) and 2,2,5-trimethylhexane (TMH) vapors out of residually contaminated sandy soil from the U.S. Environmental Protection Agency (EPA) field research site at Traverse City, Michigan, was measured and modeled. The headspace of an intact core sleeve sample was swept with nitrogen gas to simulate the diffusive release of hydrocarbon vapors from residual aviation gasoline in and immediately above the capillary fringe to a soil-venting air flow in the unsaturated zone. The resulting steady-state profile was modeled using existing diffusivity and air porosity estimates in a balance of diffusive flux and a first order source term. The source strength, which was calibrated with the observed flux of 2,2,4-TMP leaving the sleeve, varied with the residual gasoline remaining in the core, but was independent of the headspace sweep flow rate. The finding suggested that lower soil-venting air flow rates were in principle as effective as higher air flow rates in venting LNAPL vapors from contaminated soils.

Keywords: *Land pollution control, *Soil treatment, *Oil pollution, *Air flow, *Soil gases, *Hydrocarbons, Diffusion, Porosity, Sampling, Environmental transport, Aviation gasoline, Mathematical models, Soil contamination, Reprints, *Soil venting, LNAPL(Light Non-Aqueous Phase Liquids), Traverse City(Michigan), Pentane/trimethyl, Hexane/trimethyl.

PB93-181212/REB PC **A02**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Determination of Carboxylic Acids by Ion-Exclusion Chromatography with Non-Suppressed Conductivity and Optical Detectors. Journal article.
ManTech Environmental Technology, Inc., Ada, OK.
M. Ye, K. Hill, and R. Walkup. c1993, 8p EPA/600/J-93/133
Pub. in Chromatographia, v35 n3/4 Feb 93. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

Determination of carboxylic acids by ion exclusion chromatography using non-suppressed conductivity and UV detections is described. The background conductance of 1-octanesulfonic acid, hexane sulfonic acid and sulfuric acid at varying concentrations was determined. Using 0.2 mM 1-octanesulfonic acid as a mobile phase and an injection volume of 300 microliters, the detection limits range from 1 micromolar for formic acid to 10 micromolar for butyric acid. The conductivity detector was connected in tandem with a Waters 484 optical detector at 210 nm, which allowed the analysis of carboxylic acids from 0.01 mM to 10 mM. The dependence of the retention of carboxylic acids on the eluent pH is discussed.

Keywords: *Carboxylic acids, *Chromatographic analysis, pH, Adsorption, Conductivity, Detectors, Ultraviolet detectors, Reprints, *Ion exclusion chromatography.

PB93-181220/REB PC **A06**/MF **A02**
Washington State Dept. of Ecology, Olympia.
Commencement Bay Nearshore/Tideflats Feasibility Study. Executive Summary. Draft rept.
Tetra Tech, Inc., Bellevue, WA.
Dec 88, 108p TETRAT-TC-3218-10, EPA/910/9-89/031A
See also PB93-181238, PB86-104551 through PB86-104601. Sponsored by Washington State Dept. of Ecology, Olympia, and Environmental Protection Agency, Seattle, WA. Region X.

The report summarizes the findings of the feasibility study prepared for the waterways/shoreline portion of the Commencement Bay Nearshore/Tideflats Superfund site in Tacoma, Washington. The purpose of the feasibility study was to develop and evaluate the most appropriate remedial strategies for correcting the human health and environmental impacts associated with contaminated sediments in the site.

Keywords: *Sediments, *Water pollution control, *Remedial action, *Commencement Bay, *Superfund, *Waste disposal, Feasibility studies, Tidal effects, Regulations, Waterways(Watercourses), Alternatives, Sources, Dredging, *Cleanup operations, Tacoma(Washington).

PB93-181238/REB PC **A25**/MF **A06**
Washington State Dept. of Ecology, Olympia.
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 1. Draft rept.
Tetra Tech, Inc., Bellevue, WA.
Dec 88, 592p TETRAT-TC-3218-VOL-1, EPA/910/9-89/031B
See also PB93-181246. Sponsored by Washington State Dept. of Ecology, Olympia, and Environmental Protection Agency, Seattle, WA. Region X.

The report documents the feasibility study prepared for the waterways/shoreline portion of the Commencement Bay Nearshore/Tideflats Superfund site in Tacoma, Washington. The purpose of the feasibility study was to develop and evaluate the most appropriate remedial strategies for correcting the documented biological, human health and environmental impacts associated with contaminated sediments in the site. Given the large study area, the multiplicity of contaminant sources, and the diversity of ongoing activities within the site, the development of the recommended remedial strategies differ in many respects from the reports and implementation strategies at more traditional Superfund sites.

Keywords: *Sediments, *Water pollution control, *Commencement Bay, *Remedial action, *Superfund, *Waste disposal, Shores, Feasibility studies, Tidal effects, Site surveys, Ecology, Biological effects, Sources, Alternatives, Dredging, Criteria, Waterways(Watercourses), *Cleanup operations, Tacoma(Washington).

PB93-181246/REB PC **A18**/MF **A04**
Washington State Dept. of Ecology, Olympia.
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 2. Appendices. Draft rept.
Tetra Tech, Inc., Bellevue, WA.
Dec 88, 408p TETRAT-TC-3218-VOL-2, EPA/910/9-89/031C
See also PB93-181253. Sponsored by Washington State Dept. of Ecology, Olympia, and Environmental Protection Agency, Seattle, WA. Region X.

The report documents the feasibility study prepared for the waterways/shoreline portion of the Commencement Bay Nearshore/Tideflats Superfund site in Tacoma, Washington. The purpose of the feasibility study was to develop and evaluate the most appropriate remedial strategies for correcting the documented biological, human health and environmental impacts associated with contaminated sediments in the site. Given the large study area, the multiplicity of contaminant sources, and the diversity of ongoing activities within the site, the development of the recommended remedial strategies differ in many respects from the reports and implementation strategies at more traditional Superfund sites. Volume 2 contains the following appendices: evaluation of sediment recovery, details of dredging and capping technologies, specifications of major ARARs and TCBs, methods for estimating costs of sediment remedial alternatives, source loading data, sampling station locations, field survey data report - May 1986.

Keywords: *Sediments, *Water pollution control, *Commencement Bay, *Remedial action, *Superfund, *Waste disposal, Shores, Site surveys, Tidal effects, Feasibility studies, Alternatives, Specifications, Field tests, Materials recovery, Dredging, Capping, Cost estimates, Sampling, *Cleanup operations, Tacoma(Washington), ARARs(Applicable or Relevant and Appropriate Regulations), TBCs(To Be Considered).

PB93-181253/REB PC **A05**/MF **A01**
PTI Environmental Services, Bellevue, WA.
Commencement Bay Nearshore/Tideflats Feasibility Study. Development of Sediment Cleanup Goals.
Tetra Tech, Inc., Bellevue, WA.
Feb 89, 91p EPA/910/9-89/032
Contract PTI-C704-1A
See also PB93-181220. Sponsored by PTI Environmental Services, Bellevue, WA., Washington State Dept. of Ecology, Olympia, and Environmental Protection Agency, Seattle, WA. Region X.

The document develops and evaluates sediment cleanup goals for the implementation of sediment remedial action alternatives in identified problem areas of Commencement Bay. Tasks incorporated in the report are: compilation of interim sediment cleanup goals (including identification of available sediment quality values and development of additional values), development of options for cleanup goals that relate to applicable regulatory mandates, and refinement of Commencement Bay remedial investigation guidelines for prioritizing problem chemicals for use in evaluating the need for source control actions.

Keywords: *Sediments, *Commencement Bay, *Remedial action, *Water pollution control, *Superfund, *Waste disposal, Feasibility studies, Tidal effects, Shores, Regulations, Ecology, Chemical compounds, Alternatives, Implementation, Biological indicators, Water pollution effects, *Cleanup operations.

PB93-181592/REB PC **A06**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers. Final rept. Oct 91-Mar 93.
Science Applications International Corp., Durham, NC.
W. Ramadan, S. Sleva, K. Dufner, S. Snow, and S. L. Kersteter. Apr 93, 119p EPA/600/R-93/063
Contract EPA-68-D9-0173
Prepared in cooperation with Southern Research Inst., Durham, NC., and TRC Environmental Corp., Chapel Hill, NC. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report discusses part of EPA's program to identify and characterize emissions sources not currently accounted for by either the existing Aerometric Information Retrieval System (AIRS) or State Implementation Plan (SIP) area source methodologies and to develop appropriate emissions estimation methodologies and emission factors for a group of these source categories. Based on the results of the identification and characterization portions of this research, three source categories were selected for methodology and emission factor development: oil spills, petroleum vessel loading and unloading, and cooling towers. The report describes the category selection process and presents emissions estimation methodologies and emission factor data for the selected source categories. The discussions for each category include general background information, emissions generation activities, pollutants emitted, sources of activity and pollutant data, emissions estimation methodologies and data issues. The information used in these discussions was derived from various sources including available literature, industrial and trade association publications and contracts, experts on the category and activity, and knowledgeable federal and state personnel.

Keywords: *Air pollution sampling, *Emission factors, *Oil spills, *Petroleum transportation, *Cooling towers, Tanker ships, Study estimates, Fugitive emissions, Pollution sources, Ranking, Evaporation, Data processing, *Emission inventories, Area sources, National Emission Data System, Aerometric Information Retrieval System, Area and Mobile Source Subsystem.

PB93-181600/REB PC **A04**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Analysis of Atmospheric Deposition Samples from Easton, Pennsylvania. Final rept. Oct 91-May 92.
Acurex Environmental Corp., Research Triangle Park, NC.
D. Natschke. Apr 93, 51p EPA/600/R-93/057
Contract EPA-68-02-4701
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report gives results of an analysis of samples of tenacious atmospheric deposits on exposed surfaces (e.g., automobiles and houses) in an industrial area near Easton, PA. The analysis was made at the request of the State of Pennsylvania. The Pennsylvania Department of Environmental Resources collected samples at two sites in the area: samples were collected on organic membrane material for elemental analysis by x-ray fluorescence and on glass plates for inorganic phase analysis by x-ray diffraction. The glass plates were subjected to various methods of analysis to determine the organic species present.

Keywords: *Deposition, *Air pollution effects(Materials), *Air pollution detection, *Chemical analysis, Atmospheric diffusion, Air pollution sampling, Solvent extraction, Gas chromatography, Nuclear magnetic resonance, Mass spectroscopy, Infrared spectroscopy, Organic compounds, Spectrum analysis, US EPA, X ray analysis, Quality assurance, Easton(Pennsylvania).

PB93-181618/REB PC **A08**/MF **A02**
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
Environmental Monitoring Systems Lab., Las Vegas, NV. Exposure Assessment Research Div.
S. E. Franson. Jan 93, 175p EPA/620/R-93/001
See also PB91-141796 and PB93-100139. Prepared in cooperation with Nevada Univ. System, Reno. Desert Research Inst., Bureau of Land Management, Reno, NV., Soil Conservation Service, Washington, DC., and Department of Energy, Washington, DC.

The 1992 Colorado Plateau Indicator Pilot Study, the first field activity for the EMAP-Arid group, is designed to evaluate several indicators of arid ecosystem condition for continued development and implementation for monitoring. This Implementation Plan describes the conceptual approach for the pilot study; questions that will be addressed in the study; the rationale and process that led to the choice of a portion of the Colorado Plateau for the study site; and the rational and process for selection of the indicators to be tested. The overall EMAP-Arid design is presented along with the specifics for the pilot study and the sampling plot designs. Logistics, quality assurance, information management and GIS, and analysis and reporting of the pilot study results also are addressed. The bulk of the implementation plan describes the indicators that are to be evaluated in the pilot study: vegetation composition, structure, and abundance; soil properties including erosion potential; and spectral properties of vegetation and soils from both on-ground and remote sensors. An appendix describes retrospective and landscape indicators that will be further developed by EMAP-Arid in the future.

Keywords: *Arid lands, *Ecosystems, *Environmental surveys, Implementation, Long term effects, Environmental policy, Biological indicators, Climatic changes, Site surveys, Quality assurance, Natural resources, Design, Vegetation, Landscaping, Field tests, Information management, Soil properties, *Environmental Monitoring and Assessment Program, *Colorado Plateau Pilot Study.

PB93-181626/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Acetamide, N-Fluoren-2-yl (53-96-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 20p EPA/600/8-91/057, , OHEA-C-073-001
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Acetamide, N-Fluoren-2-yl is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for acetamide, N-fluoren-2-yl is estimated to be 148/(mg/kg/day), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, acetamide, N-fluoren-2-yl is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Humans, Animals, Dose-response relationships, Carcinogenicity tests, *Acetamide/N-fluoren-2-yl, CAS 53-96-3.

PB93-181634/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Acrylonitrile (107-13-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 29p EPA/600/8-91/058, , OHEA-C-073-002
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB84-149152. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Acrylonitrile is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'sufficient' and the evidence from human studies is 'Limited.' The potency factor (F) for acrylonitrile is estimated to be 2.28 (derived from human epidemiology data)/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, acrylonitrile is assigned a 'MEDIUM' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Acrylonitriles, Carcinogenicity tests, Humans, Animals, Dose-response relationships, CAS 107-13-1.

PB93-181642/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Aldrin (309-00-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 26p EPA/600/8-91/059, , OHEA-C-073-003
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-139951. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Aldrin is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'sufficient,' and the evidence from human studies is 'inadequate.' The potency factor (F) for aldrin is estimated to be 239/(mg/kg/day), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, aldrin is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Aldrin, *Toxicity, *Pesticides, Humans, Animals, Carcinogenicity tests, Dose-response relationships, CAS 309-00-2.

PB93-181659/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Amitrole (61-82-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 20p EPA/600/8-91/060, , OHEA-C-073-004
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-223 159. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Amitrole is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'sufficient,' and the evidence from human studies is 'inadequate.' The potency factor (F) for amitrole is estimated to be 3.30/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, amitrole is assigned a 'MEDIUM' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Amitrole, Humans, Animals, Dose-response relationships, Carcinogenicity tests, CAS 61-82-5.

PB93-181667/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Arsenic and Inorganic Arsenic Compounds. Final rept.
Syracuse Research Corp., NY.
Jun 88, 46p EPA/600/8-91/061, , OHEA-C-073-005
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB90-130683. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Arsenic and inorganic arsenic compounds are human carcinogens, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'inadequate,' and the evidence from human studies is 'sufficient.' Arsenic trioxide and potassium arsenite are classified as having 'sufficient' human evidence because human studies that specifically identify those compounds have been conducted and show evidence of causal association. Specific evidence on the potential carcinogenicity of o-arsenic

acid, arsenic disulfide, arsenic pentoxide, arsenic trichloride, arsenic trisulfide, cupric acetoarsenite, lead arsenate, and potassium arsenate from animal studies of human studies is 'no data.' Only limited animal studies exist on calcium arsenate, sodium arsenite, sodium arsenate, potassium arsenite, and arsenic trioxide. However, since arsenic compounds are chemically convertible to the carcinogenic form(s) both in vitro and in vivo, and the exact species of inorganic arsenic that is directly carcinogenic in humans is not known, all the above inorganic species of arsenic are of equal concern. The potency factor (F) for inorganic arsenic compounds is estimated to be 142/(mg/kg/day), (derived from human epidemiology data), placing them all in potency group 1 according to the CAG's methodology for evaluating potential carcinogens.

Keywords: *Carcinogens, *Toxicity, *Arsenic inorganic compounds, *Arsenic, Dose-response relationships, Humans, Animal, Carcinogenicity tests, CAS 7440-38-2, CAS 1327-52-2, CAS 7778-39-4, CAS 1303-32-8, CAS 1303-28-2, CAS 7784-34-1, CAS 1327-53-3, CAS-1303-33-9, CAS 7778-44-1, CAS 52740-16-6, CAS 12002-03-8, CAS 7784-40-9, CAS 10124-50-2, CAS 7784-41-0, CAS 7631-89-2, CAS 7784-46-5.

PB93-182913/REB PC **A05/MF A01**
Methods for the Determination of Chemical Substances in Marine and Estuarine Environmental Samples.
Environmental Monitoring Systems Lab., Cincinnati, OH.
Nov 92, 94p EPA/600/R-92/121

The manual contains seven methods for the determination of nutrients, three metals, and chlorophyll a in marine and estuarine environmental matrices. Two of the metals methods are graphite furnace atomic absorption techniques and the third uses inductively coupled plasma mass spectrometry. Methods for the determination of orthophosphate and nitrite plus nitrate are based on well-established automated colorimetric techniques. Both of these methods have undergone multilaboratory validation study. A high temperature combustion method for the determination of particulate carbon and nitrogen in water and sediments is also contained in the manual. The chlorophyll a method is based on a well-established fluorometric technique.

Keywords: *Sea water, *Trace elements, *Chemical analysis, Chelation, Mass spectroscopy, Water chemistry, Chlorophylls, Carbon, Nitrogen, Fluorimetry.

PB93-183002/REB PC **A11/MF A03**
Federal Register, Volume 58, No. 72. Part 2. Environmental Protection Agency, 40 CFR Parts 122 et al. Water Quality Guidance for the Great Lakes System and Correction; Proposed Rules.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
16 Apr 93, 247p*
Errata sheet inserted.

The document provides opportunity for comment on the proposed Water Quality Guidance for the Great Lakes system. The Guidance will establish minimum water quality standards, antidegradation policies, and implementation procedures for waters within the Great Lakes system in the states of NY, PA, OH, IN, IL, MN, WI and MI, including the waters within the jurisdiction of Indian tribes.

Keywords: *Great Lakes, *Water pollution control, *Regulations, New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Minnesota, Wisconsin, Bioaccumulation, Aquatic animals, Wildlife, Public health, *Great Lakes Region(United States), Clean Water Act.

PB93-184455/REB PC **A10/MF A03**
Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
Environmental Protection Agency, Washington, DC.
1985, 225p
Prepared in cooperation with American Water Works Association, Denver, CO., Corps of Engineers, Washington, DC., and Federal Emergency Management Agency, Washington, DC.

The document is a workbook published in conjunction with a video teleconference on emergency planning for potable water suppliers. The workbook is divided into two primary sections: (1) the water system's perspective; and (2) the state and federal governments' perspectives.

Keywords: *Potable water, *Water supply, *Emergencies, *Project planning, *Meetings, Water distribution, Distribution systems, State government, National government, Damage assessment, Vulnerability, Operations, Telecommunications, Transportation, Structures, Personnel management, Media, Response, Handbooks, Earthquakes, Hurricane Camille, Corrective measures.

PB93-184620/REB PC **A03/MF A01**
Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants.
Environmental Protection Agency, Washington, DC. Office of Water Enforcement and Permits.
R. Brandes, and T. Wall. Jul 87, 32p EPA/440/4-87/005
See also PB86-150067.

The Guide provides State and Federal National Pollutant Discharge Elimination System (NPDES) permit writers and water quality management staff a reference to water quality-based permit issuance procedures. It supports the implementation of existing State water quality standards and current permitting techniques. As such, it presents fundamental concepts and procedures in detail and simply refers to those more advanced toxics control procedures, such as dynamic modeling of complex discharge situations, which may not yet be incorporated into many State programs. The Guide is meant to explain aspects of water quality-based toxics control in terms of what a permit writer currently needs to know to issue a water quality-based toxics control NPDES permit.

Keywords: *Permits, *Water quality standards, *Toxic substances, *Water pollution abatement, Water pollution control, Guidelines, Clean Water Act, Implementation, Toxicity, Water management, Marine biology, Aquatic biology, State government, Standards compliance, Procedures, Monitoring, Case studies, *National Pollutant Discharge Elimination System, Water quality criteria.

PB93-184844/REB PC **A07/MF A02**
TSCA Confidential Business Information Security Manual.
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
Jan 93, 139p
Supersedes PB85-137305 and PB82-177759.

The manual sets forth procedures for Environmental Protection Agency (EPA) employees, other Federal employees, contractors, and contractor employees to follow in handling information claimed as confidential business information (CBI) under Section 14 of the Toxic Substances Control Act (TSCA). That section of TSCA requires EPA to protect from public disclosure CBI obtained under TSCA, and it imposes criminal penalties for the knowing and willful unauthorized release or disclosure of such information. EPA has issued regulations (40 CFR Part 2) that implement TSCA's confidentiality provisions. The procedures in the manual supplement those set forth in TSCA and in 40 CFR Part 2.

Keywords: *Confidentiality, *Information management, *US EPA, Reporting requirements, Regulations, Government/industry relations, Government employees, Contractors, Access, Authorizations, Federal agencies, Telecommunication, Computer networks, Computer security, Manuals, *TSCA(Toxic Substances Control Act), CBI(Confidential Business Information).

PB93-184851/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Cacodylic Acid (75-60-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 14p EPA/600/8-91/062, , OHEA-C-073-012
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB91-216473. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

The weight-of-evidence for cacodylic acid is Group D under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on the potential carcinogenicity for cacodylic acid from animal studies is 'inadequate', and the evidence from human studies is 'No Data'. Organic arsenic compounds such as cacodylic acid are considered to be chemically different from the inorganic arsenic compounds, and are, therefore, assessed for carcinogenicity separately from the inorganic compounds. Since there are no data implicating organic arsenic compounds, the carcinogenicity is indeterminant at this time. The lack of human data and the inadequate data from animal studies prevent the calculation of a potency factor (F), the assignment of a potency group and the assignment of a hazard ranking at this time.

Keywords: *Carcinogens, *Toxicity, *Cacodylic acid, Risk assessment, Humans, Animals, Carcinogenicity tests, Dose-response relationships, Arsenic organic compounds, Arsenic inorganic compounds, CAS 75-60-5.

PB93-184869/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dichlorophenylarsine (696-28-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 12p EPA/600/8-91/063
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

The weight-of-evidence for dichlorophenylarsine is Group D under the EPA Guidelines for Carcinogen Risk Assessment. There are 'No Data' on the potential carcinogenicity for dichlorophenylarsine from either animal studies or from human studies. Organic arsenic compounds such as dichlorophenylarsine are considered to be chemically different from the inorganic arsenic compounds, and are, therefore, assessed for carcinogenicity separately from the inorganic compounds. Since there are no data implicating organic arsenic compounds, including dichlorophenylarsine, the carcinogenicity is indeterminant at this time. The lack of human data and the inadequate data from animal studies prevent the calculation of a potency factor (F), the assignment of a potency group and the assignment of a hazard ranking at this time.

Keywords: *Carcinogens, *Toxicity, Risk assessment, Humans, Animals, Dose-response relationships, Carcinogenicity tests, Arsenic inorganic compounds, Arsenic organic compounds, *Dichlorophenylarsine, CAS 696-28-6.

PB93-184877/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Diethylarsine (692-42-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 12p EPA/600/8-91/064, , OHEA-C-073-017
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

The weight-of-evidence for diethylarsine is Group D under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on the potential carcinogenicity for diethylarsine from animal studies is 'No Data', and the evidence from human studies is 'No Data'. Organic arsenic compounds such as diethylarsine are considered to be chemically different from the inorganic arsenic compounds, and are, therefore, assessed for carcinogenicity separately from the inorganic compounds. Since there are no data implicating organic arsenic compounds, the carcinogenicity is indeterminant at this time. The lack of human and animal studies prevent the calculation of a potency factor (F), the assignment of a potency group and the assignment of a hazard ranking at this time.

Keywords: *Arsenic organic compounds, *Carcinogens, *Risk assessment, *Public health, Evaluation, Ranking, Hazardous materials, US EPA, Potency, *Diethylarsine, Comprehensive Environmental Re-

sponse Compensation and Liability Act(CERCLA), *Inadequate tests.

PB93-184885/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Asbestos (1332-21-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 33p EPA/600/8-91/065, , OHEA-C-073-023
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB86-242864. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Asbestos is a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Sufficient.' The potency factor (F) estimate for asbestos is inappropriate here because the carcinogenic potential of asbestos is related to specific fiber shapes, sizes and atmospheric concentrations. The relationship depends on the type of environmental sample, the type of asbestos in the air, and the size of the fibers. As a deliberate policy choice, asbestos is, therefore, assigned a 'HIGH' hazard ranking, as are most Group A substances.

Keywords: *Asbestos, *Risk assessment, *Public health, *Air pollution, Humans, Carcinogens, Hazardous materials, Guidelines, US EPA, Ranking, Concentration(Composition), Estimates, Fibers, Size determination, Air pollution sampling, Government policies.

PB93-184893/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Auramine (492-80-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/066
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Auramine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate'. The potency factor (F) for auramine is estimated to be 0.48 (mg/kg/day), placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, auramine is assigned a 'LOW' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Risk assessment, *Public health, Laboratory animals, Potency, Carcinogenicity tests, Evaluation, Ranking, Hazardous materials, *Auramine.

PB93-184901/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Azaserine (115-02-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/067, , OHEA-C-073-025
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Azaserine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data'. The potency factor (F) for azaserine is estimated to be 169 (mg/kg/day)(-1), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, azaserine is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Hazardous materials, *Azaserine, *Carcinogenicity tests, *Public health, Toxic substances, Carcinogens, Laboratory animals, Potency, Humans, Ranking, Evaluation, Occupational health and safety.

PB93-184919/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Aziridine (151-56-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/068
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB86-136587 and PB87-210803. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Aziridine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for aziridine is estimated to be 336 (mg/kg/day)(-1), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, aziridine is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Aziridines, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 151-56-4.

PB93-184927/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benz(c)acridine (225-51-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/069, , OHEA-C-073-027
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benz(c)acridine is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited,' and the evidence from human studies is 'No Data.' Data available are inadequate for calculating a potency factor and no quantitative inferences can be made. Hence, benz(c)acridine is assigned to potency group 2, the mid-range potency group. Combining the weight-of-evidence group and the potency group, benz(c)acridine is assigned a 'LOW' hazard ranking for the purposes of RQ adjustment.

Keywords: *Toxicity, *Carcinogens, Carcinogenicity tests, Humans, Animals, Dose-response relationships, *Benz(c)acridine, CAS 225-51-4.

PB93-184935/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benz(a)anthracene (00056-55-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/070 , , OHEA-C-073-028
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-222586 and PB90-247669. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benz(a)anthracene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for benz(a)anthracene is estimated to be 21.1/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, benz(a)anthracene is assigned a 'MEDIUM' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Benzanthracenes, Risk assessment, Humans, Animals, Carcinogenicity tests, Dose-response relationships, CAS 00056-55-3.

PB93-184943/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benzene (71-43-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/071, , OHEA-C-073-029
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB90-146069. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benzene is a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence on human studies is 'Sufficient'. The potency factor (F) for benzene is estimated to be 0.27 (mg/kg/day)(1-), placing it in potency group 3 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, benzene is assigned a 'MEDIUM' hazard ranking.

Keywords: *Benzene, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 71-43-2.

PB93-184976/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benzidine and Its Salt (92-87-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 25p EPA/600/8-91/072, , OHEA-C-073-030
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB91-161604. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benzidine is a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Sufficient.' The potency factor (F) for benzidine is estimated to be 2220 (mg/kg/day)(-1) (derived from human epidemiology data), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, benzidine is assigned a 'HIGH' hazard ranking.

Keywords: *Benzidine, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 92-87-5.

PB93-184984/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benzo(b)fluoranthene (00205-99-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 20p EPA/600/8-91/073, , OHEA-C-073-031
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-222586 and PB90-247651. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benzo(b)fluoranthene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal

studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for benzo(b)fluoranthene is calculated using the potency factor estimate for benzo(a)pyrene of 248 (mg/kg/day)(-1) as a reference, placing benzo(b)fluoranthene in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, benzo(b)fluoranthene is assigned a 'HIGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Fluoranthene/benzo(B), *Carcinogenicity, Dose-response relationships, CAS Registry No: 00205-99-2.

PB93-184992/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benzo(k)fluoranthene (207-08-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 15p EPA/600/8-91/074, , OHEA-C-073-032
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-222586 and PB89-119911. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benzo(k)fluoranthene is not classifiable as a human carcinogen, and is, therefore, placed in weight-of-evidence Group D under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Inadequate,' and the evidence from human studies is 'No Data.' Due to the inadequacy or lack of human and animal data, benzo(k)fluoranthene could not be assigned a potency factor (F), could not be placed in a potency group, nor could it receive a hazard ranking for the purposes of RQ adjustment. Therefore, no RQ can be assigned based on potential carcinogenicity. Other primary criteria must be used for assigning RQ's.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Fluoranthene/benzo(K), *Carcinogenicity, Dose-response relationships, CAS Registry No: 207-08-9.

PB93-185007/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benzo(a)Pyrene (50-32-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 29p EPA/600/8-91/075, , OHEA-C-073-033
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB81-117806 and PB90-147653. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benzo(a)pyrene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is Inadequate. The potency factor (F) for benzo(a)pyrene is estimated to be 248/(mg/kg/day)(-1), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, benzo(a)pyrene is assigned a HIGH hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Benzo(a)pyrene, Carcinogenicity tests, Humans, Animals, Dose-response relationships, Risk assessment, CAS 50-32-8.

PB93-185015/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benzotrichloride (97-07-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 23p EPA/600/8-91/076, , OHEA-C-073-034
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-117882 and PB88-219373. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benzotrichloride is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Limited.' The potency factor (F) for benzotrichloride is estimated to be 58.0 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, benzotrichloride is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Benzotrichloride, *Carcinogenicity, Dose-response relationships, CAS Registry No 98-07-7.

PB93-185023/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Benzyl Chloride (100-44-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 13p EPA/600/8-91/077, , OHEA-C-073-035
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-219449. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Benzyl chloride is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for benzyl chloride is estimated to be 0.66 (mg/kg/day)(-1), placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, benzyl chloride is assigned a 'LOW' hazard ranking.

Keywords: *Benzyl chloride, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 100-44-7.

PB93-185031/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Beryllium (7440-41-7), Beryllium Chloride (7787-47-5), Beryllium Fluoride (7787-49-7), and Beryllium Nitrate (13597-99-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 35p EPA/600/8-91/078, , OHEA-C-073-036
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-179205. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Beryllium is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' It is considered highly likely that all soluble forms of beryllium including beryllium chloride, beryllium, fluoride and beryllium nitrate are carcinogenic in animals. These three soluble beryllium compounds are therefore assigned to weight of evidence Group B2. The potency factor (F) for beryllium is estimated to be 79.70 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. The bioassay used to calculate the potency factor for beryllium chloride, beryllium fluoride and beryllium nitrate suggests that these substances are highly carcinogenic (i.e., all treated animals developed tumors), but because there are no dose groups where the incidence is less than 100 percent there is no basis for calculating a specific potency factor.

Keywords: *Beryllium, *Beryllium chlorides, *Beryllium fluorides, *Beryllium nitrates, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 7440-41-7; 7787-47-5; 7787-49-7; 13597-99-4.

PB93-185049/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Alpha-Hexachlorocyclohexane (319-84-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 30p EPA/600/8-91/079, , OHEA-C-073-040
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Alpha-Hexachlorocyclohexane is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data'. The potency factor (F) for alpha-hexachlorocyclohexane is estimated to be 51.48 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, alpha-hexachlorocyclohexane is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Cyclohexane/alpha-hexachloro, *Carcinogenicity, Dose-response relationships, CAS Registry No: 319-84-6.

PB93-185056/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Beta-Hexachlorocyclohexane (319-85-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 24p EPA/600/8-91/080 , , OHEA-C-073-041
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Beta-Hexachlorocyclohexane is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited,' and the evidence from human studies is 'No Data.' The potency factor (F) for beta-hexachlorocyclohexane is estimated to be 10.67 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, beta-hexachlorocyclohexane is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Cyclohexane/beta-hexachloro, *Carcinogenicity, Dose-response relationships, CAS Registry No: 319-85-7.

PB93-185064/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Gamma-Hexachlorocyclohexane (Lindane) (58-89-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 25p EPA/600/8-91/081, , OHEA-C-073-042
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB86-134673 and PB87-116679. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Gamma-Hexachlorocyclohexane (gamma-BHC or Lindane) is a probable to possible human carcinogen, classified as weight-of-evidence Group B2/C under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient to Limited, and

the evidence from human studies is inadequate. The potency factor (F) for gamma-BHC is estimated to be 7.39/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, gamma-BHC is assigned a MEDIUM hazard ranking for the purposes of RQ adjustment. (When the weight-of-evidence is expressed as a range, the hazard ranking is based on the higher weight-of-evidence group.)

Keywords: *Benzene hexachloride, *Carcinogens, *Toxicity, Humans, Animals, Risk assessment, Dose-response relationships, Carcinogenicity tests, CAS-58-89-9.

PB93-185072/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Bis(2-Chloroethyl)Ether (111-44-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 16p EPA/600/8-91/082, , OHEA-C-073-043
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-179486. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Bis(2-chloroethyl)ether is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for bis(2-chloroethyl)ether is estimated to be 13.29 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, bis(2-chloroethyl)ether is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Bis(2-chloroethyl)ether, *Carcinogenicity, Dose-response relationships, CAS Registry No: 111-44-4.

PB93-185080/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Bis(Chloromethyl)Ether (542-88-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 28p EPA/600/8-91/083, , OHEA-C-073-044
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB87-210779. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Bis(chloromethyl)ether is a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Sufficient'. The potency factor (F) for bis(chloromethyl)ether is estimated to be 10,377/(mg/kg/day), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, bis(chloromethyl)ether is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Bis(chloromethyl)ether, Risk assessment, Carcinogenicity tests, Humans, Animals, Dose-response relationships, CAS 542-88-1.

PB93-185098/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Bis(2-Ethylhexyl)Phthalate (117-81-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/084, , OHEA-C-073-045
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB82-184011, PB89-194484 and PB92-198613. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Bis(2-ethylhexyl) phthalate is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for bis(2-ethylhexyl) phthalate is estimated to be 0.194 (mg/kg/day)(-1) placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, bis(2-ethylhexyl) phthalate is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Diethylhexyl phthalates, *Carcinogenicity, Dose response relationships, CAS Registry No: 117-81-7.

PB93-185106/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Cadmium (7740-43-9), Cadium Acetate (543-90-8), Cadmium Bromide (7789-42-6), Cadmium Chloride (10108-64-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 28p EPA/600/8-91/085, , OHEA-C-073-046
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB81-117368 and PB85-243533. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Cadmium is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is Limited. The potency factor (F) for cadmium is estimated to be 57.9/(mg/kg/day) (based on epidemiology data for cadmium workers), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Cadmium weight of evidence and potency are based on epidemiology data for cadmium workers exposed to cadmium oxide and/or cadmium fume. Although human data for cadmium salts are lacking, due to the responsiveness of animals to soluble cadmium compounds, especially cadmium chloride, the weight of evidence and potency for cadmium acetate, cadmium bromide and cadmium chloride are considered to be the same as those cadmium compounds to which workers are exposed. Thus, cadmium acetate, cadmium bromide, and cadmium chloride are all classified as weight-of-evidence Group and the potency group, cadmium, cadmium acetate, cadmium bromide, and cadmium chloride are assigned MEDIUM hazard rankings for the purposes of RQ adjustment. Combining the weight-of-evidence group and the potency group, carbon tetrachloride is assigned a MEDIUM hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Cadmium, *Cadmium halides, Risk assessment, Carcinogenicity tests, Humans, Animals, Dose-response relationships, Occupational exposure, *Cadmium acetate, CAS 7740-43-9, CAS 543-90-8, CAS 7789-42-6, CAS 10108-64-2.

PB93-185114/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Carbon Tetrachloride (56-23-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 23p EPA/600/8-91/086, , OHEA-C-073-050
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-124196. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Carbon tetrachloride is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is Inadequate. The potency factor (F) for Carbon tetrachloride is estimated to be 59.9/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, carbon tetrachloride is assigned a MEDIUM hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Carbon tetrachloride, Humans, Animals, Carcinogenicity tests, Dose-response relationships, Risk assessment, CAS 56-23-5.

PB93-185122/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Chloromethyl Methyl Ether (Technical Grade) (107-30-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 29p EPA/600/8-91/091 , , OHEA-C-073-055
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB87-212924. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Technical grade chloromethyl methyl ether is contaminated with between 1 and 8 percent bis(chloromethyl)ether, which is a known human carcinogen. The human evidence for this compound and the hazard ranking are based on the evidence for bis(chloromethyl)ether. Technical grade chloromethyl methyl ether (which is always contaminated with bis(chloromethyl)ether) is therefore considered to be a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). The evidence from human studies, including those for bis(chloromethyl)ether, is 'Sufficient'. The evidence from animal studies on chloromethyl methyl ether alone is 'Inadequate'. Combining the weight-of-evidence group and the potency group 1 for the contaminant bis(chloromethyl)ether, chlormethyl methyl ether is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Hazardous materials, *Chlorine organic compounds, *Carcinogenicity tests, *Public health, Toxic substances, Solvents, Carcinogens, Ranking, Potency, Humans, US EPA, Risk assessment, Laboratory animals, Evaluation, *Ether/chloromethyl-methyl, *Occupational health and safety, CAS Registry No: 107-30-2.

PB93-185130/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 4-Chloro-o-Toluidine Hydrochloride (3165-93-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/092 , , OHEA-C-073-056
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-295 864. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

4-Chloro-o-toluidine hydrochloride is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for 4-chloro-o-toluidine hydrochloride is estimated to be 0.40 (mg/kg/day)(-1), placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 4-chloro-o-toluidine hydrochloride is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Toluidine/chloro-(hydrochloride), *Carcinogenicity, Dose-response relationships, CAS Registry No 3165-93-3.

PB93-185148/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Chromium and Hexavalent Chromium Compounds. Final rept.
Syracuse Research Corp., NY.
Jun 88, 38p EPA/600/8-91/093, , OHEA-C-073-057
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-115905. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Hexavalent chromium compounds are human carcinogens, classified as weight-of-evidence Group A (based on chromate production workers and animal data which indicates that inhaled hexavalent chromium compounds are carcinogenic) under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is Sufficient. As stated in the U.S. EPA Health Assessment Document on chromium and compounds, metallic chromium is biologically inert and has not been reported to produce tumors in man or animal models. The no data are available on the carcinogenicity of metallic chromium. The potency factor (F) for hexavalent chromium is estimated to be 389/(mg/kg/day) (based on epidemiological data for the inhalation of hexavalent chromium by chromate workers), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, all of the hexavalent chromium compounds are assigned a HIGH hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Chromium inorganic compounds, Humans, Animals, Carcinogenicity tests, Dose-response relationships, Risk assessment, CAS 7440-47-3, CAS 7789-09-5, CAS 7789-98-9, CAS 13765-19-0, CAS 1333-82-0, CAS 14307-35-8, CAS 7778-50-9, CAS 7789-00-6, CAS 10588-01-9, CAS 7775-11-3, CAS 7789-06-2.

PB93-185155/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Chrysene (218-01-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/094, , OHEA-C-073-068
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-131123 and PB90-247644. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Chrysene is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited,' and the evidence from human studies is 'No Data.' Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Chrysene is, therefore, assigned to the median potency factor range and placed in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, chrysene is assigned a 'LOW' hazard ranking.

Keywords: *Chrysene, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 218-01-9.

PB93-185163/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Coke Oven Emissions. Final rept.
Syracuse Research Corp., NY.
Jun 88, 27p EPA/600/8-91/095, , OHEA-C-073-069
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB84-170182. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Coke oven emissions are known human carcinogens, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Sufficient'. The potency factor (F) for coke oven emissions are estimated to be 1.53 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, coke oven emissions are assigned a 'HIGH' hazard ranking.

Keywords: *Coal gas, *Coke ovens, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships.

PB93-185171/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Creosote (8001-58-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/096, , OHEA-C-073-070
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-179395 and PB91-180349. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Creosote is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Limited'. The potency of creosote may be high, because all treated animals developed tumors in the most pertinent bioassay. In this situation, however, there is no basis for calculating a specific human potency factor (F) under the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Hence, creosote is assigned to potency group 1. Combining the weight-of-evidence group and the potency group, creosote is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Creosote, Risk assessment, Carcinogenicity tests, Humans, Animals, Dose-response relationships, CAS 8001-58-9.

PB93-185189/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Cyclophosphamide (50-18-0). Final rept.
Syracuse Research Corp., NY.
Jun 88, 24p EPA/600/8-91/097
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Cyclophosphamide is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is Limited. The potency factor (F) for cyclophosphamide is estimated to be 17.5/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, cyclophosphamide is assigned a MEDIUM hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Cyclophosphamide, Risk assessment, Humans, Animals, Dose-response relationships, Carcinogenicity tests, CAS 50-18-0.

PB93-185197/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Daunomycin (20830-81-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/098 , , OHEA-C-073-072
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Daunomycin is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Daunomycin is, therefore, assigned to the median potency factor range and placed in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, daunomycin is assigned a 'MEDIUM' hazard ranking for the purposes of RQ adjustment.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Daunomycin, *Daunorubicin, *Carcinogenicity, Dose-response relationships, CAS Registry No: 20830-81-3.

PB93-185205/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of DDD (72-54-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/099, , OHEA-C-073-073
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB87-110904 and PB-223 159. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

The 1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane (DDD) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for DDD is estimated to be 1.30 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, DDD is assigned a 'MEDIUM' hazard ranking.

Keywords: *DDD insecticide, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 72-54-8.

PB93-185213/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Chlorambucil (305-03-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/087, , OHEA-C-073-051
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Chlorambucil is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Limited.' Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made according to the CAG's methodology for evaluating potential carcinogens. Chlorambucil is, therefore, assigned to the median potency factor range and placed in potency group 2. Combining the weight-of-evidence group and the potency group, chlorambucil is assigned a 'MEDIUM' hazard ranking.

Keywords: *Chlorambucil, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 305-03-3.

PB93-185221/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Chlordane (57-74-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/088, , OHEA-C-073-052
Contracts EPa-68-03-3112, EPA-68-03-3182
See also PB86-134343 and PB87-208757. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Chlordane is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for chlordane is estimated to be 15.13 (mg/kg/day)(1-), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, chlordane is assigned a 'MEDIUM' hazard ranking.

Keywords: *Chlordan, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 57-74-9.

PB93-185239/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Chlornaphazine (494-03-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 15p EPA/600/8-91/089, , OHEA-C-073-053
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Chlornaphazine is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Limited, and the evidence from human studies is Inadequate. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Chlornaphazine is, therefore, assigned to the median potency factor range and placed in potency group 2. Combining the weight-of-evidence group and the potency group, chlornaphazine is assigned a LOW hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Risk assessment, Humans, Animals, Dose-response relationships, Carcinogenicity tests, *Chlornaphazine, CAS 494-03-1.

PB93-185247/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of DDE (72-55-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/100, , OHEA-C-073-074
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB87-110904. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

DDE is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for DDE is estimated to be 3.82 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, DDE is assigned a 'MEDIUM' hazard ranking.

Keywords: *DDE insecticide, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 72-55-9.

PB93-185254/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of DDT (50-29-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 33p EPA/600/8-91/101, , OHEA-C-073-075
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB87-110904 and PB-286 367. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

DDT is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient'. and the evidence from human studies is 'Inadequate'. The potency factor (F) for DDT is estimated to be 5.58 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, DDT is assigned a 'MEDIUM' hazard ranking.

Keywords: *DDT, *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 50-92-3.

PB93-185262/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Diallate (2303-16-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/102, , OHEA-C-073-076
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-223 159 and PB88-111844. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Diallate is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. The potency factor (F) for diallate is estimated to be 5.28/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, diallate is assigned a 'LOW' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Risk assessment, Humans, Animals, Carcinogenicity tests, Dose-response relationships, *Diallate, CAS 2303-16-4.

PB93-185270/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Diaminotoluene (Mixed) (95-80-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/103, , OHEA-C-073-077
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-293 593. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Diaminotoluene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. This evidence is based on the carcinogenic properties of the isomer 2,4-diaminotoluene. The potency factor (F) for 2,4-diaminotoluene is estimated to be 23.2 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, diaminotoluene is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Toluene/diamino, *Carcinogenicity, Dose-response relationships, CAS Registry No: 95-80-7.

PB93-185288/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dibenz(a,h)Anthracene (53-70-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 30p EPA/600/8-91/104, , OHEA-C-073-078
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-222586. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Dibenz(a,h)anthracene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is No Data. The bioassay used to calculate the potency factor suggests that dibenz(a,h)anthracene may be highly carcinogenic (i.e., all treated animals developed tumors, and therefore, there is no basis for calculating a specific human potency factor). Hence, dibenz(a,h)anthracene is assigned to potency group 1 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, dibenz(a,h)anthracene is assigned a HIGH hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Risk assessment, Carcinogenicity tests, Humans, Animals, Dose-response relationships, *Dibenzanthracenes, CAS 53-70-3.

PB93-185296/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2:7,8-Dibenzopyrene (189-55-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 23p EPA/600/8-91/105, , OHEA-C-073-079
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,2:7,8-Dibenzopyrene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. 1,2:7,8-Dibenzopyrene is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, 1,2:7,8-dibenzopyrene is assigned a 'MEDIUM' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Humans, Animals, Dose-response relationships, Carcinogenicity tests, Risk assessment, *Dibenzopyrenes, CAS 189-55-9.

PB93-185304/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2-Dibromo-3-Chloropropane (96-12-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 27p EPA/600/8-91/106, , OHEA-C-073-080
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-277 472. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,2-Dibromo-3-chloropropane is a probable human carcinogen, classified as weight-of-evidence Group B2

under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 1,2-dibromo-3-chloropropane is estimated to be 1240 (mg/kg/day)(-1) placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,2-dibromo-3-chloropropane is assigned a 'HIGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *DBCP(Dibromo-3-chloropropane/1-2), *Carcinogenicity, Dose-response relationships, CAS Registry No: 96-12-8.

PB93-185312/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dihydrosafrole (94-58-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/113, , OHEA-C-073-088
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-223 159. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Dihydrosafrole is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for dihydrosafrole is estimated to be 1.08 (mg/kg/day)(-1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, dihydrosafrole is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Safrole/dihydro, *Carcinogenicity, Dose-response relationships, CAS Registry No: 94-58-6.

PB93-185320/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Pentachloroethane (76-01-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/170, , OHEA-C-073-158
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB83-206748. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Pentachloroethane is a probable human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data.' The potency factor (F) for pentachloroethane is estimated to be 1.26 (mg/kg/day)-(1+1), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, pentachloroethane is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Neoplasms, Hazardous materials, Tolerances(Physiology), *Ethane/pentachloro, *Carcinogenicity, Dose-response relationships, CAS Registry No: 76-01-7.

PB93-185338/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dimethylaminoazobenzene (60-11-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 26p EPA/600/8-91/116, , OHEA-C-073-091
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Dimethylaminoazobenzene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is No Data. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Dimethylaminoazobenzene is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, dimethylaminoazobenzene is assigned a MEDIUM hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Dimethylaminoazobenzene, *Carcinogenicity, Dose-response relationships, CAS Registry No: 60-11-7.

PB93-185346/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 7,12-Dimethylbenz(a)anthracene (57-97-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/117, , OHEA-C-073-092
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB83-163477. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

7,12-Dimethylbenz(a)anthracene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 7,12-dimethylbenz(a)anthracene is estimated to be 540/(mg/kg/day), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, 7,12-dimethylbenz(a)anthracene is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Humans, Animals, Dose-response relationships, Carcinogenicity tests, Risk assessment, *Benzanthracene/dimethyl, CAS 57-97-6.

PB93-185353/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 3,3'-Dimethylbenzidine (119-93-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/118, , OHEA-C-073-093
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

3,3'-Dimethylbenzidine is a possible human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is No Data. The potency factor (F) for 3,3'-dimethylbenzidine is estimated to be 27.4 (mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, 3,3'-dimethylbenzidine is assigned a MEDIUM hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Humans, Animals, Carcinogenicity tests, Dose-response relationships, Risk assessment, *Dimethylbenzidines, CAS 119-93-7.

PB93-185361/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dimethylcarbamoyl Chlo. Final rept.
Syracuse Research Corp., NY.
Jun 88, 20p EPA/600/8-91/119, , OHEA-C-073-094
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Dimethylcarbamoyl Chloride is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is Inadequate. The potency factor (F) for dimethylcarbamoyl chloride is estimated to be 505 (mg/kg/day), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, dimethylcarbamoyl chloride is assigned a HIGH hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Humans, Animals, Carcinogenicity tests, Dose-response relationships, Risk assessment, *Dimethylcarbamoyl chloride, CAS 79-44-7.

PB93-185379/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,1 Dimethylhydrazine (57-14-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/120, , OHEA-C-073-095
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,1-Dimethylhydrazine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is No Data. The potency factor (F) for 1,1-dimethylhydrazine is estimated to be 82.5/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, 1,1-dimethylhydrazine is assigned a MEDIUM hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, *Dimethylhydrazines, Risk assessment, Carcinogenicity tests, Humans, Dose-response relationships, Animals, CAS 57-14-7.

PB93-185387/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2-Dimethylhydrazine (540-73-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/121, , OHEA-C-073-096
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,2-Dimethylhydrazine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is No Data. The potency factor (F) for 1,2-dimethylhydrazine is estimated to be 4210 (mg/kg/day)-1 placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,2-dimethylhydrazine is assigned a HIGH hazard ranking.

Keywords: *Dimethylhydrazines, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcino-

genicity, Dose-response relationships, CAS Registry No: 540-73-8.

PB93-185395/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dinitrotoluene (Mixture) (25321-14-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/122, , OHEA-C-073-097
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-185411 and PB88-218961. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Carcinogenicity data for mixed dinitrotoluenes are inadequate. Since the technical grade mixture consists of approximately 75 percent 2,4-dinitrotoluene and 19.5 percent 2,6-dinitrotoluene, hazard assessment for the mixture can be based on experimentation with the 2,4-isomer. Dinitrotoluene (mixture) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is Sufficient, and the evidence from human studies is No Data. The potency factor (F) for dinitrotoluene (mixed) is the same as the factor for 2,4-dinitrotoluene, which is 3,82 (mg/kg/day)(-1). Therefore, dinitrotoluene (mixture) can be placed in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, dinitrotoluene (mixture) is assigned a MEDIUM hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *DNT(Dinitrotoluenes), *Carcinogenicity, Dose-response relationships, CAS Registry No: 25321-14-6.

PB93-185403/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 2,4-Dinitrotoluene (121-14-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/123, , OHEA-C-073-098
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-185395. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

2,4-Dinitrotoluene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 2,4-dinitrotoluene is estimated to be 3.82 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 2,4-dinitrotoluene is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *DNT(Dinitrotoluene), *Carcinogenicity, Dose-response relationships, CAS Registry No: 121-14-2.

PB93-185411/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 2,6-Dinitrotoluene (606-20-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 14p EPA/600/8-91/124, , OHEA-C-073-099
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-185403. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

2,6-Dinitrotoluene is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is Limited, and the evidence from human studies is No Data. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. 2,6-Dinitrotoluene is, therefore, assigned the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 2,6-dinitrotolune is assigned a LOW hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *DNT(Dinitrotoluene), *Carcinogenicity, Dose-response relationships, CAS Registry No: 606-20-2.

PB93-185429/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,4-Dioxane (123-91-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 25p EPA/600/8-91/125, , OHEA-C-073-100
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-285 711. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,4-Dioxane is a probalble human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for 1,4-dioxane is estimated to be 0.34 (mg/kg/day)(-1), placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,4-dioxane is assigned a 'LOW' hazard ranking.

Keywords: *Dioxanes, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 123-91-1.

PB93-185536/REB PC **A11**/MF **A03**
Environmental Research Lab., Athens, GA.
Subtitle D Landfill Application Manual for the Multimedia Exposure Assessment Model (MULTIMED).
AQUA TERRA Consultants, Mountain View, CA.
S. Sharp-Hansen, C. Travers, P. Hummel, and T. Allison. May 93, 229p EPA/600/R-93/082
Contracts EPA-68-03-3513, EPA-68-01-7176
Prepared in cooperation with Computer Sciences Corp., Athens, GA. Sponsored by Environmental Research Lab., Athens, GA.

The MULTIMED computer model simulates the transport and transformation of contaminants released from a hazardous waste disposal facility into the multimedia environment. The report is an application manual for the use of MULTIMED in modeling Subtitle D land disposal facilities (as described in the Resource Conservation and Recovery Act). For Subtitle D facilities, only the flow and transport components of MULTIMED are used in simulating leachate movement through the unsaturated zone and transport in the saturated zone. A preprocessor guides the user in the creation of a correct Subtitle D input file by restricting certain options and parameters and by setting appropriate defaults. Instruction is provided for inexperienced as well as experienced model users who seek to study or design waste disposal facilities.

Keywords: *Hazardous materials, *Earth fills, *Leaching, *Soils, User manuals(Computer programs), Models, Ground water recharge, Computerized simulation, Water flow, Environmental transport, Instructions, Design criteria, Waste disposal, Leachate, Subtitle D facilities, Resource Conservation and Recovery Act(RCRA).

PB93-185551/REB PC **A05**/MF **A01**
Environmental Characteristics of EPA, NRC, and DOE Sites Contaminated with Radioactive Substances.
Environmental Protection Agency, Washington, DC. Office of Radiation and Indoor Air.
Mar 93, 93p EPA/402/R-93/011
See also DE90013615. Prepared in cooperation with Department of Energy, Washington, DC. Office of Environmental Restoration, and Nuclear Regulatory Commission, Washington, DC. Office of Nuclear Material Safety and Safeguards.

The U.S. EPA offices of Radiation and Indoor Air and Solid Waste and Emergency Response, the US Department of Energy Office of Environmental Restoration and Waste Management, and the Nuclear Regulatory Commission Office of Nuclear Material Safety and Safeguards initiated preliminary efforts to promote the more appropriate and consistent use of computer models in remediating sites contaminated by radioactive substances and managed by the participating federal agencies. As a baseline for these efforts, the nature and types of problems present at these sites must be understood. The report responds to this need. It presents in textual, tabular, and graphical formats: a list of the 45 EPA National Priorities List Superfund sites and the 38 NRC Site Decommissioning Management Plan sites containing radioactive waste materials, the types of waste found at each site, a description of the physical form of the waste, physical characteristics of the site, and demographic characteristics of the region surrounding the site.

Keywords: *Superfund, *Radioactive wastes, *Radioactive contamination, *Waste management, Government agencies, US EPA, US NRC, US DOE, Sites, Path of pollutants, Ground water, Computerized simulation, Models, Physical properties, Demography, Remedial action, Environmental impacts, National Priorities List(NPL).

PB93-185577/REB PC **A04**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Study of Highway Vehicle Emission Inventory Procedures for Selected Urban Areas.
Cambridge Systematics, Inc., MA.
Jan 93, 70p EPA/452/R-93/011
Contract EPA-68D90073
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The report identifies potential areas where additional information could be developed that would assist states and urban areas in the preparation of mobile source emissions inventories. It includes a review of current mobile source emissions inventory practices in fifteen urban areas. Existing guidance-related materials were assessed in light of the results of the review, and recommendations for improved emissions inventory information or procedures were developed. The report describes the findings from the review of existing mobile source inventory practices. The problems and solutions uncovered from the state and local areas investigations provide a base of comparison for assessing both current and proposed EPA mobile source inventory preparation procedures.

Keywords: *Urban areas, *Air pollution monitoring, Exhaust emissions, Motor vehicles, Highways, State government, Local government, Nonpoint sources, Environmental impacts, Speed.

PB93-185585/REB PC **A09**/MF **A02**
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Mar 93, 190p EPA/812/B-93/004

The handbook defines primacy, the responsibilities of primacy, primacy's advantages and limitations, and how to seek primacy. Primacy is a provision in the 1986 Amendments to the Safe Drinking Water Act (SDWA). It allows Indian Tribes the opportunity to assume principal responsibility in the enforcement of public drinking water and/or underground injection control (UIC) regulations within the Indian Tribe's jurisdiction. To attain primacy a Tribe must have drinking water and underground injection control regulations which are at least as strict as EPA regulations, and must have an independent agency or organization within the Tribal government that has the power to enforce its regulations.

Keywords: *Jurisdiction, *Potable water, *Water pollution control, Handbooks, Regulations, Law enforcement, Project management, Statutes, Benefit cost analysis, Supervision, Public utilities, US EPA, *Indian Tribes, *Safe Drinking Water Act Amendments of 1986, Reservations.

PB93-185601/REB PC **A07/MF A02**
Environmental Protection Agency, Washington, DC. Office of Ground Water and Drinking Water.
Learning Guide for State/Local Drinking Water Agreements.
National Environmental Health Association, Denver, CO.
1992, 142p
Sponsored by Environmental Protection Agency, Washington, DC. Office of Ground Water and Drinking Water.

The 1986 Amendments to the Safe Drinking Water Act mandated sweeping changes in the scope and costs of state drinking water programs. Some states are maximizing available resources by relying on local governments to carry out some of their drinking water responsibilities. The guidebook was developed to provide states and local governments using this approach with practical advice and suggestions about formal agreements related to Safe Drinking Water Act responsibilities.

Keywords: *Potable water, *Water quality, *Regulations, Water supply, Agreements, State government, Local government, Arizona, Montana, Oregon, Michigan, Pennsylvania, Drinking water.

PB93-185619/REB PC **A17/MF A03**
U.S. EPA NPDES: Basic Permit Writers' Course. Workbook.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Mar 93, 380p EPA/833/B-92/004
See also PB89-126478.

The workbook discusses the process of issuing a permit from receipt of the application form to the development of effluent limitations, monitoring conditions, special conditions and, ultimately, issuance of the permit.

Keywords: *Licenses, *Training programs, *Water quality management, Manuals, Guidelines, US EPA, Water pollution standards, Monitoring, Law enforcement, Municipalities, Industrial wastes, Reporting, Requirements, Compliance, National Pollutant Discharge(NPDES).

PB93-185700/REB PC **A03/MF A01**
Field-Deployable Monitors for Volatile Organic Compounds in Air. (Essential Capabilities of a Portable Gas Chromatograph).
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
R. E. Berkley. 1993, 14p EPA/600/A-93/085

Volatile organic compounds in ambient air are usually estimated by trapping them from air or collecting whole air samples and returning them to a laboratory for analysis by gas chromatography using selective detection. Immediate data can be obtained, and sampling errors minimized, by analyzing with a field-deployable instrument at the time samples are collected. Portable gas chromatographs are available, but they don't fully meet the need for quick, high-quality data under field conditions. Shortcomings include insensitive detectors, non-selective detectors, poor resolution, retention time drift, maladroit data processing schemes, excessive energy consumption, and vulnerability to weather. Improved waterproofing, temperature regulation, and energy efficiency are particularly crucial to true field-deployability. Mass spectrometric detection, high-speed chromatography, polycapillary chromatography, and peak modulation may lead to useful enhancements in future.

Keywords: *Air pollution sampling, *Volatile organic compounds, *Field tests, Quality control, Errors, Chemical analysis, Portable equipment, Gas chromatography, Improvement, Mass spectroscopy, Feasibility studies, Modulation, Weathering, Vulnerability.

PB93-185718/REB PC **A01/MF A01**
Statistical Problems Arising from Environmental Issues.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
L. H. Cox. 15 Mar 93, 4p EPA/600/A-93/087

Statistical problems posed by selected issues and problems in environmental science, monitoring and management are discussed in the report.

Keywords: *Statistics, *Environmental monitoring, *Project management, Trends, Assessments, Collecting methods, Reliability, Estimates, Environmental models, Sites, Variations, Statistical analysis, Design criteria, Weather, Constraints, Reporting, Decision making, Mathematical models, Accuracy, *Environmental issues.

PB93-185726/REB PC **A03/MF A01**
Source Apportionment of Air Pollution in China: Extending the Usefulness of Receptor Modeling by Combining Multivariate and Chemical Mass Balance Models.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
M. P. Zelenka, W. E. Wilson, and P. J. Lioy. 1993, 18p EPA/600/A-93/088
Prepared in cooperation with Environmental and Occupational Health Sciences Inst., Piscataway, NJ. Exposure Measurement and Assessment Div., and National Oceanic and Atmospheric Administration, Research Triangle Park, NC. Air Resources Lab.

The research explores the possibility of using a two step method of identifying and quantifying air pollution emissions in an urban environment. The procedures uses a mathematical model called Target Transformation Factor Analysis (TTFA) to estimate source profiles using ambient trace element air concentration data. A source profile is analogous to a fingerprint since it is unique to each source of air pollution. The profiles estimated by TTFA are then employed in a Chemical Mass Balance (CMB) source apportionment analysis for the air shed. Other known sources are estimated using source signatures from the literature. Applying the TTFA and CMB models in this fashion is called receptor modeling. Generically, a receptor model is the combination of measured air pollution concentration data with a numerical technique which apportions the measured air pollution among distinct source types. The results show that TTFA can be used to provide quantitative estimates of air pollution source profiles for an urban center in China. The number of profiles for unique source types was limited for the data set since emissions from certain types of sources co-varied during each sampling day. Consequently, the CMB analyses that applied the TTFA source profiles needed to be supplemented with standard U.S. EPA source profiles.

Keywords: *China, *Urban areas, *Air pollution sampling, Coal burning appliances, Combustion products, Exhaust emissions, Point sources, Chemical analysis, Transformations(Mathematics), Mathematical models, Tianjin(China), Wuhan(China), Target transformation factor analysis, Chemical mass balance.

PB93-185734/REB PC **A02/MF A01**
Multiple Metals Stack Emission Measurement Methodology for Stationary Sources, Current Status.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
T. E. Ward. 1993, 8p EPA/600/A-93/089

Stack emissions of metals from stationary sources are of present interest to the United States Environmental Protection Agency (USEPA), to state and local governments, to industries, and to the public. When regulations require limitation of metals stack emissions, it follows logically that measurement methodology is necessary for determining compliance to the established limits. Isokinetic sampling from a grid of points produces a representative sample from which the multiple emissions of up to sixteen metals can be measured in the sample from one train. Metals in the stack particulate matter and in the gases are measured separately. The samples are prepared by digestion for subsequent instrumental analysis by inductively coupled plasma or atomic absorption spectroscopy. The sixteen metals are total Cr, Cd, As, Ni, Mn, Be, Cu, Zn, Pb, Se, P, Tl, Ag, Sb, Ba, and Hg. Emission factor development, research requiring quantification of metals emissions, and determining emission compliance are important potential applications of this methodology.

Keywords: *Flue gases, *Air pollution monitoring, *Metals, Exhaust emissions, Chemical analysis, Stationary sources, Point sources, Absorption spectroscopy, Multiple metals methodology.

PB93-185742/REB PC **A02/MF A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Biomass Combustion in Gas-Turbine-Based Systems. Journal article.
Energy and Environmental Research Corp., Irvine, CA.
J. L. Newhall, B. A. Folsom, D. G. Taylor, D. A. Kirchgessner, and G. B. Martin. 1993, 8p EPA/600/A-93/090
Contract EPA-68-CO-0094
Presented at the International Conference on Gas Turbines in Cogeneration (6th), Houston, TX., September 1-3, 1992. See also DE88-001135. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

Biomass materials such as waste wood, crop residues, and begasse are widely available at low cost. The use of biomass to generate power is a cost effective way to reduce carbon dioxide (CO_2) emissions and the use of non-renewable resources. The study is a comparative evaluation of a range of biomass power generation systems. The objective was to identify systems most suitable for the unique properties of biomass. The characteristics of biomass fuels were reviewed and the performance of several gas-turbine-based cycles was evaluated using a thermodynamic model. Capital and operating costs for each system were estimated.

Keywords: *Gas generators, *Biomass, *Combustion products, Gas turbine engines, Ashes, Calorific value, Carbon dioxide, Moisture, Cost analysis, Economic analysis, Reprints.

PB93-185759/REB PC **A03/MF A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Combined Use of Ion Exchange Resins and Granular Activated Carbon for the Control of Organic Matter and Disinfection By-Products.
Cincinnati Univ., OH. Dept. of Civil and Environmental Engineering.
M. A. Benz, R. S. Summers, B. Haist-Gulde, M. Kochling, and H. Sonetheimer. 1993, 23p EPA/600/A-93/092
Grant EPA-R-186700
Pub. in Proceedings of the American Water Works Association Annual Conference, Vancouver, B.C., June 18-22, p565-585. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The use of anion exchange resin as a pretreatment step to Granular Activated Carbon (GAC) is evaluated. Ohio River water and Palm Beach groundwater are used. The results show that resin pretreatment is significant in extending GAC performance. The active component modeling results show that the resins remove the weakly GAC adsorbing compounds but not the strongly adsorbing compounds. Therefore, resin pretreatment does not reduce GAC fouling.

Keywords: *Anion exchanging, *Organic wastes, *Water treatment, Activated carbon treatment, Polymers, Absorption, Removal, Surface waters, Ohio River, Ground water, Disinfection, Fouling, Performance evaluation, Graphs(Charts), Tables(Data), Pretreatment(Water), Drinking water.

PB93-185767/REB PC **A02/MF A01**
Planning and Progress of EPA's Pollution Prevention Research Program.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
J. S. Bridges. 1993, 9p EPA/600/A-93/093
Presented at the Conference of the American Society for Public Administration, Region 6, October 2-4, 1991.

The purpose of the paper is to: (1) present an awareness for environmental stewardship using pollution prevention (P2) as an approach by the public adminis-

trator for decision-making, and (2) present the EPA's pollution prevention research strategy. The paper was presented at the American Society for Public Administration, Region VI conference on October 3, 1991.

Keywords: *Pollution control, *Pollution abatement, *Waste management, Hazardous materials, Citizen participation, Decision making, Consumers, Awareness, *Pollution Prevention Research Program.

PB93-185775/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Characteristics of Non-Petroleum Underground Storage Tanks.
CDM Federal Programs Corp., Fairfax, VA.
R. W. Hillger, J. W. Starr, M. P. MacArthur, and J. W. Maresca. 1993, 16p EPA/600/A-93/094
Contract EPA-68-03-3409
Prepared in cooperation with Vista Research, Inc., Mountain View, CA. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

It is generally acknowledged that a small fraction of the total underground storage tank population is used to store chemicals. The detailed characteristics of these tanks, however, are not well understood. Additional information is required if competent decisions are to be made regarding leak detection, tank upgrading, and tank management practices. In order to obtain more detailed information regarding these tanks, two surveys were conducted over the course of several years. The first survey examined the chemical tank populations in two states, California and New York, along with data from the Chemical Manufacturers Association. The second survey focused on the chemical tank databases for 14 states covering a wide geographical area. Data from these two surveys were then analyzed to determine the primary features of the chemical tank population. The results of these analyses indicate that up to 2 percent of the total tank population contains non-petroleum chemicals, with roughly half of these tanks, either by number or tank volume, containing hazardous substances. Solvents were found to comprise the single largest fraction of hazardous chemicals. Of these, acetone, toluene, methanol and methyl ethyl ketone were found to be the most commonly stored chemical substances, comprising roughly 60 percent of hazardous materials stored in tanks, and 34 percent of all chemical tanks, which contain both hazardous and non-hazardous substances, in the sampled states. Tank age was found to average 18 years, with over 85 percent of the tanks being fabricated from steel. Roughly 60 percent of the tanks in the state databases had capacities between 1,000 and 10,000 gal (3,790 and 37,900 L), with the average tank size from all states being 7,205 gal (27,307 L). These characteristics suggest that a strong potential exists for corrosion-induced tank leakage, but that conventional tank integrity testing could be applied to detect leakage from a large fraction of the chemical tank population, with no modifications to the leak detection performance requirements.

Keywords: *Underground storage, *Storage tanks, Organic solvents, Hazardous materials, Corrosion, Acetone, Toluene, Methanol, Surveys, Leakage, Chemical industry, Reprints.

PB93-185783/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
CDM Federal Programs Corp., Fairfax, VA.
E. G. Eckert, J. W. Maresca, R. W. Hillger, and J. J. Jezzi. 1992, 19p EPA/600/A-93/095
Contract EPA-68-03-3409
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Experiments were conducted on the underground pipeline at the EPA's UST Test Apparatus in which three acoustic sensors separated by a maximum distance of 38 m (125 ft) were used to monitor signals produced by 11.4-, 5.7-, and 3.8-L/h (3.0-, 1.5-, and 1.0-gal/h) leaks in the wall of a 5-cm-diameter pressurized petroleum pipeline. The range of line pressures and hole diameters used in the experiments were 70 to 140 kPa (10 to 20 psi), and 0.4 to 0.7 mm (0.015 to 0.030 in.), respectively. Application of a leak location algorithm based upon the technique of coherence function analysis resulted in mean differences of approximately 10 cm between predicted and actual leak locations. Standard deviations of the location estimates were approximately 30 cm. Spectra computed from leak-on and leak-off time series indicate that the majority of acoustic energy received in the far field of the leak is concentrated in a frequency band from 1 to 4 kHz. The strength of the signal within this band was found to be proportional to the leak flow rate and line pressure.

Keywords: *Storage tanks, *Petroleum pipelines, *Leakage, *Acoustic detectors, Underground storage, Passive sonar, Flow rate, Pressure sensor, Emissions, Sound transmission.

PB93-185791/REB PC **A03**/MF **A01**
Reclamation of Urban Stormwater. Book chapter.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. Field. c1993, 29p EPA/600/A-93/096
Pub. in Book, Integrated Stormwater Management, Chapter 21, p307-334.

Rainfall runoff becomes contaminated as it passes over urban land. Billions of gallons of water can be recovered for beneficial uses if urban stormwater is properly controlled and treated. The Storm and Combined Sewer Program of the United States Environmental Protection Agency Office of Research and Development has continuously supported the development and demonstration of stormwater control systems and treatment processes. Water quality of the treated storm runoff can meet the required standards for subpotable usage. Current urban stormwater control and treatment technology are discussed, leading to the feasibility of urban stormwater reuse for various purposes in industry, irrigation and recreation. A hypothetical case study illustrating the cost effectiveness of reclaiming urban stormwater for complete industrial supply is presented.

Keywords: *Surface drainage, *Storm water runoff, *Water conservation, *Water pollution control, Water reclamation, Waste water reuse, Biological industrial waste treatment, Water supply, Storm sewers, Water storage, Storage tanks, Disinfection, Flotation, Chlorination, Filtration, Lagoons(Ponds), Pumping stations, Tables(Data), Urban areas, Urban hydrology, Retention basins, Sewage treatment plants.

PB93-185809/REB PC **A02**/MF **A01**
Program for Providing Engineering Technical Assistance to Site Remediation Managers.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
B. L. Blaney. 1992, 7p EPA/600/A-93/097
Proceedings for 1992 International Symposium on Environmental Contamination in Central and Eastern Europe, Budapest, Hungary, October 12-16, 1992, p297-300. See also PB92-205657 and PB93-105591.

The Office of Research and Development (ORD) of the U.S. Environmental Protection Agency (USEPA) provides technical support to USEPA Regional Offices which are responsible for overseeing and/or implementing the remediation of contaminated sites. As a result, ORD has developed a number of effective mechanisms for prividing timely, practical and high quality technical support on such site remediation projects, and has produced a variety of technology transfer documents on the topic. The paper describes these activities, with particular emphasis on the program of the USEPA ORD Risk Reduction Engineering Laboratory's program to deal with engineering remediation problems.

Keywords: *Remedial action, *Engineering, *Program management, *Hazardous materials, Sites, Technical assistance, Waste treatment, Technology transfer, US EPA, Aerabic processes, Biodeterioration, Pesticides, Guidelines, Solvents, Metals, Resource Conservation and Recovery Act(RCRA), *Risk Reduction Engineering Laboratory program.

PB93-185817/REB PC **A03**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
Development and Application of Borehole Flowmeters for Environmental Assessment. Journal article.
Auburn Univ., AL. Dept. of Civil Engineering.
F. J. Molz, and S. C. Young. c1993, 13p EPA/600/J-93/134
Pub. in The Log Analyst, p13-21 Jan/Feb 93. Prepared in cooperation with Tennessee Valley Authority, Norris. Engineering Lab. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

In order to understand the origin of contaminant plumes and infer their future migration, one requires a knowledge of the hydraulic conductivity (K) distribution. In many aquifers, the borehole flowmeter offers the most direct technique available for developing a log of hydraulic conductivity in the horizontal direction. A new electromagnetic flowmeter developed by the Tennessee Valley Authority (TVA) is based on Faraday's law and produces a voltage that is proportional to the velocity of the water passing through the central cylindrical channel of the meter. The threshold velocity of a prototype instrument is less than 8.8 + or - 0.9 cm/min. Calculation of a K distribution (granular aquifer) or flowpath distribution (fracture flow) based on flowmeter data is a straightforward process as described herein. Applications of both spinner and electromagnetic flowmeters to granular and fractured-rock aquifers are described.

Keywords: *Boreholes, *Flowmeters, *Hydraulic conductivity, *Aquifers, Measurement, Well logging, Prototypes, Rocks, Fracture zones, Electromagnetic properties, Faraday effect, Reprints, Spinner flowmeters.

PB93-185825/REB PC **A03**/MF **A01**
Environmental Research Lab.-Narragansett, Newport, OR.
Status and Applications of Echinoid ('Phylum echinodermata') Toxicity Test Methods. Journal article.
Southern California Coastal Water Research Project Authority, Long Beach.
S. Bay, R. Burgess, and D. Nacci. c1993, 24p EPA/600/J-93/135, , ERLN-X188
Contract EPA-68-C1-0005
Pub. in Environmental Toxicology and Risk Assessment, p281-302 1993. Prepared in cooperation with Science Applications International Corp., Narragansett, RI. Sponsored by Environmental Research Lab.-Narragansett, Newport, OR.

The use of echinoderms for toxicity testing has focused primarily on sea urchins and sand dollars (Strongylocentrotus purpuratus, Arbacia punctulata, Lytechinus pictus, and Dendraster excentricus, for example). The status and relative sensitivity of various test methods are described. The most frequently used test methods consist of short-term exposures of sea urchin sperm or embryos; these tests can be easily conducted at all times of the year by using species with complementary spawning cycles or laboratory conditioned populations of a single species. Data from reference toxicant and effluent toxicity tests are summarized. Information on the precision and sensitivity of echinoid test methods are limited and preclude rigorous comparisons with other test methods. The available data indicate that the sensitivity and precision of these methods are comparable to short-term chronic methods for other marine invertebrates and fish. Recent application of the sperm test in toxicity identification evaluations (TIEs) and studies of effluent toxicity decay and sediment toxicity illustrate the versatility of this rapid (10 to 60 min exposure) test method. Embryo tests typically use a 48 to 96 h exposure period and measure the occurrence of embryo malformations. Most recent applications of the embryo test have been for the assessment of sediment elutriate toxicity. Adult echinoderms are not frequently used to assess effluent or receiving water toxicity. Recent studies have had success in using the adult life stage of urchins and sand dollars to assess the effects of contaminated sediment on growth, behavior, and bioaccumulation. (Copyright (c) American Society for Testing and Materials, 1993.)

Keywords: *Sea urchins, *Toxicity, *Water pollution effects(Animals), Life stages, Sperm, Fertilization, Reproduction(Biology), Eggs, Embryology, Hazardous materials, Exposure, Reprints, *Sand dollars, *Echinoidea.

PB93-185833/REB PC **A03**/MF **A01**
Environmental Research Lab., Narragansett, RI.

Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program. Journal article.
Science Applications International Corp., Narragansett, RI.
J. F. Paul, K. J. Scott, A. F. Holland, S. B. Weisberg, and J. K. Summers. c1992, 26p EPA/600/J-93/136, , ERLN-1374
Contracts EPA-68-C1-0005, EPA-68-D9-0166
Pub. in Chemistry and Ecology, v7 p93-116, 1992. Prepared in cooperation with Versar, Inc., Columbia, MD., and National Oceanic and Atmospheric Administration, Rockville, MD. Sponsored by Environmental Research Lab., Narragansett, RI.

The report monitors the status and trends in the condition of the nation's near coastal waters, forests, wetlands, agro-ecosystems, surface waters, deserts and rangelands. The program is also intended to evaluate the effectiveness of Agency policies at protecting ecological resources occurring in these systems. Monitoring data collected for all ecosystems will be integrated for regional and national status and trends assessments. The near coastal component of EMAP consists of estuaries, coastal waters, and the Great Lakes. Near coastal ecosystems have been regionalized and classified, and an integrated sampling strategy has been developed. EPA and NOAA have agreed to coordinate and, to the extent possible, integrate the near coastal component of EMAP with the NOAA National Status and Trends Program. A demonstration project was conducted in estuaries of the mid-Atlantic region (Chesapeake Bay to Cape Cod) in the summer of 1990. In 1991, monitoring contined in mid-Atlantic estuaries and was initiated in estuaries of a portion of the Gulf of Mexico.

Keywords: *Environmental monitoring, *Estuaries, *Coasts, *Surface waters, *Great Lakes, *Pollution prevention, Trends, Forest land, Ecosystems, North Atlantic Ocean, Chesapeake Bay, Mexico Gulf, Regional analysis, US EPA, Air pollution, Water pollution, Reprints, Environmental Monitoring and Assessment Program(EMAP).

PB93-185841/REB PC **A03**/MF **A01**
Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae. Journal article.
Environmental Research Lab., Narragansett, RI.
M. A. R. Juinio, J. S. Cobb, D. Bengtson, and M. Johnson. c1992, 12p EPA/600/J-93/137, ERLN-1436
Pub. in Marine Biology 114, p1-10 1992. Prepared in cooperation with Rhode Island Univ., Kingston. Dept. of Zoology.

Postlarval lobsters Homarus americanus, hatched from three females collected in 1989 from Block Island Sound, Rhode Island were reared individually in the laboratory under nine treatment combinations of temperature (15, 18 and 20C) and feeding (starved, low ration, and full ration). Total RNA, DNA(mg./ind.), RNA:DNA ratios and molt stage were determined for individuals sampled at daily intervals. Post-larval lobsters had high resistance to starvation. A majority of the lobsters survived 12d of food deprivation, with some surviving up to 24d. During starvation, cell biomass (estimated from protein:DNA) decreased to a minimum size, whereas cell number (based on total DNA) was generally conserved. The molt cycle was arrested at stage C in the starved postlarvae. Instar duration was inversely related to temperature. However, the duration of the postlarval instar did not differ between the low and full ration treatments. Uncoupling of the cell growth and the molt cycle was evident in the full and low ration treatments.

Keywords: *Lobsters, *Nucleic acids, *Feeding stuffs, Deoxyribonucleic acids, Ribonucleic acids, Tests, Temperature, Larvae, Nutrition, Life cycles, Cells(Biology), Growth, Biomass, Starvation, Reprints, *Homarus americanus, Molt cycle.

PB93-185858/REB PC **A02**/MF **A01**
Taxonomic Level Sufficient for Assessing a Moderate Impact on Macrobenthic Communities in Puget Sound, Washington, USA. Journal article.
Environmental Research Lab.-Narragansett, Newport, OR. Mark O. Hatfield Marine Science Center.
S. P. Ferraro, and F. A. Cole. c1992, 7p EPA/600/J-93/138, ERLN-N183
Pub. in Canadian Jnl. of Fisheries and Aquatic Sciences, v49 n6 p1184-1188 1992. Summary in French.

Macrobenthic data obtained using three sampling schemes (0.06-sq m x 8-cm-deep sampling unit and 1.0- or 0.5-mm-mesh sieves, and 0.1-sq m x 8-cm-deep sampling unit and 1.0-mm-mesh sieve) previously identified as optimal or near-optimal for detecting differences between a reference and a moderately impacted station when animals were identified to species were reanalyzed at the genus, family, order, and phylum level to determine the taxonomic level sufficient to detect differences between the stations with t-tests on five measures of community structure. Taxonomically sufficient levels for number of taxa were family in 1.0-mm-mesh samples and species in 0.5-mm-mesh samples. Specific identification was usually required for a Dominance, Shannon's, 1 - Simpson's, and McIntosh's Index in 1.0- and 0.5-mm-mesh samples, suggesting limits to the utility of the taxonomic sufficiency concept when using those indices to detect moderate impacts. This and a previous study indicate that one could reliably (alpha = 0.05, 1 - beta about 0.80) detect moderate benthic impacts at the study site on number of taxa and five other measures of community structure with five to seven replicate 0.06-sq m x 8-cm-deep, 1.0-mm-mesh samples per station and identification to family only. Taxonomic sufficiency can vary depending upon the animal size fraction sampled and the measure used.

Keywords: *Washington, *Puget Sound, *Biological communities, Benthic fauna, Water pollution effects(Animals), Taxonomy, Sampling, Reprints, Everett Harbor.

PB93-185866/REB PC **A02**/MF **A01**
Environmental Research Lab., Narragansett, RI.
Persistence of the Heat-Shock Response Over Time in a Common 'Mytilus' Mussel. Journal article.
California State Univ., Long Beach.
B. M. Sanders, V. M. Pascoe, P. A. Nakagawa, and L. S. Martin. c1992, 10p EPA/600/J-93/139, , ERLN-X192
Grant EPA-R-817219-01-1
Pub. in Molecular Marine Biology and Biotechnology 1, n2 p147-154 1992. Sponsored by Environmental Research Lab., Narragansett, RI.

The study uses immunological techniques to measure stress protein concentrations in Mytilus to examine the persistence of the heat-shock response over time. Metabolic labeling and two-dimensional electrophoresis demonstrated that three major stress protein groups, hsp60, hsp70, and the low molecular weight stress proteins, were rapidly synthesized immediately after transfer to a higher temperature. The concentrations of hsp60 and hsp70 were then measured at various times up to 8 weeks after transfer from 17 C to 27 C, a temperature they can encounter for long periods in their environment. Concentrations of both stress proteins increased within a few hours of the transfer and remained significantly elevated compared to controls for the two-month duration of the experiment. (Copyright (c) 1992 Blackwell Scientific Publications, Inc.)

Keywords: *Mussels, *Heat-shock proteins, High temperature tests, Stress proteins, Thermal shock, Thermal stresses, Electrophoresis, Reprints, *Mytilus.

PB93-185874/REB PC **A03**/MF **A01**
Environmental Research Lab.-Narragansett, Newport, OR. Pacific Ecosystems Branch.
Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene. Journal article.
Oregon State Univ., Newport. Hatfield Marine Science Center.
T. H. DeWitt, R. J. Ozretich, R. C. Swartz, J. O. Lamberson, and D. W. Schults. c1992, 14p EPA/600/J-93/140, , ERLN-N126
Contract EPA-68-C0-0051
Pub. in Environmental Toxicology and Chemistry, v11 p197-208 1992. Sponsored by Environmental Research Lab.-Narragansett, Newport, OR. Pacific Ecosystems Branch.

Organic matter in sediment is derived from many sources, including dead plants and animals, fecal matter, and flocculated colloidal organic matter. Chemical partitioning and toxicity of nonpolar organic contaminants is strongly affected by the quantity of sediment organic matter. The purpose of the study was to determine whether the quality of sediment organic matter affects partitioning and bioavailability of such contaminants. A base substrate, amended to a consistent organic carbon level (nominally 0.4%, measured 0.35% + or - 0.11 sd POC (particulate organic carbon)) with five types of organic matter (a macrophyte, fecal matter of two invertebrate species, suspended particulate organic matter, and an organic-rich mud), was spiked with serial concentrations of the polynuclear aromatic hydrocarbon, fluoranthene. After a five-week equilibration period, the toxicity of the spiked substrates to an infaunal amphipod, Rhepoxynius abronius, was measured, and the distribution of fluoranthene between particulate and interstitial water phases (including total and freely dissolved interstitial water phases) was determined.

Keywords: *Condensed aromatics, *Water pollution effects(Animals), Crustacea, Toxicity, Separation, Organic materials, Sediments, Substrates, Reprints, *Fluoranthene, Rhepoxynius abronius, Amphipods.

PB93-185882/REB PC **A03**/MF **A01**
Environmental Research Lab., Narragansett, RI.
Physical and Chemical Parameters of Sediment Extraction and Fractionation That Influence Toxicity, as Evaluated by Microtox (Trade Name). Journal article.
Rhode Island Univ., Narragansett. Graduate School of Oceanography.
K. T. Y. Ho, and J. G. Quinn. c1993, 13p EPA/600/J-93/141, , ERLN-1447
Pub. in Environmental Toxicology and Chemistry, v12 p615-625 1993. Sponsored by Environmental Research Lab., Narragansett, RI.

Several physical and chemical parameters of sediment extraction and fractionation of organic compounds that influence bioassay results were evaluated. Each parameter was evaluated with a photoluminescent bacterial bioassay (Microtox) as an end point. Three solvents (acetonitrile, acetone, and methanol) were studied for their ability to extract toxic organic components from marine sediments. Acetone extracted the most toxicity, with no difference between acetonitrile and methanol. Two methods of fractionating sediment extracts (silica-gel-column chromatography (SGCC) and acid-base fractionation) were compared. SGCC was more useful because it resulted in a wider range of responses and was faster to perform than acid-base fractionation. Microtox was used to rank four marine sediments with respect to toxicity and to determine if one chemical class (or fraction) was consistently more toxic among different sediments. With some caveats, Microtox results agreed with general chemical concentration trends and other bioassay results in distinguishing between contaminated and noncontaminated sediments. Although results indicated there was not a consistently most toxic fraction among sediments, there was a consistently least toxic fraction. The effect of sediment storage time on toxicity was also evaluated. Results indicated that the most stable chemical fraction (containing nonpolar hydrocarbons) did not change toxicologically for 30 weeks, whereas the more chemically active fraction (containing ketones, quinones, and carboxyls) changed as soon as one week. (Copyright (c) 1993 SETAC.)

Keywords: *Organic compounds, *Sediments, *Toxicity, *Bioassay, Hazardous materials, Estuaries, Chemical analysis, Fractionation, Extraction, Acetone, Methanol, Acetonitrile, Reprints.

PB93-185890/REB PC **A02**/MF **A01**
Robert S. Kerr Environmental Research Lab., Ada, OK.
VIRTUS, a Model of Virus Transport in Unsaturated Soils. Journal article.
California Univ., Riverside. Dept. of Soil and Environmental Sciences.
M. V. Yates, and Y. Ouyang. c1993, 10p EPA/600/J-93/142
Pub. in Applied and Environmental Microbiology, v58 n5 p1609-1616 May 92. Prepared in cooperation with Florida Univ., Gainesville. Dept. of Soil Science. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.

As a result of the recently proposed mandatory groundwater disinfection requirements to inactivate viruses in potable water supplies, there has been increasing interest in virus fate and transport in the subsurface. Several models have been developed to predict the fate of viruses in groundwater, but few include transport in the unsaturated zone and all require a constant virus inactivation rate. The purpose of the re-

search was to develop a predictive model of virus fate and transport in unsaturated soils that allows the virus inactivation rate to vary on the basis of changes in soil temperature. The model was developed on the basis of the laws of mass conservation of a contaminant in porous media and couples the flows of water, viruses, and heat through the soil. Model predictions were compared with measured data of virus transport in laboratory column studies and, with the exception of one point, were within the 95 percent confidence limits of the measured concentrations. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Ground water, *Environmental transport, *Viruses, *Soil properties, *Pollution control, Mathematical models, Potable water, Disinfection, Porosity, Water flow, Heat flux, Comparison, Columns(Process engineering), Laboratories, Tests, Concentration(Composition), *Unsaturated soils.

PB93-185908/REB PC **A02**/MF **A01**
New Approaches to Estimation of Solid-Waste Quantity and Composition. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
A. J. Klee. c1993, 9p EPA/600/J-93/143
Pub. in Jnl. of Environmental Engineering, v119 n2 p248-261 Mar/Apr 93. See also PB91-507756.

Efficient and statistically sound sampling protocols for estimating the quantity and composition of solid waste over a stated period of time in a given location, such as a landfill site or at a specific point in an industrial or commercial process, are essential to the design of resource recovery systems and waste minimization programs, and to the estimation of the life of landfills and the pollution burden on the land posed by the generation of solid waste. the theory developed in the study takes a significantly different approach over the more traditional sampling plans, resulting in lower costs and more accurate and precise estimates of these critical entities. A desktop computer program, called PROTOCOL, has also been developed to do the calculations required. (Copyright (c) 1993, ASCE.)

Keywords: *Solid wastes, *Sampling theory, Solid waste management, Earth fills, Municipal wastes, Pollution sources, Simulation, Quantity, Volume, Reprints, Landfills, PROTOCOL computer program.

PB93-185916/REB PC **A03**/MF **A01**
Incineration of Hazardous Waste: A Critical Review Update. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
C. R. Dempsey, and E. T. Oppelt. c1993, 50p EPA/600/J-93/144
Pub. in Jnl. of Air and Waste Management Association, v43 p23-73 Jan 93.

Over the last 15 years, concern over improper disposal practices of the past has manifested itself in the passage of a series of federal and state-level hazardous waste cleanup and control statutes of unprecedented scope. The more traditional and lowest-cost methods of direct landfilling, storage in surface impoundments and deep-well injection are being replaced in large measure by waste minimization at the source of generation, waste reuse, physical/chemical/biological treatment, incineration and chemical stabilization/solidification methods. Of all of the 'permanent' treatment technologies, properly designed incineration systems are capable of the highest overall degree of destruction and control for the broadest range of hazardous waste streams. Substantial design and operation experience exists in this area and a wide variety of commercial systems are available. Consequently, significant growth is anticipated in the use of incineration and other thermal destruction methods. The objective of this review is to examine the current state of knowledge regarding hazardous waste incineration in an effort to put these technological and environmental issues into perspective.

Keywords: *Hazardous materials, *Incinerators, *Risk assessment, Solid waste disposal, Air pollution, Water pollution, Public health, Carcinogens, Reprints.

PB93-185924/REB PC **A02**/MF **A01**
Determining Beryllium in Drinking Water by Graphite Furnace Atomic Absorption Spectroscopy. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
D. A. Lytle, M. R. Schock, N. R. Dues, and J. U. Doerger. c1993, 9p EPA/600/J-93/145
Pub. in Jnl. of the American Water Works Association, p77-83 Feb 93.

A direct graphite furnace atomic absorption spectroscopy method for the analysis of beryllium in drinking water has been derived from a method for determining beryllium in urine. Ammonium phosphomolybdate and ascorbic acid were employed as matrix modifiers. The matrix modifiers successfully eliminated common chemical interferences in drinking water samples analyzed for beryllium content, as well as interferences encountered during jar testing of beryllium removal by alum coagulation. The method proved to be a simple, accurate, and precise alternative to the method of standard additions. Method detection limit was 0.09 microgram/l, with a linear calibration range of 0 to 6 microgram/l.

Keywords: *Test methods, *Beryllium, *Chemical analysis, Atomic spectroscopy, Absorption, Sampling, Furnaces, Graphite, Ascorbic acid, Molybdates, Accuracy, Standards, Reprints, *Drinking water.

PB93-185932/REB PC **A01**/MF **A01**
Identifying Escherichia Species with Biochemical Test Kits and Standard Bacteriological Tests. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
E. W. Rice, M. J. Allen, T. C. Covert, J. Lanegwis, and J. Standridge. c1993, 5p EPA/600/J-93/146
Pub. in Jnl. of the American Water Works Association, v85 n2 p74-76 1993. Prepared in cooperation with American Water Works Association Research Foundation, Denver, CO., East Bay Municipal Utility District, Oakland, CA., and Wisconsin State Lab. of Health, Madison.

Two commercially available biochemical test identification systems were evaluated for their ability to accurately identify species of the genus Escherichia. Three separate laboratories participated in the study. The test kits did not always correctly identify species of Escherichia, but in only one instance was an isolate misidentified as Escherichia coli. The reactions of the isolates on media normally used for drinking water analysis are also discussed.

Keywords: *Escherichia, *Biochemistry, *Bacteriological techniques, Citrobacter, Species diversity, Potable water, Klebsiella, Shigella, Enterobacter, Reprints.

PB93-185957/REB PC **A03**/MF **A01**
Storm and Combined Sewer Overflow: An Overview of EPA's Research Program. Book chapter.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
R. Field. c1993, 43p EPA/600/A-93/091
Pub. in Integrated Stormwater Management Chapter 1, p3-43. See also PB90-187006.

The report represents an overview of the EPA's Storm and Combined Sewer Pollution Control Research Program performed over a 20-year period beginning with the mid-1960s. It covers Program involvements in the development of a diverse technology including pollution-problem assessment/solution methodology and associated instrumentation and stormwater management models, best management practices, erosion control, infiltration/inflow, control, control-treatment technology and the associated sludge and solids residuals handling and many others. (Copyright (c) 1993 by Lewis Publishers, Inc.)

Keywords: *Research projects, *Storm sewers, *Combined sewers, *Water pollution control, *Urban areas, Waste treatment, Mathematical models, Hydraulics, Drainage, Overflows, Containment, Microorganisms, Erosion control, Best management practices, Cost effectiveness, Fluid infiltration, Sludge disposal, Reprints, *Storm water runoff, Urban hydrology.

PB93-186104/REB PC **A03**/MF **A01**
Re-Evaluation of the Economic Impact Analysis of Effluent Limitations Guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers Industry Using Revised Compliance Costs. (Revised January 1992).
Environmental Protection Agency, Washington, DC. Engineering and Analysis Div.
Aug 91, 25p EPA/440/1-91/009B
See also PB93-186096.

The report summarizes the effects that revised compliance cost estimates have on the economic impact analysis (EIA) of effluent limitations guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) Industry. The original EIA was prepared for the final OCPSF rule which was promulgated in November 1987. The primary purpose of revisiting the economic impact analysis is to determine if, in light of the compliance cost revisions, the OCPSF rule remains economically achievable. The analyses and results reported below cover all cost revisions and corrections available as of August 1991. The handwritten revisions in the document reflect the corrections that were identified in a Federal Register notice of January 21, 1992 (57 FR 2238). The report now covers all cost revisions and corrections available as of January 1992.

Keywords: *Water pollution control, *Economic impact, Industrial wastes, Waste water, Regulations, Compliance, Cost effectiveness, Chemical industry, Plastics industry, Textile industry, Best available technology.

PB93-186112/REB PC **A14**/MF **A03**
Guidance Manual for POTW Pretreatment Program Development.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
R. Hanmer, R. Barrett, M. Prothro, and J. Gallup. Oct 83, 320p*

The manual provides guidance to the municipal personnel responsible for the development and implementation of a local pretreatment program. It also provides relevant information to the official who will supervise the local program. The development manual has two purposes: To help in developing a pretreatment program and implementing the program on an ongoing basis; To assist in preparing a program submission to obtain approval.

Keywords: *Water treatment, *Regulations, Local government, Treatment facilities, Industrial wastes, Water pollution monitoring, Effluents, Manuals, *Publicly owned treatment works(POTW), Pretreatment program, Guidelines.

PB93-186203/REB PC **A08**/MF **A02**
Office of Water Environmental and Program Information Systems Compendium, FY 1992.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Apr 92, 158p EPA/800/B-92/001

The compendium combines text and graphics in profiling 20 key Office of Water Information Systems. These profiles highlight the type of information contained in the 20 systems and the management tools (statistical, graphical, and linkage packages) associated with each. The compendium also includes descriptions of nearly 100 additional Office of Water Environmental and Program Information Systems and 35 water-related systems from other areas of the government.

Keywords: *Information systems, *Water resources, Data bases, US EPA, Describing, Environmental monitoring, Government agencies, Water supply, Key word listing.

PB93-186211/REB PC **A10**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Alternative Control Techniques Document-NOx Emissions from Process Heaters.
Midwest Research Inst., Cary, NC.
B. Sanderford. Feb 93, 212p EPA/453/R-93/015
Contract EPA-68-D1-0115
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The information in the ACT document was generated through literature searches and contacts with process heater control equipment vendors, engineering firms, chemical plants, and petroleum refineries. Chapter 2.0 presents a summary of the findings of the study. Chapter 3.0 presents information on process heater operation and industry applications. Chapter 4.0 contains a discussion of NOX formation and uncontrolled process heater NOX emission factors. Alternative control techniques and achievable controlled emission levels are included in Chapter 5.0. The cost and cost effectiveness of each control technique are presented in Chapter 6.0. Chapter 7.0 describes environmental and energy impacts associated with implementing the NOX control techniques.

Keywords: *Industrial heating, *Furnaces, *Nitrogen oxides, Stationary sources, Air pollution control, Petroleum refineries, Chemical plants, Cost analysis, Environmental engineering.

PB93-186245/REB PC **A09**/MF **A02**
Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
Environmental Protection Agency, Washington, DC. Office of Policy, Planning and Evaluation.
Feb 93, 187p EPA/230/B-93/001, ISBN-0-16-041708-2
Also available from Supt. of Docs. See also PB92-201144.

The publication makes key Federal information on water quality available to environmental analysts. The Guide includes information on (1) underlying demographic pressures; (2) the use of land, water, and resources; (3) pollutant loadings; (4) ambient water quality; (5) other effects of water pollution; and (6) a listing of programs established to preserve, protect and restore water quality.

Keywords: *United States government, *Water quality management, *Government agencies, Population growth, Demography, Land use, Water resources, Statistical data, Water supply, Government policies, Wildlife, Water conservation, Hydrology, Water pollution effects, Agriculture, Ground water, Surface waters, Data bases, Forestry, Environmental monitoring, *Water quality programs, Organic loadings, Water pollution standards, Listings.

PB93-186252/REB PC **A07**/MF **A02**
Environmental Research Lab., Athens, GA.
MULTIMED: The Multimedia Exposure Assessment Model for Evaluating the Land Disposal of Wastes-Model Theory.
Woodward-Clyde Consultants, Oakland, CA.
A. M. Salhotra, P. Mineart, S. Sharp-Hansen, and T. L. Allison. May 93, 137p EPA/600/R-93/081
Contracts EPA-68-03-6304, EPA-68-03-3513
See also PB82-224148. Prepared in cooperation with AQUA TERRA Consultants, Mountain View, CA., and Computer Sciences Corp., Athens, GA. Sponsored by Environmental Research Lab., Athens, GA.

The MULTIMED computer model simulates the transport and transformation of contaminants released from a hazardous waste disposal facility into the multimedia environment. Release to air and soil, including the unsaturated and saturated zones, and possible interception of the subsurface contaminant plume by a surface stream is represented by the model. The model further simulates contaminant movement through the air, soil, groundwater, and surface water media to humans and other potentially affected species. MULTIMED is intended for general exposure and risk assessments of waste facilities and for analyses of the impacts of management and engineering controls. The report provides the conceptual and theoretical details of the various modules and the Monte Carlo simulation technique.

Keywords: *Hazardous materials, *Transport, *Path of pollutants, Land pollution, Water pollution, Air pollution, Computerized simulation, Models, Earth fills, Risk assessment, Probability, Exposure, Public health, MULTIMED computer model, Multimedia environment, Soil contamination, Landfills.

PB93-186260/REB PC **A05**/MF **A02**
Corvallis Environmental Research Lab., OR.
Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
ManTech Environmental Technology, Inc., Corvallis, OR.
P. R. Adamus. Apr 93, 100p EPA/600/R-93/071
Sponsored by Corvallis Environmental Research Lab., OR.

Wetlands of the Colorado Plateau receiving water from irrigation can support several societal values. However, relatively little research has been conducted in irrigated wetlands, and their ability to alter water quality in particular remains relatively unknown. For an explicit, integrated, local-scale approach to biodiversity assessment, the report introduces a new procedure for rapidly evaluating wetland and riparian habitat. The procedure estimates the number of species likely to occur regularly in a particular wetland and uses this to assign importance to the wetland. The use can employ the procedure to evaluate a wetland using any subset of species, and to select combinations of wetlands that will maximize avian diversity at local and regional scales.

Keywords: *Irrigation, *Swamps, *Birds, *Water quality, Marshes, Habitats, Salinity, Field tests, Ecosystems, Spatial distribution, Surveys, Vertebrates, *Wetlands, Colorado Plateau.

PB93-186278/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Sampling and Assessment Issues in Using Fish as Indicators of Ecological Condition in Lakes: A Workshop Report. (3rd Draft Report).
ManTech Environmental Technology, Inc., Corvallis, OR.
T. R. Whittier. Apr 93, 32p EPA/620/R-93/005
See also PB93-121267. Sponsored by Corvallis Environmental Research Lab., OR.

In 1988, the U.S. Environmental Protection Agency (EPA) initiated the Environmental Monitoring and Assessment Program (EMAP) to monitor indicators of the condition of the nation's ecological resources. The goals of the surface waters component (EMAP-SW) are to estimate with statistical rigor: the current status, extent, and geographic distribution of lakes and streams; the proportion of these resources that is degraded; changes in the condition of surface waters; the probable causes of adverse effects. In January 1992, EMAP-SW held a two-and-a-half day workshop to address a range of issues related to using fish assemblage data to assess the biological integrity of lakes, determining achievable conditions, and collecting an index sample of the fish assemblages in lakes in a synoptic monitoring program. The report paraphases the discussion questions and summarizes the results of the small group and plenary discussions, giving the general consensus, issues of concern, and suggested approaches to problems. The report documents the workshop to help guide EMAP-SW in its decision making.

Keywords: *Meetings, *Fishes, *Biological indicators, *Surface waters, Lakes, Aquatic ecosystems, Biological communities, Monitoring, Environment management, Biological integrity, Environmental Monitoring and Assessment Program.

PB93-186294/REB PC **A07**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Relationships between Ozone Precursor Levels and Response to Emissions Reductions: Analysis of Regional Oxidant Model Results for the Northeastern United States. Final rept. Oct 91-Feb 93.
Connecticut Univ., Storrs. Dept. of Civil Engineering.
J. Milford, D. Gao, and A. Zafirakou. Apr 93, 143p EPA/600/R-93/075
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

A detailed analysis of results from the Regional Ozone Modeling for Northeast Transport (ROMNET) study has been conducted to examine the conditions under which alternative control strategies were predicted to be effective in improving air quality. The ROMNET study had predicted that for most of the northeastern United States, reducing nitrogen oxides (NOx) emissions by about 60 percent would be more effective in reducing ozone (O3) than reducing anthropogenic reactive organic gas (ROG) emissions by approximately the same proportion. However, for the New York City and Baltimore-Washington areas, ROG controls were predicted to be highly effective and NOx controls to be counterproductive. The authors recommend further investigation of the idea that NOy concentrations could serve as an indicator of the likely sensitivity of O3 to ROG or NOx controls, if NOy is monitored along with peak O3 during photochemical air pollution episodes.

Keywords: *Ozone, *Nitrogen oxides, *Air pollution monitors, Graphs(Charts), Atmospheric chemistry, Air quality data, Photochemical oxidants, ROMNET, New York City(New York), Baltimore(Maryland), Washington(District of Columbia).

PB93-186393/REB PC **A20**/MF **A04**
Department of the Interior, Washington, DC.
Protecting Visibility in National Parks and Wilderness Areas. Final rept.
National Research Council, Washington, DC.
c1993, 458p ISBN-0-309-0:4844-3
Grants DE-FG01-90FE62072, VN08016CAS
Sponsored in part by Contract DI-14-01-0001-89-C-39. Library of Congress catalog card no. 93-83079. Sponsored by Department of the Interior, Washington, DC., Department of Energy, Washington, DC., Salt River Project, Phoenix, AZ., and Environmental Protection Agency, Washington, DC.

Early in 1990 the National Research Council established the Committee on Haze in the National Parks and Wilderness Areas to address a number of questions related to visibility and its degradation in these pristine areas, including methods for determining anthropogenic source contributions to haze and for considering alternative source control measures. In the final report, the committee addresses the broader-scale issues of regional haze. The report discusses visibility conditions in the United States, the legal and institutional context of visibility protection programs, the scientific aspects of haze formation and visibility impairment, methods for identifying and apportioning the components of haze, and the relationship of emission controls to visibility.

Keywords: *National parks, *Air pollution, *Visibility, Wilderness areas, Haze, Transport, Air circulation, Pollution sources, Natural resources management, Atmospheric optics, Clean Air Act, Prevention of Significant Deterioration Program.

PB93-186476/REB PC **A09**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Guidance for Growth Factors, Projections, and Control Strategies for the 15 Percent Rate-of-Progress Plans.
Pechan (E.H.) and Associates, Inc., Springfield, VA.
Mar 93, 194p EPA/452/R-93/002
See also PB91-241877. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

Section 182(b)(1) of the Clean Air Act (Act) requires all ozone nonattainment areas classified as moderate and above to submit a State Implementation Plan (SIP) revision by November 15, 1993, which describes, in part, how the areas will achieve an actual volatile organic compound (VOC) emissions reduction of at least 15 percent during the first 6 years after enactment of the Clean Air Act Amendments of 1990 (CAAA). In addition, the SIP revision must describe how any growth in emissions from 1990 through 1996 will be fully offset. It is important to note that section 182(b)(1) also requires the SIP for moderate areas to provide for reductions in VOC and nitrogen oxides (NOx) emissions 'as necessary to attain the national primary ambient air quality standard for ozone' by November 15, 1996. The guidance document focuses on the procedures for developing 1996 projected emissions inventories and control measures which moderate and above ozone nonattainment areas must include in their rate-of-progress plans. The document provides technical guidance to support the policy presented in the 'General Preamble: Implementation of Title I of the CAAA of 1990' (57 FR 13498).

Keywords: *Ozone, *Air pollution standards, *State implementation plans, Requirements, Guidelines, Volatile organic compounds, Nitrogen oxides, Carbon dioxide, Industrial growth, Emissions, Motor vehicles, Inventories, Air pollution control equipment, Adsorption, Boilers, Incinerators, Catalysis, Combustion, Ex-

haust gases, Clean Air Act Amendment of 1990, Industrial shutdowns, Air streams.

PB93-186633/REB PC **A03**/MF **A01**
Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jun 92, 22p EPA/812/R-92/003

The document provides guidance on several specific issues relating to the enforcement of the Surface Water Treatment Rule. The guidance deals with the provisions of the Rule relating to unfiltered systems. Enforcements of the requirements relating to the filtered systems will be dealt with in a later document.

Keywords: *Water treatment, *Water supply, *Surface waters, Regulations, Guidance, Filtration, Compliance, Potable water, *Public water system, Drinking water.

PB93-186641/REB PC **A07**/MF **A02**
Surface Water Treatment Rule. Implementation Manual (Including Appendix D). Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
8 Mar 90, 133p

The purpose of the document is to provide guidance to EPA regions and the States on implementation of the rule. More specifically, the document addresses violation determination, FRDS reporting, and the State Primacy Revision Application. The document differs from the 'Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources', October 1989 (referred to hereafter as the SWTR Guidance Manual) in that the SWTR Guidance Manual deals with PWS treatment techniques and measurement methods rather than primacy and reporti .g requirements.

Keywords: *Surface waters, *Water supply, *Water treatment, Filtration, Compliance, Regulations, Violations, Surface-groundwater relationships, State government, Locat government, *Public water system, Primacy.

PB93-186658/REB PC **A05**/MF **A02**
Total Coliform Rule: Implementation Manual (Including Appendix D). Final rept.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
8 Mar 90, 98p

The purpose of the document is to provide guidance to EPA regions and the States on implementation of the rule. More specifically, the document addresses violation determination, FRDS reporting, and State Primacy Revision Application. The first section presents time lines showing deadlines for submission of Primacy Revision applications. The second section addresses violation determination and associated reporting requirements. The third section covers State Special Primacy Requirements. This section breaks the requirements down into three categories of relative importance. States may find this categorization useful in preparing their applications for primacy, because the EPA regions may utilize the categories in evaluating the applications.

Keywords: *Water pollution monitoring, *Coliform bacteria, *Water treatment, Escherichia coli, Regulations, Compliance, Violations, State government, Local government, *Public water systems, Noncompliance.

PB93-186807/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Air/Superfund National Technical Guidance Study Series. Models for Estimating Air Emission Rates from Superfund Remedial Actions.
Radian Corp., Austin, TX.
B. Eklund, and C. Albert. Mar 93, 163p EPA/451/R-93/001
Contract EPA-68-DO-0125
Sponsored by Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.

The report is a compendium of models (equations) for estimating air emissions from Superfund sites undergoing remediation. These models predict emission rates of volatile organic compounds (VOC's) and particulate matter (PM) from both area and point sources. The following remedial processes are covered: air stripping, soil vapor extraction, thermal desorption, thermal destruction (incineration), excavation, dredging, solidification/stabilization, and bioremediation. Emission estimation methods are also presented for landfills, lagoons, and spills/leaks/open waste pits. The models contained in the compendium will not accurately predict emissions for all possible scenarios.

Keywords: *Volatile organic compounds, *Emissions, *Air pollution control, *Mathematical models, Toxicity, Particulates, Remedial action, Strippers, Vapor extraction, Soils, Thermal properties, Tables(Data), Desorption, Earth fills, Lagoons(Ponds), Pits(Excavations), Accuracy, *Superfund, Cleanup, Point sources.

PB93-188233/REB PC **A06**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Technical Support Div.
User's Manual for the Plume Visibility Model PLUVUE II (Revised). Final rept.
Sigma Research Corp., Concord, MA.
Oct 92, 108p EPA/454/B-92/008
Contract EPA-68-D9-0067
See also PB84-158302. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Technical Support Div.

The document provides a description for the restructured and revised version of the Plume Visibility Model (PLUVUE II). The model was restructured in order to improve the user interface and computing requirements and revised to remove several errors in the original code. The objective of the PLUVUE II model is to calculate visual range reduction and atmospheric discoloration caused by plumes consisting of primary particles, nitrogen oxides, and sulfur oxides emitted by a single emission source.

Keywords: *User manuals(Computer programs), *Computerized simulation, *Visibility, Air pollution, Aerosols, Revisions, Plumes, Particles, Nitrogen oxides, Sulfur oxides, Environmental transport, Atmospheric chemistry, Atmospheric diffusion, Chemical reactions, *Plume Visibility Model, Air Quality Dispersion Model, Atmospheric discoloration.

PB93-190098/REB PC **A11**/MF **A03**
Environmental Protection Agency, Ann Arbor, MI. Office of Air and Radiation.
Nonroad Mobile Source Sales and Attrition Study: Identification and Evaluation of Available Data Sources. Final rept.
Faucett (Jack) Associates, Bethesda, MD.
Feb 93, 250p JACKFAU-92-444-1, EPA/420/R-93/004
Contract EPA-68-C1-C079
Prepared in cooperation with Sierra Research, Inc., Sacramento, CA. Sponsored by Environmental Protection Agency, Ann Arbor, MI. Office of Air and Radiation.

The report identifies and evaluates data sources maintained by manufacturers, industry associations, consultants, and U.S. and state government agencies describing historical engine/equipment sales, equipment attrition rates (or scrappage), engine rebuild/replacement rates, equipment populations and usage, and other relevant parameters necessary to support an emission inventory forecasting model for nonroad mobile sources.

Keywords: *Air pollution, *Mobile pollutant sources, *Exhaust emissions, Sales, Usage, Commercial sector, Residential sector, Agricultural machinery, Construction equipment, Motorcycles, Snow vehicles, Boats, Diesel engines, Gasoline engines, Electric engines, Service life, *Emission inventories, *Nonroad engines, *Nonroad vehicles.

PB93-190478/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Heptachlor (76-44-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/136, , OHEA-C-073-111
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-190486, PB87-208757 and PB-271 967. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Heptachlor is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for heptachlor is estimated to be 117 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, heptachlor is assigned a 'HIGH' hazard ranking.

Keywords: *Heptachlor, *Toxicity, *Risk assessment, Exposure, Public health, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 76-44-8.

PB93-190486/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Heptachlor Epoxide (1024-57-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 16p EPA/600/8-91/137, , OHEA-C-073-112
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-190478. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Heptachlor epoxide is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for heptachlor epoxide is estimated to be 290 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, heptachlor epoxide is assigned a 'HIGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Neoplasms, Hazardous materials, Tolerances(Physiology), *Heptachlor epoxide, *Carcinogenicity, Dose-response relationships, CAS Registry No: 1024-57-3.

PB93-190494/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Hexachlorobenzene (118-74-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/138, , OHEA-C-073-113
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-150332 and PB86-134285. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Heptachlorobenzene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data.' The potency factor (F) for heptachlorobenzene is estimated to be 39.0 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, heptachlorobenzene is assigned a 'MEDIUM' hazard ranking.

Keywords: *Hexachlorobenzene, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 118-74-1.

PB93-190502/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Hexachlorobutadiene (87-68-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/139, , OHEA-C-073-114
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB81-117640 and PB86-134640. Prepared in cooperation with Environmental Monitoring and Serv-

ices, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Hexachlorobutadiene is a probable human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Limited,' and the evidence from human studies is 'No Data.' The potency factor (F) for hexachlorobutadiene is estimated to be 0.59/(mg/kg/day), placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, hexachlorobutadiene is assigned a 'LOW' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Carcinogenicity tests, Humans, Animals, Dose-response relationships, Risk assessment, *Hexachlorobutadiene, CAS 87-68-3.

PB93-190510/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Hexachloroethane (67-72-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/140, , OHEA-C-073-115
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB81-117400 and PB88-178736. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Hexachloroethane is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited,' and the evidence from human studies is 'No Data.' The potency factor (F) for hexachlorobutadiene is estimated to be 0.077 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, hexachloroethane is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Ethane/hexachloro, *Carcinogenicity, Dose-response relationships, CAS Registry No: 67-72-1.

PB93-190528/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Hydrazine (302-01-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 38p EPA/600/8-91/141, , OHEA-C-073-116
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-161963. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Hydrazine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for hydrazine is estimated to be 107 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, hydrazine is assigned a 'HIGH' hazard ranking for the purposes of RQ adjustment.

Keywords: *Hydrazine, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 302-01-2.

PB93-190536/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Indeno(1,2,3-CD)Pyrene (193-39-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 15p EPA/600/8-91/142, , OHEA-C-073-117
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Indeno(1,2,3-cd)pyrene is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Indeno(1,2,3-cd)pyrene is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, indeno(1,2,3-cd)pyrene is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerance(Physiology), *Pyrene/indeno, *Carcinogenicity, Dose-response relationships, CAS Registry No: 193-39-5.

PB93-190544/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Isosafrole (120-58-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/143, , OHEA-C-073-118
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-223 159. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Isosafrole is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for isosafrole is estimated to be 0.54 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, isosafrole is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Neoplasms, Hazardous materials, Tolerances(Physiology), *Isosafrole, *Carcinogenicity, Dose-response relationships, CAS Registry No: 120-58-1.

PB93-190569/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Kepone Chlordecone (143-50-0). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/144, , OHEA-C-073-119
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB90-260415. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Kepone (chlordecone) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for kepone is estimated to be 48.0 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, kepone is assigned a 'MEDIUM' hazard ranking.

Keywords: *Kepone, *Toxicity, *Risk assessment, Exposure, Public health, Neoplasms, Hazardous materials, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 143-50-0.

PB93-190577/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Lasiocarpine (303-34-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/145, , OHEA-C-073-120
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-278 641. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Lasiocarpine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for lasiocarpine is estimated to be 48.9/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, lasiocarpine is assigned a 'MEDIUM' hazard ranking for the purposes of RQ adjustment.

Keywords: *Carcinogens, *Toxicity, Carcinogenicity tests, Animals, Humans, Dose-response relationships, Risk assessment, *Lasiocarpine, CAS 303-34-4.

PB93-190890/REB PC **A05**/MF **A01**
Dynamic River Basin Water Quality Model.
Environmental Protection Agency, Seattle, WA. Region X.
J. Yearsley. Sep 91, 86p EPA/910/9-91/019

RBM10 is a river basin model for simulating the dynamics of an aquatic ecosystem which has freely-flowing river reaches, river-run reservoirs, and vertically stratified reservoirs. An Eulerian viewpoint is adopted for solving the conservation equations for temperature, dissolved oxygen, nutrients, phytoplankton, bacteria and conservative constituents. The report describes the model development and the computer program which implements the mathematical model.

Keywords: *Dynamics, *River basins, *Aquatic ecosystems, *Water quality data, Mathematical models, Reservoirs, Stratification, Computerized simulation, Water temperature, Heat budget, Software, Oxygen, Dissolved gases, Nutrients, Phytoplankton, Bacteria, Chemical reactions, Denitrification, Oxygenation, Aeration, Pollution sources.

PB93-190908/REB PC **A09**/MF **A02**
Tribal Water Utility Management.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Mar 93, 184p EPA/812/B-93/005

Contents: Primacy program (What is Primacy, Advantages and Disadvantages, Treatment as a State, Grant Applications and Funding); Safe Drinking Water Act (Sampling Requirements, Coliform Standard, Public Notification, Surface Water Treatment Rule Impacts, UIC and Wellhead Protection Programs, Lead/Copper Rule); Water Utility Management (How is the Utility Program Evaluated, Who's responsible, What is the Board and Tribal Council Role).

Keywords: *Meetings, *American Indians, *Water treatment, Water supply, Potable water, Water pollution monitoring, Water utilities, Pollution regulations, Water quality, Primacy, Drinking water, Safe Drinking Water Act, Total Coliform Rule, Surface Water Treatment Rule.

PB93-190932/REB PC **A09**/MF **A03**
Urban Runoff Management Information/Education Products. Version 1.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Feb 93, 195p* EPA/833/K-93/001

The catalog contains information and education material related to urban runoff, stormwater and construction activities. The material has been categorized by information media. The purpose of the catalog is to showcase existing efforts, transfer information, attempt to avoid duplication and to provide a resource

list for future activity. Also, it can be used as an educational guide for school systems.

Keywords: *Bibliographies, *Urban areas, *Runoff, Water pollution, Sewage treatment, Storm water runoff, Urban planning, Water supply, Water quality, Education, Water management, *Urban runoff.

PB93-191120/REB PC **A13**/MF **A03**
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries and Chincoteague Bay, 1991. Final rept.
Virginia Inst. of Marine Science, Gloucester Point.
R. J. Orth, J. F. Nowak, G. F. Anderson, K. P. Kiley, and J. R. Whiting. Dec 92, 286p
Grants EPA-X00346503, NOAA-NA170Z0359-01
See also report for 1990, PB92-145366. Sponsored by Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program, National Oceanic and Atmospheric Administration, Rockville, MD., Maryland Dept. of Natural Resources, Annapolis, and Fish and Wildlife Service, Washington, DC.

The distribution of submerged aquatic vegetation, principally rooted vascular macrophytes, in the Chesapeake Bay, its tributaries, and Chincoteague Bay was mapped during May to October 1991 at a scale of 1:24,000 using black and white aerial photography. In 1991, the Chesapeake Bay had 25,623 hectares of SAV, compared to 24,296 hectares in 1990, with 2,158 hectares (8.4 percent), 11,664 hectares (45.5 percent), and 11,802 hectares (46.1 percent) occurring in the Upper, Middle, and Lower Bay zones, respectively.

Keywords: *Chesapeake Bay, *Aquatic plants, Chincoteague Bay, Maps, Drawings, Tables(Data), Spatial distribution, Species diversity, Submerged aquatic vegetation.

PB93-191179/REB PC **A03**/MF **A01**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Oligohaline Areas in Tampa Bay Tributaries: Spatial Extent and Species Lists. Final rept.
Coastal Environmental Services, Inc., Linthicum, MD.
H. Greening. May 92, 35p TBNEP-04-92
Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

Three reports have been generated as products of the synthesis of historical biological data project of the Tampa Bay National Estuary Program (TBNEP): Distribution of Selected Fish Species in Tampa Bay, Database of Benthic Sampling Locations in Tampa Bay, and the current report, Oligohaline Areas in Tampa Bay Tributaries: Spatial Extent and Species Lists. A summary of the spatial extent of oligohaline (low salinity) habitats in Tampa Bay tributaries was planned as part of the synthesis of historical biological data project. Three salinity zones were identified for each of the four major freshwater tributaries to Tampa Bay: The Hillsborough River, Alafia River, Little Manatee River, and Manatee River. Salinity zones were defined as areas where salinity was never less than 10 ppt., sometimes less than 10 ppt., or always less than 10 ppt. Maps of salinity zones, including shoreline and aquatic vegetation, were prepared and submitted to TBNEP. In addition, lists were prepared of plant, benthic, and fish species collected by field studies within each salinity zone.

Keywords: *Salinity, *Tributaries, *Spatial distribution, *Marine biology, *Water quality, Tampa Bay, Marine plants, Benthos, Fishes, Field tests, Sampling, Aquatic ecosystems, Saline water-freshwater interfaces, Hillsborough River, Florida, Little Manatee River, Manatee River, Habitats, Alafia River, Historical Biological Data Project, Tampa Bay National Estuary Program.

PB93-191187/REB PC **A03**/MF **A01**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Review of Tampa Bay Information for Interim Nutrient Budgets and Historical Loadings of Bay Segments.
King Engineering Associates, Inc., Tampa, FL.
Mar 92, 47p TBNEP-03-92
Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

Contents: Interim Nutrient Budget Data Review and Assessment; Nitrogen Fixation; Atmospheric Deposition; Ocean and Bay Segment Exchanges; Historical Loadings of Bay Segments; Responses to Comments on Draft Report.

Keywords: *Tampa Bay, *Nitrogen fixation, Nitrogen fixing bacteria, Florida, Air-water interfaces, Ocean circulation, Marine bacteria, Nitrogen cycle, *Nutrient loading, *Nutrient budgets, Ocean-bay exchange, National Estuary Program.

PB93-191211/REB PC **A05**/MF **A01**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Database of Benthic Sampling Locations in Tampa Bay. Final technical rept.
Coastal Environmental Services, Inc., Linthicum, MD.
S. Cairns. May 92, 82p TBNEP-06-92
Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

Three reports were generated as products of the synthesis of historical biological data project of the Tampa Bay National Estuary Program (TBNEP); 'Distribution of Selected Fish Species in Tampa Bay', 'Oligohaline Areas in Tampa Bay Tributaries: Spatial Extent and Species Lists', and 'Database of Benthic Sampling Locations in Tampa Bay'. To reduce the costs of future analyses, a benthic sampling location (BSL) computer database was developed that contains sampling locations for benthic field studies by latitude and longitude, along with information on when data were collected and what parameters were recorded. A map of all sampling locations in the database was generated by geographic information system software and submitted to TBNEP as a product of this project. The BSL database can be used to quickly identify and evaluate studies that have collected benthic samples at a given time or location. Its records are cross-referenced to the bibliographic database (BDB) developed by the Southwest Florida Water Management District.

Keywords: *Tampa Bay, *Databases, *Ocean bottom, Florida, Benthos, Aquatic biology, Sediments, Sampling, User manuals(Computer programs), *Benthic sampling locations, National Estuary Program.

PB93-191229/REB PC **A04**/MF **A01**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Distribution of Selected Fish Species in Tampa Bay. Final rept.
Coastal Environmental Services, Inc., Linthicum, MD.
S. Cairns. May 92, 62p TBNEP-05-92
Contract T-91-06
Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

Three reports have been generated as products of the Synthesis of Historical Biological Data project of the Tampa Bay National Estuary Program (TBNEP). The ten fish species chosen for distribution analysis (bay anchovy, silver perch, snook, spotted seatrout, spot, tarpon, striped mullet, red drum, hogchoker, and clown goby) were those identified by TBNEP as potential living resource targets. The analyses were based on extensive spring and fall sampling conducted for the Florida Department of Natural Resources' Fisheries-Independent Monitoring Program. An index of relative abundance was developed that classified one-minute (latitude by longitude) grids within the Bay as having zero catch-per-unit-effort (CPUE), low-to-medium CPUE, or high CPUE. Maps based on these analyses were prepared for each combination of species, length class, gear, and season for which adequate data were available. Several species were shown to concentrate primarily in tributaries during one or more seasons, especially small snook and red drum, and hogchokers of all lengths.

Keywords: *Habitats, *Marine fishes, *Estuaries, *Tampa Bay, Monitoring, Abundance, Spatial distribution, Identifying, Perch, Trout, Species diversity, Sampling, Seasonal variations, Length, Maps, Grids(Coordinates), Tables(Data), *Tampa Bay National Estuary Program, Catch statistics, Tributaries, Fishing equipment.

PB93-191237/REB PC **A04**/MF **A01**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Framework for Characterization. (Revised Final Report March 1992). Technical pub.
Tampa Bay Regional Planning Council, St. Petersburg, FL.
M. Ramsay, W. Boynton, and P. Clark. Mar 92, 64p TBNEP-01-92
Contract T-91-01
Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

The Tampa Bay National Estuary Program (TBNEP) was established in 1990 to develop a comprehensive conservation and management plan, a program to restore and protect Tampa Bay and its resources. The process of identifying the problems of the bay and linking problems to causes is prerequisite to developing the CCMP and is known as characterization. Characterization workshops were held in June and July 1991 to (1) guide the characterization process toward areas of greatest information needs; (2) contribute to the development of a preliminary bay characterization report; and (3) develop a depiction of bay ecosystem components and interrelationships. The workshops focused on two categories of priority problems: living resources and water quality deterioration. Priority information needs include estuarine seagrasses, low-salinity habitats, and benthic habitats. Refinement of a nitrogen input budget and establishment of cause-effect relationships among nutrient loading dissolved oxygen concentrations and the distribution of seagrass and benthic communities were also identified as priority information needs.

Keywords: *Tampa Bay, *Environmental protection, *Water conservation, *Water quality, Florida, Comprehensive planning, Aquatic ecosystems, Water pollution control, Nutrients, Marine biology, Water pollution abatement, Estuaries, Salinity, Clean Water Act, Man environment interactions, *Tampa Bay National Estuary Program.

PB93-191286/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Ink and Cleaner Waste Reduction Evaluation for Flexographic Printers.
Illinois Dept. of Energy and Natural Resources, Champaign. Hazardous Waste Research and Information Center.
G. D. Miller, W. J. Tancing, M. J. Plewa, and P. M. Randall. May 93, 40p EPA/600/R-93/086
Contract EPA-R-815829
Prepared in cooperation with Illinois Univ. at Urbana-Champaign. Inst. for Environmental Studies. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The report describes the technical and economic effects incurred by a flexographic label printer who changed the type of ink and cleaning agent used in its print shop. The changes were incurred as the best way to eliminate all hazardous materials. The company's corporate management mandated the switch out of concern for its employees, and with the intention of limiting possible future waste liability. Hence the traditional alcohol-based inks and alcohol solvent cleaning agents gave way to water-based inks and an aqueous cleaner.

Keywords: *Flexography, *Printing, *Hazardous materials, Industrial wastes, Printing inks, Solvents, Organic solvents, Water, Substitutes.

PB93-191294/REB PC **A07**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Experimental Investigation of PIC Formation in CFC-12 Incineration. Final rept. Jul 92-Jan 93.
Energy and Environmental Research Corp., Irvine, CA.
B. Springsteen, and G. R. Hassel. May 93, 138p EPA/600/R-93/078
Contract EPA-68-CO-0094
See also PB92-126952 and PB92-150432. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report gives results of experiments to determine the effect of flame zone temperature on gas-phase flame formation and destruction of products of incomplete combustion (PICs) during dichlorodifluoromethane (CFC-12) incineration. The effect of water injection into the flame zone was also studied. Tests involved

burning CFC-12 in a propane gas flame. Combustion gas samples were taken and analyzed for volatile organic compounds as well as polychlorinated dibenzo-p-dioxin and dibenzofuran (PCDD/PCDF). PCDD/PCDF were not detected at baseline operating conditions (1204C and 9.3 percent CFC-12 by volume in fuel). Low levels of PCDD/PCDF were detected in the combustion gas at a lower temperature (913C). Poor combustion conditions producing smoke and soot may have contributed to the formation of PCDD/PCDF. Low levels of PCDD/PCDF were also detected at the lower temperature with water injection into the flame zone.

Keywords: *Combustion efficiency, *Incinerators, *Freons, *Air pollution sampling, Flames, Propane, Flue gases, Waste treatment, Air pollution effects, Halohydrocarbons, Fluorohydrocarbons, Dichlorodifluoromethane, Combustion products, Experimental design, Concentration(Composition), Furans, Water injection, Destruction, Temperature, Polychlorinated dibenzodioxins, Polychlorinated dibenzofurans, Freon 11, Freon 12.

PB93-191302/REB PC **A13**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F. Final rept. Feb 90-Feb 92.
Bethlehem Steel Corp., PA.
A. G. Ossman. May 93, 280p EPA/600/R-93/080A
Contract EPA-68-DO-0128
See also DE89000002 and Volume 2, PB93-191310. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report evaluates the Kress Indirect Dry Cooling (KIDC) process, an innovative system for handling and cooling coke produced from a slot-type by-product coke oven battery. The report is based on the test work and demonstration of the system at Bethlehem Steel Corporation's Sparrows Point (Maryland) facility in 1991. The report covers both environmental and operational impacts of the KIDC process. Areas covered in the report include opacity levels, quenching emissions, and the impact of the KIDC coke on blast furnace operations. Also evaluated were various performance characteristics of the KIDC system, including reliability, cycle time, coke cooling requirements, and costs. Unfortunately, abbreviation of the test program, caused by the idling of coke production at Sparrows Point, limited the experience gained and data collected during the demonstration. The report contains appendices A-F.

Keywords: *Air pollution control, *Coking, *Water pollution control, Alternatives, Performance evaluation, Coke ovens, Cost analysis, Design, Operations, Dry methods, Quality assurance, Quality control, Maintenance, *Kress Indirect Dry Cooling System, Bethlehem Steel Corporation, Sparrows Point(Maryland).

PB93-191310/REB PC **A15**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 2. Appendices G-N. Final rept. Feb 90-Feb 92.
Bethlehem Steel Corp., PA.
A. G. Ossman. May 93, 349p EPA/600/R-93/080B
Contract EPA-68-DO-0128
See also Volume 1, PB93-191302. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report provides an evaluation of the Kress Indirect Dry Cooling (KIDC) process. The KIDC process is an innovative system for the handling and cooling of coke produced from a slot type by-product coke oven battery. The report is based on the test work and demonstration of the system at Bethlehem Steel Corporation's Sparrows Point facility in 1991. The report covers both environmental and operational impacts of the KIDC process. The report, Volume 2, contains appendices G-N. Volume 1, PB93-191302, contains the technical report as well as appendices A-F. Volume 2 contains appendixes on coke quality data, blast furnace balwax model report, KIDC operating cost and maintenance requirements, Kress box thickness readings, KIDC coke discharge temperature, QA/QC program, door leak data, and coal data.

Keywords: *Air pollution control, *Coking, *Water pollution control, Coke ovens, Coke, Operations, Cost analysis, Temperature, Quality assurance, Quality control, Coal, Maintenance, Process charting, Data collection, Tables(Data), *Kress Indirect Dry Cooling System, Bethlehem Steel Corporation, Sparrows Point(Maryland).

PB93-191328/REB PC **A03**/MF **A01**
Spatiotemporal Variability of Non-Urban Ozone Concentrations Over the Eastern United States and Its Potential Replication by Satellite Data.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
B. K. Eder, S. K. LeDuc, and L. E. Truppi. 1993, 28p EPA/600/A-93/079
Presented at the Air and Waste Management Association (AWMA) Symposium, Scottsdale, AZ., January 26-28, 1993. Prepared in cooperation with National Oceanic and Atmospheric Administration, Research Triangle Park, NC. Atmospheric Sciences Modeling Div.

The spatial and temporal variability of the maximum 24 hourly surface ozone concentrations over the eastern United States was examined for the period 1985-1990 using Rotated Principal Component Analysis (RPCA). This led to the delineation of six contiguous subregions, each of which displayed statistically unique ozone characteristics. Examination of the time series associated with the Subregions revealed that the Great Lakes and Mid-Atlantic Subregions tend to contain a stronger seasonal cycle, with maximum concentrations occurring during the last week in June and the first week in July, respectively. The strength of this seasonality is weakened for the Northeast and South Subregions and the timing of its maximum delayed, until the end of July and the first of August, respectively. The Southwest Subregion experiences a greatly diminished seasonality, with maximum concentrations delayed until the middle of August. The seasonality found in the Florida Subregion is unique in both its strength and timing, as the highest concentrations consistently occur during the months of April and May. The time series were then deseasonalized and autocorrelations and spectral density estimates calculated, revealing that persistence is much more prevalent in the Florida, South and Southwest Subregions and less prevalent in the Northeast, Great Lakes and Mid-Atlantic Subregions.

Keywords: *United States, *Ozone, *Air pollution monitoring, Rural areas, Suburban areas, Remote sensing, Spatial distribution, Time series analysis, *Eastern Region(United States), RPCA(Rotated Principal Component Analysis), Surface ozone concentration.

PB93-191336/REB PC **A03**/MF **A01**
Bioremediation Treatability Trials Using Nutrient Application to Enhance Cleanup of Oil Contaminated Shoreline. Symposium paper.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
A. D. Venosa, J. R. Haines, J. A. Glaser, E. J. Opatken, and P. H. Pritchard. 1993, 21p EPA/600/A-93/098
Presented at the Annual Meeting of Air and Waste Management Association (83rd), Pittsburgh, PA., June 24-26, 1990. See also PB93-191344.

Biodegradation of oil has been extensively studied over the last 20 years. As a result, the fate and microbial decomposition of oil in aquatic environments is well understood. Studies have shown that oil degradation can occur in cold-water environments. In response to the Exxon Valdez spill, the U.S. Environmental Protection Agency assembled a panel of experts to determine what could be done to accelerate the natural biodegradation process in Prince William Sound.

Keywords: *Oil spills, *Biodegradation, *Water pollution control, Prince William Sound, Knight Island, Oil pollution removal, Beaches, Fertilizers, Microorganisms, Biological treatment, Field tests, *Bioremediation, Exxon Valdez, Cleanup operations.

PB93-191344/REB PC **A03**/MF **A01**
Nutrient Movement through Beach Media: Problems and Field Results Application to Enhance Cleanup of Oil Contaminated Shoreline. Symposium paper.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
S. C. McCutcheon, J. R. Haines, and J. A. Glaser. 1993, 16p EPA/600/A-93/101
Presented at the Annual Meeting of Air and Waste Management Association (83rd), Pittsburgh, PA., June 24-29, 1990. See also PB93-191336.

On March 24, 1989, the Exxon Valdez went aground in Prince William Sound, Alaska, releasing approximately 11 million gallons of Prudhoe Bay crude oil. After learning of the magnitude of the spill, the EPA office of Research and Development (ORD) convened a meeting of nationally and internationally recognized scientists in the field of oil biodegradation to evaluate the feasibility of using bioremediation to assist in cleanup operations. Recommendations from the meeting urge ORD to plan and conduct a field demonstration project to evaluate the use of fertilizers for accelerating natural biodegradation of the spilled oil.

Keywords: *Oil spills, *Biodegradation, *Water pollution control, Prince William Sound, Knight Island, Oil pollution removal, Beaches, Fertilizers, Microorganisms, Biological treatment, Field tests, *Bioremediation, Exxon Valdez, Cleanup operation.

PB93-191351/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium'.
Michigan State Univ., East Lansing.
J. A. Bumpus, M. Tien, D. S. Wright, and S. D. Aust. 1993, 9p EPA/600/A-93/099
Pub. in Proceedings of the Annual Research Symposium (11th), Cincinnati, OH., April 29-June 1, 1985, p120-126. See also PB93-191369. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The white rot fungus, Phanerochaete chrysosporium secretes a unique hydrogen peroxide-dependent oxidase capable of degrading lignin, a highly complex, chemically resistant, non-repeating heteropolymer. Due to its ability to generate carbon-centered radicals, this enzyme is able to non-specifically catalyze numerous cleavage reactions producing smaller lignin-derived compounds which may then be metabolized by more conventional enzyme systems. The authors have proposed that the lignin-degrading system of this fungus may also have the ability to degrade environmentally persistent organopollutants. In the study P. chrysosporium is shown to able to degrade carbon-14 labeled 1,1'-Bis(4-chlorophenyl)-2,2,2-trichloroethane (DDT), 3,4,3',4'-tetrachlorobiphenyl, 2,4,5,2',4',5'-hexachlorobiphenyl, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), the gamma isomer of 1,2,3,4,5,6-hexachlorocyclohexane (Lindane) as well as the non-halo-genated pollutant benzo(a)pyrene to (14)C-carbon dioxide.

Keywords: *Biodeterioration, *Environmental pollutants, Tetrachlorodibenzodioxin, Lignin, DDT, Lindane, Benzo(a)pyrene, Oxidoreductases, Carbon 14, Carbon dioxide, *Phanerochaete chrysosporium.

PB93-191369/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biological Oxidations of Organic Compounds by Enzymes from a White Rot Fungus. Journal article.
Utah State Univ., Logan. Biotechnology Center.
J. A. Bumpus, G. Mileski, B. Brock, W. Ashbaugh, and S. D. Aust. 1993, 10p EPA/600/A-93/100
Pub. in Biological Processes. Innovative Hazardous Waste Treatment Technology Series, v3 p47-54 1991. See also PB93-191351. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The ability of the white rot fungus Phanerochaete chrysosporium to degrade a wide variety of structurally diverse organopollutants is dependent upon the lignin-degrading system of the microorganism. Current research is focused on ways to increase ligninase activity in culture and on understanding the enzymology of the system as it affects xenobiotic oxidation. Ligninase

activity is expressed by the fungus in response to nutrient nitrogen limiting conditions. In agitated cultures (1 L total volume in 2.8 L Fernbach flasks), ligninase activities up to 446 units (pmoles of veratryl alcohol oxidized) per liter, representing approximately a 20-fold increase over standard stationary cultures, were observed. Furthermore, ligninase activity was shown to be cyclic, reaching peak activities at about 30-hour intervals. Substantial ligninase activity (200 units/liter) was also observed in 100-mL stationary cultures. In these cultures, veratryl alcohol may serve to induce ligninase biosynthesis, and/or it may protect the enzyme from subsequent inactivation.

Keywords: *Biodeterioration, *Oxidation, *Organic compounds, Waste treatment, High pressure liquid chromatography, Reprints, *Phanerochaete chrysosporium, *Ligninases.

PB93-191377/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Evaluation of Three Oil Spill Laboratory Dispersant Effectiveness Tests.
Coast Guard, Washington, DC.
D. Sullivan, J. Farlow, and K. A. Sahatjian. 1993, 9p EPA/600/A-93/102
Contract EPA-68-C9-0062
Pub. in Proceedings of the 1993 International Oil Spills Conference, Tampa, FL., March 29-April 1, 1993, p515-520. See also PB85-247740. Prepared in cooperation with American Petroleum Inst., Washington, DC. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

EPA evaluated three laboratory methods: the Revised Standard Dispersant Effectiveness Test currently used (and currently required by regulation) in the United States, the Swirling Flask Test (developed by Environment Canada), and the IFP-Dilution Test (used in France and other European countries). Six test oils and three dispersants were evaluated; dispersants were applied to the oil at an average 1:10 ratio (dispersant to oil) for each of the three laboratory methods. A screening criterion was established that required a combination that gave at least 20 percent effectiveness results. The selected combination turned out to be Prudhoe Bay crude oil (an EPA-American Petroleum Institute Standard Reference Oil) and the dispersant Corexit 9527. EPA's evaluation concluded that the three tests give similar precision results, but that the Swirling Flask Test was fastest, cheapest, simplest, and required least operator skill.

Keywords: *Oil spills, *Dispersants, *Performance evaluation, Chemicals, Test methods, Reliability, US EPA, Toxicity, Canada, France, Comparison, Standards, Cost effectiveness, Reprints.

PB93-191385/REB PC **A02**/MF **A01**
Discussion: Response to Internal Reviews of My Paper, 1993 Census Bureau Annual Research Conference.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
L. H. Cox. 22 Mar 93, 8p EPA/600/A-93/103
Discussion of two invited papers at the Census Bureau's Annual Research Conference, Arlington, VA., March 21-23, 1993.

The paper is an invited discussion soliciting the author's views on two papers which comprised an invited paper session at the 1993 Census Bureau Annual Research Conference. The first paper deals with the input end of the confidentiality protection spectrum (eliciting response) and with demographic surveys, while the other deals with the output end (techniques for protecting confidentiality prior to public data release) and surveys of business establishments and farms.

Keywords: *Surveys, *Confidentiality, Demographic surveys, Occupational surveys, Methodology, Privacy, Mathematical programming, Data analysis, Census, Research management, CONFID system, USBC(United States Bureau of the Census), Statistics Canada.

PB93-191393/REB PC **A03**/MF **A01**
Methodology to Apportion Ambient Air Measurements to Investigate Potential Effects on Air Quality Near Waste Incinerators. Journal article Jan 92-Mar 93.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
S. Mukerjee, D. L. Fox, R. K. Stevens, C. M. Shy, and N. Vescio. 1993, 12p EPA/600/A-93/104
Prepared in cooperation with North Carolina Univ. at Chapel Hill, and ManTech Environmental Technology, Inc., Research Triangle Park, NC.

Ambient air samples at four sites located near two incinerators (a biomedical waste and a municipal incinerator) in the vicinity of Charlotte, North Carolina were acquired as part of a health effects study that is examining potential, short-term, lung dysfunctions associated with incinerator and other source emissions. Ambient monitoring was performed for one month intervals at a treatment and control community site for each of the two incinerator locations. Twelve-hour ambient samples were acquired by means of a Versatile Air Pollution Sampler (VAPS) which enabled sampling for fine (< 2.5 micrometers) and coarse (2.5 - 10 micrometers) particulate matter, acid-gases by diffusion sampling and fine carbon sampling on quartz filters. X-ray Fluorescence Spectroscopy (XRF) was used on the coarse and fine particulate filters to measure metals while Ion Chromatography (IC) analyzed acid gases. The Chemical Mass Balance Receptor Model (CMB) was then used on the average ambient data from each wind vector to apportion the contribution of ambient pollutants which were attributable to the sources of interest from a given wind direction.

Keywords: *Incinerators, *Public health, *Air pollution sampling, *Air pollution effects, Source emissions, Environmental monitoring, Sites, Municipalities, Particulates, Lung, Samplers, Medical wastes, Wind direction, Acidity, Gases, Metals, Waste treatment, X ray spectroscopy, Chromatographic analysis, *Charlotte(North Carolina).

PB93-191401/REB PC **A03**/MF **A01**
Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada. Rept. for Dec 91-Jun 93.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
T. L. Conner, J. L. Miller, R. D. Willis, R. B. Kellogg, and T. F. Dann. 1993, 18p EPA/600/A-93/105
Proceedings of Air and Waste Management Association Conference, June 1993. Prepared in cooperation with ManTech Environmental Technology, Inc., Research Triangle Park, NC., and Department of the Environment, Ottawa (Ontario). River Road Environmental Technology Center.

Environment Canada, in cooperation with the Ontario Ministry of Environment and the Walpole Island Indian Band, has been conducting an air monitoring study in a region of southern Ontario near Detroit. Two sampling sites are located in the city of Windsor, Ontario. The Windsor sites are frequently downwind of the numerous emission sources of the greater Detroit area, which include coke ovens, iron and steel industry, incinerators, power generation facilities, lime and cement operations, and automotive assembly plants. The Windsor sites are also influenced by the regional background of secondary sulfate common in the eastern U.S. and Canada, as well as by automobile emissions. Fine and coarse particle samples were collected on Teflon filters with a dichotomous sampler. Samples were analyzed by energy-dispersive X-ray fluorescence (XRF) at the U.S. EPA, Research Triangle Park facility. A subset of the samples were selected for analysis by scanning electron microscopy combined with energy-dispersive XRF (SEM/EDX). Morphological features of the particles combined with chemical data have been shown to be useful in resolving source types which cannot be resolved by conventional means.

Keywords: *Point sources, *Particulates, *Air pollution sampling, Particle size, Industrial plants, Iron and steel industry, Incinerators, Sulfates, Canada, United States, Path of pollutants, Chemical analysis, X ray fluorescence, Emissions, Morphology, Electron microscopy, Statistical analysis, Maps, *Foreign technology, *Windsor(Ontario), Nonpoint sources.

PB93-191419/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Using Method 301 to Validate Sampling and Analytical Methods for Selected CAAA Compounds.
Radian Corp., Research Triangle Park, NC.
M. D. Jackson, R. G. Merrill, and J. T. Bursey. 1993, 12p EPA/600/A-93/106
Contract EPA-68-D1-0010
See also PB91-216184. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

Stationary source sampling and analysis methods can be validated for a set of analytes and stack conditions using EPA Method 301 before these methods are used to comply with the requirements of the Clean Air Act Amendments of 1990. Most method validations require spiking of analytes under field conditions by gaseous dynamic spiking into two of four sampling trains on a quadruple probe (used with VOST), liquid spiking into two of four sampling trains using a quadruple probe (SemiVOST), and spiking of various analytes onto filters. A quadruple sampling probe with four trains is usually used to minimize the number of sampling runs needed to provide sufficient replicates for statistical calculations. Laboratory testing establishes experimental parameters such as stability, analytical method performance, sample preparation procedures, spiking conditions, and precision and accuracy of analysis. Successful laboratory testing supports a full field validation to evaluate the applicability of a given method to a particular analyte.

Keywords: *Air pollution monitoring, *Stationary pollutant sources, *Field tests, Organic compounds, Validation, Precision, Emission factors, Clean Air Act Amendments of 1990, EPA Method 301.

PB93-191427/REB PC **A02**/MF **A01**
National Inst. of Standards and Technology (CSTL), Gaithersburg, MD. Organic Analytical Research Div.
Two New Gas Standards Programs at the National Institute of Standards and Technology.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
W. J. Mitchell, and W. E. May. Apr 93, 8p EPA/600/A-93/107
See also PB82-162876. Presented at the Environmental Protection Agency/Air and Waste Management Association, 1993 Symposium on 'Measurement of Toxic and Related Air Pollutants', Durham, NC., May 3-7, 1993. Sponsored by National Inst. of Standards and Technology (CSTL), Gaithersburg, MD. Organic Analytical Research Div.

The EPA/NIST certified reference materials (CRM) program is being terminated and replaced with two new ones: the NIST Traceable Reference Materials (NTRM) and the Research Gas Mixture (RGM) programs. These new programs are being implemented to provide NIST traceability to a wider number of gas mixtures. The NTRM program will differ from the CRM program in two significant ways: Candidate gas mixtures will not have to be identical to a NIST Standard Reference Material (SRM), and the producer of the NTRM rather than EPA will pay NIST to check the concentration of the gas mixture. In the RGM program, NIST will enter into agreements with either governmental, commercial or private organizations to produce gas mixtures for which there are no SRMs or which lie outside the concentration range of existing SRMs. The details of these programs are presented in the paper.

Keywords: *Standards, *Gases, *Air pollution monitors, Calibrating, Performance evaluation, US EPA, Regulations, Concentration(Composition), Agreements, Comparison, *NIST Traceable Reference Materials, *Research Gas Mixture, Certified Reference Materials Program, Standard reference materials.

PB93-191443/REB PC **A02**/MF **A01**
Corvallis Environmental Research Lab., OR.
Comparison of Systematic and Random Sampling for Estimating the Accuracy of Maps Generated from Remotely Sensed Data. Journal article.
State Univ. of New York Coll. of Environmental Science and Forestry, Syracuse.
S. V. Stehman. c1992, 9p EPA/600/J-93/147

Pub. in Photogrammetric Engineering and Remote Sensing, v58 n9 p1343-1350 Sep 92. Sponsored by Corvallis Environmental Research Lab., OR.

Properties of statistical analyses of error matrices generated for accuracy assessment of remote sensing classifications were evaluated for three sampling designs: systematic, stratified systematic unaligned, and simple random sampling (SRS). The population parameters investigated were the proportion of misclassified pixels, P, and the Kappa coefficient of agreement, K. Systematic designs were generally more precise than SRS for the populations studied, except when sampling in phase with periodicity in a population. Bias of the estimated proportion of misclassified pixels, P, was negligible for the systematic designs. The common practice of estimating the variance of P for systematic designs by using an SRS variance estimator resulted in over- or under-estimation of variance, depending on whether the systematic design was more or less precise than SRS. A small simulation study showed that the usual standard error formula for the estimated Kappa coefficient of agreement can perform poorly for systematic designs. (Copyright (c) 1992 American Society for Photogrammetry and Remote Sensing.)

Keywords: *Maps, *Accuracy, *Statistical analysis, Satellite imagery, Remote sensing, Reprints, Random sampling, Systematic sampling.

PB93-191450/REB PC **A02/MF A01**
Effects of Pentachlorophenol-Contaminated Food Organisms on Toxicity and Bioaccumulation in the Frog 'Xenopus laevis'. Journal article.
Corvallis Environmental Research Lab., OR.
G. S. Schuytema, A. V. Nebeker, J. A. Peterson, and W. L. Griffis. c1993, 7p EPA/600/J-93/148
Pub. in Archives of Environmental Contamination and Toxicology, v24 p359-364 1993. Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR.

Sub-adult African clawed frogs (Xenopus laevis) were fed pentachlorophenol (PCP)-injected mealworms containing 64.8 to 2,604 mg of PCP per kilogram of worm for 27 days. The objective was to evaluate the effects of PCP-contaminated food organisms on toxicity and bioaccumulation in sub-adult Xenopus laevis and use the data to predict a waterborne PCP concentration that may be a threshold for adverse effects in amphibians. There was no mortality and no significant bioaccumulation of PCP in the frogs. After three weeks, frogs fed 2,604 micrograms/g of PCP ceased eating. The no observed adverse effects level (NOAEL) based on significantly reduced food consumption (PCP-injected mealworms) was 638 micrograms/g. This corresponded to a NOAEL based on PCP intake of about 8 micrograms PCP/g frog/day. A toxicity threshold model estimated that about 800 micrograms/L of waterborne PCP may be a threshold for adverse effects in Xenopus or similar amphibians. Further study is needed to verify threshold estimates.

Keywords: *Xenopus laevis, *Pentachlorophenol, *Toxicity, *Food chains, *Water pollution effects(Animals), Pesticides, Dose-response relationships, Feeding behavior, Reprints.

PB93-191468/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Methane Emissions from Wetland Rice Areas of Asia. Journal article.
ManTech Environmental Technology, Inc., Corvallis, OR.
D. Bachelet, and H. U. Neue. c1993, 20p EPA/600/J-93/149
Pub. in Chemosphere, v26 n1-4 p219-237 1993. See also DE90003351. Prepared in cooperation with International Rice Research Inst., Los Banos, Laguna (Philippines). Sponsored by Corvallis Environmental Research Lab., OR.

Kahlil and Rasmussen (1990) reviewed eleven global methane budgets published between 1978 and 1988. They found methane emissions from rice paddies ranged from 18 to 280 Tg/year which correspond to between 10 and 70% of the total anthropogenic methane emissions. For the paper, the authors have reviewed and replicated three published techniques to estimate methane emissions from rice paddies. The authors present the results obtained and propose to include soil characteristics to revise these estimates. Since 90% of rice production occurs in Asia, the authors have focused the study on rice in Asia.

Keywords: *China, *Methane, *Air pollution, Rice plants, Production, Emissions, Soil properties, Soil classification, Cultivation, Global warming, Asia, Temperature, Precipitation(Meteorology), Correlation, Tables(Data), Maps, Reprints, *Wetlands.

PB93-191476/REB PC **A03/MF A01**
Does Prey Preference Affect Habitat Choice in Antarctic Seabirds. Journal article.
Corvallis Environmental Research Lab., OR.
D. G. Ainley, C. A. Ribic, and W. R. Fraser. c1992, 16p EPA/600/J-93/150
Pub. in Marine Ecology Progress Series, v90 p207-221 28 Dec 92. Prepared in cooperation with Point Reyes Bird Observatory, Stinson Beach, CA.

Diet composition of the members of 2 seabird species assemblages in the Scotia-Weddell Confluence region, Antarctica, was investigated during 3 seasons/years: spring 1983, autumn 1986, and winter 1988. One assemblage frequented the pack ice and the other was present in adjacent open waters; most members of the latter species assemblage vacated the Antarctic during winter. The authors sought answers to 2 questions: (1) Did the 2 species assemblages depend on food webs that differed substantially; and (2) Was there a trophic basis to explain why the pack-ice assemblage did not expand into the open water left vacant by the other during winter. To test a priori hypothesis that diet was affected by habitat, diet samples were obtained from birds encountered in 3 habitats: open water, sparse concentrations of ice, and heavy ice cover. Cluster analysis showed broad overlap in seabird diet regardless of species, habitat (ice/water mass) or year. Seabirds exploited prey largely according to ranked availability, although they appeared to choose the larger fish and crustaceans over smaller crustaceans. Myctophids in particular, but also krill and squid, were the main prey groups. (Copyright (c) Inter-Research 1992.)

Keywords: *Birds, *Feeding habits, *Habitats, Antarctica, Animal behavior, Food consumption, Diets, Prey fish, Reprints, *Prey preference, *Seabirds.

PB93-191484/REB PC **A02/MF A01**
Corvallis Environmental Research Lab., OR.
Equilibrium Analysis of Carbon Pools and Fluxes of Forest Biomes in the Former Soviet Union. Journal article.
Oregon State Univ., Corvallis. Dept. of Civil Engineering.
T. P. Kolchugina, and T. S. Vinson. c1993, 9p EPA/600/J-93/151
Pub. in Canadian Jnl. of Forest Research, v23 p81-88 1993. See also PB93-156016 and PB93-156024. Sponsored by Corvallis Environmental Research Lab., OR.

Forests are an important component of the biosphere and sequestration of carbon in boreal forests may represent one of the few realistic alternatives to ameliorate changes in atmospheric chemistry. The former Soviet Union has the greatest expanse of boreal forests in the world; however, the role of these forests in the terrestrial carbon cycle is not fully understood because the carbon budget of the Soviet forest sector has not been established. In recognition of the need to determine the role of these forests in the global carbon cycle, the carbon budget of forest biomes in the former Soviet Union was assessed based on an equilibrium analysis of carbon cycle pools and fluxes. Net primary productivity was used to identify the rate of carbon turnover in the forest biomes.

Keywords: *USSR, *Carbon cycle, *Terrestrial ecosystems, Biomes, Forests, Biomass, Plant ecology, Climate changes, Greenhouse effect, Reprints, *Carbon pools, Global warming.

PB93-191492/REB PC **A02/MF A01**
Corvallis Environmental Research Lab., OR.
Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings. Journal article.
ManTech Environmental Technology, Inc., Corvallis, OR.
R. K. Olson. c1992, 9p EPA/600/J-93/152
Contract EPA-68-C8-0006
Pub. in Jnl. of Sustainable Agriculture, v2 n3 p1-7 1992. Sponsored by Corvallis Environmental Research Lab., OR.

Current agricultural practices are contributing to environmental degradation, which also threatens the sustainability of agricultural production. Ecology has the potential to contribute significantly to the development of a sustainable and environmentally sound agriculture. However, the results of a conference organized by the U.S. Environmental Protection Agency suggest that only a small part of this potential has been realized. Successful translation of ecological research results into agricultural management decisions will require a multidisciplinary approach. Ecologists may be most effective in influencing agricultural practices by working as members of multidisciplinary research teams that include farmers and on-farm research. (Copyright (c) 1992 Haworth Press, Inc.)

Keywords: *Agriculture, *Ecology, *Environmental policy, Natural resources management, Soil conservation, Land development, Land use, Wetlands, Farm management, Long range planning, Environmental protection, Reprints, *Sustainable agriculture.

PB93-191500/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Conservation Tillage Impacts on National Soil and Atmospheric Carbon Levels. Journal article.
ManTech Environmental Technology, Inc., Corvallis, OR.
J. S. Kern, and M. G. Johnson. c1993, 12p EPA/600/J-93/153
Contract EPA-68-C8-0006
Pub. in Soil Science Society of America Jnl., v57 p200-210 1993. See also PB92-113448. Sponsored by Corvallis Environmental Research Lab., OR.

Soil organic matter is the largest global terrestrial C pool and is a source of CO2, CH4 and other greenhouse gases. Changes in soil organic C (SOC) content and fossil fuel C emissions in response to conversion of conventional tillage to conservation tillage in the contiguous USA for field crop production by the year 2020 were projected by developing a model based on published data, and geographic databases of current conservation tillage usage and agricultural SOC. Three scenarios of conservation tillage use, 27% (current usage), and 57% (low), and 76% (high) of field crops planted were considered. Conversion of land to conservation tillage alone is not likely to sequester sufficient C to offset the impact of C released by fossil fuel consumption.

Keywords: *Cultivation, *Soil conservation, *Air pollution, *United States, Gases, Carbon, Greenhouse effect, Carbon dioxide, Methane, Farm crops, Mathematical models, Soil properties, Organic materials, Maps, Graphs(Charts).

PB93-191518/REB PC **A03/MF A01**
Corvallis Environmental Research Lab., OR.
Future Context of Sustainable Agriculture: Planning for Uncertainty. Journal article.
ManTech Environmental Technology, Inc., Corvallis, OR.
R. K. Olson. c1992, 14p EPA/600/J-93/154
Contract EPA-68-C8-0006
Pub. in Jnl. of Sustainable Agriculture, v2 n3 p9-20 1992. Sponsored by Corvallis Environmental Research Lab., OR.

Agricultural management systems function in an environmental, social, and economic context. The future context of agriculture in the United States will differ from the present in ways that cannot be predicted with certainty, but will likely challenge the sustainability of current systems. Research on sustainable agricultural systems must consider this uncertainty, and policy decisions must take uncertainty into account. Approaches for dealing with uncertainty include planning for extreme events, adopting policies with multiple benefits, improving predictive capabilities, and educating decision makers and citizens on the implications of future uncertainties. (Copyright (c) 1992, Haworth Press, Inc.)

Keywords: *Agriculture, *United States, *Long range planning, Farm management, Land management, Environmental impacts, Predictions, Forecasting, Policies, Climate changes, Reprints, *Sustainable agriculture.

PB93-191526/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Impacts of Climate Change on Rice Yield: A Comparison of Four Model Performances. Journal article.
ManTech Environmental Technology, Inc., Corvallis, OR.
D. Bachelet, and C. A. Gay. c1993, 25p EPA/600/J-93/155
Contract EPA-68-C8-0006
Pub. in Ecological Modelling, v65 p71-93 1993. See also PB92-188754 and PB92-232883. Sponsored by Corvallis Environmental Research Lab., OR.

Increasing concentrations of carbon dioxide (CO2) and other greenhouse gases are expected to modify temperature and rainfall the next 50-100 years. Mechanisms and hypotheses of plant response to these changes could be incorporated in models predicting crop yield estimates to better understand potential consequences of such changes. Asia is particularly important since demographic forecasts indicate rice supplies worldwide will need to increase by 1.6% annually to the year 2000 to match population growth estimates. The objectives of the paper are (1) review the major hypotheses and/or experimental results regarding rice sensitivity to climate change and (2) evaluate the suitability of existing rice models for assessing the impact of global climate change on rice production. A review of four physiologically-based rice models (RICEMOD, CERES-Rice, MACROS, RICESYS) illustrates their potential to predict rice responses to elevated CO2 and increased temperature. (Copyright (c) 1993 Elsevier Science Publishers B.V., Amsterdam.)

Keywords: *Carbon dioxide, *Climatic changes, *Rice plants, *Air pollution effects(Plants), Yield, Farm crops, Mathematical models, Population growth, Global warming, Agricultural economics, Greenhouse gases, Atmospheric temperature, Demography, Plant physiology, Reprints.

PB93-191534/REB PC **A02**/MF **A01**
Corvallis Environmental Research Lab., OR.
Potential Bias from Non-Continuous Monitoring of Ambient Ozone Concentrations for Characterizing Hourly and Daily 7- and 12-Hour Average Concentrations. Journal article.
A.S.L. and Associates, Helena, MT.
A. S. Lefohn, L. R. McEvoy, D. T. Tingey, J. L. Sebaugh, and W. E. Hogsett. c1993, 9p EPA/600/J-93/156
Contract EPA-68-03-3225
Pub. in Atmospheric Environment, v27A n2 p145-152 1993. Prepared in cooperation with Sebaugh's Information Services, Lake Ozark, MO. Sponsored by Corvallis Environmental Research Lab., OR.

The authors investigated the uncertainties associated with limited sampling to characterize (1) hourly average and (2) daily 7- and 12-h average O3 concentrations. As expected, accuracy increased with increased sampling; over- and under-estimation of hourly values was directly related to whether the actual concentrations were increasing, decreasing or stable from one hour to the next. When non-continuous sampling was used at sites experiencing small changes from one hour to the next, more than 85 and 60% of the estimated hourly average values were within + or - 5 and + or - 2.5 ppb of the actual values, respectively. For a site where average O3 concentrations changed rapidly from one hour to the next, a greater error was observed. For the daily 7- and 12-h average values, when hourly average concentrations did not change rapidly from one hour to the next, 85% or more of the estimated values agreed within + or - 2 ppb, independent of sampling frequency. Greater uncertainty was experienced when hourly average concentrations changed at a faster rate. When considering the uncertainties associated with non-continuous sampling, investigators should specify the level of accuracy needed to characterize hourly average concentrations and then select the number of samples per hour required to meet that objective. (Copyright (c) 1993 Pergamon Press Ltd.)

Keywords: *Ozone, *Air pollution monitoring, Air pollution sampling, Study estimates, Concentration(Composition), Bias, Quality control, Data quality, Reprints.

PB93-191542/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of 2,4,5-Trichlorophenoxyacetic Acid in Liquid Culture and in Soil by the White Rot Fungus 'Phanerochaete chrysosporium'. Journal article.
Utah State Univ., Logan.
T. P. Ryan, and J. A. Bumpus. c1989, 8p EPA/600/J-93/157
Grants EPA-R-813369, EPA-R-814448
Pub. in Applied Microbiology and Biotechnology, v31 p302-307 1989. See also PB93-191567. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab., and National Inst. of Environmental Health Sciences, Research Triangle Park, NC.

Extensive biodegradation of (14)C-2,4,5-trichlorophenoxyacetic acid ((14)C-2,4,5-T) by the white rot fungus Phanerochaete chrysosporium was demonstrated in nutrient nitrogen-limited aqueous cultures and in (14)C-2,4,5-T-contaminated soil inoculated with this fungus and supplemented with ground corn cobs. After incubation of (14)C-2,4,5-T with aqueous cultures of the fungus for 30 days, 62.0% - or + 2.0% of the (14)C-2,4,5-T initially present was degraded to (14)CO2. Mass balance analysis demonstrated that water soluble metabolites were formed during degradation, and HPLC and thin layer chromatography (TLC) of methylene chloride-extractable material revealed the presence of polar and non-polar (14)C-2,4,5-T initially present in cultures remained as undegraded (14)C-2,4,5-T. In incubations composed of (14)C-2,4,5-T-contaminated soil, ground corn cobs, and 40% (w/w) water, 32.5%-3.6% of the (14)C-2,4,5-T initially present was converted to (14)CO2 after 30 days of incubation. These results suggest that it may be possible to develop practical systems based on the use of the fungus to detoxify 2,4,5-T-contaminated water and soil. (Copyright (c) Springer-Verlag 1989.)

Keywords: *Soil contamination, *Biodeterioration, *Chemical water pollutants, Carbon 14, Culture media, Soil microbiology, Thin layer chromatography, High pressure liquid chromatography, Carbon dioxide, Nitrogen, Reprints, *Phanerochaete chrysosporium, *Trichlorophenoxyacetic acids.

PB93-191559/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of Pentachlorophenol by the White Rot Fungus 'Phanerochaete chrysosporium'. Journal article.
Utah State Univ., Logan.
G. J. Mileski, J. A. Bumpus, M. A. Jurek, and S. D. Aust. c1988, 8p EPA/600/J-93/158
Grants EPA-R-813369, EPA-R-814162
Pub. in Applied and Environmental Microbiology, v54 n12 p2885-2889 Dec 88. See also PB93-191542. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Extensive biodegradation of pentachlorophenol (PCP) by the white rot fungus Phanerochaete chrysosporium was demonstrated by the disappearance and mineralization of (14)C PCP in nutrient nitrogen-limited culture.Mass balance analyses demonstrated the formation of water-soluble metabolites of (14)C PCP during degradation. Involvement of the lignin-degrading system of the fungus was suggested by the fact that the time of onset, time course, and eventual decline in the rate of PCP mineralization were similar to those observed for (14)C lignin degradation. Also, a purified ligninase was shown to be able to catalyze the initial oxidation of PCP. Although biodegradation of PCP was decreased in nutrient nitrogen-sufficient (i.e., nonligninolytic) cultures of P. chrysosporium, substantial biodegradation of PCP did occur, suggesting that in addition to the lignin-degrading system, another degradation system may also be responsible for some of the PCP degradation observed. (Copyright (c) 1988 American Society for Microbiology.)

Keywords: *Biodeterioration, *Pentachlorophenol, *Pesticides, Fungal spores, Lignin, Carbon 14, Nitrogen, Culture media, Reprints, *Phanerochaete chrysosporium.

PB93-191567/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Effects of Culture Parameters on DDT (1,1,1-Trichloro-2,2-BIS(4-Chlorophenyl)Ethane) Biodegradation by 'Phanerochaete chrysosporium'. Journal article.
Utah State Univ., Logan.
T. Fernando, S. D. Aust, and J. A. Bumpus. c1989, 14p EPA/600/J-93/159
Grants EPA-R-813369, EPA-R-814162
Pub. in Chemosphere, v19 n8/9 p1387-1398 1989. See also PB93-191559. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab., and National Inst. of Environmental Health Sciences, Research Triangle Park, NC.

The lignin degrading system of the white rot fungus Phanerochaete chrysosporium is able to degrade a wide variety of structurally diverse organopollutants to carbon dioxide. Current research is focused on ways to increase or optimize rates of biodegradation in order to apply this technology in practical waste treatment systems using (14)C-DDT as a model organopollutant.

Keywords: *DDT, *Biodeterioration, *Insecticides, Culture media, Lignin, Waste treatment, Carbon 14, Carbohydrates, pH, Reprints, *Phanerochaete chrysosporium.

PB93-191575/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Oxidation of Persistent Environmental Pollutants by a White Rot Fungus. Journal article.
Michigan State Univ., East Lansing. Dept. of Biochemistry.
J. A. Bumpus, M. Tien, D. Wright, and S. D. Aust. c1985, 6p EPA/600/J-93/160
Grant EPA-R-811464
Pub. in Science, v228 p1434-1436, 21 Jun 85. See also PB93-191583. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The white rot fungus Phanerochaete chrysosporium degraded DDT (1,1-bis(4-chlorophenyl)-2,2,2-trichloroethane), 3,4,3'4'-tetrachlorobiphenyl, 2,4,5,2',-4'5'-hexachlorobiphenyl 2,3,7,8-tetrachlorodibenzo-p-dioxin, lindane (1,2,3,4,5,6-hexachlorocyclohexane), and benzo(a)pyrene to carbon dioxide. Model studies, based on the use of DDT, suggest that the ability of Phanerochaete chrysosporium to metabolize these compounds is dependent on the extracellular lignin-degrading enzyme system of this fungus. (Copyright (c) 1985 by the American Association for the Advancement of Science.)

Keywords: *Oxidation, *Environmental pollutants, *Biodeterioration, Enzymes, DDT, Lindane, Benzo(a)pyrene, Lignin, Tetrachlorodibenzodioxin, Reprints, *Phanerochaete chrysosporium.

PB93-191583/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium': Involvement of the Lignin Degrading System. Journal article.
Michigan State Univ., East Lansing. Dept. of Biochemistry.
J. A. Bumpus, and S. D. Aust. c1993, 7p EPA/600/J-93/161
Grant EPA-R-811464
Pub. in BioEssays, v6 n4 p166-170 1993. See also PB93-191591. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The white-rot fungus Phanerochaete chrysosporium has the ability to degrade a wide variety of structurally diverse organic compounds, including a number of environmentally persistent organopollutants. The unique biodegradative abilities of this fungus appears to be dependent upon its lignin-degrading system. The nonspecific and partially extracellular nature of this system suggests that it may be useful as a supplementary means to treat organochemical wastes.

Keywords: *Biodeterioration, *Environmental pollutants, *Lignin, Biosynthesis, Molecular structure, Xenobiotics, Enzymes, Waste treatment, Reprints, *Phanerochaete chrysosporium.

PB93-191591/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of Polycyclic Aromatic Hydrocarbons by 'Phanerochaete chrysosporium'. Journal article.
Utah State Univ., Logan.
J. A. Bumpus. c1989, 7p EPA/600/J-93/162
Pub. in Applied and Environmental Microbiology, v55 n1 p154-158 Jan 89. See also PB93-191609. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The ability of the white rot fungus Phanerochaete chrysosporium to degrade polycyclic aromatic hydrocarbons (PAHs) that are present in anthracene oil (a distillation product obtained from coal tar) was demonstrated. Analysis by capillary gas chromatography and high-performance liquid chromatography showed that at least 22 PAHs, including all of the most abundant PAH components present in anthracene oil, underwent 70 to 100% disappearance during 27 days of incubation with nutrient nitrogen-limited cultures of this fungus. Because phenanthrene is the most abundant PAH present in anthracene oil, this PAH was selected for further study. In experiments in which ((14)C) phenanthrene was incubated with cultures of P. chrysosporium containing anthracene oil for 27 days, it was shown that 7.7% of the recovered radiolabeled carbon originally present in ((14)C) phenanthrene was metabolized to (14)CO2 and 25.2% was recovered from the aqueous fraction, while 56.1 and 11.0% were recovered from the methylene chloride and particulate fractions, respectively. (Copyright (c) 1989 American Society for Microbiology.)

Keywords: *Biodeterioration, *Aromatic polycyclic hydrocarbons, Nitrogen, Carbon dioxide, Gas chromatography, High pressure liquid chromatography, Carbon 14, Anthracenes, Phenanthrenes, Reprints, *Phanerochaete chrysosporium.

PB93-191609/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of Crystal Violet by the White Rot Fungus 'Phanerochaete chrysosporium'. Journal article.
Utah State Univ., Logan.
J. A. Bumpus, and B. J. Brock. c1988, 10p EPA/600/J-93/163
Pub. in Applied and Environmental Microbiology, v54 n5 p1143-1150 May 88. See also PB93-191617. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Biodegradation of crystal violet (N,N,N',N',N",N"- hexamethylpararosaniline) in ligninolytic (nitrogen-limited) cultures of the white rot fungus Phanerochaete chrysosporium was demonstrated by the disappearance of crystal violet and by the identification of three metabolites (N,N,N',N',N" -pentamethylpararosaniline, N,N,N',N" -tetramethylpararosaniline, and N,N',N" -trimethylpararosaniline) formed by sequential N-demethylation of the parent compound. Metabolite formation also occurred when crystal violet was incubated with the extracellular fluid obtained from ligninolytic cultures of this fungus, provided that an H2O2-generating system was supplied. This, as well as the fact that a purified ligninase catalyzed N-demethylation of crystal violet, demonstrated that biodegradation of crystal violet by this fungus is dependent, at least in part, upon its lignin-degrading system. In addition to crystal violet, six other triphenylmethane dyes (pararosaniline, cresol red, bromphenol blue, ethyl violet, malachite green, and brilliant green) were shown to be degraded by the lignin-degrading system of this fungus. (Copyright (c) 1988 American Society for Microbiology.)

Keywords: *Gentian violet, *Biodeterioration, Dyes, Hydrogen peroxide, Mass spectrometry, Metabolism, Lignin, High pressure liquid chromatography, Reprints, *Phanerochaete chrysosporium, Lignin peroxidase.

PB93-191617/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of DDT (1,1,1-Trichloro-2,2-Bis(4-Chlorophenyl)Ethane) by the White Rot Fungus 'Phanerochaete chrysosporium'. Journal article.
Michigan State Univ., East Lansing. Dept. of Biochemistry.
J. A. Bumpus, and S. D. Aust. c1987, 10p EPA/600/J-93/164
Pub. in Applied and Environmental Microbiology, v53 n9 p2001-2008 Sep 87. See also PB93-191575 and PB93-191567. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Extensive biodegradation of 1,1,1-trichloro-2,2bis(4-chlorophenyl)ethane (DDT) by the white rot fungus Phanerochaete chrysosporium was demonstrated by disappearance and mineralization of (14C) DDT in nutrient nitrogen-deficient cultures. Mass balance studies demonstrated the formation of polar and water-soluble metabolites during degradation. Hexane-extractable metabolites identified by gas chromatography-mass spectrometry included 1,1-dichloro-2,2-bis(4-chlorophenyl)ethane(DDD), 2,2,2-trichloro-1,1-bis(4-chlorophenyl)ethanol (dicofol), 2,2-dichloro-1,1-bis(4-chlorophenyl) ethanol (FW-152), and 4,4'-dichlorobenzophenone (DBP). DDD was the first metabolite observed; it appeared after 3 days of incubation and disappeared from culture upon continued incubation. This, as well as the fact that ((14)C) dicofol was mineralized, demonstrates that intermediates formed during DDT degradation are also metabolized. These results demonstrate that the pathway for DDT degradation in P. chrysosporium is clearly different from the major pathway proposed for microbial or environmental degradation of DDT. Like P. chrysosporium ME-446 and BKM-F-1767, the white rot fungi Pleurotus ostreatus, Phellinus weirii, and Polyporus versicolor also mineralized DDT. (Copyright (c) 1987 American Society for Microbiology.)

Keywords: *DDT, *Biodeterioration, *Insecticides, Nitrogen, Culture media, Mass fragmentography, High pressure liquid chromatography, Carbon 14, Metabolism, Reprints, *Phanerochaete chrysosporium, Pleurotus ostreatus, Phellinus weirii, Polyporus versicolor.

PB93-191625/REB PC **A03**/MF **A01**
Evaluation of the Bioremediation of a Contaminated Soil with Phytotoxicity Tests. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
F. Baud-Grasset, S. Baud-Grasset, and S. I. Safferman. c1993, 12p EPA/600/J-93/166
Pub. in Chemosphere, v26 n7 p1365-1374 1993. Prepared in cooperation with International Technology Corp., Cincinnati, OH.

The fungal remediation of polycyclic aromatic hydrocarbons in a contaminated soil from a hazardous waste site was evaluated in a pilot-scale treatability study. Because toxic chemicals may not be measured accurately in chemical analysis and disappearance of parent compounds may not indicate detoxification of the soil, higher plants were selected to evaluate the overall reduction in toxicity in the soil after fungal treatment. Seed germination tests using soil samples and root elongation tests using soil eluates were conducted with three different species (lettuce, oat and millet) before and after treatment. Phytotoxicity tests revealed significant detoxification of soil after treatment with a good correlation with parent compound depletion. The seed germination test appeared to be more sensitive than the root elongation test, suggesting that the toxic compounds were not easily extracted from the soil to the aqueous solution. The study indicates that phytotoxicity tests have good potential to be used as an environmental tool to assess the efficacy of a remediation technology for site clean-up.

Keywords: *Phytotoxicity, *Aromatic polycyclic hydrocarbons, *Biodegradation, Toxicity, Fungi, Pollution effects(Plants), Germination, Root development, Soil contamination effects, Environmental exposure, Reprints, *Bioremediation, Contaminated soil, Dose-response relationships.

PB93-191633/REB PC **A09**/MF **A03**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Data Management Strategy for the Tampa Bay National Estuary Program: Recommendations and Implementation Plan. Final technical pub.
Coastal Environmental Services, Inc., Linthicum, MD.
S. Cairns. Aug 92, 200p TBNEP-08-92
Contract T-91-11
Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

One goal of the Tampa Bay National Estuary Program (TBNEP) is to identify and develop the plans for a data management system that meets the needs of potential users who can benefit from improved access to information that is pertinent to resource management. As part of the project the needs and goals of data users in the Tampa Bay area were investigated by means of a survey, followed by a workshop at which participants discussed how the DMS could improve on existing information resources. The recommendations resulting from the survey and workshop discussions focused on (1) developing a Central Subject Directory (CSD) to existing data, (2) standardizing data management forms and protocols used by different agencies, and (3) providing data management services for the TBNEP throughout its tenure.

Keywords: *Information systems, *Data base management systems, Natural resource management, User requirements, Information management, Environmental monitoring, Water quality, Information dissemination, *National Estuary Program.

PB93-191666/REB PC **A05**/MF **A01**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Compendium of Current Monitoring Programs in Tampa Bay and Its Watershed. Final technical rept.
Coastal Environmental Services, Inc., Linthicum, MD.
D. L. Wade, and A. J. Janicki. May 92, 96p TBNEP-02-92
Contract T-91-12
Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

Tampa Bay is the subject of research and monitoring programs conducted by several federal, state, regional, and local agencies. In order to provide information on existing monitoring programs, an investigation was conducted to identify a set of ongoing, recently suspended, and proposed monitoring programs for Tampa Bay and its watershed. A summary of each program investigated was classified as either a water quality, habitat, or living resource study and listed alphabetically by agency within each class. The information was reviewed and summarized with respect to the status, objective, approach, sample selection method, and level of sampling effort for each monitoring program. The status and objectives were characterized by the staff contacted and the status was reported as either an ongoing effort, a proposed future effort or a recently suspended effort. The approach of each program was reported as a summary of the sampling design, methods used, and parameters analyzed. Sample selection criteria were presented in terms of sample selection methods and geographic sample coverage. The sampling effort was presented in terms of temporal sample coverage, sampling event frequency, and number of samples taken per sampling event.

Keywords: *Tampa Bay, *Water pollution monitoring, *Environmental surveys, Listings, Site surveys, Florida, Water pollution effects, Water quality data, *Water monitoring programs, National Estuary Program.

PB93-192326/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2-Diphenylhydrazine (122-66-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/126, , OHEA-C-073-101
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB81-117731. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,2-Diphenylhydrazine is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and although there are 'No Data' from human studies on 1,2-diphenylhydrazine, IARC reports that benzidine (a known human carcinogen) 'may be produced from 1,2-diphenylhydrazine by acidity in the stomach'. The potency factor (F) for 1,2-diphenylhydrazine is estimated to be 4.31 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,2-diphenylhydrazine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Hydrazine/diphenyl, *Carcinogenicity, Dose-response relationships, CAS Registry No: 122-66-7.

PB93-192334/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Epichlorohydrin (106-89-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/127, , OHEA-C-073-102
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB80-197585. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Epichlorohydrin is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for epichlorohydrin is estimated to be 0.37 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, epichlorohydrin is assigned a 'LOW' hazard ranking.

Keywords: *Epichlorohydrin, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 106-89-8.

PB93-192342/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Ethyl Carbamate (Urethane) (51-79-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 31p EPA/600/8-91/128, , OHEA-C-073-103
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Ethyl carbamate (also known as urethane) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for ethyl carbamate is estimated to be 0.64 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, ethyl carbamate is assigned a 'LOW' hazard ranking.

Keywords: *Urethane, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 51-79-6.

PB93-192359/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Ethyl 4,4'-Dichlorobenzilate (510-15-6). Final rept.
Syracuse Research Corp., NY.
Jun 88, 27p EPA/600/8-91/129, , OHEA-C-073-104
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-223 159 and PB-287 123. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Ethyl 4,4'-dichlorobenzilate is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for ethyl 4,4'-dichlorobenzilate is estimated to be 1.79 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, ethyl 4,4'-dichlorobenzilate is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Dichlorobenzilate/ethyl, *Carcinogenicity, Dose-response relationships, CAS Registry No: 510-15-6.

PB93-192367/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Ethylene Dibromide (106-93-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 30p EPA/600/8-91/130, , OHEA-C-073-105
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-276 621 and PB-288 428. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Ethylene dibromide is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for ethylene dibromide is estimated to be 390 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, ethylene dibromide is assigned a 'HIGH' hazard ranking.

Keywords: *Ethylene dibromides, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 106-93-4.

PB93-192375/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Ethylene Oxide (75-21-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 37p EPA/600/8-91/131, , OHEA-C-073-106
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB86-102597 and PB88-169859. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Ethylene oxide is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Limited'. The potency factor (F) for ethylene oxide is estimated to be 1.34 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, ethylene oxide is assigned a 'MEDIUM' hazard ranking.

Keywords: *Ethylene oxide, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 75-21-8.

PB93-193589/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Ethylenethiourea (96-45-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/132, , OHEA-C-073-107
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Ethylenethiourea is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for ethylenethiourea is estimated to be 1.30 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, ethylenethiourea is assigned a 'MEDIUM' hazard ranking.

Keywords: *Ethylenethiourea, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 96-45-7.

PB93-193597/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Ethyl Methanesulfonate (62-50-0). Final rept.
Syracuse Research Corp., NY.
Jun 88, 24p EPA/600/8-91/133, , OHEA-C-073-108
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Ethyl methanesulfonate is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for ethyl methanesulfonate is estimated to be 293 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, ethyl methanesulfonate is assigned a 'HGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *EMS(Ethyl methanesulfonate), *Carcinogenicity, Dose-response relationships, CAS Registry No: 62-50-0.

PB93-193605/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Formaldehyde (50-00-0). Final rept.
Syracuse Research Corp., NY.
Jun 88, 25p EPA/600/8-91/134, , OHEA-C-073-109
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB83-101766. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Formaldehyde is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Limited'. The potency factor (F) for formaldehyde is estimated to be 2.96 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, formaldehyde is assigned a 'MEDIUM' hazard ranking.

Keywords: *Formaldehyde, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 50-00-0.

PB93-193613/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Glycidylaldehyde (765-34-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/135, , OHEA-C-073-110
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Glycidylaldehyde is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evi-

dence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for glycidylaldehyde is estimated to be 2.90 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, glycidylaldehyde is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Glycidylaldehyde, *Carcinogenicity, Dose-response relationships, CAS Registry No: 765-34-4.

PB93-193696/REB PC **A04**/MF **A01**
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry. Follow-up Guidance for Generating Storage Stability Data; Submission of Raw Data; Maximum Theoretical Concentration Factors; Flowchart Diagrams.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Feb 93, 73p EPA/737/R-93/001
See also PB93-178994.

Contents: Guidance on Generating Storage Stability Data in Support of Pesticide Residue Chemistry Studies; Guidance on Submission of Raw Data; Maximum Theoretical Concentration Factors; Flowchart Diagrams for Residue Chemistry Requirements.

Keywords: *Pesticides, *Requirements, Chemical analysis, Storage, Stability, Packaging, *Reregistration, *Rejection rate analysis, Maximum theoretical concentration factors.

PB93-193704/REB PC **A03**/MF **A01**
Online Guided Tour of the Cleanup Information Bulletin Board System. (CLU-IN: Cleanup Information Bulletin Board).
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Feb 93, 26p EPA/542/B-93/001

The document serves as a guided tour of the Cleanup Information Bulletin Board System (CLU-IN BBS). The purpose of the tour is to make a user's first session online a successful one, even if they have no previous experience on other bulletin board systems (BBSs). The guided tour will walk them through using each of the main features of CLU-IN, including: Log onto the system; Read messages; Send messages; Use the online help; Read bulletins; Download a file; Upload a file; Join a special interest group (SIG); and Exit the system.

Keywords: *Environmental issues, *Remedial action, *Information systems, Interactive systems, On-line systems, Message processing, File management systems, Electronic bulletin boards, Special interest groups.

PB93-193738/REB PC **A03**/MF **A01**
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
5 Nov 92, 24p CBP/TRS-86/93
See also PB89-179931 and PB89-179949.

The overall objective of the forum is to determine whether or not the Chesapeake Bay Program has sufficient information to answer these questions: What is the overall magnitude of atmospheric deposition of toxics to the Chesapeake Bay tidal waters, to the Bay-basin; How does atmospheric deposition of toxics loadings compare with loadings from other point and nonpoint sources of toxic substances; Does atmospheric deposition of toxics pose a more direct route of exposure for the Bay's living resources than emissions from other sources; What are the major sources of toxics deposited within the Chesapeake Bay watershed through atmospheric processes; and What priority should be given to reducing this source of toxics loadings compared to other sources. Other objectives of the forum were to present the relevant information and to open an informal and open dialogue between speakers and participants. In addition, the forum was intended to facilitate interaction between researchers in various ongoing projects, to plan future directions in atmospheric deposition research in the Chesapeake Bay Watershed, and determine what is the current state of knowledge concerning atmospheric deposition.

Keywords: *Meetings, *Toxic substances, *Air water interactions, *Deposition, *Water pollution abatement, Water quality, Water pollution control, Path of pollutants, Pollution sources, Comparison, Air pollution, *Chesapeake Bay Program.

PB93-193746/REB PC **A03**/MF **A01**
Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
Environmental Protection Agency, Washington, DC. Office of Ground Water and Drinking Water.
May 91, 19p EPA/570/F-91/047
See also PB93-193787 and PB92-122969.

The Fact Sheet contains a summary of what the regulations will do, establish, and provide; regulatory impact in regards to benefits and costs; treatment technique requirements; tap water monitoring for lead and copper; water quality monitoring (other than lead and copper); monitoring schedules, regulatory schedules for large, medium-sized, and small systems.

Keywords: *Potable water, *Pollution regulations, *Water pollution abatement, *Lead(Metal), *Copper, Water treatment, Corrosion prevention, Requirements, Best technology, Cost analysis, Benefit cost analysis, Water pollution sampling, Water quality, Standards, *National Primary Drinking Water Regulations, Safe Drinking Water Act, Maximum Contaminant Level Goals.

PB93-193753/REB PC **A06**/MF **A02**
Estuary Program Primer. National Estuary Program. Draft rept.
Environmental Protection Agency, Washington, DC. Office of Marine and Estuarine Protection.
Oct 87, 104p EPA/503/8-88/003
See also PB91-145474 and PB93-116077.

The manual provides an overview of the National Estuary Program and its functions and management structure. The manual also describes the Comprehensive Conservation and Management Plan, a framework that can be used to help in prevention and control of pollution, 'land over-use', and man-environment conflicts.

Keywords: *Estuaries, *Water quality management, Water conservation, Water pollution abatement, Water pollution control, Natural resources management, Policies, Citizen participation, Economic analysis, Pollution sources, Land use, Manuals, State government, Local government, *National Estuary Program.

PB93-193761/REB PC **A03**/MF **A01**
Baseline Point Source Load Inventory, 1985. 1991 Reevaluation Report No. 2.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
4 Feb 93, 37p CBP/TRS-85/93
See also PB84-127729 and PB92-161033.

The report finalizes and documents the Chesapeake Bay Agreement states' 1985 point source nutrient load estimates initially presented in the 'Baywide Nutrient Reduction Strategy' (BNRS). The Bay Agreement states include Maryland, Virginia, Pennsylvania, and the District of Columbia. Each of the states' final, annual, discharged, 1985 point source total phosphorus and total nitrogen nutrient load estimates are presented. These estimates are to serve as the point source baseline for the year 2000 40% nutrient reduction goal. Facility by facility flows, nutrient concentrations and nutrient loads for 1985 from above the fall line (AFL) and from below the fall line (BFL) are presented. The report presents the percent change in the 1985 baseline loads for each of the Bay agreement states relative to 1991. Estimates of 1991 nutrient loads are not available for non-agreement states at this time.

Keywords: *Chesapeake Bay, *Water pollution control, *Point sources, Nutrients, Phosphorus, Nitrogen, Ecology, Sewage treatment plants, Sewage treatment effluents, Waste water, Regulations, Environmental transport, *Nutrient load, BNRS(Bay Nutrient Reduction Strategy).

PB93-193787/REB PC **A03**/MF **A01**
Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
Environmental Protection Agency, Washington, DC. Office of Drinking Water.
Jan 91, 11p EPA/570/F-91/044
See also PB93-193746 and PB92-122969.

The Fact Sheet contains a summary of what regulations will do and provide; implementation dates; regulatory impact; and tables on health effects, EPA standards, sources, analytic methods, Best Available Technologies, and compliance monitoring requirements.

Keywords: *Pollution regulations, *Water pollution abatement, *Potable water, *Inorganic compounds, Standards compliance, Water pollution effects(Humans), Pesticides, Water treatment, Best technology, Pollution sources, Tables(Data), Water pollution sampling, Water pollution standards, *Phase 2 rule, *Synthetic organic chemicals, Maximum Contaminant Level Goals, National Primary Drinking Water Regulations.

PB93-193795/REB PC **A05**/MF **A01**
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 93, 86p* EPA/841/B-93/003
Prepared in cooperation with National Oceanic and Atmospheric Administration, Washington, DC.

The document, developed by NOAA and EPA, contains guidance for states in developing and implementing their coastal nonpoint pollutant source programs. It describes the requirements that must be met, including: the geographic scope of the program; the pollutant sources to be addressed; the types of management measures used; the establishment of critical areas; technical assistance, public participation, and administrative coordination; and, the process for program submission and Federal approval. The document also contains the criteria by which NOAA and EPA will review the states' submissions.

Keywords: *Coastal zone management, *State government, *Regulations, Coastal regions, Water pollution control, Water treatment, Nonpoint sources, Local government, Laws(Jurisdiction), *Coastal nonpoint programs.

PB93-193902/REB PC **A21**/MF **A04**
Environmental Protection Agency, Seattle, WA. Region X.
Glass Markets Information System: Application Records.
Clean Washington Center, Seattle.
Dec 92, 481p
Sponsored by Environmental Protection Agency, Seattle, WA. Region X.

The Glass Markets Information System synthesizes technical and economic information on existing and potential uses for recovered glass for the purpose of making this information readily available in a structured form. Access to reliable information regarding the technical characteristics and market conditions for recovered glass facilitates decisions on its use and marketing.

Keywords: *Materials recovery, *Glass, *Information systems, Waste utilization, Economic analysis, Marketing, Composite materials, *Glass Markets Information System.

PB93-193910/REB PC **A13**/MF **A03**
VOC/HAP Emissions from Marine Vessel Loading Operations. Technical Support Document for Proposed Standards. Draft rept. (Final).
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
May 92, 293p EPA/450/3-92/001A
See also PB93-173961.

Federal standards for the control of air emissions from marine vessel loading operations are being proposed under authority of Section 183(f) of the 1990 Clean Air Act Amendments. These standards would apply to both existing and new marine terminals where liquids are loaded into marine vessels. The document con-

tains background information on emissions from marine vessel loading operations, costs of controlling these emissions and environmental and economic impact assessments of the regulatory alternatives considered in developing the proposed standards.

Keywords: *Air pollution standards, *Volatile organic compounds, *Hazardous materials, *Air pollution control, *Marine transportation, Loading, Clean Air Act, Cost analysis, Environmental impacts, Economic impact, Pollution regulations, Alternatives, Emission factors, Cargo transportation.

PB93-194017/REB PC **A03**/MF **A01**
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Contaminated Sediments Critical Issue Forum. Held in Annapolis, Maryland on December 10, 1992.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Feb 93, 30p CBP/TRS-87/93
See also PB93-193738.

The report described the issues discussed at a forum sponsored by the Chesapeake Bay Program. The forum was structured to try to answer questions regarding the concentration and distribution of contaminated sediments in the bay, the impact of contamination on the bay, comparison with other coastal systems and the possible solutions to deal with the contamination.

Keywords: *Meetings, *Chesapeake Bay, *Water pollution effects(Materials), Sediments, Contamination, Metals, Organic compounds, Pesticides, Pollution monitoring, Toxicity, Sediment-water interfaces, Environment impacts, Chesapeake Bay Program.

PB93-194033/REB PC **A03**/MF **A01**
Drinking Water Regulations under the Safe Drinking Water Act. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Drinking Water.
Dec 90, 50p EPA/570/F-90/017

The fact sheet describes the requirements covered under the 1986 amendments to the Safe Drinking Water Act. Levels of various contaminants (including radio nuclides) are explained. Also discussed are the Surface Water Treatment Rule and the Total Coliforms Rule.

Keywords: *Potable water, *Water pollution control, *Pollution regulations, Water treatment, Water supply, Water pollution monitoring, Public health, Water quality management, Water pollution standards, *Drinking water, Safe Drinking Water Act Amendments of 1986, PWS(Public water systems), BAT(Best available technology).

PB93-194041/REB PC **A03**/MF **A01**
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry/Environmental Fate Follow Up Guidance for Conducting Rotational Crop Studies.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Feb 93, 12p EPA/738/B-93/001

The Chemistry Branches of Health Effects Division (HED) have taken over the responsibility for review of studies which determine whether pesticide residues of concern result in rotational crops as a result of uptake from soil of previously treated fields (Guideline Nos. 165-1 and 165-2). This transfer was performed because the concern over residues in these situations is chiefly dietary. The paper is intended to provide additional guidance to HED personnel and other interested parties as to the requirements and procedure for review of submitted studies.

Keywords: *Pesticide residues, *Rotations, *Environmental transport, Farm management, Crop production, Agricultural chemistry, Pollution control, Toxicology, *Rejection rate analysis, Reregistration, Pollutant studies.

PB93-194058/REB PC **A03**/MF **A01**
Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jun 91, 15p EPA/570/9-91/700
See also PB88-242714 and PB91-225698.

The regulations will: Propose Maximum Contaminant Level Goals (MCLGs) and Maximum Contaminant Levels (MCLs) for four radionuclide contaminants and two categories of radionuclides. The four radionuclide contaminants are: radium-226, radium-228, radon-222, and uranium. The two categories of radionuclides are adjusted gross alpha emitters, and beta and photon emitters. The category of adjusted gross alpha emitters regulates alpha emitters and is gross alpha measurement less uranium and less radium-226. The category of beta and photon emitters regulates total beta and photon emitters (mostly man-made).

Keywords: *Potable water, *Radioactive isotopes, *Water pollution control, Regulations, Public health, Risk assessment, Water treatment, Radon 222, Radium 226, Uranium, Radium 228, *Drinking water, Contaminant levels.

PB93-194066/REB PC **A05**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Issues and Approaches to Improving Transportation Modeling for Air Quality Analysis.
Systems Applications International, Research Triangle Park, NC.
Jan 93, 99p EPA/452/R-93/003
See also PB91-228759. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

Several studies sponsored by the EPA, national organizations, and state and local agencies have been initiated to try to improve transportation modeling. The report documents the results of one of these efforts. The purpose of the work was to produce a list of current shortcomings both in transportation model structure and in the ways transportation models are used, written in large part from the perspective of air quality modelers. The intention has been to provide a document which would be of use to both transportation and air quality modelers. In addition, a list of improvements to either the models or transportation modeling procedures, augmented by sample model runs demonstrating implementation of some of these suggestions, is provided.

Keywords: *Air quality, *Transportation models, *Mathematical models, *Mobile pollutant sources, *Exhaust emissions, *Air pollution, Study estimates, Performance evaluation, Urban areas, State government, Forecasting, Management planning, Land use, Clean Air Act, Traffic surveys, Emission inventories.

PB93-194140/REB PC **A06**/MF **A02**
Toxic Chemical Release Inventory Reporting Form R and Instructions. Revised 1992 Version. Section 313 of the Emergency Planning and Community Right-to-Know Act.
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
Jan 93, 121p* EPA/745/K-93/001
See also 1988 version, PB89-164248.

Reporting is required to provide the public with information on the releases of listed toxic chemicals in their communities and to provide EPA with release information to assist the Agency in determining the need for future regulations. Facilities must report the quantities of both routine and accidental releases of listed toxic chemicals, as well as the maximum amount of the listed toxic chemical on-site during the calendar year and the amount contained in wastes transferred off-site. These instructions supplement and elaborate on the requirements in the reporting rule (40 CFR Part 372). Together with the reporting rule, they constitute the reporting requirements. All references in these instructions are to sections in the reporting rule unless otherwise indicated.

Keywords: *Superfund, *Hazardous materials, *Reporting requirements, *Instructions, Pollution regulations, Industrial plants, Chemical compounds, Waste transfer stations, Waste treatment, Site surveys, Manuals, *Pollutant releases.

PB93-194157/REB PC **A03**/MF **A01**
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9). Book chapter.
Environmental Research Lab.-Narragansett, Newport, OR.
J. O. Lamberson, T. H. DeWitt, and R. C. Swartz.
c1992, 32p EPA/600/A-93/108, ERLN-N175
Pub. in Sediment Toxicity Assessment, p183-215 1992. Also pub. as ISBN-0-87371-450-4. Library of Congress catalog card no. 91-42273.

Most chemical contaminants entering the marine environment eventually accumulate in sediments and, thereby, potentially render the sediments toxic to benthic and demersal organisms. Through deposition, adsorption, diffusion, resuspension, and emigration, sediments serve as both a sink and source for toxic contaminants in the marine environment. The relationship between the concentrations of chemicals in sediments and in the tissues of benthic biota is well established. Although the linkage between bioaccumulation and toxicological responses is poorly documented, logic indicates a strong association. Chemical contaminants in sediments have been implicated as the cause of the abnormal pathology observed in benthic and demersal organisms and the alterations in the structure of benthic invertebrate populations and communities. (Copyright (c) 1992 by Lewis Publishers, Inc.)

Keywords: *Sediments, *Water pollution effects, *Toxic substances, *Environmental impact assessments, *Benthos, Tests, Marine environment, Bioaccumulation, Chemical compounds, Toxicity, Marine animals, Sediment-water interfaces, Reprints.

PB93-194165/REB PC **A02**/MF **A01**
Coprocessing of Fossil Fuels and Biomass for CO2 Emission Reduction in the Transportation Sector. Rept. for Apr 91-Jul 92.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
M. Steinberg, Y. Dong, and R. H. Borgwardt. 1993, 10p EPA/600/A-93/109
Presented at the IEA Carbon Dioxide Disposal Symposium, University of Oxford, UK., March 29-31, 1993. Prepared in cooperation with Brookhaven National Lab., Upton, NY., and Hydrocarb Corp., New York.

The paper discusses an evaluation of the Hydrocarb process for conversion of carbonaceous raw material to clean carbon and methanol products. As fuel, methanol and carbon can be used economically, either independently or in slurry form, in efficient heat engines (turbines and internal combustion engines) for both mobile and stationary single and combined cycle power plants. When considering carbon dioxide (CO2) emission control in the utilization of fossil fuels, the coprocessing of those fossil fuels with biomass (which may include wood, municipal solid waste, and sewage sludge) is a viable mitigation approach. By coprocessing both types of feedstock to produce methanol and carbon, while sequestering all or part of the carbon, a significant net CO2 reduction is achieved if the methanol is substituted for petroleum fuels in the transportation sector. Biomass removes CO2 from the atmosphere by photosynthesis and is thus a prime feedstock for mitigation of CO2 emission from mobile sources. Since the availability of biomass will, in most cases, determine the amount of petroleum that can be displaced, it is essential to obtain maximum yield of fuel in the conversion process.

Keywords: *Air pollution abatement, Biomass, Fossil fuels, *Coprocessing, Carbon dioxide, Waste utilization, Sewage sludge, Wood wastes, Exhaust emissions, Motor vehicles, *Hydrocarb process, *Methanol fuels, Biomass conversion plants, Methanol plants.

PB93-194173/REB PC **A02**/MF **A01**
EPA'S QA Program on the Suppliers of Protocol Gases.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
A. P. Hines, W. J. Mitchell, M. Miller, and R. Brande.
Apr 93, 8p EPA/600/A-93/110
Presented at the EPA/AWMA Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC., May 5, 1993. Prepared in cooperation with MantTech Environmental Technology, Inc., Research Triangle Park, NC.

In 1992, EPA's Atmospheric Research and Exposure Assessment Laboratory initiated a nationwide QA program on the suppliers of EPA Protocol Gases. The program has three goals: to increase the acceptance and use of Protocol Gases by the air monitoring community, to provide a QA check for the suppliers of these gases, and to help the users of these gases identify suppliers who can consistently provide accurately certified Protocol Gases. In the QA program which operates continuously, Protocol Gases are procured by EPA and the supplier's certification of the pollutant concentration(s) is verified by EPA. The results are published on the EPA Technology Transfer Network's electronic bulletin board. If a supplier's concentration differs from EPA's by more than 2%, the supplier is notified in writing immediately. The results obtained for SO2, CO and NO Protocol Gases are presented.

Keywords: *References(Standards), *Air pollution monitors, *Quality assurance, *US EPA, Stationary pollutant sources, Air pollution monitors, Vendors, Sulfur dioxide, Nitrogen oxide(NO), Carbon monoxide, Supplying, Gases, Protocol gases.

PB93-194181/REB PC **A03**/MF **A01**
Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
D. A. Lytle, M. R. Schock, and S. Tackett. 1992, 22p EPA/600/A-93/111
Pub. in Proceedings of the 1992 WQTC Conference, Toronto, Canada, p737-757. Prepared in cooperation with Indiana Univ. of Pennsylvania. Dept. of Chemistry.

As a result of the new Lead and Copper Rule, some water utilities in the United States have begun or will soon begin corrosion demonstration studies. Demonstration studies may include pipe rig/loop tests, metal coupon tests, and partial-system tests (full-scale). Evaluation of corrosion control treatment through testing may be accomplished by weight loss measurement, metal leaching, corrosion rate, or coupon surface inspection techniques. The purpose of the paper is to (1) briefly introduce 2 corrosion control studies being conducted at the EPA Research Facility, (2) discuss design and operational problems and considerations associated with each of the studies, and (3) present solutions to the problems. The experiences related to the paper may provide useful and time-saving insights into the design, operation, and interpretation of corrosion control studies to water utilities and suppliers.

Keywords: *Lead, *Copper, *Corrosion, *Utilities, *Water supply, Tests, Leaching, Legislation, Contamination, Reprints.

PB93-194199/REB PC **A03**/MF **A01**
EPA's Life Cycle Methodology: Guidelines for Use in Development of Packaging. Conference paper.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
M. A. Curran. 1992, 13p EPA/600/A-93/112
Proceedings of PACK EXPO '92, Chicago, IL., November 9, 1992. See also PB93-194207.

Approaches to reducing environmental effects of products and processes have moved steadily upstream over the years from end-of-pipe controls to source reduction and recycling of hazardous waste, and more recently, toward multimedia pollution prevention. Life Cycle Assessment (LCA) continues the trend of expanding the authors view and approach to environmental protection. An informal review of the open literature found 29 references to product life cycle studies, 17 of which are related to packaging materials or packaging systems. Beverage containers (cans, bottles and cartons) are the focus of ten of these studies. These packaging-related studies are provided in the bibliography at the end of the paper. The paper includes discussion of the history of LCA's SETAC's involvement in LCA, EPA's guidance on life cycle inventory methodology, life cycle design, and the future of LCA.

Keywords: *Hazardous materials, *Packaging, *Packing materials, *Service life, *Pollution prevention, Guidelines, Life(Durability), Environmental protection, Containers, Bottles, Cans, Waste recycling, Reduction, Ecosystems, Boundaries, Design, Manufacturing, Flow charts, US EPA, Mass communication, Cradle-to-grave.

PB93-194207/REB PC **A02**/MF **A01**
Life Cycle Analysis (Video Conference Paper).
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
M. A. Curran. 1992, 7p EPA/600/A-93.113
Conference held in Columbus, OH. on April 9, 1992. See also PB93-194199 and PB92-179878.

Life cycle analysis, or LCA for short, is a term that has been used more and more over the past year to describe the cradle-to-grave environmental impacts of a product. The LCA is a way of looking at the environmental demands of a product looking at the resource usage and releases to the environment across all the stages involved in making and using a product, from raw material acquisition, through material manufacture, product manufacture, filling, packaging and distribution, and consumer use and disposal. The paper describes what an LCA is, how LCA is being used, how LCA can be used in environmental assessment, how EPA uses LCA, and future direction of LCA's.

Keywords: *Hazardous materials, *Life(Durability), *Pollution prevention, *Manufacturing, Environmental impacts, Decision making, Materials, Packaging, Cargo transportation, Packaging materials, Waste disposal, Consumers, Utilization, Risk assessments, Profiles, Guidelines, Ecosystems, *Product comparison, Cradle to grave.

PB93-194215/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Evaluation of Laboratory Tests to Determine the Effectiveness of Chemical Surface Washing Agents. Conference paper.
Science Applications International Corp., McLean, VA.
D. Sullivan, and K. A. Sahatjian. 28 Apr 93, 7p EPA/600/A-93/114
Contract EPA-68-C8-0062
Pub. in Proceedings of the International Oil Spill Conference, Tampa, FL., March 29-April 1, 1993, p511-514. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

In the study, the Environmental Protection Agency evaluated two of the four laboratory tests currently available to measure the effectiveness of surface washing agents: the inclined trough test and the swirling coupon test. The agency used two standard reference oils (Prudhoe Bay and bunker C), two test surfaces (stainless steel and porcelain tile), and three cleaning agents (Corexit 9580, Corexit 7664, and Citrikleen XPC) to evaluate the precision, cost, and ease of operations of the two tests. The study concluded that the overall performance of the two tests is similar but that costs for the inclined trough test are lower. Overall, there is concern as to whether any of the four existing tests are appropriate measures of surface washing agent effectiveness. Two problems exist: none of the tests measures the amount of oil remaining on the surface after washing, and none of the tests accounts for how easily oil is removed from the water after being washed off the surface. Therefore, more research is needed before a surface washing agent effectiveness test can be adopted as a regulatory tool.

Keywords: *Oil spills, *Decontamination, *Surfactants, Oil pollution removal, Washing, Chemical cleaning, Adsorption, Shores, Land pollution, Pollution effects(Materials), Tests, *Surface washing agents.

PB93-194223/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Role of Fungal Ligninolytic Enzymes in Pollutant Degradation.
State Univ. of New York Coll. of Environmental Science and Forestry, Syracuse.
K. E. Hammel, P. J. Tardone, and L. A. Price. Feb 89, 11p EPA/600/A-93/115
Grant EPA-R-813530
Pub. in Proceedings of the 1989 A and WMA/EPA International Symposium on Hazardous Waste Treatment: Biosystems for Pollution Control, Cincinnati, OH., February 1989, p293-300. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab., and Air and Waste Management Association, Pittsburgh, PA.

The ligninolytic fungi that cause white rot of wood have recently become the object of increasing attention from hazardous waste management specialists. The metabolic pathways that they employ for ligninolysis appear to have unusual xenobiotic capabilities, and there is some preliminary evidence that their extracellular lignin peroxidases, which normally catalyze the depolymerization of lignin, could bring about the initial oxidation of certain aromatic pollutants in vivo. However, it remains to be demonstrated that high levels of lignin peroxidase activity will necessarily lead to improved rates of pollutant degradation, or indeed that these enzymes are actually involved in any of the fungal xenobiotic oxidations that have been observed. To address these questions, the authors have begun a study of anthracene metabolism in the lignin degrader Phanerochaete chrysosporium: this simple model pollutant is quantitatively oxidized to anthraquinone by purified lignin peroxidases, is at least to some extent oxidized to the same quinone by whole fungal cultures, and is also mineralized at appreciable rates in vivo. The results point to a role for lignin peroxidases in organopollutant degradation by Phanerochaete, but more work is required to elucidate the pathways involved.

Keywords: *Waste treatment, *Hazardous materials, *Biological treatment, *Fungi, *Biodeterioration, Enzymes, Lignin, Oxidation, Depolymerization, Aromatic compounds, Aromatic polycyclic hydrocarbons, Biochemistry, Microorganisms, Reprints, Phanerochaete chrysosporium.

PB93-194231/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
In-situ Bioventing: Two U.S. EPA and Air Force Sponsored Field Studies.
Battelle Columbus Labs., OH.
G. D. Sayles, R. E. Hinchee, R. C. Brenner, C. M. Vogel, and R. N. Miller. 1992, 13p EPA/600/A-93/116
Contract EPA-68-C0-0003
Pub. in the Proceedings of the U.S. EPA/A and WMA International Symposium, Cincinnati, OH., February 3-6, 1992. Prepared in cooperation with Air Force Engineering and Services Center, Tyndall AFB, FL., and Air Force Center for Environmental Excellence, Brooks AFB, TX. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Bioventing is the process of delivering oxygen by forced air movement through organically contaminated unsaturated soils in order to stimulate in situ biodegradation in an otherwise oxygen-limited environment. The paper is a report on progress of two ongoing bioventing field studies involving JP-4 jet fuel contamination. The first investigation, at Eielson AFB near Fairbanks, Alaska, is a study of bioventing in shallow soils and cold climates in conjunction with an evaluation of soil warming techniques. The second study, at Hill AFB near Salt Lake City, Utah, is examining bioventing of large volumes of soil and determining biodegradation and volatilization rates as a function of air injection rate.

Keywords: *In-situ processing, *Soil treatment, *Remedial action, *Biological treatment, *Land pollution control, US EPA, Field tests, Biodeterioration, Aeration, Air force, Jet engine fuels, Oxidation, Microorganisms, Injection, Soil contamination, Oil spills, *Soil venting.

PB93-194249/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Chloroform (67-66-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 25p EPA/600/8-91/090, , OHEA-C-073-054
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-264 018. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Chloroform is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for chloroform is estimated to be 1.97 (mg/kg/day)-1, placing it in potency group 2, according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-

evidence group and the potency group, chloroform is assigned a 'MEDIUM' hazard ranking.

Keywords: *Chloroform, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 67-66-3.

PB93-194256/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 3,3'-Dichlorobenzidine (91-94-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 23p EPA/600/8-91/107, , OHEA-C-073-081
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

3,3'Dichlorobenzidine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 3,3'-dichlorobenzidine is estimated to be 7.49 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 3,3'-dichlorobenzidine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Benzidines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Benzidine/dichloro, *Carcinogenicity, Dose-response relationships, CAS Registry No: 91-94-1.

PB93-194264/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2-Dichloroethane (107-06-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 23p EPA/600/8-91/108, , OHEA-C-073-082
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,2-Dichloroethane is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 1,2-dichloroethane is estimated to be 0.13 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,2-dichloroethane is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Ethane/dichloro, *Carcinogenicity, Dose-response relationships, CAS Registry No: 107-06-2.

PB93-194272/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dieldrin (60-57-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 33p EPA/600/8-91/109, , OHEA-C-073-084
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB88-139951. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Dieldrin is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for dieldrin is estimated to be 236/(mg/kg/day), placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, dieldrin is assigned a 'HIGH' hazard ranking for the purposes of reportable quantity (RQ) adjustment.

Keywords: *Carcinogens, *Pesticides, *Dieldrin, *Toxicology, Humans, Animals, Carcinogenicity tests, Dose-response relationships, Risk assessment, Liver neoplasms, CAS 60-57-1.

PB93-194280/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2:3,4-Diepoxybutane (1464-53-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/110, , OHEA-C-073-085
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Diepoxybutane is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for diepoxybutane is estimated to be 28.0 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, diepoxybutane is assigned a 'MEDIUM' hazard ranking.

Keywords: *Butanes, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Butane/diepoxy, *Carcinogenicity, Dose-response relationships, CAS Registry No: 1464-53-5.

PB93-194298/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2-Diethylhydrazine (1615-80-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 16p EPA/600/8-91/111, , OHEA-C-073-086
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,2-Diethylhydrazine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data.' Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. 1,2-Diethylhydrazine is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,2-diethylhydrazine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Hydrazines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Hydrazine/diethyl, *Carcinogenicity, Dose-response relationships, CAS Registry No: 1615-80-1.

PB93-194306/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Diethylstilbestrol (56-53-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 33p EPA/600/8-91/112, , OHEA-C-073-087
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Diethylstilbestrol is a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for diethylstilbestrol is estimated to be 4740 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, diethylstilbestrol is assigned a 'HIGH' hazard ranking.

Keywords: *Diethylstilbestrol, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS Registry No: 56-53-1.

PB93-194314/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 3,3'-Dimethoxybenzidine (119-90-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 20p EPA/600/8-91/114, , OHEA-C-073-089
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

3,3'-dimethoxybenzidine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 3,3'-dimethoxybenzidine is estimated to be 3.07 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 3,3'-dimethoxybenzidine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Benzidines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Dimethoxybenzidine, *Carcinogenicity, Dose-response relationships, CAS Registry No: 119-90-4.

PB93-194322/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Dimethyl Sulfate (77-78-1). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/115, , OHEA-C-073-090
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Dimethyl sulfate is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Dimethyl sulfate is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, dimethyl sulfate is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Dimethyl sulfate, *Carcinogenicity, Dose-response relationships, CAS Registry No: 77-78-1.

PB93-194330/REB PC **A07**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Development of Sampling and Analytical Methods for the Measurement of Nitrous Oxide from Fossil Fuel Combustion Sources. Final rept. Oct 89-Mar 93.
Acurex Environmental Corp., Research Triangle Park, NC.
J. V. Ryan, and S. A. Karns. May 93, 146p EPA/600/R-93/088
Contract EPA-68-DO-0141

See also PB91-171495. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report documents the technical approach and results achieved while developing a grab sampling method and an automated, on-line gas chromatography method suitable to characterize nitrous oxide (N2O) emissions from fossil fuel combustion sources. The two methods developed have been documented in the form of U.S. EPA/AEERL Recommended Operating Procedures. The combustion of fossil fuels is suspected to contribute to measured increases in ambient concentrations of N2O. Accurate and reliable measurement techniques would help to assess the relative contribution of fossil fuel combustion N2O emissions to the increase in ambient concentrations. The characterization of N2O emissions from fossil fuel combustion sources has been hindered by the lack of suitable and acceptable grab sampling and on-line monitoring methodologies. On-line monitoring techniques are limited and, of those available, instrument costs are often prohibitive, detection levels are often insufficient, and the techniques are often susceptible to interferences present in combustion process effluents.

Keywords: *Air pollution sampling, *Air pollution detection, *Nitrogen oxide(N2O), *Combustion products, Gas chromatography, Automatic control, Fossil fuels, Concentration(Composition), Gas analysis, Performance evaluation, Laboratory equipment, Experimental design.

PB93-194355/REB PC **A02**/MF **A01**
Methods for the Analysis of Carpet Samples for Asbestos. Journal article (Final).
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
J. R. Millette, P. J. Clark, K. A. Brackett, and R. K. Wheeles. c1993, 6p EPA/600/J-93/167
Pub. in Environmental Choices - Technical Supplement, v1 n2 p21-24 Mar/Apr 93. See also PB83-260471. Prepared in cooperation with MVA, Inc., Norcross, GA., and IT Corp., Cincinnati, OH.

Because of the nature of carpet pile, no samples can be directly prepared from carpet for analysis by transmission electron microscopy (TEM). Two indirect methods are currently used by laboratories when preparing samples for measuring the amount of asbestos present in carpet material. One is an ultrasonic shaking technique which requires that a portion of the carpet be cut and sent to the laboratory. The other is a microvacuuming technique which has been used generally in the assessment of asbestos in settled dust in buildings. It is not destructive to the carpet. Both methods utilize TEM to identify, measure and count the asbestos fibers found. Each can provide important but different information when an assessment of the level of contamination of carpeting is being made.

Keywords: *Asbestos, *Carpets, *Air pollution sampling, *Buildings, Chemical analysis, Laboratories, Fibers, Serpentine, Dust, Measurement, Ultrasonic cleaning, Shaking, Electron microscopy, Particulates, Reprints, Micro-vacuuming technique.

PB93-194363/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Comparison of the Efficiency of Polycarbonate and Mixed Cellulose Ester Filters for Use in the Filtration of Water Samples. Journal article (Final).
IT Corp., Cincinnati, OH.
K. A. Brackett, and P. J. Clark. c1993, 6p EPA/600/J-93/168
Contract EPA-68-C9-0036
Pub. in Environmental Choices-Technical Supplement, v1 n2 p25-28 Mar/Apr 93. See also PB83-260471. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The federal standard for the presence of asbestos in drinking water mandates the use of transmission electron microscopy (TEM) as the only acceptable testing method. The July 17, 1992 Federal Register specifies that the analysis for asbestos shall be conducted by the EPA Protocol entitled 'Analytical Method for Determination of Asbestos Fibers in Water' (EPA-600/4-83) developed by Chatfield and Dillon (1), using polycarbonate (PC) membrane filters. A separate document (1993) providing guidance and clarification of the Chatfield method has been peer reviewed, which allows some slight changes to what was originally a research method, but still requires the use of PC filters. A draft of an alternative method using mixed cellulose ester (MCE) membrane filters was recently published in The Microscope (2). The experiment was designed to determine the quantitative differences between the two methods for all fiber lengths as well as for the regulated fibers > or = 10 micrometers in length.

Keywords: *Asbestos, *Water pollution, Fluid filtration, Membranes, Standards, Electron microscopy, Asbestos deposits, Efficiency, Carbonates, Mixtures, Design criteria, Esters, Water pollution sampling, Test methods, Quantative analysis, Specifications, US EPA, Reprints, *Drinking water, Chrysotile fibers, Cellulose esters.

PB93-194371/REB PC **A01**/MF **A01**
Editorial Introduction (to Female Germ Cells: Biology and Genetic Risk). Journal article.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
V. L. Dellarco, and M. D. Shelby. c1992, 3p EPA/600/J-93/169, OHEA-R-472
Pub. in Mutation Research Special Issue, v296 n2 Dec 92. Prepared in cooperation with National Inst. of Environmental Health Sciences, Research Triangle Park, NC.

The document is an editorial introduction to the special issue of Mutation Research, entitled 'Female Germ Cells: Biology and Genetic Risk'. The issue is a collection of papers that emphasizes the distinct properties of female germ cells and their characteristic response to mutagens. The potential for contributing faulty or damaged genetic material that may result in the death or ill health of the offspring is shared by both parents. Thus, it is remarkable that nearly all studies on the chemical induction of transmissible genetic damage have been conducted on male germ cells. This imbalance of research is largely due to the difficulty and inconvenience of studying induced genetic damage in female germ cells. The papers in this special issue call attention to the need for expanded research on genetic risk, and particularly the impact on the reproductive health of women.

Keywords: *Germ cells, *Females, *Mutagens, Reproduction(Biology), Reprints, *Female genetic risk.

PB93-194389/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Gene Expression during Oogenesis in Mice. Journal article.
Roche Inst. of Molecular Biology, Nutley, NJ. Dept. of Cell and Developmental Biology.
P. M. Wassarman, and R. A. Kinloch. c1992, 15p EPA/600/J-93/170, , OHEA-R-473
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p3-15 Dec 92. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

A mouse egg is the end-product of oogenesis -- a process initiated during fetal development and completed months later at the time of sperm-egg fusion. Oogenesis includes many important events. Among these are formation of female germ cells, initiation and completion of meiosis, and establishment of a maternal store of materials to support fertilization and preimplantation development. The latter takes place largely during germ cell growth in sexually mature females and involves extensive gene expression. Ribonucleic acid and protein accumulate to unusually high levels during this relatively short phase of oogenesis. Recent studies have demonstrated that establishment of a maternal store of materials in the growing mouse egg is both transcriptionally and translationally regulated. Specific examples of both types of regulation are presented here in the context of gene expression during oogenesis in mice. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Oogenesis, *Gene expression, Mice, Meiosis, Graafian follicle, Oocytes, Genetic transcription, Genetic translation, Sperm-ovum interactions, Ovum implantation, Proto-oncogenes, Reprints, *Female genetic risk.

PB93-194397/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Gene Expression in Pre-Implantation Mammalian Embryos. Journal article.
Calgary Univ. Health Sciences Centre (Alberta). Dept. of Medical Biochemistry.
G. A. Schultz, and S. Heyner. c1992, 17p EPA/600/J-93/171, , OHEA-R-474
Grant NIH-HD23511
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p17-31 Dec 92. Prepared in cooperation with Pennsylvania Univ. Medical Center, Philadelphia. Dept. of Obstetrics and Gynecology. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment, and National Institutes of Health, Bethesda, MD.

The pre-implantation mammalian embryo is initially under the control of maternal informational macromolecules that are accumulated during oogenesis. Subsequently, the genetic program of development becomes dependent upon new transcription derived from activation of the embryonic genome. Several embryonic transcripts including those that encode growth factors, cell junction components and plasma membrane ion transporters are required for normal progression of the embryo to the blastocyst stage. The pattern of genes expressed and the overall program of development is subject to the influences of genomic imprinting as well as external influences encountered by the embryo within the maternal reproductive tract. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Embryos, *Preimplantation phase, *Gene expression, Mothers, Oogenesis, Genetic transcription, Cell membrane, Biological transport, Blastocyst, Species diversity, Growth substances, Reprints, *Female genetic risk, Genomic imprinting.

PB93-194405/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Spatial Distribution of Sperm-Derived Chromatin in Zygotes Determined by Fluorescence In situ Hybridization. Journal article.
Lawrence Livermore National Lab., CA. Biomedical Sciences Div.
B. F. Brandriff, and L. A. Gordon. c1992, 12p EPA/600/J-93/172, , OHEA-R-475
Contract DE-W-7405-ENG-48
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p33-42 Dec 92.Color illustrations reproduced in black and white. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment, and Department of Energy, Washington, DC.

Fluorescence in situ hybridization was used to determine the spatial distribution of chromatin in zygote pronuclei. A hybrid system involving golden hamster eggs and individual human sperm permitted use of DNA probes specific for the entire human chromosome 4, for the heterochromatic region on the long arm of the human Y chromosome and for unique DNA sequences on human chromosome 19. Chromosome 4 occupied a circumscribed domain in the pronuclei, similar to findings in somatic interphases. Unlike the situation in somatic interphases, the Y heterochromatin was extended throughout the first cell cycle. Pronuclear chromatin was extended 3- to 4-fold compared to somatic interphase chromatin. The extended pronuclear chromatin conformation is likely to affect a zygote's susceptibility to environmental hazards. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Spermatozoa, *Chromatin, *Zygote, *Fluorescence in situ hybridization, Humans, DNA probes, Hamsters, Human pair 19 chromosomes, Y chromosome, Heterochromatin, Human pair 4 chromosomes, Reprints, *Female genetic risk.

PB93-194413/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Cytoplasmic Microtubular Dynamics and Chromatin Organization during Mammalian Oogenesis and Oocyte Maturation. Journal article.
Tufts Univ., Boston, MA. Dept. of Anatomy and Cellular Biology.

D. F. Albertini. c1992, 14p EPA/600/J-93/174, , OHEA-R-477
Grant NIH-HD-20068
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p57-68 Dec 92. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment, and National Institutes of Health, Bethesda, MD.

A chronological series of coordinated alterations in oocyte chromosome and microtubule disposition occur during oogenesis and oocyte maturation in the mammal. Timely transitions in meiotic spindle and cytoplasmic microtubules, due to modifications in both the assembly competence of the tubulin pool and nucleation capacity of centrosomes, underscore key nuclear events during the progressive stages of meiosis I and II. The regulation of these transitional states during meiosis is discussed with respect to hormonal influences imparted to the oocyte within the follicular microenvironment, and the possible ways in which environmental perturbations may result in defective chromosomal partitioning during meiosis. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Cytoplasm, *Microtubules, *Chromatin, *Oocytes, Mammals, Chromosomes, Meiosis, Follicular phase, Germ cells, Reprints, *Female genetic risk.

PB93-194421/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Maternal Age Effect: The Enigma of Down Syndrome and Other Trisomic Conditions. Journal article.
Texas Univ. Southwestern Medical Center at Dallas. Dept. of Radiology.
M. E. Gaulden. c1992, 22p EPA/600/J-93/175, , OHEA-R-478
Pub. in Mutation Research Special Issue, 'Female Germ Cells Biology and Genetic Risk', v296 n1/2 p69-88 Dec 92. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Aneuploidy is the most frequently observed chromosome abnormality in human liveborn, abortuses, and oocytes. The only etiological factor that has been established is advanced maternal age for the occurrence of trisomies, particularly trisomy 21 which causes Down syndrome. The maternal age effect remains an enigma. Recent molecular data bearing on this question are reviewed as are the hypotheses that have been proposed linking nondisjunction and maternal age. Rationale is presented for a compromised microcirculation hypothesis that explains the cause of nondisjunction and why its occurrence changes with maternal age. The hypothesis proposes that aneuploid oocytes arise from a concatenation of events.

Keywords: *Maternal age, *Down syndrome, *Trisomy, Aneuploidy, Genetic nondisjunction, Hormones, Regional blood flow, Oxygen, Carbon dioxide, Graafian follicle, Oocytes, Genetic recombination, Mutations, Reprints, *Female genetic risk.

PB93-194439/REB PC **A03**/MF **A01**
Organization of the Ovarian Follicle and Events in the Biology: Oogenesis, Ovulation or Atresia. Journal article.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
T. M. Crisp. c1992, 20p EPA/600/J-93/176, OHEA-R-479
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p89-106 Dec 92.

The report presents an overview of the biology of oogenesis, ovulation and atresia. An effort has been made to emphasize what is known in human females. When information is not available, pertinent laboratory animal data are discussed. The cellular and histological organization of the ovarian follicle is reviewed along with the physiological events in follicular maturation or degeneration. When data are available, various end points of ovarian follicle vulnerability to chemical and physical toxicants are related to known or potential adverse reproductive effects. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Graafian follicle, *Ovulation, *Oogenesis, *Follicular atresia, Humans, Ovary, Meiosis, Risk factors, Reproduction(Biology), Reprints, *Female genetic risk.

PB93-194447/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Frequency and Nature of Specific-Locus Mutations Induced in Female Mice by Radiations and Chemicals: A Review. Journal article.
Oak Ridge National Lab., TN. Biology Div.
c1992, 23p EPA/600/J-93/177, , OHEA-R-480
Contract DE-AC05-84OR21400
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p107-127 Dec 92. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment, and Department of Energy, Washington, DC.

The inducibility of heritable mutations in female mammals has been measured in the mouse specific-locus test (SLT). For radiation-induced mutations, a large body of data has been accumulated. However, relatively few SLT studies in females have been conducted with chemicals. Of only 5 chemicals so far explored for their effect in oocytes, two, ethylnitrosourea (ENU) and triethylenemelamine (TEM), and possibly a third, procarbazine hydrochloride (PRC), are mutagenic with at least one of these (ENU) mutagenic in arrested as well as maturing oocytes. However, the mutation rate is, in each case, lower than for treated male germ cells. By contrast, ENU-induced mutation yield for the maternal genome of the zygote is an order of magnitude higher than that for the zygote's paternal genome or for spermatogonia. A high proportion of mutants derived from chemical treatment of oocytes are mosaics, probably owing to lesions affecting only one strand of the DNA.

Keywords: *Mutations, *Radiation doses, *Mutagens, *Chromosome mapping, Females, Mice, DNA damage, Oocytes, Mosaicism, Reprints, *Female genetic risk.

PB93-194454/REB PC **A02**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
ENU Mutagenesis in the Mouse Electrophoretic Specific-Locus Test. 2. Mutational Studies of Mature Oocytes. Journal article.
Research Triangle Inst., Research Triangle Park, NC.
S. E. Lewis, L. B. Barnett, and M. D. Shelby. c1992, 7p EPA/600/J-93/178, , OHEA-R-481
Pub. in Mutation Research Special Issue 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p129-133 Dec 92. See also DE84000208. Prepared in cooperation with National Inst. of Environmental Health Sciences, Research Triangle Park, NC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Experiments were conducted using the biochemical specific-locus test to assess the mutagenicity of N-ethyl-N-nitrosourea (ENU) in mature oocytes of mice. C57Bl/6J females were treated with 100 mg/kg ENU by intraperitoneal injection and mated to untreated DBA males for 1 week following treatment. 1447 progeny were screened for evidence of mutations affecting the electrophoretic mobility of 32 different proteins; two mutants were detected by electrophoretic analyses. These results provide evidence that ENU is a germ-cell mutagen in mouse mature oocytes, although the frequency of mutants is somewhat lower than that obtained from spermatogonia treated with the same dose. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Ethylnitrosourea, *Mutagens, *Mutation, *Oocytes, Electrophoresis, Females, Mice, Males, Spermatogonia, Chromosome mapping, Reprints, *Female genetic risk.

PB93-194462/REB PC **A02**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Radiation- and Chemically-Induced Chromosome Aberrations in Mouse Oocytes: A Comparison with Effects in Males. Journal article.
Medical Research Council, Chilton (England). Radiobiology Unit.
C. Tease. c1992, 10p EPA/600/J-93/179, , OHEA-R-482
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p135-142 Dec 92. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Data from studies on radiation-and chemically-induced chromosome aberrations in mouse oocytes have been summarized. An attempt has been made to assess the relative sensitivity to mutagenic agents of female and male germ cells through comparison of observations from mutation studies of female and male mice. No unequivocal evidence of a mutagenic effect limited to a single sex could be found in the cytogenetic data, although differences in relative germ cell sensitivity could be inferred for ionizing radiation and some chemicals. However, the pattern of inter-sex variations was not consistent: for example, irradiation of dictyate oocytes yielded a lower rate of heritable chromosome translocations than the same dose to spermatogonia; in contrast, some chemicals, such as mitomycin C, yielded a larger incidence of chromosome anomalies after treatment of dictyate oocytes than spermatogonia. Overall, the limitations in quality and quantity of cytogenetic data, and the uncertainties associated with comparing information obtained in disparate assays, place severe constraints on the use of observations on induced chromosome aberrations to assess the relative sensitivities of female and male germ cells to environmental mutagens. (Copyright (c) 1992 Elsevier Science Publishers, B.V.)

Keywords: *Oocytes, *Chromosome aberrations, *Biological radiation effects, *Mutagens, Comparison, Mice, Translocation(Genetics), Males, Females, Germ cells, Reprints.

PB93-194470/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Bleomycin: Female-Specific Dominant Lethal Effects in Mice. Journal article.
Oak Ridge National Lab., TN. Biology Div.
P. D. Sudman, J. C. Rutledge, J. B. Bishop, and W. M. Generoso. c1992, 16p EPA/600/J-93/180, , OHEA-R-483
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v196 n1/2 p143-156 Dec 92. Prepared in cooperation with Tennessee Univ., Oak Ridge. Graduate School of Biomedical Sciences, Washington Univ., Seattle. School of Medicine, and National Inst. of Environmental Health Sciences, Research Triangle Park, NC. Cellular and Genetic Toxicology Branch. Sponsored by Enviro

Limited comparative data in mice indicate that chemical mutagens that induce dominant lethal mutations in males are not necessarily effective in females, but those which are effective in females are generally equally or more effective in males. Recently, however, a few chemicals have been identified that are female-specific with respect to induction of dominant lethal mutations. The antitumor antibiotic adriamycin is among them. Another antitumor antibiotic, bleomycin was examined for its ability to induce dominant lethal mutations in the reproductive cells of male and female mice. No dominant lethal or cytotoxic effects were observed in males treated with bleomycin, even at a maximum tolerated dose. In females, on the other hand, a dose nearly 1/4 of that used in males induced not only a high level of dominant lethal mutations but also killed oocytes in certain stages of follicular development. The effectiveness of bleomycin in inducing dominant lethal mutations in mouse oocytes makes it a valuable tool for investigating whether gonadal transport, inherent differences in the configuration of chromatin in the germ cells of the two sexes or other factors are responsible for the differential susceptibility to bleomycin, which implies potential gender-specific genetic risk in cancer chemotherapy. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Bleomycins, *Dominant genes, *Lethal genes, *Mutagens, Mice, Females, Males, Oocytes, Chromosome aberrations, Reproduction(Biology), Cell survival, Ovary, Spermatozoa, Dose-response relationships, Reprints.

PB93-194488/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Mutational Risks in Females: Genomic Imprinting and Maternal Molecules. Journal article.
Texas Univ. Southwestern Medical Center at Dallas. Dept. of Pediatrics.
G. N. Wilson. c1992, 11p EPA/600/J-93/181, , OHEA-R-484
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p157-165 Dec 92. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Genetic mechanisms for selective mutagenesis in female mammals might include alterations of genomic imprinting, maternally derived molecules, mitochondrial DNA or sex chromosome loci. None of these mechanisms provides an obvious explanation for the higher mutational rates observed for certain mutagens in mouse female pronuclei, but the association of DNA methylation with maternal genomic imprinting is an enticing avenue for research. Further characterization of the extent and homology of genomic imprinting among mammals is required before its relevance to mutagenesis can be determined. The existence of maternal effect mutations in mammals merits evaluation but is not yet proven. The relevance of mitochondrial DNA to female-specific mutagenesis will be greatest in multigenerational studies. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Mutations, *Females, Mitochondrial DNA, Mutagenesis, Methylation, Hereditary diseases, Ribonucleic acids, Pedigree, Mitochondria, Sex chromosomes, Reprints, *Genomic imprinting.

PB93-194496/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Developmental Anomalies Derived from Exposure of Zygotes and First-Cleavage Embryos to Mutagens. Journal article.
Washington Univ., Seattle. School of Medicine.
J. C. Rutledge, W. M. Generoso, A. Shourbaji, K. T. Cain, and M. Gans. c1992, 13p EPA/600/J-93/182, , OHEA-R-485
Contract DE-AC05-84OR21400
Pub. in Mutation Research Special Issue, 'Female Germ Cells: Biology and Genetic Risk', v296 n1/2 p167-177 Dec 92. Prepared in cooperation with Oak Ridge National Lab., TN., and University of North Texas, Denton. Dept. of Biology. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment, and Department of Energy, Washington, DC.

Results of continuing studies indicate that the mouse zygote and two-cell embryo stages are a window of susceptibility in the experimental induction of congenital anomalies with certain mutagenic agents. The mechanisms by which the mutagens initiate the pathogenesis of these developmental defects are not known. However, in certain cases there is evidence that a nonconventional, perhaps epigenetic, mechanism is involved. Detailed characterization of the spectrum of anomalies induced and comparison of responses at the various stages exposed allowed classification of the mutagens generally into two groups. One group is characterized by being effective only in the early stages of zygote development and capable of producing a relatively high incidence of fetal death and hydrops. The other group affects all of the zygote stages studied as well as the two cell-embryo, but does not increase the incidence of fetal death and hydrops. Except for hydrops, chemicals in the two groups do not differ in terms of the types of anomalies present among malformed live fetuses, which bear a resemblance to a subset of common, sporadic human developmental anomalies that are of unknown etiology. This similarity raises the possibility that certain human developmental defects may have their origins in events that happen in the zygote and early pre-implantation stages. (Copyright (c) 1992 Elsevier Science Publishers B.V.)

Keywords: *Embryos, *Congenital abnormalities, *Mutagens, *Zygote, Fetal death, Preimplantation phase, Hydrops fetalis, Females, Mice, Chromosome aberrations, Humans, Biological radiation effects, Reprints, *Female genetic risk.

PB93-194504/REB PC **A02**/MF **A01**
Bioassay-Directed Fractionation of Organic Contaminants in an Estuarine Sediment Using the New Mutagenic Bioassay, Mutatox (Trade Name). Journal article.
Environmental Research Lab., Narragansett, RI.
K. T. Y. Ho, and J. G. Quinn. c1993, 10p EPA/600/J-93/183, ERLN-1438
Pub. in Environmental Toxicology and Chemistry, v12 p823-830 1993. Prepared in cooperation with Rhode Island Univ., Kingston. Graduate School of Oceanography.

Bioassay-directed fractionation of organic compounds was performed on an organic solvent extract of a contaminated estuarine sediment from Black Rock Harbor, Connecticut, using the new mutagenic bioassay, Mutatox. Chemical fractionation methods of the sediment extract included silica-gel-column chromatography (SGCC), followed by C-18 reverse phase HPLC. Compound identification was performed using GC-MS. Mutatox analyses indicated that four of the eight HPLC fractions contained mutagenic or epigenetic compounds. GC-MS analyses detected known mutagenic polycyclic aromatic hydrocarbons (PAHs) in two of the four mutagenic fractions. GC-MS analyses of the other two mutagenic fractions (one operational blank and one sediment fraction) showed no known mutagenic compounds. SGCC and HPLC, combined with the Mutatox bioassay, were useful in reducing both the number and the complexity of fractions analyzed by GC-MS. (Copyright (c) 1993 SETAC.)

Keywords: *Bioassay, *Fractionation, *Organic compounds, *Sediments, Water pollution detection, Mutagens, Toxicity, Connecticut, Chromatographic analysis, Mass spectroscopy, Chemical analysis, Reprints, Black Rock Harbor(Connecticut).

PB93-194512/REB PC **A03**/MF **A01**
Histopathologic Lesions in Sea Otters Exposed to Crude Oil. Journal article.
Environmental Research Lab., Narragansett, RI.
T. P. Lipscomb, R. K. Harris, R. B. Moeller, J. M. Pletcher, and R. J. Haebler. c1993, 13p EPA/600/J-93/184, ERLN-1332
Pub. in Veterinary Pathology, v30 p1-11 1993. Prepared in cooperation with Armed Forces Inst. of Pathology, Washington, DC., and Alaska Fish and Wildlife Research Center, Anchorage.

On 24 March 1989, the oil tanker Exxon Valdez ran aground on Bligh Reef in Prince William Sound, Alaska. In the months following the spill, over 1,000 sea otters (Enhydra lutris) from oil spill-affected areas are known to have died. The purpose of the study is to identify and describe histopathologic lesions associated with crude oil exposure in sea otters and to discuss possible pathogeneses of the lesions. Materials available included tissues from oil-contaminated and uncontaminated otters that died in rehabilitation centers following the oil spill and tissues from otters that were found dead in the oil spill-affected area with external oil present. Tissues from apparently normal sea otters from an area not contaminated by crude oil, were also examined.

Keywords: *Otters, *Oil spills, *Water pollution effects(Animals), *Prince William Sound, Pulmonary emphysema, Toxicology, Veterinary medicine, Histology, Pathology, Reprints, *Enhydra lutris, *Exxon Valdez, Lesions, Histopathology.

PB93-194520/REB PC **A03**/MF **A01**
Skeletal Development Following Heat Exposure in the Rat. Journal article.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
C. A. Kimmel, J. M. Cuff, G. L. Kimmel, D. J. Heredia, and N. Tudor. c1993, 16p EPA/600/J-93/185, OHEA-R-495
Pub. in Teratology, v47 p229-242 1993. Prepared in cooperation with Thiel Coll., Greenville, PA. Dept. of Biology, and Food and Drug Administration, Rockville, MD. Center for Devices and Radiological Health.

The effects of gestation day (GD) 10 heat exposure in the rat were studied to determine the temperature-response relationship for the induction of skeletal and other defects. Conscious pregnant rats were exposed to various temperatures in a warm air chamber. Those animals whose core body temperature was raised to 41-41.9 C had over 90% malformed pups and a 25% reduction in the percent of live pups per litter. Animals whose temperature was raised to 39.2-40.9 C had a low incidence of pups with similar types of malformations. The primary types of malformations were of the axial skeleton, consisting of fusions and other abnormalities of the ribs and vertebral elements, and a decrease in the total number of ribs and centra. The acute maternal effects of these temperature increases were signs of heat exhaustion during and 1-2 hr after exposure, but there were no permanent changes in weight gain or other signs. When temperatures were raised at least 42 C, all maternal animals died. In a second study, pregnant rats were anesthetized to determine the effect of reducing maternal stress and were exposed to heat as in Experiment 1. Those animals whose core body temperature was raised to 42-42.5 C for 5 min had pups with similar responses to those in Experiment 1 at 41-41.9 C, although the reduction in litter size was not as great. Animals whose temperature was raised to 41 C had a much lower incidence of pups with similar defects, and animals whose temperature was raised to 43 C did not survive. Skeletal defects in Experiment 2 showed rib and vertebral malformations that appear to be related to the stage of somite development at the time of exposure.

Keywords: *Skeleton, *Induced hyperthermia, *Fetal development, *Heat, Exposure, Rats, Congenital abnormalities, Body temperature, Mothers, Litter size, Reprints.

PB93-194538/REB PC **A03**/MF **A01**
Embryonic Development in vitro Following Short-Duration Exposure to Heat. Journal article.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
G. L. Kimmel, J. M. Cuff, C. A. Kimmel, D. J. Heredia, and N. Tudor. c1993, 11p EPA/600/J-93/186, OHEA-R-496
Pub. in Teratology 47, p243-251 Feb 93. Prepared in cooperation with Thiel Coll., Greenville, PA. Dept. of Biology, and Food and Drug Administration, Rockville, MD. Center for Devices and Radiological Health.

Gestation day (GD) 10 rat embryos (10-12 somites) were exposed in vitro for 10 to 25 mins at 42 C or 43 C and evaluated 24 hrs later for alterations in growth and specific morphological parameters, using a modified Brown-Fabro scoring system that allowed evaluation of development relative to gestational age. At 42 C, crown-rump length appeared to be particularly sensitive, responding to only 10 mins exposure. A 15-min exposure resulted in decreased total protein, somite number and morphological score. At 43 C, all of the parameters measured were affected by a 10-min exposure. The response patterns demonstrated a clear temperature- and exposure duration-dependency, with a shift from a more shallow duration-response curve to a more dramatic inhibition of development as temperature increased from 42 C to 43 C.

Keywords: *Embryo development, *Induced hyperthermia, *Heat, Rats, Body temperature, In vitro analysis, Growth, Animal pregnancy, Exposure, Reprints.

PB93-194546/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Slowing the Waste Behemoth: Source Reduction is Overshadowed by Recycling's Success. Journal article.
INFORM, Inc., New York.
B. Fishbein, and D. Saphire. cAug 92, 7p EPA/600/J-93/187
Grant EPA-R-817087
Pub. in EPA Jnl., v18 n3 p46-49 Jul/Aug 92. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The article describes the benefits from source reduction as the major and most cost effective way to solve the garbage issue that is overwhelming the United States. Recycling has emerged as the solution to the garbage crisis, however there is a growing recognition that it is not a panacea. Although source reduction is recognized as the best answer, there is a big information gap. Industry has been exploring opportunities for source reduction initiatives that will improve operating efficiency, cut costs and reduce the amount of waste. Several examples of source reduction in the business and industrial sector are cited, including substituting reusable blankets for shipping furniture rather than using cardboard containers; promotion of double-sided copying to reduce paper usage; and refilling beer

bottles. Others, such as public composting programs and government source reduction programs that work are discussed.

Keywords: *Solid waste management, *Solid waste abatement, Recycling, Garbage, Secondary materials industry, Packaging, Solid wastes, Reprints, *Waste reduction, *Source reduction, Composting, Refilling, Reusing.

PB93-194637/REB PC **A07**/MF **A02**
Summary of Implementation and Demonstration Projects in Bays and Estuaries.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Nov 92, 139p EPA/842/B-92/009
See also PB91-168385.

The projects investigated include demonstration projects as well as unique programmatic initiatives of 15 bays and estuaries and are divided into 11 separate project categories: Boat and Marine Wastes; Contaminated Sediments; Land Use and Development Controls; Local Government and Community Involvement; Nutrient Loading; On-site Disposal Systems; Public Outreach and Education; Shellfish Bed Protection and Restoration; Stormwater Controls; Toxic Waste Reduction; Wetlands/Habitat Protection and Restoration.

Keywords: *Estuaries, *Coastal regions, *Research projects, United States, Natural resource management, Water quality management, Pollution control, Land use, Regional planning, State government, Local government, Project management, *National Estuary Program.

PB93-194694/REB PC **A05**/MF **A01**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Design of a Basinwide Monitoring Program for the Tampa Bay Estuary. Final technical pub.
Versar, Inc., Columbia, MD.
R. J. Hochberg, S. B. Weisberg, and J. B. Frithsen. 30 Oct 92, 92p TBNEP-09-92
Contract T-91-12
See also PB93-116176. Prepared in cooperation with Coastal Environmental Services, Inc., Linthicum, MD. Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

The Tampa Bay National Estuary Program (TBNEP) is developing a Comprehensive Conservation and Management Plan (CCMP) to recommend management actions for protecting the Tampa Bay estuary. The purpose of the document is to facilitate development of the monitoring program by assisting the TBNEP to define the objectives of a monitoring program for Tampa Bay identifying indicators and a sampling design that are appropriate to those objectives, and identifying how existing Tampa Bay monitoring programs can be incorporated and modified (if necessary) to meet the monitoring objectives.

Keywords: *Estuaries, *Tampa Bay, *Habitats, *Program management, Environmental monitoring, Marine fishes, Populations, Abundance, Sea grasses, Temporal distribution, Spatial distribution, Requirements, Trends, Mangroves.

PB93-196012/REB PC **A12**/MF **A03**
Tampa Bay National Estuary Program, St. Petersburg, FL.
Synthesis of Basic Life Histories of Tampa Bay Species. Technical pub. (Final).
Versar, Inc., Columbia, MD. ESM Operations.
K. A. Killam, R. J. Hochberg, and E. C. Rzemien. Dec 92, 255p TBNEP-10-92
Prepared in cooperation with University of South Florida, Tampa. Sponsored by Tampa Bay National Estuary Program, St. Petersburg, FL.

One of the goals of the Tampa Bay National Estuary Program (TBNEP) is to acquire information necessary for maintaining or improving the condition of the estuary's natural resources. The purpose of the project was to characterize habitat types critical to the survival of endemic fish and wildlife species. This information will be used to guide the development of effective strategies for habitat restoration and protection and to identify information necessary for future management decisions. Two general life history patterns emerged from the species summaries. Some species, including spotted seatrout, clown goby, striped killifish, manatee, hard clam and American oyster remain in the estuary their entire life cycle. Others, such as blue crabs, striped mullet, tarpon, spot, and pink shrimp spawn just outside the estuary or some distance offshore. Currents or tides transport eggs, larvae or juveniles of these species back into the estuary. In either situation, the estuary serves as a nursery area for larval and juvenile stages of these species and as a forage area for subadults and adults. Degradation of nursery habitats or forage areas within the estuary could seriously affect the populations of many of these species.

Keywords: *Tampa Bay, *Aquatic animals, *Life cycles, Species diversity, Fishes, Shrimp, Shellfish, Worms, Animal behavior, Ecosystems, Estuaries, Manatees, National Estuary Program.

PB93-196020/REB PC **A11**/MF **A03**
Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
Environmental Research Lab.-Narragansett, Newport, OR. Pacific Ecosystems Branch.
T. H. DeWitt, M. S. Redmond, J. E. Sewall, and R. C. Swartz. Dec 92, 247p CBP/TRS-89/93, CONTRIB-N-240
See also PB90-196619. Prepared in cooperation with Oregon State Univ., Corvallis.

The results of the research effort culminated in the development of a research method for assessing the chronic toxicity of contaminated marine and estuarine sediments using the benthic amphipod, Leptocheirus plumulosus. The first chapter describes the efforts at collecting, handling, and culturing four estuarine amphipods from Chesapeake Bay, including L. plumulosus. This chapter includes maps of the distribution and abundance of these amphipods within Chesapeake Bay and methodologies for establishing cultures of amphipods which could be readily adopted by other laboratories. The second chapter reports the development of acute and chronic sediment toxicity test methods for L. plumulosus, its sensitivity to non-contaminant environmental variables, cadmium, two polynuclear aromatic hydrocarbons, and contaminated sediment from Baltimore Harbor, MD. The third chapter reports the authors attempts to develop a chronic sediment toxicity test with Ampelisca abdita.

Keywords: *Sediments, *Toxicity, *Estuaries, *Water pollution effects(Animals), Bioassay, Tests, Chesapeake Bay, Metals, Organic compounds, Crustacea, Tables(Data), Graphs(Charts), Chesapeake Bay Program, Amphipoda.

PB93-196087/REB PC **E99**/MF **E99**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Proceedings: 1991 SO2 Control Symposium. Held in Washington, DC. on December 3-6, 1991.
Electric Power Research Inst., Palo Alto, CA.
cApr 93, 2065p
Set includes PB93-196095 through PB93-196137. See also PB91-197202. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab., and Department of Energy, Pittsburgh, PA. Pittsburgh Energy Technology Center.

No abstract available.

PB93-196095/REB PC **A19**/MF **A04**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Proceedings: 1991 SO2 Control Symposium. Volume 1. Opening Session and Sessions 1-3.
Electric Power Research Inst., Palo Alto, CA.
cApr 93, 438p EPRI-TR-101054-VOL-1, EPA/600/R-93/064A
See also PB91-197210 and Volume 2, PB93-196103. Proceedings of a symposium held in Washington, DC. on December 3-6, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab., and Department of Energy, Pittsburgh, PA. Pittsburgh Energy Technology Center.
Also available in set of 5 reports PC E99/MF E99, PB93-196087.

The proceedings document the 1991 SO2 Control Symposium, held December 3-6, 1991, in Washington, DC, and jointly sponsored by the Electric Power Research Institute (EPRI), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE). The symposium focused attention on recent improvements in conventional SO2 control technologies, emerging processes, and strategies for complying with the Clean Air Act Amendments (CAAA) of 1990. It provided an international forum for the exchange of technical and regulatory information on SO2 control technology. More than 800 representatives of 20 countries from government, academia, flue gas desulfurization (FGD) process suppliers, equipment manufacturers, engineering firms, and utilities attended. In all, 50 U.S. utilities and 10 utilities in other countries were represented. In 11 technical sessions, speakers presented 111 technical papers on development, operation, and commercialization of wet and dry FGD, clean coal technologies, and combined sulfur oxide/nitrogen oxide (SOx/NOx) processes. Volume 1 covers sessions on Clean Air Act compliance, wet FGD process improvements, and furnace sorbent injection.

Keywords: *Meetings, *Sulfur dioxide, *Air pollution control, *Air pollution control equipment, *Research and development, Clean Air Act, Compliance, Economic analysis, Wet methods, Performance standards, Electric power, Injection, Sorbents, Flue gas desulfurization, Foreign technology.

PB93-196103/REB PC **A22**/MF **A04**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Proceedings: 1991 SO2 Control Symposium. Volume 2. Sessions 4 and 5A.
Electric Power Research Inst., Palo Alto, CA.
cApr 93, 512p EPRI-TR-101054-VOL-2, EPA/600/R-93/064B
See also PB91-197228, Volume 1, PB93-196095 and Volume 3, PB93-196111. Proceedings of a symposium held in Washington, DC. on December 3-6, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab., and Department of Energy, Pittsburgh, PA. Pittsburgh Energy Technology Center.
Also available in set of 5 reports PC E99/MF E99, PB93-196087.

The proceedings document the 1991 SO2 Control Symposium, held December 3-6, 1991, in Washington, DC, and jointly sponsored by the Electric Power Research Institute (EPRI), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE). The symposium focused attention on recent improvements in conventional SO2 control technologies, emerging processes, and strategies for complying with the Clean Air Act Amendments (CAAA) of 1990. It provided an international forum for the exchange of technical and regulatory information on SO2 control technology. More than 800 representatives of 20 countries from government, academia, flue gas desulfurization (FGD) process suppliers, equipment manufacturers, engineering firms, and utilities attended. In all, 50 U.S. utilities and 10 utilities in other countries were represented. In 11 technical sessions, speakers presented 111 technical papers on development, operation, and commercialization of wet and dry FGD, clean coal technologies, and combined sulfur oxide/nitrogen oxide (SOx/NOx) processes. Volume 2 covers sessions on wet FGD design improvements, dry FGD technologies, and wet full scale FGD operations.

Keywords: *Meetings, *Sulfur dioxide, *Air pollution control, *Air pollution control equipment, *Research and development, Wet methods, Design criteria, Dry methods, Fabric filters, Performance evaluation, Electric power plants, Flue gas desulfurization, Foreign technology.

PB93-196111/REB PC **A20**/MF **A04**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Proceedings: 1991 SO2 Control Symposium. Volume 3. Sessions 5B and 6.
Electric Power Research Inst., Palo Alto, CA.
cApr 93, 474p EPRI-TR-101054-VOL-3, EPA/600/R-93/064C
See also PB91-197236, Volume 2, PB93-196103 and Volume 4, PB93-196129. Proceedings of a symposium held in Washington, DC. on December 3-6, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab., and Department of Energy, Pittsburgh, PA. Pittsburgh Energy Technology Center.
Also available in set of 5 reports PC E99/MF E99, PB93-196087.

The proceedings document the 1991 SO2 Control Symposium, held December 3-6, 1991, in Washington, DC, and jointly sponsored by the Electric Power Research Institute (EPRI), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE). The symposium focused attention on recent improvements in conventional SO2 control technologies, emerging processes, and strategies for complying with the Clean Air Act Amendments (CAAA) of 1990. It provided an international forum for the exchange of technical and regulatory information on SO2 control technology. More than 800 representatives of 20 countries from government, academia, flue gas desulfurization (FGD) process suppliers, equipment manufacturers, engineering firms, and utilities attended. In all, 50 U.S. utilities and 10 utilities in other countries were represented. In 11 technical sessions, speakers presented 111 technical papers on development, operation, and commercialization of wet and dry FGD, clean coal technologies, and combined sulfur oxide/nitrogen oxide (SOx/NOx) processes. Volume 3 covers sessions on combined SOx/NOx technologies, wet FGD operating issues, and clean coal demonstrations.

Keywords: *Meetings, *Sulfur dioxide, *Research and development, *Air pollution control, *Air pollution control equipment, NOXSO process, Dry methods, Injection, Wet methods, Performance evaluation, Desulfurization, Air pollution abatement, Coal, Flue gas desulfurization, Foreign technology.

PB93-196129/REB PC **A15**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Proceedings: 1991 SO2 Control Symposium. Volume 4. Session 7.
Electric Power Research Inst., Palo Alto, CA.
cApr 93, 344p EPRI-TR-101054-VOL-4, EPA/600/R-93/064D
See also PB91-197244, Volume 3, PB93-196111 and Volume 5, PB93-196137. Proceedings of a symposium held in Washington, DC. on December 3-6, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab., and Department of Energy, Pittsburgh, PA. Pittsburgh Energy Technology Center.
Also available in set of 5 reports PC E99/MF E99, PB93-196087.

The proceedings document the 1991 SO2 Control Symposium, held December 3-6, 1991, in Washington, DC, and jointly sponsored by the Electric Power Research Institute (EPRI), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE). The symposium focused attention on recent improvements in conventional SO2 control technologies, emerging processes, and strategies for complying with the Clean Air Act Amendments (CAAA) of 1990. It provided an international forum for the exchange of technical and regulatory information on SO2 control technology. More than 800 representatives of 20 countries from government, academia, flue gas desulfurization (FGD) process suppliers, equipment manufacturers, engineering firms, and utilities attended. In all, 50 U.S. utilities and 10 utilities in other countries were represented. In 11 technical sessions, speakers presented 111 technical papers on development, operation, and commercialization of wet and dry FGD, clean coal technologies, and combined sulfur oxide/nitrogen oxide (SOx/NOx) processes. Volume 4 contains poster papers which discuss injection methods, scrubbing systems, catalytic baghouse processes, clean coal technology, and wet as well as dry FGD.

Keywords: *Meetings, *Sulfur dioxide, *Air pollution control, *Air pollution control equipment, *Research and development, Wet methods, Dry methods, Injection, Design, Performance evaluation, Scrubbing, Baghouses, Flue gas desulfurization, Foreign technology.

PB93-196137/REB PC **A13**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Proceedings: 1991 SO2 Control Symposium. Volume 5. Session 8.
Electric Power Research Inst., Palo Alto, CA.
cApr 93, 297p EPRI-TR-101054-VOL-5, EPA/600/R-93/064E
See also Volume 5, PB93-196129. Proceedings of a symposium held in Washington, DC. on December 3-6, 1991. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab., and Department of Energy, Pittsburgh, PA. Pittsburgh Energy Technology Center.
Also available in set of 5 reports PC E99/MF E99, PB93-196087.

The proceedings document the 1991 SO2 Control Symposium, held December 3-6, 1991, in Washington, DC, and jointly sponsored by the Electric Power Research Institute (EPRI), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE). The symposium focused attention on recent improvements in conventional SO2 control technologies, emerging processes, and strategies for complying with the Clean Air Act Amendments (CAAA) of 1990. It provided an international forum for the exchange of technical and regulatory information on SO2 control technology. More than 800 representatives of 20 countries from government, academia, flue gas desulfurization (FGD) process suppliers, equipment manufacturers, engineering firms, and utilities attended. In all, 50 U.S. utilities and 10 utilities in other countries were represented. In 11 technical sessions, speakers presented 111 technical papers on development, operation, and commercialization of wet and dry FGD, clean coal technologies, and combined sulfur oxide/nitrogen oxide (SOx/NOx) processes. Volume 5 covers sessions on commercial FGD designs and by-product utilization.

Keywords: *Meetings, *Sulfur dioxide, *Air pollution control, *Air pollution control equipment, *Research and development, Design criteria, NOXSO process, Dry methods, Waste utilization, Waste disposal, By-products, Water pollution control, Scrubbers, Performance evaluation, Flue gas desulfurization, Foreign technology.

PB93-196186/REB PC **E99**/MF **E99**
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Held in Minneapolis, Minnesota on September 22-25, 1992.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
May 93, 1717p
Set includes PB93-196194 through PB93-196210. See also PB92-115344.

No abstract available.

PB93-196194/REB PC **A24**/MF **A04**
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. M. Dyess, S. W. Poppell, and C. M. Hardin. May 93, 574p EPA/600/R-93/083A
See also PB92-115351 and Volume 2, PB93-196202. Proceedings of a symposium held in Minneapolis, MN. on September 22-25, 1992.
Also available in set of 3 reports PC E99/MF E99, PB93-196186.

The three-volume proceedings document the 1992 International Symposium on Radon and Radon Reduction Technology, held in Minneapolis, MN, September 22-25, 1992. The symposium was an international forum for the exchange of technical information on radon and radon reduction technology in the indoor environment. The three volumes include 72 oral papers (including lead papers and keynote address) and 37 poster session presentations. Volume I covers sessions on radon-related health studies; federal programs and policies relating to radon; state and local programs and policies relating to radon; creating public action; radon measurement methods; and transport and entry dynamics of radon.

Keywords: *Meetings, *Radon, *Air pollution control, *Air pollution abatement, *Indoor air pollution, *Buildings, Public health, Government policies, Citizen participation, State government, National government, Environmental transport, Air pollution sampling, Dynamics, Active soil depressurization systems, Foreign technology.

PB93-196202/REB PC **A24**/MF **A04**
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. M. Dyess, S. W. Poppell, and C. M. Hardin. May 93, 558p EPA/600/R-93/083B
See also PB92-115369, Volume 1, PB93-196194 and Volume 3, PB93-196210. Proceedings of a symposium held in Minneapolis, MN. on September 22-25, 1992.
Also available in set of 3 reports PC E99/MF E99, PB93-196186.

The three-volume proceedings document the 1992 International Symposium on Radon and Radon Reduction Technology, held in Minneapolis, MN, September 22-25, 1992. The symposium was an international forum for the exchange of technical information on radon and radon reduction technology in the indoor environment. The three volumes include 72 oral papers (including lead papers and keynote address) and 37 poster session presentations. Volume 2 covers sessions on radon reduction methods; radon occurrence in the natural environment; radon surveys; radon in schools and other large buildings; radon prevention in new construction; and radon in water.

Keywords: *Meetings, *Radon, *Air pollution control, *Air pollution abatement, *Buildings, *Indoor air pollution, Research and development, Natural radioactivity, Surveys, School buildings, Water pollution, Construction materials, Land pollution, Foreign technology.

PB93-196210/REB PC **A25**/MF **A06**
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
T. M. Dyess, S. W. Poppell, and C. M. Hardin. May 93, 585p EPA/600/R-93/083C
See also PB92-115377, PB92-115385, and Volume 2, PB93-196202. Proceedings of a symposium held in Minneapolis, MN. on September 22-25, 1992.
Also available in set of 3 reports PC E99/MF E99, PB93-196186.

The three-volume proceedings document the 1992 International Symposium on Radon and Radon Reduction Technology, held in Minneapolis, MN, September 22-25, 1992. The symposium was an international forum for the exchange of technical information on radon and radon reduction technology in the indoor environment. The three volumes include 72 oral papers (including lead papers and keynote address) and 37 poster session presentations. Volume 3 contains poster papers and poster sessions for all sessions.

Keywords: *Meetings, *Radon, *Air pollution control, *Air pollution abatement, *Buildings, *Indoor air pollution, Public health, Government policies, Citizen participation, Dynamics, State government, National government, Environmental transport, Air pollution sampling, Foreign technology.

PB93-196301/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Melphalan (148-82-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 20p EPA/600/8-91/146, , OHEA-C-073-121
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Melphalan is a probable human carcinogen, classified as weight-of-evidence Group B1 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Limited'. The 'Limited' designation given to the human evidence for carcinogenicity is based upon three independent series of cases of multiple myelomas that were treated with melphalan. The potency factor (F) for melphalan is estimated to be 810.0 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's

methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, melphalan is assigned a 'HIGH' hazard ranking.

Keywords: *Melphalan, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 148-82-3.

PB93-196319/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Methyl Chloride (74-87-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/147, , OHEA-C-073-128
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Methyl Chloride is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. The potency factor (F) for methyl chloride is estimated to be 0.050 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, methyl chloride is assigned a 'LOW' hazard ranking.

Keywords: *Methyl chloride, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 74-87-3.

PB93-196327/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 3-Methylcholanthrene (59-49-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 23p EPA/600/8-91/148, , OHEA-C-073-129
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

3-Methylcholanthrene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 3-methylcholanthrene is estimated to be 25.5 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 3-methylcholanthrene is assigned a 'MEDIUM' hazard ranking.

Keywords: *3-Methylcholanthrene, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 56-49-5.

PB93-196335/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 4,4'-Methylenebis (1-Chloroaniline) (101-14-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 24p EPA/600/8-91/149, , OHEA-C-073-130
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

4,4'-Methylenebis(2-chloroaniline) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for 4,4'-methylenebis(2-chloroaniline) is estimated to be 1.52/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, 4,4'-methylenebis (2-chloroaniline) is assigned a 'MEDIUM' hazard ranking for the purposes of reportable quantity (RQ) adjustment.

Keywords: *Methylenebis(chloroaniline), *Carcinogens, *Toxicology, Humans, Animals, Dose-response relationships, Risk assessment, Carcinogenicity tests, CAS 101-14-4.

PB93-196343/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Methyl Iodide (74-88-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/150, , OHEA-C-073-131
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Methyl iodide is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Methyl iodide is, therefore, assigned to the median potency factor range and placed in potency group 2 in accordance with the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, methyl iodide is assigned a 'LOW' hazard ranking.

Keywords: *Methyl iodide, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 74-88-4.

PB93-196350/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Methyl-N'-Nitro-N-Nitrosoguanidine (70-25-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/151, , OHEA-C-073-132
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Methyl-N'-nitro-N-nitrosoguanidine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' The potency factor (F) for N-methyl-N'-nitro-N-nitrosoguanidine is estimated to be 54.7/(mg/kg/day), placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens (U.S. EPA, 1986b). Combining the weight-of-evidence group and the potency group, N-methyl-N'-nitro-N-nitrosoguanidine is assigned a 'MEDIUM' hazard ranking for the purposes of reportable quantity (RQ) adjustment.

Keywords: *Methylnitronitrosoguanidine, *Carcinogens, *Toxicology, Carcinogenicity tests, Humans, Animals, Risk assessment, Dose-response relationships, CAS 70-25-7.

PB93-196368/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Methylthiouracil (56-04-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 26p EPA/600/8-91/152, , OHEA-C-073-133
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Methylthiouracil is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. Data available are inadequate for calculating a potency factor and no quantitative inferences can be made. Methylthiouracil is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, methylthiouracil is assigned a 'MEDIUM' hazard ranking.

Keywords: *Methylthiouracil, *Toxicity, *Risk assessment, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), Public health, *Carcinogenicity, Dose-response relationships, CAS: 56-04-2.

PB93-196376/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Mitomycin C (50-07-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/153, , OHEA-C-073-134
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Mitomycin C is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor (F). Mitomycin C is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, mitomycin C is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Mytomycin C, *Carcinogenicity, Dose-response relationships, CAS: 50-07-7.

PB93-196384/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1-Naphthylamine (134-32-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/154, , OHEA-C-073-135
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

The substance 1-Naphthylamine is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'Inadequate'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. 1-naphthylamine is, therefore, assigned to the median potency range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1-naphthylamine is assigned a 'LOW' hazard ranking.

Keywords: *Naphthalenes, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *1-Naphthylamine, *Alpha-naphthylamine, *Carcinogenicity, Dose-response relationships, CAS: 134-32-7.

PB93-196392/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 2-Naphthylamine (91-59-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 29p EPA/600/8-91/155, , OHEA-C-073-136
Contracts EPA-68-03-3112, EPA-68-03-3182

Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

2-Naphthylamine is a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Sufficient'. The potency factor (F) for 2-naphthylamine is estimated to be 4.77 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 2-naphthylamine is assigned a 'HIGH' hazard ranking.

Keywords: *Naphthalenes, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *2-Naphthylamine, *Beta-naphthylamine, *Carcinogenicity, Dose-response relationships, CAS: 91-59-8.

PB93-196400/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Nickel (7740-02-0). Final rept.
Syracuse Research Corp., NY.
Jun 88, 29p EPA/600/8-91/156, , OHEA-C-073-137
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Nickel is assigned a hazard ranking of 'LOW', based on limited animal evidence of carcinogenicity (Group C). The available data are not suitable for estimating nickel's potency. Nickel carbonyl is assigned a hazard rating of 'MEDIUM', based on its classification as a probable human carcinogen (Group B2) and the unsuitability of the data for estimating its potency. Nickel ammonium sulfate, nickle chloride, nickel cyanide, nickel hydroxide, nickel nitrate, and nickel sulfate are assigned hazard rankings of 'LOW', based on a hypothesis that the nickel ion could be the ultimate carcinogenic form of nickel and on some evidence of carcinogenic activity by some nickel salts.

Keywords: *Nickel, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), Nickel chlorides, Nickel hydroxides, Nickel nitrates, Nickel sulfates, Nickel compounds, Salts, *Carcinogenicity, Nickel carbonyls, Nickel cyanides, Nickel ammonium sulfates, Dose-response relationships, CAS: 7740-02-0, CAS: 15699-18-0, CAS: 13463-39-3, CAS: 7718-54-9, CAS: 557-19-7, CAS: 12054-48-7, CAS: 14216-75-2, CAS: 7786-81-4.

PB93-196418/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 2-Nitropropane (79-46-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 16p EPA/600/8-91/157, , OHEA-C-073-145
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

2-Nitropropane is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The results of the two available inhalation bioassays for 2-nitropropane offer a wide range of potency factor (F) values using the conventional RQ methodology, yet the shortcomings of the bioassays are significant. A specific potency for 2-nitropropane is not adopted in the analysis and by default 2-nitropropane is assigned to potency group 2. Combining the weight-of-evidence group and the potency group, 2-nitropropane is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Propane/2-nitro, *Carcinogenicity, Dose-response relationships, CAS: 79-46-9.

PB93-196426/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosodi-n-Butylamine (924-16-3). Final rept.
Syracuse Research Corp., NY.
Jun 88, 25p EPA/600/8-91/158, , OHEA-C-073-146
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitrosodi-n-butylamine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for N-nitrosodi-n-butylamine is estimated to be 43.7 (mg/kg/day)-1 placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, N-nitrosodi-n-butylamine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *n-Butylamine/N-nitrosodi, *Carcinogenicity, Dose-response relationships, CAS: 924-16-3.

PB93-196434/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosodiethanolamine (1116-54-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/159, , OHEA-C-073-147
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitrosodiethanolamine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The results of the bioassay test used to calculate the potency factor (F) for N-nitrosodiethanolamine suggest that the experimental dose delivered to the test animals was too high (i.e., all treated animals got tumors). Hence, under the CAG's methodology for evaluating potential carcinogens N-nitrosodiethanolamine is assigned to potency group 1. Combining the weight-of-evidence group and the potency group, N-nitrosodiethanolamine is assigned a 'HIGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Diethanolamine/N-nitroso, *Carcinogenicity, Dose-response relationships, CAS: 1116-54-7.

PB93-196442/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosodiethylamine (55-18-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 19p EPA/600/8-91/160, , OHEA-C-073-148
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitrosodiethylamine (also known as diethylnitrosamine) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for N-nitrosodiethylamine is estimated to be 969 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, N-nitrosodiethylamine is assigned a 'HIGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Diethylnitrosamine, *Carcinogenicity, Dose-response relationships, CAS: 55-18-5.

PB93-196459/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosodimethylamine (62-75-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/161, , OHEA-C-073-149
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitrosodimethylamine (also known as dimethylnitrosamine) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for N-nitrosodimethylamine is estimated to be 61.2 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, N-nitrosodimethylamine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Dimethylnitrosamine, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 62-75-9.

PB93-196467/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosodi-n-Propylamine (621-64-7). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/162, , OHEA-C-073-150
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitrosodi-n-propylamine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986a). Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data.' Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. N-Nitrosodi-n-propylamine is, therefore, assigned to the median potency factor range and placed in potency group 2. Combining the weight-of-evidence group and the potency group, N-nitrosodi-n-propylamine is assigned a 'MEDIUM' hazard ranking for the purposes of reportable quantity (RQ) adjustment.

Keywords: *Carcinogens, *Toxicology, Carcinogenicity tests, Dose-response relationships, Humans, Animals, Risk assessment, *Amine/N-nitrosodi-n-propyl, CAS 621-64-7.

PB93-196475/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitroso-N-Ethylurea (759-73-9). Final rept.
Syracuse Research Corp., NY.
Jun 88, 34p EPA/600/8-91/163, , OHEA-C-073-151
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitroso-N-ethylurea (also known as ethylnitrosourea) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for N-nitroso-N-ethylurea is estimated to be 137 (mg/kg/day)-1, placing it in po-

tency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, N-nitroso-N-ethylurea is assigned a 'HIGH' hazard ranking.

Keywords: *Ethylnitrosourea, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 759-73-9.

PB93-196483/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitroso-N-Methylurea (684-93-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 29p EPA/600/8-91/164, , OHEA-C-073-152
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitroso-N-methylurea is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for N-nitroso-N-methylurea is estimated to be 2100 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, N-nitroso-N-methylurea is assigned a 'HIGH' hazard ranking.

Keywords: *Methylnitrosourea, *Nitroso compounds, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 684-93-5.

PB93-196491/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitroso-N-Methylurethane (165-53-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/165, , OHEA-C-073-153
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitroso-N-methylurethane is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The results of the bioassay for N-nitroso-N-methylurethane suggest that the substance is highly potent, but because all treated animals developed tumors, there is no basis for designing a specific human potency factor (F). Therefore, N-nitroso-N-methylurethane is assigned to the high potency factor range and placed in potency group 1, under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency information, N-nitroso-N-methylurethane is assigned a 'HIGH' hazard ranking.

Keywords: *Nitrosomethylurethane, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 615-53-2.

PB93-196509/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosomethylvinylamine (4549-40-0). Final rept.
Syracuse Research Corp., NY.
Jun 88, 16p EPA/600/8-91/166, , OHEA-C-073-154
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitrosomethylvinylamine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Bioassays have sufficiently demonstrated the animal carcinogenicity although no control data for animal studies exist for N-nitrosomethylvinylamine. Therefore, evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor and no quantitative inferences can be made. N-Nitrosomethylvinylamine is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and potency group, N-nitrosomethylvinylamine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Nitroso compounds, *Nitrosamines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 4549-40-0.

PB93-196517/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosopiperidine (100-75-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 32p EPA/600/8-91/167, , OHEA-C-073-155
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-Nitrosopiperidine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data' since there are no human studies. The potency factor (F) for N-nitrosopiperidine is estimated to be 37.5 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, N-nitrosopiperidine is assigned a 'MEDIUM' hazard ranking.

Keywords: *Nitroso compounds, *Piperidines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 100-75-4.

PB93-196525/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of N-Nitrosopyrrolidine. Final rept.
Syracuse Research Corp., NY.
Jun 88, 24p EPA/600/8-91/168, , OHEA-C-073-156
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

N-nitrosopyrrolidine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for N-nitrosopyrrolidine is estimated to be 279 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, N-nitrosopyrrolidine is assigned a 'HIGH' hazard ranking.

Keywords: *N-nitrosopyrrolidine, *Nitrosamines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 930-55-2.

PB93-196533/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 5-Nitro-O-Toluidine (99-55-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 21p EPA/600/8-91/169, , OHEA-C-073-157
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

5-Nitro-o-toluidine is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. The potency factor (F) for 5-nitro-o-toluidine is estimated to be 0.17 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 5-nitro-o-toluidine is assigned a 'LOW' hazard ranking.

Keywords: *Toluidines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 99-55-8.

PB93-196541/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Pentachloronitrobenzene (82-68-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 22p EPA/600/8-91/171, , OHEA-C-073-159
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Pentachloronitrobenzene is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. The potency factor (F) for pentachloronitrobenzene is estimated to be 1.42 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, pentachloronitrobenzene is assigned a 'LOW' hazard ranking.

Keywords: *Nitrobenzenes, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Nitrobenzene/pentachloro, *Carcinogenicity, Dose-response relationships, CAS: 82-68-8.

PB93-196558/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Pentachlorophenol (87-86-5). Final rept.
Syracuse Research Corp., NY.
Jun 88, 13p EPA/600/8-91/172, , OHEA-C-073-160
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Pentachlorophenol cannot be identified as a potential human carcinogen, therefore, it is classified as weight-of-evidence Group D under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Inadequate', and the evidence from human studies is 'No Data'. The potency factor (F) for pentachlorophenol cannot be estimated according to the CAG's methodology for evaluating potential carcinogens because of lack of positive data. Since pentachlorophenol is in weight-of-evidence Group D and has no potency group (due to insufficient data), pentachlorophenol is not assigned a hazard ranking based on potential carcinogenicity and other criteria must be used for the purposes of RQ adjustment.

Keywords: *Phenols, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Phenol/pentachloro, *Carcinogenicity, Dose-response relationships, CAS: 87-86-5.

PB93-196566/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Evaluation of the Potential Carcinogenicity of Phenacetin (62-44-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 28p EPA/600/8-91/173, , OHEA-C-073-161
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Phenacetin is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for phenacetin is estimated to be 0.028 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, phenacetin is assigned a 'LOW' hazard ranking.

Keywords: *Phenacetin, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 62-44-2.

PB93-196574/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Polychlorinated Biphenyls (1336-36-3) Including Specific Aroclors. Final rept.
Syracuse Research Corp., NY.
Jun 88, 36p EPA/600/8-91/174, , OHEA-C-073-162
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Polychlorinated biphenyls (PCBs) are probable human carcinogens, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is suggestive but 'Inadequate'. The potency factor (F) for PCBs, including each of the specific Aroclors, is estimated to be 50.47 (mg/kg/day)-1 based on data from a study using Aroclor 1260, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, PCBs, including each of the specific Aroclors, are assigned a 'MEDIUM' hazard ranking.

Keywords: *Polychlorinated biphenyls, *Aroclors, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 1336-36-3; CAS: 11097-69-1, CAS: 11096-82-5, CAS: 12672-29-6, CAS: 53469-21-9, CAS: 11141-16-5, CAS: 11104-28-2, CAS: 12674-11-2.

PB93-196582/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,3-Propane Sultone (1120-71-4). Final rept.
Syracuse Research Corp., NY.
Jun 88, 18p EPA/600/8-91/175, , OHEA-C-073-170
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,3-propane sultone is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 1,3-propane sultone is estimated to be 10.0 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,3-propane sultone is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *1,3-Propane sultone, *Carcinogenicity, Dose-response relationships, CAS: 1120-71-4.

PB93-196590/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,2-Propylenimine (75-55-8). Final rept.
Syracuse Research Corp., NY.
Jun 88, 17p EPA/600/8-91/176, , OHEA-C-073-171
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,2-Propylenimine is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 1,2-propylenimine is estimated to be 259 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,2-propylenimine is assigned a 'HIGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *1,2-Propylenimine, *Carcinogenicity, Dose-response relationships, CAS: 75-55-8.

PB93-196608/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity Saccharin (81-07-2). Final rept.
Syracuse Research Corp., NY.
Jun 88, 30p EPA/600/8-91/177, , OHEA-C-073-172
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Saccharin is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'Inadequate'. The potency factor (F) for saccharin is estimated to be 0.007 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, saccharin is assigned a 'LOW' hazard ranking.

Keywords: *Saccharin, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 81-07-2.

PB93-196616/REB PC **A06**/MF **A02**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
Drexel Univ., Philadelphia, PA. Geosynthetic Research Inst.
R. M. Koerner, Y. G. Hsuan, and A. E. Lord. Jun 93, 106p EPA/600/R-93/092
See also PB93-217132. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Geomembranes made from high density polyethylene (HDPE) have a high percent crystallinity and are therefore of concern with regard to stress cracking. A review of the literature plus the authors' field exhuming of various sites-of-opportunity gave rise to twenty-five (25) situations where stress cracking of HDPE geomembranes has occurred since the introduction of the liner material in 1980. The stress cracks varied from very small lengths of a few centimeters to large shattering types of failure. All failures have occurred on exposed geomembranes where ultraviolet light exposure, high temperature oxidation and low temperature contraction are continuously ongoing processes.

Keywords: *Linings, *Polyethylene, *Geotechnical fabrics, *Cracking(Fracturing), Tests, Decomposition, Tensile strength, Tests, Environmental effects, Subsurface investigations, Decay.

PB93-196624/REB PC **A03**/MF **A01**
Directory of OAQPS Information Services, May 1993.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
May 93, 31p EPA/452/B-93/006
Supersedes PB92-198654.

The Office of Air Quality Planning and Standards (OAQPS) provides many types of information services to EPA Headquarters and Regional Offices, State and local air pollution control agencies, consultants, industry, and the general public. 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 fuurther divided into subcategories. Within each subcategory, line items describing information services are categorized by the type of delivery mechanism used. These include electronic bulletin boards, clearinghouses, reports and other documents, newsletters, support centers, workshops, and direct training such as classroom and self-instructional courses. Each line item also contains a brief description of the information available and the name and telephone number of a contact person who will help you to obtain it.

Keywords: *Directories, *Information services, *Air pollution control agencies, US EPA, Information dissemination, Information retrieval, Pollution regulations, Administrative procedures, Permits, Compliance, Public information, State government, Local government, *Office of Air Quality Planning and Standards, Bulletin boards.

PB93-196632/REB PC **A03**/MF **A01**
Medium Systems That Failed to Conduct Required Initial Lead Tap Monitoring and Reporting.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
May 93, 33p EPA/812/R-93/003

The US EPA required medium-sized water systems to conduct lead tap monitoring to determine the amount of lead in the drinking water. The report includes a list of these systems that failed to monitor and report their findings.

Keywords: *Lead(Metal), *Water distribution, *Distribution systems, *Water pollution monitoring, US EPA, Drinking water, Requirements, Public utilities, Reporting, Failure, States(United States), Listings.

PB93-196665/REB PC **A12**/MF **A03**
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
Virginia Inst. of Marine Science, Gloucester Point.
R. A. Batiuk, R. J. Orth, K. A. Moore, W. C. Dennison, and J. C. Stevenson. Dec 92, 258p CBP/TRS-83/92
Contract EPA-68-WO-0043
Prepared in cooperation with Maryland Univ., Cambridge. Horn Point Environmental Labs., Geological Survey, Reston, VA., and Harford Community Coll., Bel Air, MD. Sponsored by Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.

Chesapeake Bay, one of the world's largest estuaries, has experienced deterioration of water quality from nutrient enrichment, resulting in anoxic or hypoxic conditions and declines in living resources. Determination of relationships between water quality and various living resources provides a mechanism of relating anthropogenic inputs to the 'health' of Chesapeake Bay. One of the major factors contributing to the high productivity of Chesapeake Bay has been the historical abundance of submerged aquatic vegetation (SAV). SAV in Chesapeake Bay include some twenty freshwater and marine species of rooted, flowering plants. SAV provide food for waterfowl and are critical habitat for shellfish and finfish. SAV also affect nutrient cycling, sediment stability, and water turbidity. The primary objective of the SAV Technical Synthesis is to establish the quantitative levels of relevant water quality parameters

necessary to support continued survival, propagation, and restoration of SAV.

Keywords: *Aquatic plants, *Submerged plants, *Habitats, *Water pollution control, *Chesapeake Bay, Anoxia, Nutrients, Marine fishes, Shellfish, Population growth, Turbidity, Government policies, Survival, Depth, Underwater light, Plant growth, Chlorophylls, Models, Graphs(Charts), Tables(Data), Water quality data, Restoration, Total suspended solids.

PB93-196988/REB PC **A03**/MF **A01**
Sea Urchin ('Strongylocentrotus purpuratus') Fertilization Test Method.
Environmental Research Lab.-Narragansett, Newport, OR.
G. A. Chapman. Jun 93, 39p EPA/600/R-93/097, ERLN-N208

The method measures the toxicity of effluents and receiving water to the gametes of a sea urchin, Strongylocentrotus purpuratus, during a 1 h sperm exposure and a subsequent 20 min exposure period following the addition of eggs for measuring the fertilizing capacity of the sperm. The purpose of the test is to determine the concentrations of a test substance that reduce egg fertilization by exposed sperm relative to that attained by sperm in control solutions.

Keywords: *Echinodermata, *Sea urchins, *Toxic substances, *Water pollution effects, Exposure, Invertebrates, Fertility, Sperm, Test methods, Eggs, Contaminants, Concentration(Composition), Solutes, *Strongylocentrotus purpuratus, Gametes, Receiving waters.

PB93-196996/REB PC **A10**/MF **A03**
Forest Sector Carbon Budget of the United States: Carbon Pools and Flux under Alternative Policy Options.
Corvallis Environmental Research Lab., OR.
D. P. Turner, J. J. Lee, G. J. Koerper, and J. R. Barker. Jun 93, 225p EPA/600/R-93/093
Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR.

The document presents a model of the current and future carbon budget associated with the forest ecosystems of the contermious U.S. The focus is on effects of economic and environmental policy changes for the period of 1990-2040. In the study, the concept of 'forest ecosystem' has been expanded to 'forest sector' by including biomass that has been physically removed (harvested) for human use. The potential effects of climate change have not been incorporated; however, current research is directed at addressing this question. The specific objectives of the report are to: (1) Develop a methodology for quantifying the current and future forest sector carbon budget for the U.S., (2) Apply the methodology to quantify the current status of carbon pools and flux within the U.S. forest sector, (3) Apply the methodology to several scenarios based on alternative policy options, and (4) Identify gaps and deficiencies in the data and in the modeling approaches that require further effort.

Keywords: *Biomass, *Forest management, *United States, Harvestings, Mathematical models, Policies, Methodology, Carbon dioxide, Soils, Inventories, Forest land, Area, Vegetation, Mitigation, Recycling, Lumber, Tables(Data), Afforstation, National carbon budget.

PB93-197887/REB PC **A05**/MF **A01**
Environmental Protection Agency, Seattle, WA. Region X.
Glass Markets Information System; Application Summary Reports. Final rept.
Clean Washington Center, Seattle.
Dec 92, 79p
Sponsored by Environmental Protection Agency, Seattle, WA. Region X.

The Glass Markets Information System Summary Reports is a compilation of over 70 possible applications for post-consumer recycled glass. The database includes descriptions of the applications, literature references, processing and quality requirements, and economic data as available. The database is intended for use by groups seeking ideas for economic development with recycled glass.

Keywords: *Glass, *Recycled materials, Economic development, Bottles, Aggregates, Market research, Feasibility, Community development.

PB93-197903/REB PC **A03**/MF **A01**
Federal Test Procedure Review Project: Status Report. Technical rept.
Environmental Protection Agency, Washington, DC. Office of Air and Radiation.
Feb 93, 23p EPA/420/R-93/006

Section 206 (h) of the Clean Air Act directs the Environmental Protection Agency (EPA) to review and revise as necessary the regulations governing the Federal Test Procedure (FTP) to insure that vehicles are tested under circumstances which reflect the actual current driving conditions under which motor vehicles are used. The Federal Test Procedure is the test procedure used to determine compliance of light-duty motor vehicles with federal emission standards. The status report addresses the progress EPA has made to dare in complying with the Clean Air Act provision and the status of future research efforts. The report discusses four general areas of concern; fuel, temperature, altitude, driver behavior including acceleration. The report also identified several other potential areas of concern relating to driving behavior; speed, cold starts (frequency and driving behavior), trip length, time between trips, and road grade.

Keywords: *Air pollution abatement, *Air quality management, *Automobile exhaust, Exhaust gases, Automobile usage, Fuel tank emissions, Ozone, Carbon dioxide, Carbon monoxide, Nitrogen oxides, Hydrocarbons, Exhaust emission control, *Federal Test Procedure, Clean Air Act, National Ambient Air Quality Standards, Driving style effect on exhaust emissions.

PB93-197929/REB PC **A03**/MF **A01**
Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report. Technical rept.
Environmental Protection Agency, Ann Arbor, MI. Technology Development Group.
R. M. Schaefer, F. J. Hamady, and J. C. Martin. Mar 93, 22p EPA/AA/TDG-93/04
See also PB88-247184, PB89-193353, PB91-195941 and PB93-144376.

A 16-valve, 4-cylinder light-duty automotive engine has been converted to operation on a mixture of hydrogen (H2) and carbon monoxide (CO) gaseous fuel in a 2:1 molar ratio of H2 and CO. This engine has been used to investigate the difference in emission levels and power output between two different fuels. M100 neat methanol and simulated dissociated methanol gaseous fuel (2H2/CO).

Keywords: *Air pollution abatement, *Mobile pollutant sources, *Automobile engines, *Conversion, Hydrogen, Carbon monoxide, Emission, Combustion efficiency, Automotive fuels, Tests, Methanol fuels, Four stroke cycle engines.

PB93-198695/REB PC **A03**/MF **A01**
Pesticide Fact Sheet Number 240: Dimethenamid. SAN 582H/Frontier (Trade Name) Herbicide.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
5 Mar 93, 13p EPA/737/F-93/001

The fact sheet describes a new herbicide (CAS No. 87674-68-8) that belongs to the chloroacetamide chemical family and goes by the common name of dimethenamid. The fact sheet includes toxicology characteristics, chemical properties, and environmental hazard information. The herbicide has been conditionally approved based on this information.

Keywords: *Pesticides, *Toxicology, *Acetamides, Risk assessment, Hazardous materials, Herbicides, Agricultural chemistry, Chemical properties, Exposure, *Dimethenamid, *Chloroacetamides, Chemical Information Fact Sheet, Use patterns, CAS 87674-68-8.

PB93-198703/REB PC **A02**/MF **A01**
RED Facts: Iron Salts. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Feb 93, 6p EPA/738/F-93/002

When a pesticide is eligible for reregistration, EPA announces this and explains why in a Reregistration Eligibility Document, or RED. The fact sheet summarizes the information in the RED for iron salts. The iron salts consist of three pesticide active ingredients that are eligible for reregistration: Iron (III) sulfate, Iron (II) sulfate monohydrate, and Iron (II) sulfate heptahydrate. Iron salts are registered for use as herbicides to control moss on lawns, turf, ornamental herbaceous plants, woody shrubs and vines. Registered products are formulated as soluble concentrates and granulars. They are applied by sprinkler can, hose-end sprayer, spreader, or by hand. The major use of iron salts in the United States is non-pesticidal, as a fertilizer micronutrient. Iron salts also are used as an electrolyte in dry cell batteries, as an animal feed additive, as a galvanizer and as an emulsion-breaker. They have further uses in water purification and sewage treatment, and in textile dying and calico printing.

Keywords: *Pesticides, *Iron sulfates, *Toxicity, Hazardous materials, Herbicides, Risk assessment, Chemical properties, Agricultural chemistry, Exposure, *Iron salts, Iron sulfate monohydrate, Iron sulfate heptahydrate, Chemical Information Fact Sheet, Use patterns.

PB93-198711/REB PC **A02**/MF **A01**
Pesticide Fact Sheet: Arsenic Acid (H3AsO4).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Apr 93, 6p EPA/738/F-93/003
See also PB92-185826.

The fact sheet explains why the EPA has issued a cancellation order for products containing arsenic acid. Arsenic acid is used primarily as a dessicant on stripper-picked cotton. The fact sheet includes toxicology characteristics, chemical properties, and environmental hazard information.

Keywords: *Pesticides, *Arsenic inorganic compounds, *Toxicology, Hazardous materials, Risk assessment, Chemical properties, Agricultural chemistry, Exposure, *Arsenic acid, Chemical Information Fact Sheet, Use patterns, CAS 7778-39-4.

PB93-198844/REB PC **A07**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Air and Radiation.
Building and HVAC Characterization for Commercial Building Indoor Air Quality Investigations.
National Inst. of Standards and Technology (BFRL), Gaithersburg, MD.
A. K. Persily. May 93, 142p NISTIR-4979
Sponsored by Environmental Protection Agency, Washington, DC. Office of Air and Radiation, and Department of Energy, Washington, DC. Building Systems and Materials Div.

A series of parameters have been developed to describe building and HVAC characteristics of commercial buildings in conjunction with indoor air quality investigations lasting one week or less. The building characterization includes both general information on the building as well as more specific information on the space being investigated. The space will in general be only a portion of the building, but it could be the entire building. The parameters include those features deemed essential to an investigation intended to obtain baseline information on a test space within a building as opposed to a detailed research study or an effort to diagnose a specific problem. The report consists of checklists or forms for recording information on the building and HVAC parameters, along with instructions for completing the checklists. The checklists are divided in four areas: (A) Whole Building Description, (B) Test Space Description, (C) HVAC System Description, and (D) HVAC System Performance.

Keywords: *Indoor air pollution, *Commercial buildings, *Space HVAC systems, Office buildings, Ventilation, Investigations, Questionnaires, Air quality.

PB93-198950/REB PC **A17**/MF **A04**
New York State Energy Research and Development Authority, Albany.
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 1. Final rept.
Environmental Risk Ltd., Bloomfield, CT.
Nov 92, 385p NYSERDA-92-08-VOL-1
Contract 1531-ERER-ER-91

See also Volume 2, PB93-198968. Prepared in cooperation with Donovan (C.T.) Associates, Burlington, VT. Sponsored by New York State Energy Research and Development Authority, Albany, and Environmental Protection Agency, Washington, DC.

Waste wood is wood separated from the solid-waste stream and processed into a uniform-sized product that is reused for other purposes such as fuel. As an alternative to the combustion of fossil fuels, it has raised concerns that if it is 'contaminated' with paints, resins, preservatives, etc., unacceptable environmental impacts may be generated during combustion. Given the difficulty of separating contaminated materials from waste wood and the large energy potential existing in the resource, it is important to identify possible problems associated with contaminated waste wood combustion. The study describes research about technical, public policy, and regulatory issues that affect the processing and combustion of waste wood for fuel. The project's purpose was to provide environmental regulators, project developers, and others with data to make informed decisions on the use of waste wood materials as a combustion resource. Potential environmental problems and solutions were identified. A specific project result was the identification of combustion system operation parameters and air pollution control technologies that can minimize emissions of identified air and solid waste contaminants from combustion of wood waste.

Keywords: *Wood products, *Wood wastes, *Combustion products, *Air pollution, Solid waste processing, Refuse derived fuels, Environmental impacts, Regulations, Government policies, Project management, Joint ventures, US EPA, Canada, Standards, Contamination, Paints, Wood preservatives, Decision making, Tables(Data), *Renewable energy, Pollution sources.

PB93-198968/REB PC **A07**/MF **A02**
New York State Energy Research and Development Authority, Albany.
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 2, Appendices. Final rept.
Environmental Risk Ltd., Bloomfield, CT.
Nov 92, 149p NYSERDA-92-08-VOL-2
Contract 1531-ERER-ER-91
See also Volume 1, PB93-198950. Prepared in cooperation with Donovan (C.T.) Associates, Burlington, VT. Sponsored by New York State Energy Research and Development Authority, Albany, and Environmental Protection Agency, Washington, DC.

Contents: Appendices A-H: Summary of Air Pollution Regulations in Each State/Province; Summary of Solid Waste Regulations in Each State/Province; Waste Wood Generation and Reuse in Each State/Province; Examples of Specification for Waste Accepted for Processing; Fuel Specifications; Statistical Procedures Used for Sample Collection; Detailed Sampling Results and Computerized Statistical Calculations; and Emission Conversion Factors.

Keywords: *Wood products, *Wood wastes, *Combustion products, *Air pollution, Hazardous materials, Regulations, States(United States), Canada, Refuse derived fuels, Specifications, Sampling, Statistical quality control, Computerized simulation, Tables(Data), Tests, Provinces, Pollution sources.

PB93-198976/REB PC **A12**/MF **A03**
Clough, Harbour and Associates, Albany, NY.
Town of Edinburg Landfill Reclamation Demonstration Project. Final rept.
Schillinger, Salerni and Boyd, Inc., Albany, NY.
15 May 92, 253p NYSERDA-92/04
Sponsored by Clough, Harbour and Associates, Albany, NY., New York State Energy Research and Development Authority, New York, and Environmental Protection Agency, Washington, DC.

A landfill reclamation demonstration project was hosted at the Town of Edinburg municipal landfill in northwest Saratoga County, with majority funding provided by the New York State Energy Research and Development Authority. The report examines various separation techniques employed at the site and appropriate uses for reclaimed materials. Specifications regarding engineered work plans, health and safety monitoring, and contingency preparedness are discussed. Major potential applications and benefits of using landfill reclamation technology at existing landfills are identified and discussed. The research and development aspect of the report also examines optimal screening technologies, site selection protocol and the results of a test burn of reclaimed waste at a waste-to-energy facility. Landfill reclamation costs are developed, and economic comparisons are made between reclamation costs and conventional landfill closure costs, with key criteria identified.

Keywords: *New York, *Earth fills, *Land reclamation, Waste processing, Backfilling, Recycling, State government, Local government, *Landfills, Edinburg(New York), Saratoga County(New York).

PB93-199107/REB PC **A04**/MF **A01**
Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Sep 85, 57p EPA/340/1-85/019

The guide was prepared primarily to assist State and local air pollution control agency inspectors. It is not intended to be a general guide to writing inspection reports, but rather focuses specifically on documenting violations found during inspections. Some agencies may limit the role of the inspector in the enforcement process to on-site fact gatherers. The guide is aimed at the more common agency policy of giving the inspector a major role in determining whether or not a violation occurred, and for making recommendations as to follow-up actions.

Keywords: *Air pollution monitoring, *Inspection, *Law enforcement, Exhaust emissions, Compliance, Reporting, Air pollution control, State government, Local government, Pollution regulations, Violations.

PB93-199115/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Air and Radiation.
Reporting and Recordkeeping Requirements for Waste Disposal: A Field Guide.
Entropy Environmentalists, Inc., Research Triangle Park, NC.
Nov 90, 28p EPA/340/1-90/016
Contract EPA-68-02-4462
Sponsored by Environmental Protection Agency, Washington, DC. Office of Air and Radiation.

The guide will help with complying with the new reporting and recordkeeping requirements of the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP). The specific responsibilities of waste generators, transporters and waste disposal site operators are addressed, as well as detailed explanations of how to complete the new forms accurately and efficiently. The field guide is organized into four main sections as follows: Waste Shipment Record; Reporting Requirements; Recordkeeping Requirements; Source Reporting Requirements for Disposal Site Operators.

Keywords: *Asbestos, *Waste disposal, *Air pollution abatement, Waste processing plants, Solid waste collection systems, Solid waste management, Reporting, Pollution regulations, Records management, Material handling, *Waste Shipment Record.

PB93-199123/REB PC **A06**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Benzene Equipment Leak Inspection Manual.
Engineering-Science, Fairfax, VA.
Jul 90, 117p EPA/340/1-90/001
Contract EPA-68-02-4462
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

On January 5, 1981, the Environmental Protection Agency (EPA) proposed the national emission standard for fugitive benzene emissions (46 FR 1165) under authority of Section 112 of the Clean Air Act. Fugitive emissions of benzene can be reduced by two types of control techniques: (1) leak detection and repair programs, and (2) equipment design and operational specifications. The leak detection and repair programs consist of monitoring potential fugitive benzene emission sources with the approved portable Volatile Organic Compounds (VOC) detection instruments and then repairing or replacing any source determined to be leaking. Fugitive benzene emissions could also be reduced by installing certain control equipment. For example, fugitive emission from pumps occur primarily at the pump seal. The standard requires a combination of monthly monitoring and the installation of specific control equipment to provide the greatest level of control for fugitive benzene emissions.

Keywords: *Hazardous materials, *Benzene, *Leakage, *Air pollution control, *Equipment, Manuals, Standards, Inspection, Safety, Volatile organic compounds, Monitoring, Fugitive dust, Valves, Pumps, Air compressors, Pressure regulators, Relief valves, Control equipment, Detectors, Instruments, Tables(Data), Closed-vent systems, Emission reduction.

PB93-199131/REB PC **A12**/MF **A03**
Alternative Control Technology Document: Control of VOC Emissions from the Application of Agricultural Pesticides.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Mar 93, 255p EPA/453/R-92/011

In many States, some of the ozone nonattainment areas are comprised primarily of agricultural counties where a potentially significant contribution to the ozone may result from area sources of volatile organic compounds (VOC's) emissions. A potential source of VOC emissions in agricultural counties is the release of organic compounds from the application of agricultural pesticides. The report provides technical information that State and local agencies can consider while developing strategies for reducing VOC emissions.

Keywords: *Air pollution abatement, *Pesticides, Ozone, Pollution regulations, State government, Local government, Agricultural chemistry, Cost analysis, *Volatile organic compounds, Emission control, Pesticide application.

PB93-199214/REB PC **A08**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Air/Superfund National Technical Guidance Study Series. Volume 4. Guidance for Ambient Air Monitoring at Superfund Sites (Revised). Final rept.
Radian Corp., Austin, TX.
A. Roffman, and R. Stoner. May 93, 172p EPA/451/R-93/007
Contract EPA-68-DO-0125
Supersedes PB90-113382. See also PB89-180061. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The report presents the results of an EPA-sponsored study to develop guidance for designing and conducting ambient air monitoring at Superfund sites. By law, all exposure pathways - including the air pathway - must be evaluated for every Superfund site; therefore, some level of ambient air monitoring usually is necessary at each site. The document offers technical guidance for use by a diverse audience, including EPA Air and Superfund Regional and Headquarters staff, State Air and Superfund staff, federal and state remedial and removal contractors, and potentially responsible parties. The manual is written to serve the needs of individuals with various levels of scientific training and experience in selecting and using ambient air monitoring methods in support of air pathway assessments.

Keywords: *Air pollution monitoring, *Hazardous materials, *Waste disposal, *Superfund, Risk assessment, Environmental exposure pathway, Occupational exposure, Manuals, Contractors, Remedial action, Monitoring programs.

PB93-199230/REB PC **A03**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Control Technology Center FY92: A Summary of Program Accomplishments. Final rept. Oct 91-Sep 92.
Acurex Environmental Corp., Research Triangle Park, NC.
K. Thompson. May 93, 42p* EPA/600/R-93/090
Contract EPA-68-DO-0141
See also report for FY91, PB92-238468. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report summarizes the Fiscal Year 1992 activities and accomplishments of EPA's Control Technology Center (CTC), located in Research Triangle Park, North Carolina, and sponsored by EPA's Air and Energy Engineering Research Laboratory and the Office of Air Quality Planning and Standards. CTC services were accessed over 15,000 times during the year. This includes HOTLINE calls, access to computer bulletin boards and databases, and requests for CTC products. Overall use of CTC services increased 80 percent over FY91. The report discusses program activities and outreach efforts during FY92 to provide services to its growing client list. It also examines strategies to maintain the CTC's continued success in providing technical assistance to both governmental air pollution control agencies and the private sector.

Keywords: *Research projects, *Technical information centers, *Pollution control, Air quality standards, Data processing, Technical reports, Computer programs, Technical assistance, Data bases, US EPA, Energy conservation, Laboratories, Project planning, *Electronic bulletin boards, *Research Triangle Park(North Carolina).

PB93-199248/REB PC **A04**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.
Development of Residential Wood Consumption Estimation Models. Final rept. Nov 91-Apr 92.
TRC Environmental Corp., Chapel Hill, NC.
W. Ramadan, and M. G. Smith. Jun 93, 59p EPA/600/R-93/096
Contract EPA-68-D9-0173
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The purpose of the report is to present several statistical models that have been developed to predict wood fuel use in residential applications based on a review of available residential wood use surveys conducted for local area planning or SIP inventory development. These models could be used to improve the emissions estimates for residential wood fuel consumption in areas that are not required to and therefore are not likely to conduct household surveys. The models may also be included in the Area and Mobile Source Subsystem (AMS) of the Aerometric Information Retrieval System (AIRS).

Keywords: *Wood burning appliances, *Wood burning furnaces, *Wood fuels, *Energy consumption, Residential buildings, New England, Surveys, Household goods, Tables(Data), Stoves, Statistical analysis, Mathematical models, Air pollution, Stationary sources.

PB93-199255/REB PC **A06**/MF **A02**
Light-Duty Automotive Technology and Fuel Economy Trends through 1993. Technical rept.
Environmental Protection Agency, Ann Arbor, MI. Office of Mobile Sources.
J. D. Murrell, K. H. Hellman, and R. M. Heavenrich.
May 93, 115p EPA/AA/TDG-93/01
See also PB91-206342.

The report describes the trends in light-duty motor vehicle fuel economy and technology usage for model years 1975 through 1993. Comparisons with previous year's data are made for the fleet as a whole and for a number of cylinders, vehicle size class, inertia weight class, and market segment, including domestic, European, and Asian vehicles.

Keywords: *Fuel economy, *Motor vehicles, Trends, Automobiles, Technology assessment, Motor vehicle engines, Vehicle size, Trucks, Tables(Data), Light-duty vehicles, 1975-1993 models.

PB93-199263/REB PC **A05**/MF **A01**
Environmental Protection Agency, Washington, DC. Stationary Source Compliance Div.
Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems.
Entropy Environmentalists, Inc., Research Triangle Park, NC.
J. W. Peeler. Feb 86, 82p
Contract EPA-68-02-3962
See also PB83-222307. Sponsored by Environmental Protection Agency, Washington, DC. Stationary Source Compliance Div.

The report presents recommended quality assurance (QA) procedures for opacity continuous emission monitoring systems (CEMS's) installed at electric utility steam generating stations. The field study included opacity CEMS's installed on six coal-fired electric utility generating units located at four generating stations, each of which is owned by a different utility company. Section 2.0 of the report outlines the major elements of a QA plan: (1) daily QA checks, (2) periodic QA checks and preventive maintenance, (3) corrective action procedures, and (4) accuracy checks. Procedures that may be included are identified and described for each of the four elements. Recommendations regarding the appropriate procedures for an initial QA plan are also provided. Section 3.0 describes briefly the organization and interaction of the elements of the QA plan. Section 4.0 presents an approach that may be used for the implementation and revision of the QA plan to optimize its usefulness and cost-effectiveness. Section 5.0 provides comments regarding considerations affecting the assignment of the various QA responsibilities at a particular plant.

Keywords: *Air pollution monitors, *Exhaust emissions, *Quality assurance, Steam generation plants, Electric utilities, Point sources, Air pollution detection, Air samplers, Quality control, Monitoring, *CEMS(Continuous emission monitoring systems).

PB93-199297/REB PC **A08**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
PEI Associates, Inc., Cincinnati, OH.
J. Zieleniewski. Mar 86, 156p* EPA/340/1-86/005A
Contract EPA-68-02-3963
See also PB80-194913. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The document provides the compliance standards for new stationary air pollution sources. Acceptance levels are given for sulfur dioxide, carbon dioxide, carbon monoxide, nitrogen oxide, sulfuric acid, hydrogen sulfide, fluoride, and other exhaust emissions. Standards of performance given include those for steam generating units, steel plants, pulp mills, glass manufacturing, grain elevators, surface coating of metal furniture, gas turbines, synthetic fiber production, dry cleaners, onshore natural gas processing, Nonmetallic mineral processing, and fiberglass insulation manufacturing.

Keywords: *Pollution regulations, *Stationary sources, *Air pollution abatement, Standards, Exhaust gases, Particulates, Industrial plants, Compliance, Air pollution monitoring, Law enforcement, Oxides, Volatile organic compounds.

PB93-199321/REB PC **A14**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of Air and Radiation.
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors. Draft rept.
Cohen (S.) and Associates, Inc., McLean, VA.
A. Colli, C. Conklin, and D. Hoffmeyer. Aug 91, 304p EPA/520/1-91/019
Contract EPA-68-D90170
See also PB90-195744. Sponsored by Environmental Protection Agency, Washington, DC. Office of Air and Radiation.

The purpose of this Background Information Document (BID) is to present information relevant to the Administrator of the Environmental Protection Agency's (EPA) reconsideration of the need for a NESHAP to control radionuclides emitted to the air from commercial nuclear power reactors. The BID presents information on the relevant portions of the regulatory framework that NRC has implemented for nuclear power plant licensees, under the authority of the Atomic Energy Act, as amended, to protect the public's health and safety. To provide context, it summarizes the rulemaking history for Subpart I. It then describes NRC's regulatory program for routine atmospheric emissions of radionuclides and evaluates the doses caused by actual airborne emissions from nuclear power plants, including releases resulting from anticipated operational occurrences.

Keywords: *Nuclear power plants, *Emission control, *Public health, *Radiation doses, Air pollution control, Air pollution monitoring, Inspection, Regulations, Radionuclide migration, Tables(Data).

PB93-199339/REB PC **A10**/MF **A03**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Compliance Data System Quality Assurance Manual, June 1984.
TRC Environmental Consultants, Inc., East Hartford, CT.
R. Bowers, and C. Mason. Sep 84, 220p EPA/340/1-84/011
Contract EPA-68-01-6315
See also PB80-147804. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The manual provides four services to the Compliance Data System (CDS) data manager. First it serves as a quick-reference user's guide for data entry. It contains instructions and definitions for all CDS data elements. Second, it provides an outline for effective data entry procedures. The outline helps to ensure not only that data is correct before it enters CDS, but that it is checked for accuracy all during the edit and update processes. Third, the manual explains several methods of checking existing data on CDS and provides a step-by-step approach for analyzing and correcting erroneous data. Finally, the manual contains a list of references and sources of information which can help the data manager in the search for accurate, reliable data. The manual contains a complete review of CDS communications documents and user assistance staff available to supply helpful information on all capabilities of CDS. In short, the CDS Quality Assurance Manual is designed to be an easy reference guide to help the CDS data manager maintain data reliability.

Keywords: *Air pollution, *Information systems, Stationary sources, User manuals(Computer programs), *Compliance Data System.

PB93-199347/REB PC **A05**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of General Enforcement.
Summary of Factors Affecting Compliance by Ferrous Foundaries. Volume 1. Text. Final rept. Feb 79-Dec 80.
Midwest Research Inst., Kansas City, MO.
D. Wallace, P. Quarles, P. Kielty, and A. Trenholm. Jan 81, 99p EPA/340/1-80/020
Contract EPA-68-01-4139
Sponsored by Environmental Protection Agency, Washington, DC. Office of General Enforcement.

The report presents an overview of the ferrous foundry characteristics and state and local regulatory practices which affect the evaluation of foundry compliance with air pollution regulations. Ferrous foundries are described with respect to size, location, investment trends, and process equipment. Particulate emission factors are developed for cupolas and electric arc furnaces as well as the process fugitive emissions sources. Techniques are described for controlling emissions from cupolas, electric arc furnaces, pouring and cooling, shakeout, sand handling and the cleaning room. Emphasis is placed on identification of malfunction problems associated with these control measures, and operation and maintenance practices that can be used to reduce the incidence of malfunctions. The regulations which are applied to ferrous foundries by state and local agencies are identified.

Keywords: *Iron and Steel Industry, *Foundries, *Air pollution control, Regulations, Compliance, Furnaces, Investments, Furnace cupolas, Electric arc furnaces, Fugitive dust, Cooling, Foundry core sands, Materials handling, Air pollution control equipment, Emissions, Operations, Maintenance, State government, Tables(Data).

PB93-199354/REB PC **A07**/MF **A02**
Environmental Protection Agency, Research Triangle Park, NC. Emission Standards and Engineering Div.
Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds. Rept. for Dec 86-Mar 87.
Radian Corp., Research Triangle Park, NC.

R. Howle, G. Bockol, J. Martinez, E. Epner, and M. Meech. Mar 87, 132p RAD-87-231-020-35-07, EPA/450/3-87/020
Contract EPA-68-02-3816
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Emission Standards and Engineering Div.

The report presents a complete summary of the continuous emissions data collected by the Environmental Protection Agency (EPA) under the authority of Section 114 of the Clean Air Act (CAA). Continuous emissions data were collected for the production and use of eight potentially hazardous organic compounds: (1) butadiene, (2) ethylene dichloride, (3) ethylene oxide, (4) chloroform, (5) carbon tetrachloride, (6) methylene chloride, (7) perchloroethylene, and (8) trichloroethylene. Emissions data for these eight pollutants were gathered during the period 1984-1986. These chemicals and data are reported into seven source categories that best describe the scope of use of these chemicals.

Keywords: *Air pollution sampling, *Organic compounds, *Continuous sampling, Emission factors, Chlorine organic compounds, Hazardous materials, Pollution sources, Chemical industry, Polymerization, Pesticides, Drug industry, Blowing agents, US EPA, Concentration(Composition), Tables(Data), Reactants(Chemistry).

PB93-199362/REB PC **A04**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Air and Radiation.
Guide to the Asbestos NESHAP as Revised November 1990.
Research Triangle Inst., Research Triangle Park, NC.
Nov 90, 72p EPA/340/1-90/015
Contract EPA-68-02-4462
See also PB91-127233 and PB92-132836. Prepared in cooperation with Entropy Environmentalists, Inc., Research Triangle Park, NC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Air and Radiation.

The specific authority of EPA regarding asbestos is listed under Section 112 of the Clean Air Act entitled 'National Emission Standards for Hazardous Air Pollutants' (NESHAP). The particular standard, that addresses asbestos is contained in Title 40 of the Code of Federal Regulations (40 CFR) Part 61, Subpart M. These regulations generally specify emission control requirements for the milling, manufacturing and fabricating of asbestos, for activities associated with the demolition and renovation of asbestos-containing buildings, and for the handling and disposal of asbestos-containing waste material. The major intention of the regulations is to minimize the release of asbestos fibers during all activities involving the handling and processing of asbestos and asbestos-containing material.

Keywords: *Asbestos, *Pollution regulation, *Materials handling, *Waste disposal, Air pollution control, Waste processing plants, Standards, Inspection, Industrial plants, Mineral industry, Protective equipment, State government, Local government, Waste management, *National Emission Standard for Hazardous Air Pollutants, Building demolition.

PB93-199370/REB PC **A05**/MF **A01**
Environmental Protection Agency, Washington, DC. Stationary Source Compliance Div.
Guideline for Graphic Arts Calculations.
PEI Associates, Inc., Arlington, TX.
Jun 88, 89p EPA/340/1-88/004
Contract EPA-68-02-3963
Sponsored by Environmental Protection Agency, Washington, DC. Stationary Source Compliance Div.

The calculation of volatile organic compound emissions from graphic arts operations to determine compliance is often a complicated task, sometimes creating confusion with compliance authorities and sources alike. In an attempt to minimize this confusion, EPA (OAQPS) has periodically issued guidance in this area. Generally in the form of memoranda to the EPA Regional Offices. EPA guidance for submitting data on ink formulations and performing basic calculations is contained in the document entitled, 'Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings', EPA 450/3-84-019, published in December 1984. 'A Guideline for Graphic Arts Calculations' takes the above guidance process one step further. Example calculations are included for basic emission problems, compliance determinations, control strategy problems, and complex emission problems.

Keywords: *Printing inks, *Air pollution control, *Graphic Arts, Volatile organic compounds, Compliance, Guidelines, US EPA, Emissions, Coatings, Paint, Volume, Concentration(Composition), Mathematical models, Numerical analysis, Density(Mass/Volume), Solvents, Tables(Data), Diagrams, Rotogravure printing, Flexographic printing.

PB93-199388/REB PC **A03**/MF **A01**
Florida Dept. of Community Affairs, Tallahassee.
Recommended Foundation Barrier Construction Standard of the Florida Radon Research Program.
Final rept. Apr-Sep 90.
Acres International Corp., Amherst, NY.
R. Eggink, E. Gazetas, D. Steuernagel, and A. Scott.
May 93, 25p EPA/600/R-93/091
See also PB92-105865. Prepared in cooperation with American ATCON, Inc., Wilmington, DE. Sponsored by Florida Dept. of Community Affairs, Tallahassee, and Environmental Protection Agency, Research Triangle Park, NC. Air and Energy Engineering Research Lab.

The report gives results of a study to determine the causes of cracking in slab-on-grade construction, particularly for single-family residential structures in Florida, and to recommend a foundation barrier construction standard to minimize such cracking. The report is one of a series of five reports which present recommended building construction standards developed by the Florida Radon Research Program in accordance with Section 404.056, Florida Statutes. The standards are designed to decrease exposure to indoor radon concentrations in newly constructed buildings.

Keywords: *Radon, *Residential buildings, *Foundations, *Concrete slabs, Cracks, Florida, Houses, Construction management, Stationary sources, Barriers, Research management, Air pollution, Membranes, Polyethylenes, Standards.

PB93-199396/REB PC **A05**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Parameters Affecting the Measurement of Hydraulic Conductivity for Solidified/Stabilized Wastes.
Alberta Environmental Centre, Vegreville.
D. J. Conrad, S. A. Shumborski, L. Z. Florence, and A. J. Liem. Jun 93, 80p EPA/600/R-93/099
Grant EPA-R-814860-01-1
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

A series of experiments were conducted to examine the variation in hydraulic conductivity within and among three matrices formed by steel mill baghouse dust treated with 8%, 9%, and 10% Normal Portland Cement. Commercially available equipment was modified to allow sensitive and continuous monitoring of hydraulic conductivity. Examination of samples by scanning electron microscopy and energy dispersive x-ray indicated the formation of ettringite in the solidified waste pores, thus reducing the hydraulic conductivity by two orders of magnitude. Gradient was the most significant parameter affecting variation within each matrix. Temporal effects and cement content were identified as important factors affecting hydraulic conductivity measurements and should be considered by regulatory tests.

Keywords: *Waste treatment, *Solidification, *Stabilization, *Hydraulic conductivity, *Cements, *Hazardous materials, Sampling, Permeability, Performance evaluation, Industrial wastes, Environmental protection, Experimental design, Municipal wastes, Regulations, Waste management, Land pollution control, Measuring instruments, Resource Conservation and Recovery Act.

PB93-199404/REB PC **A03**/MF **A01**
Screening Methodology for Assessing Leaking UST Sites and Clean Up Technologies. Symposium paper.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
C. Y. Fan, and A. N. Tafuri. 1993, 16p EPA/600/A-93/117
Presented at Leak Detection for Underground Storage Tanks, American Society for Testing and Materials, STP-1161, March 1993; New Orleans, LA., January 29, 1992, p211-228. See also PB90-187220, PB90-266727 and PB92-114552. Library of Congress catalog card no. 93-14690.

Across the nation, treatment technologies are being applied to clean up soil and groundwater contaminated with petroleum hydrocarbons from leaking underground storage tanks (UST). Site assessment (developing an accurate understanding of subsurface conditions at a site) increases the likelihood that a given treatment system or train will be effective at the site. The paper describes a preliminary screening methodology to help decision makers evaluate the likely effectiveness of various remediation technologies that may be applicable to cleaning up releases of petroleum products from underground storage tanks. The methodology is based on two recent EPA publications. The overall focus of the approach is on making a preliminary screening of what treatment technologies may be effective at a given release site. To facilitate the screening process, worksheets are provided to aid in the evaluation of alternative technologies.

Keywords: *Subsurface investigations, *Leakage, *Storage tanks, *Petroleum products, *Waste treatment, Environmental monitoring, Soil contamination, Ground water, Leak detectors, Sites, Hydrocarbons, Saturated zone, Remedial action, Volatile organic compounds, Selection, Cleanup.

PB93-199412/REB PC **A03**/MF **A01**
Statistical Procedures for Corrosion Studies.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
B. M. Wysock, A. M. Sanvig, M. R. Schock, C. P. Frebis, and B. Prokop. 1993, 23p EPA/600/A-93/118
See also PB93-101533. Prepared in cooperation with Economic and Engineering Services, Inc., Bellevue, WA., and Computer Sciences Corp., Cincinnati, OH.

Many utilities will be conducting pipe loop and other experimental studies to optimize corrosion control under the Lead and Copper Rule. The paper presents a discussion of the background and justifications for the selection of different statistical techniques to evaluate experimental and pilot plant data. Tests covered includes those for parametric and nonparametric comparisons among treatment or sampling sites; detection of trends in corrosion and inhibitor treatments; and selection of a proper number of samples and frequency of sampling.

Keywords: *Corrosion prevention, *Water treatment, *Water pollution sampling, Water pipes, Lead(Metal), Copper, Water utilities, Potable water, Corrosive effects, Water distribution, Distribution systems, *Lead and Copper Rule, Drinking water, Public water systems.

PB93-199420/REB PC **A03**/MF **A01**
Corrosion Control Principles and Strategies for Reducing Lead and Copper in Drinking Water Systems. Conference paper.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
M. R. Schock, and D. A. Lytle. 1993, 30p EPA/600/A-93/119
See also PB84-210293. Presented at the WQA (Water Quality Association) Conference, 1992.

The newly promulgated Lead and Copper Rule is going to force substantial changes in the way water utilities of all sizes treat their water and control corrosion. Corrosion is fascinating in that the more learned about it the more it is realized that there are very few generalities. The paper emphasizes concepts associated with sampling, and the trade-offs in water quality associated with various methods of corrosion control. There are two parts to the paper. First, an overview of the plumbing and corrosion issues is presented. These apply to both building and domestic systems. The United States Environmental Protection Agency (USEPA) has begun to do research with some interesting building lead corrosion problems. The second part will discuss the joint project that the Water Quality Association (WQA) and USEPA are beginning to initiate, involving the impact of domestic-type water softeners on corrosivity.

Keywords: *Water treatment, *Corrosion prevention, *Water pollution control, Water pipes, Water quality, Copper, Lead(Metal), Water utilities, Water distribution, Potable water, Demineralizers, Distribution systems, *Lead and copper rule, Drinking water.

PB93-199438/REB PC **A02**/MF **A01**
Field and Laboratory Studies of Chemical Contamination and Environmentally Related Diseases in Fish and Molluscs of New England.
Environmental Research Lab.-Narragansett, Newport, OR.
G. R. Gardner. 1993, 10p EPA/600/A-93/120, ERLN-1408
See also PB90-245531. Presented at the American College of Veterinary Pathologists (43rd), American Society for Veterinary Clinical Pathology (27th) and American College of Veterinary Ophthalmologists (23rd) Annual Meeting, San Diego, CA., November 15-21, 1992.

The concentration of PCBs, PAHs, insecticides and metals in some aquatic ecosystems have reached high levels placing identified populations at risk to chemical, physical, and biological agents in estuarine and open coastal areas of the United States. In the last three decades scientific studies bolstered evidence for a causal relationship between spontaneous and chemically induced pathological effects on marine organisms and exposure to industrial and agricultural pollutants discharged into aquatic ecosystems. In subsequent years research, both in the laboratory and at polluted estuarine or marine sites, has elucidated causal relationships between processes of pathogenesis of lesions (including carcinogenesis) and exposure to specific toxic agents. Today, research investigating mechanisms of chemical- and pollutant-induced lesions is demonstrating that chemicals can exert toxic, mutagenic, carcinogenic, and immunogenic effects on marine organisms.

Keywords: *New England, *Water pollution effects(Animals), *Biological accumulation, Mollusca, Fishes, Polychlorinated biphenyls, Polycyclic aromatic hydrocarbons, Toxicity, Neoplasms, Abnormalities, Mutagens, Aquatic ecosystems, Carcinogenesis.

PB93-199446/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Statistical Evaluation of the EMAP-Wetlands Classification. Symposium paper.
ManTech Environmental Technology, Inc., Corvallis, OR.
T. L. Ernst, and N. C. Leibowitz. 1993, 34p EPA/600/A-93/121
Contracts EPA-68-C8-0006, EPA-68-03-3532
Pub. in Proceedings of INTECOL IV International Wetlands Conference, Columbus, OH., September 1992. See also PB91-149526. Prepared in cooperation with Oregon Div. of State Lands, Salem. Sponsored by Corvallis Environmental Research Lab., OR.

The study evaluates how well the EMAP-Wetlands sampling design estimates the wetland resource represented by the U.S. Fish and Wildlife Services's NWI digital wetlands data for portions of Illinois, Washington, and North and South Dakota. The EMAP-Wetlands sampling design was evaluated by comparing numbers of wetland polygons, total areas, and common versus rare classes in the EMAP sample to the NWI data base. Summary statistics demonstrate that the EMAP sample estimates compare well to the known population parameters, except for rare wetland classes. Rare EMAP classes, defined as comprising < 1 percent of the total number or total area of wetlands in a region, were estimated with poor accuracy and precision. Rare EMAP classes, in these regions, included saturated palustrine emergents, saturated emergents along rivers, and saturated forested/scrub-shrub wetlands along rivers.

Keywords: *Wetlands, *Environment management, *Environmental impact assessments, *Ecosystems, Illinois, Washington, North Dakota, South Dakota, Pollution monitoring, Natural resource management, *EMAP(Environmental Monitoring and Assessment Program), *NWI(National Wetlands Inventory).

PB93-199453/REB PC **A03**/MF **A01**
Soil Biology and Ecology. Book chapter.
Corvallis Environmental Research Lab., OR.
P. T. Rygiewicz, and E. R. Ingham. 1993, 18p EPA/600/A-93/122
Pub. in Encyclopedia of Environmental Science. Prepared in cooperation with Oregon State Univ., Corvallis. Dept. of Botany and Plant Physiology.

The term 'Soil Biology', the study of organism groups living in soil, predates 'Soil Ecology', the study of interactions between soil organisms as mediated by the soil physical environment. Soil Ecology evolved between the late 1950's and the 1970's from research at Oak Ridge National Laboratory, Michigan State University, Colorado State University and the University of Georgia, coincident with the International Biological Program which emphasized understanding processes that define ecosystems. By 1990, many Universities offered courses in soil ecology, emphasizing organism community structure, nutrient cycling, system productivity, physiology and biochemistry of organism groups and their interactions. The chapter is aimed at university-level, and other educated, scientifically-minded readers. The volume should appeal to high school, colleges and universities, in fact, wherever a reference source is needed.

Keywords: *Soil properties, *Organisms, *Ecology, Nutrients, Food chains, Biochemical cycles, Soil microbiology, Bacteria, Fungi, Protozoa, Education, Biological productivity, Arthropoda, Universities, Physiology, Ecosystems.

PB93-199461/REB PC **A03**/MF **A01**
Quantitative Estimates of Soil in Normal Children between the Ages of 2 and 7 Years: Population-Based Estimates Using Aluminum, Silicon, and Titanium as Soil Tracer Elements. Journal article.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
S. Davis, P. Waller, R. Buschbom, J. Ballou, and P. White. c1990, 14p EPA/600/J-90/119, OHEA-E-325
Pub. in Archives of Environmental Health, v45 n2 p112-126 Mar/Apr 90. See also PB90-202060. Prepared in cooperation with Washington Univ., Seattle. School of Public Health and Community Medicine, and Battelle Pacific Northwest Labs., Richland, WA.

The investigation was undertaken to provide quantitative estimates of soil ingestion in young children on a population basis, and to identify demographic and behavioral characteristics that influence the amount of soil ingested. A total of 104 children between the ages of 2 and 7 yr were selected randomly from the population of a three-city area in southeastern Washington State. Using aluminum, silicon, and titanium as tracer elements, a mass-balance approach was employed to assess daily soil ingestion. A duplicate of all food items consumed, all feces, and some urine excreted were collected on 4 consecutive d, along with soil and house dust samples from each child's home. Samples were analyzed by x-ray fluorescence spectrometry. After adjustment of the soil ingestion estimates to account for missing food, excreta samples, and nonfood items consumed, the average daily values based on the three tracer elements were: aluminum, 38.9 mg/d (median = 25.3 mg/d); silicon, 82.4 mg/d (median = 59.4 mg/d); and titanium, 245.5 mg/d (median = 81.3 mg/d).

Keywords: *Soils, *Children, *Trace elements, *Chemical analysis, Aluminum, Silicon, Titanium, Normal values, Feces, Fluorescence spectrometry, Urine, Exposure, Ingestion(Biology), Reprints, *Geophagia, Southeastern region(Washington).

PB93-199487/REB PC **A03**/MF **A01**
Transport of Low-Level Radioactive Soil at Deep-Ocean Disposal Site. Journal article.
Environmental Research Lab., Narragansett, RI.
J. S. Bonner, C. D. Hunt, J. F. Paul, and V. J. Bierman. c1992, 20p EPA/600/J-93/189
Pub. in Jnl. of Environmental Engineering, v118 n1 Jan/Feb 92.

Transport studies were conducted to assess ocean disposal of soil contaminated with low-level natural radioisotopes. The experimental approach involved characterization of the soil for parameters affecting transport and fate of radionuclides. Radioactivity was associated with discrete soil particles up to 6,000 micrometers. Gross and most individual isotope and element activities were more concentrated on smaller particles. The median size based on gross radio-activity was 125 micrometers, while the median size based on dry mass was 350 micrometers. Particle-setting velocities measured in a 1 m settling column ranged up to 8.2 cm/s (median 2.1 cm/s). Large-scale mixed water column experiments (5 m) confirmed that settling would be the dominant verticle transport mechanism for the soil particles. Experimental results were used to calibrate a convective-diffusive transport model, which was applied to a hypothetical ocean disposal site in 4,000 m of water. The model indicated that 95 percent of the soil and associated radionuclides would impact the bottom sediment within five days and up to 40 km from the disposal point, along the mean current flow. (Copyright (c) 1992 ASCE.)

Keywords: *Low-level radioactive wastes, *Radioactive waste disposal, *Marine disposal, Ocean bottom, Particle resuspension, Ocean currents, Deep water, Radionuclide migration, Tests, Turbulence, Reprints, Contaminated soils.

PB93-199495/REB PC **A02**/MF **A01**
Broad-Based Environmental Life Cycle Assessment. Journal article.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
M. A. Curran. c1993, 9p EPA/600/J-93/190
Pub. in Environmental Science and Technology, v27 n3 p430-436 1993.

The paper describes the concept and applications of life cycle assessment (LCA) in the field of environmental protection as applied to products. Instead of looking at single issues, such as recyclability or reduced toxicity, LCA requires a broader view of the environmental releases and energy uses of a product, process or activity beginning with raw materials acquisition, to product fabrication, and through final use and disposal. Although cradle-to-grave studies of products' environmental burdens have been performed for over twenty years, there is a renewed interest in the approach in the United States to use the tool to evaluate the 'environmental friendliness' of a product. The EPA has initiated several activities with the goal of developing the LCA as a useful tool in protecting human health and the environment. The article summarizes EPA's LCA activities and it identifies life cycle studies that were performed by and for various organizations in the United States.

Keywords: *Service life, *Waste management, *Environment pollution, Pollution abatement, Maintenance, Raw materials, Manufacturing, Utilization, Industrial wastes, Environmental protection, Reprints, *Cradle-to-grave studies.

PB93-199503/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Ring Fission of Anthracene by a Eukaryota. Journal article.
State Univ. of New York Coll. of Environmental Science and Forestry, Syracuse. Dept. of Chemistry.
K. E. Hammel, B. Green, and W. Z. Gai. c1993, 6p EPA/600/J-93/191
Grant EPA-R-813530
Pub. in Proceedings of National Academy of Science, v88 p10605-10608 Dec 91. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Ligninolytic fungi are unique among eukaryotes in their ability to degrade polycyclic aromatic hydrocarbons (PAHs), but the mechanism for this process is unknown. Although certain PAHs are oxidized in vitro by the fungal lignin peroxidases (LiPs) that catalyze lignin-olysis, it has never been shown that LiPs initiate PAH degradation in vivo. To address these problems, the metabolism of anthracene (AC) and its in vitro oxidation product, 9,10-anthraquinone (AQ), was examined by chromatographic and isotope dilution techniques in Phanerochaete chrysosporium. The fungal oxidation of AC to AQ was rapid, and both AC and AQ were significantly mineralized. Both compounds were cleaved by the fungus to give the same ring-fission metabolite, phthalic acid, and phthalate production from AQ was shown to occur only under ligninolytic culture conditions. These results show that the major pathway for AC degradation in Phanerochaete proceeds AC -> AQ -> phthalate + CO2 and that it is probably mediated by LiPs and other enzymes of ligninolytic metabolism.

Keywords: *Aromatic polycyclic hydrocarbons, *Pollutants, *Biodeterioration, *Anthracene, *Lignin, Land pollution, Air pollution, Sediments, Fungi, Biochemistry, Oxidation, In vivo analysis, Carbon dioxide, Re-

prints, *Ring fission, Phanerochaete chrysosporium, Chemical reaction mechanisms.

PB93-199511/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'. Journal article.
Forest Products Lab., Madison, WI.
K. E. Hammel, W. Z. Gai, B. Green, and M. A. Moen.
c1992, 9p EPA/600/J-93/192
Grant EPA-R-813530
Pub. in Applied and Environmental Microbiology, v58 n6 p1832-1838 Jun 92. Prepared in cooperation with State Univ. of New York Coll. of Environmental Science and Forestry, Syracuse. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The ligninolytic fungus Phanerochaete chrysosporium oxidized phenanthrene and phenanthrene-9,10-quinone (PQ) at their C-9 and C-10 positions to give a ring-fission product, 2,2'-diphenic acid (DPA), which was identified in chromatographic and isotope dilution experiments. DPA formation from phenanthrene was somewhat greater in low-nitrogen (ligninolytic) cultures than in high-nitrogen (nonligninolytic) cultures and did not occur in uninoculated cultures. The oxidation of PQ to DPA involved both fungal and abiotic mechanisms, was unaffected by the level of nitrogen added, and was significantly faster than the cleavage of phenanthrene to DPA. Phenanthrene-trans-9,10-dihydrodiol, which was previously shown to be the principal phenanthrene metabolite in nonligninolytic P. chrysosporium cultures, was not formed in the ligninolytic cultures employed here. These results suggest that phenanthrene degradation by ligninolytic P. chrysosporium proceeds in order from phenanthrene -> PQ -> DPA, involves both ligninolytic and nonligninolytic enzymes, and is not initiated by a classical microsomal cytochrome P-450. The extracellular lignin peroxidases of P. chrysosporium were not able to oxidize phenanthrene in vitro and therefore are also unlikely to catalyze the first step of phenanthrene degradation in vivo. Both phenanthrene and PQ were mineralized to similar extents by the fungus, which supports the intermediacy of PQ in phenanthrene degradation, but both compounds were mineralized significantly less than the structurally related lignin peroxidase substrate pyrene was. (Copyright (c) 1992, American Society for Microbiology.)

Keywords: *Lignin, *Biodegradation, *Phenanthrenes, Oxidation, Nitrogen, Catalysis, Environmental pollutants, Reprints, *Phanerochaete chrysosporium, Phenanthrene quinones, Lignin peroxidases.

PB93-199529/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Lignin Degradation and Lignin Peroxidase Production in Cultures of 'Phanerochaete chrysosporium' Immobilized on Porous Ceramic Supports. Journal article.
State Univ. of New York at Albany. Coll. of Environmental Science and Forestry.
K. L. Cornwell, M. F. Tinland-Butez, P. J. Tardone, I. Cabasso, and K. E. Hammel. c1990, 7p EPA/600/J-93/193
Grant EPA-813530
Pub. in Enzyme Microbiology Technology, v12 p916-920 Dec 90. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The ligninolytic fungus Phanerochaete chrysosporium has been proposed as a biocatalyst for the degradation of aromatic pollutants in wastewaters. Application of the organism for this purpose will benefit from improved methods for immobilization in culture. In the investigation, P. chrysosporium was grown in rotary-shaken immobilized culture on 1.3-cm diameter porous alumina spheres. These cultures degraded a synthetic (14)C-labeled guaiacyllignin at the same rate that conventional nonimmobilized cultures did, and produced ligninolytic peroxidases at levels comparable to those previously reported for nonimmobilized agitated cultures. Immobilization of the fungus greatly facilitated periodic replacement of the extracellular medium, and the porous supports were reusable after removal of the spent mycelium. (Copyright (c) 1990 Butterworth-Heinemann.)

Keywords: *Water pollution control, *Biodeterioration, *Lignin, *Ceramics, *Aromatic compounds, Fungi, Biochemistry, Microorganisms, Catalysts, Immobilized enzymes, Porous materials, Isotopic labeling, Industrial waste treatment, Reprints, Phanerochaete chrysosporium.

PB93-199537/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Asbestos Release during Building Demolition Activities. Journal article.
IT Corp., Cincinnati, OH.
R. C. Wilmoth, K. A. Brackett, P. J. Clark, B. A. Hollett, and T. J. Powers. c1993, 8p EPA/600/J-93/194
Contract EPA-68-C9-0036
Pub. in Environmental Choices Technical Supplement, v1 n2 p6-11 Mar/Apr 93. Prepared in cooperation with MVA, Inc., Norcross, GA. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The Risk Reduction Engineering Laboratory has monitored block-wide building demolition and debris disposal activities at Santa Cruz and Watsonsville, California following the earthquake, an implosion demolition of a 26-story building in Cincinnati, Ohio, and the demolition of two school buildings in Fairbanks, Alaska to evaluate if the demolition activities and their associated dust control practices were able to prevent downwind elevations of asbestos concentrations. The analyses of the air samples were performed using the Transmission Electron Microscope for ambient air levels. Personnel monitoring at the Santa Cruz landfill and the Fairbanks landfill during disposal activities were analyzed by both TEM and phase contrast microscopy. The paper documents the conditions of the buildings, demolition practices, dust control practices, and up and downwind asbestos concentrations during demolition.

Keywords: *Asbestos, *Demolition, *Buildings, *Air pollution sampling, School buildings, Commercial buildings, Military facilities, Barracks, Natural fibers, Exposure, Reprints.

PB93-199545/REB PC **A02**/MF **A01**
Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae). Journal article.
Environmental Research Lab.-Narragansett, Newport, OR.
M. J. Behrenfeld, J. T. Hardy, and H. Lee. c1992, 6p EPA/600/J-93/195, ERLN-NX12
Pub. in Jnl. of Phycology, v28 p757-760 1992. Prepared in cooperation with AScI Corp., Newport, OR., and Huxley Coll. of Environmental Studies, Bellingham, WA.

Cultures of the temperate estuarine diatom, Phaeodactylum tricornutum Bohlin (NEPCC Clone 31), were grown under ambient intensities of ultraviolet-A radiation (UVAR), photosynthetically active radiation (PAR), and various intensities of ultraviolet-B radiation (UVBR; 290-320 nm). Growth rates and cell volumes were monitored for 36 d. UVBR decreased growth rates and increased cell volumes. Sensitivity of growth to UVBR increased with time. Growth rates of P. tricornutum decreased with increasing ratios of UVBR:UVAR + PAR.

Keywords: *Ultraviolet rays, *Growth, *Diatoms, Photosynthesis, Reprints, *Phaeodactylum tricornutum, *Cell volume.

PB93-199552/REB PC **A02**/MF **A01**
Comparison of Methods for Collecting Interstitial Water for Trace Organic Compounds and Metals Analyses. Journal article.
Environmental Research Lab.-Narragansett, Newport, OR. Pacific Ecosystems Branch.
D. W. Schults, S. P. Ferraro, L. M. Smith, F. A. Roberts, and C. K. Poindexter. c1992, 9p EPA/600/J-93/196, ERNL-N087
Also pub. as Environmental Research Lab.-Narragansett, Newport, OR. Pacific Ecosystems Branch rept. no. CONTRIB-N-087. Pub. in Water Research, v26 n7 p989-995 1992. Prepared in cooperation with AScI Corp., McLean, VA.

Several common materials and methods used to collect interstitial water (IW) were evaluated to determine their effect on the accuracy and precision of measured concentrations of selected organic compounds and metals. The concentration of pollutants in dosed seawater before and after exposure to stainless steel and Teflon centrifuge tubes, glass fiber and Nuclepore filters, cellulose dialysis membranes and fritted glass tubes were compared. Exposure to most hardware materials did not significantly affect the concentration of four metals (Cd, Cr, Cu, Pb) but there was significant loss (up to 79 percent) of two organic compounds (fluoranthene, p,p'-DDE) to almost all the hardware materials tested. Of five commonly used IW collection methods (centrifuging, centrifugal drainage or basal cup, squeezing, vacuum filtration and dialysis) investigated, the centrifuge method was judged the most accurate and precise for polycyclic aromatic hydrocarbons and PCBs. All IW collection methods tested showed high variability for the metals. As a result, with one exception (Cu), there was no significant difference detected in the accuracy of the methods for metals.

Keywords: *Water pollution sampling, *Interstitial water, *Organic compounds, *Metals, Sediments, Chemical analysis, Sorption, Experimental design, Error analysis, Accuracy, Reprints.

PB93-199560/REB PC **A03**/MF **A01**
Application of the Ecotone Concept in Defining Nutrient Management Requirements for the Upper Potomac River Basin. Journal article.
Environmental Research Lab., Narragansett, RI.
N. A. Jaworski. c1993, 11p EPA/600/J-93/197, ERLN-1504
Pub. in Hydrobiologia, v251 p341-349 1993.

The utility of the ecotone concept in nutrient management studies of the Potomac River basin, a large USA watershed, is examined. The MAB hypothesis suggesting that 'the influence of an ecotone or adjacent system is proportional to the length and scope of the interfaces' (Naiman et al., 1989) is the major focus of the paper. The land-riverine ecotone appears to have a major influence on the total nitrogen balance and river export flux of nitrogen for the upper Potomac River basin. A method of converting conventional areal flux units into linear flux rates is suggested. (Copyright (c) 1993 Kluwer Academic Publishers.)

Keywords: *Potomac River, *Watershed management, *Nutrients, Nitrogen, Pollutant sources, Water pollution, Earth-water interfaces, Mass balance, Ecosystems, Water quality, Nitrification, Reprints, Ecotones.

PB93-199578/REB PC **A03**/MF **A01**
Environmental Research Lab., Narragansett, RI.
Stress Proteins in Aquatic Organisms: An Environmental Perspective. Journal article.
California State Univ., Long Beach.
B. M. Sanders. c1993, 29p EPA/600/J-93/198, , ERLN-X-193
Pub. in Critical Reviews in Toxicology, v23 n1 p49-75 1993. Sponsored by Environmental Research Lab., Narragansett, RI.

The current understanding of the cellular functions of stress proteins is examined within the context of their role in repair and protection from environmentally induced damage, acquired tolerance, and environmental adaptation. The tissue specificity of the response and its significance relative to target organ toxicity also are addressed. In addition, the usefulness of using the stress response as a diagnostic in environmental toxicology is evaluated. From the studies discussed in the review, it is apparent that stress proteins are involved in organismal adaption to both natural and anthropogenic environmental stress, and that further research using this focus will make important contributions to both environmental physiology and ecotoxicology. (Copyright (c) 1993 CRC Press, Inc.)

Keywords: *Heat-shock proteins, *Aquatic animals, *Toxicology, Water pollution effects(Animals), Tolerances(Physiology), Biological adaptation, Fishes, Mollusca, Biochemistry, Reprints, Tissue specificity, Target organ toxicity.

PB93-199586/REB PC **A03**/MF **A01**
Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin. Journal article.
Environmental Research Lab., Narragansett, RI.

N. A. Jaworski, P. M. Groffman, A. A. Keller, and J. C. Prager. c1992, 15p EPA/600/J-93/199, ERLN/CONTRIB-1083
Pub. in Estuaries, v15 n1 p83-95 Mar 92. Prepared in cooperation with Rhode Island Univ., Kingston. Dept. of Natural Resources Science, and Rhode Island Univ., Narragansett. Marine Ecosystems Research Lab.

Nitrogen and phosphorus mass balances were estimated for the portion of the Potomac River basin watershed located above Washington, D.C. The total nitrogen (N) balance included seven input source terms, six sinks, and one 'change-in-storage' term, but was simplified to five input terms and three output terms. The phosphorus (P) baance had four input and three output terms. The estimated balances are based on watershed data from seven information sources. Major sources of nitrogen are animal waste and atmospheric deposition. The major sources of phosphorus are animal waste and fertilizer. The major sink for nitrogen is combined denitrification, volatilization, and change-in-storage. The major sink for phosphorus is change-in-storage. River exports of N and P were 17% and 8%, respectively, of the total N and P inputs. Over 60% of the N and P were volatilized or stored. The major input and output terms on the budget are estimated from direct measurements, but the change-in-storage term is calculated by difference. The factors regulating retention and storage processes are discussed and research needs are identified. (Copyright (c) 1992 Estuarine Research Federation.)

Keywords: *Potomac River Basin, *Nitrogen, *Phosphorus, *Mass balance, Water pollution, Pollutant sources, Point sources, Agricultural wastes, Air water interactions, Watersheds, Loading rates, Nutrients, Reprints.

PB93-199594/REB PC **A03**/MF **A01**
Environmental Research Lab., Narragansett, RI.
Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay. Journal article.
AScI Corp., Narragansett, RI.
E. Monosson, and J. J. Stegeman. c1993, 12p EPA/600/J-93/200
Contract EPA-68-CO-0051
Also pub. as Woods Hole Oceanographic Institution, MA. rept. no. WHOI-CONTRIB-7375. Pub. in Environmental Toxicology and Chemistry, v10 p765-774 1991. Presented at the Symposium on Long-Term Toxic Effects of Bioaccumulated Polychlorinated Hydrocarbons, Annual Meeting of the Society of Environmental Toxicology and Chemistry (10th), Toronto, Ontario, October 28-November 2, 1989. Prepared in coopera

Induction of liver microsomal cytochrome P450 by 3,3',4,4'-tetrachlorobiphenyl (TCB) was evaluated in winter flounder from two different sites, one offshore (Georges Bank) and one coastal (Narrow River, Narragansett, Rhode Island). Immunoblot analysis of liver microsomes with monoclonal antibody 1-12-3 to scup P450E (P450IA1) revealed P450IA protein content of 0.01 nmol/mg in Georges Bank fish that were not treated with TCB. By comparison, untreated Narrow River fish had an 80-fold greater content of immunodetected P450IA protein, indicating a strong environmental induction in these fish. In Georges Bank fish the total (spectrophotometrically measured) microsomal P450 content and the content of P450IA protein were induced progressively by intraperitoneal doses of TCB ranging from 0.1 to 10.0 mg/kg. Ethoxyresorufin-O-deethylase (EROD) specific activity (activity per mg protein) was also progressively induced, but the catalytic efficiency or turnover number (i.e., activity/nmol P450IA) was less in fish given the greater doses of TCB. The results show that 3,3',4,4'-TCB induces P450IA in winter flounder and that TCB acts in vivo to inhibit the activity of P450IA enzyme by mechanisms not yet known.

Keywords: *Enzyme induction, *Cytochrome P-450, *Isoenzymes, *Flounder, *Water pollution effects(Animal), *Polychlorobiphenyl compounds, Comparison, *Narrangansett Bay, *Georges Bank, Reprints, Ethoxyresorufin-O-deethylase.

PB93-199602/REB PC **A02**/MF **A01**
Environmental Monitoring Systems Lab., Las Vegas, NV.
Empirical Model of Vehicle Emissions. Journal article.
Nevada Univ., Las Vegas. Dept. of Chemistry.
M. Pitchford, and B. Johnson. c1993, 10p EPA/600/J-93/201
Pub. in Environmental Science and Technology, v27 n4 1993. Sponsored by Environmental Monitoring Systems Lab., Las Vegas, NV., and National Oceanic and Atmospheric Administration, Rockville, MD.

An empirical model that characterizes the relationship between equilibrium vehicle emission distributions and malfunction, repair, and replacement rates by splitting vehicles into two emission categories has been developed. Gross emitters and clean vehicles are defined by the magnitude of their emissions compared to an arbitrarily chosen cut point. The model is used to predict emission changes resulting from changes in any of the three rates, by determining the new equilibrium distribution of vehicles. The emission cut point for repair is shown to establish the cost per ton of reduction, and the maximum emission reduction limit (i.e., all vehicles in the clean category), while the frequency of repair determines the amount of emission reduction up to the cut-point determined limit. (Copyright (c) 1993 American Chemical Society.)

Keywords: *Air pollution monitoring, *Exhaust emissions, Motor vehicles, Hydrocarbons, Carbon monoxide, Measurement, Emission factors, Reprints, *Empirical models.

PB93-199610/REB PC **A03**/MF **A01**
Investigation of Contaminant Transport from the Saginaw Confined Disposal Facility. Journal article.
Environmental Research Lab.-Duluth, Grosse Ile, MI. Large Lakes Research Station.
M. L. Velleux, J. E. Rathbun, R. G. Kreis, J. L. Martin, and M. J. Mac. c1993, 19p EPA/600/J-93/202
Pub. in Jnl. of Great Lakes Res., v19 n1 p158-174, Mar 93. Prepared in cooperation with AScI Corp., Athens, GA., and National Fisheries Research Center-Great Lakes, Ann Arbor, MI.

Pilot biomonitoring and modeling studies were conducted at the Saginaw Confined Disposal Facility (CDF), Saginaw Bay, Lake Huron, during 1987 to develop methods to assess the potential for or magnitude of (1) contaminant transport from the dike interior to the outside environment, (2) impacts of CDF disposal on the water column and sediments, and (3) impacts of CDF disposal on aquatic biota living in the outdike zone. Polychlorinated biphenyls (PCBs) were selected for study due to their presence in the sediments of the Saginaw River/Bay ecosystem. A mathematical model of near-field contaminant transport through the dike walls was constructed. Model predictions indicate that the rate of contaminant transport through the dike is expected to be small, amounting to less than 0.25 kg of PCBs after 5,000 days of simulation. A mathematical model of the farfield impacts of CDF transport was also constructed. Model predictions indicate that the incremental increase in steady-state, water column PCB concentrations in Saginaw Bay is expected to be approximately 0.05 ng/L per kg of PCB transported from the CDF. A biomonitoring program was developed to assess contaminant transport through dike walls and its impact on contaminant concentrations in biological tissues.

Keywords: *Michigan, *Water pollution monitoring, *Waste disposal, *Environmental transport, Dikes, Dredge spoil, Polychlorinated biphenyls, Water pollution effects, Sediments, Mathematical models, Reprints, *Saginaw Confined Disposal Facility.

PB93-199628/REB PC **A02**/MF **A01**
Contemporary Issues in Toxicology: A New Frontier in Understanding the Mechanisms of Developmental Abnormalities. Journal article.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
C. A. Kimmel, W. M. Generoso, R. D. Thomas, and K. S. Bakshi. c1993, 9p EPA/600/J-93/203, OHEA-R-501
Pub. in Toxicology and Applied Pharmacology, v119 p159-165 1993.

The paper reviews some of the important issues that may lead to understanding basic developmental processes and mechanisms by which toxic agents may interfere with normal and abnormal development. Approximately 70% of developmental defects are of unknown etiology. Historically, it has been assumed that these defects were most likely to be induced by exposure to chemical or physical agents during organogenesis. There is now convincing evidence that exposure during preorganogenesis developmental stages to certain agents can also lead to fetal abnormalities as a result of direct damage to the exposed early conceptus. Thus, pre- or post-implantation exposure of the developing conceptus to toxicants may result in a 'derailment' in the genetic control of development and the coordinated cascade of events that occur during normal development. For example, developmental abnormalities may be induced by disrupting the coordinated expression of developmental genes involved in genomic imprinting, cell lineage specification, cell mixing and recognition, cell-cell interaction, cell migration and differentiation, and segmentation. The study of mechanisms of normal and abnormal development and the pharmacokinetic-pharmacodynamic relationships in humans and experimental animals are key to the development of appropriate risk assessment assumptions and dose-response models for characterizing the risk for developmental toxicity in humans.

Keywords: *Congenital abnormalities, *Toxicology, *Embryo development, Humans, Animals, Risk assessment, Preimplantation phase, Ovum implantation, Fetus, Newborn animals, Reprints.

PB93-199636/REB PC **A02**/MF **A01**
Corvallis Environmental Research Lab., OR.
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model. Journal article.
Connecticut Univ., Storrs.
N. P. Nikolaidis, P. K. Muller, J. L. Schnoor, and H. L. Hu. c1991, 10p EPA/600/J-93/204
Pub. in Research Jnl. of the Water Pollution Control Federation, v63 n3 p220-227 May/Jun 91. Prepared in cooperation with Iowa Univ., Iowa City. Sponsored by Corvallis Environmental Research Lab., OR.

The enhanced trickle-down model was applied to White Oak Run, a second-order stream, located in the Shenandoah National Park, Virginia, on the western slope of the Blue Ridge Mountains. Calibration of the model was performed using five years of field data collected at the site. Simulation results indicated that 30% of the incoming sulfate is being retained in the upper soil horizons and 15% is being retained in the unsaturated zone compartment. The alkalinity concentrations in the stream exhibited a seasonal variation with increased values during low flow and decreased values during high flow. Ion exchange processes in the upper soil neutralized 50% of the incoming acidity and weathering processes accounted for 20% of the neutralization in the unsaturated zone. Long term (100 year duration) simulations indicated the White Oak Run is a delayed response system primarily due to high sulfate sorption capacity. This has significant policy implications because reductions in deposition levels will not result in a quick recovery of the system.

Keywords: *Acid streams, *Water pollution, *Hydrogeology, *Geochemistry, *Deposition, Seasonal variations, Virginia, Watersheds, Long term effects, Ion exchanging, Sulfates, Forest land, Revisions, Mathematical models, Wet methods, Dry methods, Air pollution, Acid rain, Reprints, *Enhanced Trickle-down Model, *White Oak Run, Shenandoah National Park.

PB93-199644/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Glucocorticoid Effects on Natural and Humoral Immunity in Mallards. Journal article.
Oregon State Univ., Corvallis. Coll. of Veterinary Medicine.
J. R. Fowles, A. Fairbrother, M. Fix, S. Schiller, and N. I. Kerkvliet. c1993, 15p EPA/600/J-93/205
Pub. in Developmental and Comparative Immunology, v17 p165-177 1993. Prepared in cooperation with ManTech Environmental Technology, Inc., Corvallis, OR. Sponsored by Corvallis Environmental Research Lab., OR.

Adult male mallards were treated with dexamethasone (DEX) to observe the impact of glucocorticoids (GC) upon natural killer cell activity, humoral antibody response to sheep erythrocytes (SRBC), and other physiologic parameters. Results showed that DEX caused significant decreases in total and 2-mercaptoethanol-resistant antibody responses, while a separate experiment showed that DEX resulted in consistent elevation of NKC activity. In-vitro studies showed that DEX and

indomethacin were protective of NKC activity in the presence of monocytes, and that prostaglandin-E2 was highly suppressive when added to non-adherent NKCs. Furthermore, DEX caused only a slight loss in lymphocyte viability in-vitro at 10 to the minus fifth M but significantly reduced phagocytic ability of mature monocytes. From these results, mallard lymphocytes and NKC activity appear refractory to glucocorticoid-mediated suppression, and it is suggested that the elevation in activity observed is likely due to an inhibition of prostaglandin production by monocytes.

Keywords: *Antibody formation, *Natural killer cells, *Glucocorticoids, *Ducks, *Pharmacology, Dexamethasone, In vitro analysis, Lymphocytes, Phagocytosis, Immunologic cytotoxicity, Indomethacin, Macrophages, Blood chemical analysis, Prostaglandins, Hematology, Reprints.

PB93-199651/REB PC **A02**/MF **A01**
Corvallis Environmental Research Lab., OR.
Bacillus thuringiensis var. kurstaki Affects a Beneficial Insect, the Cinnabar Moth (Lepidoptera: Arctidae). Journal article.
ManTech Environmental Technology, Inc., Corvallis, OR.
R. R. James, J. C. Miller, and B. Lighthart. c1993, 8p EPA/600/J-93/206
Pub. in Jnl. of Economic Entomology, v86 n2 p335-339 1993. See also PB91-159673. Prepared in cooperation with Oregon State Univ., Corvallis. Sponsored by Corvallis Environmental Research Lab., OR.

The microbial insecticide bacillus thuringiensis Berliner var. kurstaki is used to control forest pests in regions where tansy ragwort, Senecio jacobaea L. occurs. Biological control of this noxious weed may be compromised if the cinnabar moth, Tyria jacobaeae (L), is susceptible to B. thuringiensis. In laboratory feeding tests, it was found that foliage dipped in B. thuringiensis solutions had very little effect on survival of first, second, and third instars, but fourth and fifth instars were susceptible. Field tests were done to test the effect of B. thuringiensis on larval defoliation of potted tansy ragwort plants at five different application rates. The application rate significantly affected percentage of leaves defoliated and mean number of cinnabar moth-days per plant. In both control plants and those treated with B. thuringiensis, defoliation by cinnabar moth did not affect plant biomass within the 10-d course of the experiment.

Keywords: *Biological pest control, *Bacillus thuringiensis, Hazardous materials, Ecology, Agricultural products, Regulations, Forestry, Lepidoptera, Field tests, Tolerances(Physiology), Reprints, *Senecio jacobaea, *Non-target species.

PB93-199669/REB PC **A02**/MF **A01**
Environmental Research Lab.-Duluth, MN.
Expanding Global Forest Management: An 'Easy First' Proposal. Journal article.
National Council of the Paper Industry for Air and Stream Improvement, Inc., Medford, MA.
J. K. Winjum, R. A. Meganck, and R. K. Dixon. c1993, 7p
Pub. in Jnl. of Forestry, v91 p38-42 1993. See also PB92-153006. Sponsored by Environmental Research Lab.-Duluth, MN.

Interest is growing in the international community for a world treaty or protocol on forest management and protection. World leaders have become increasingly aware of the relationship between sustainable forest resources and healthy social, economic, and environmental conditions in all nations. As a result, international discussions toward a global forest agreement (GFA) are underway with the impetus stemming from a number of significant conditions related to global forests. The paper briefly reviews the status of the GFA and suggests an approach for expanding programs within forested nations to contribute to global forest management goals.

Keywords: *Forest management, *Environmental protection, *International agreements, Land use, Reforestation, Silviculture, International cooperation, Natural resources management, Agronomy, Agriculture, Reprints, *Global forest agreement.

PB93-199677/REB PC **A03**/MF **A01**
Quantification of Germ-Cell Risk Associated with the Induction of Heritable Translocations. Journal article.
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
V. L. Dellarco, and L. R. Rhomberg. c1990, 17p EPA/600/J-93/208

The paper examines how quantitative risk methods might be extended to analyses of risks associated with the induction of heritable translocations in the human germ line. The chemical used in the modeling is ethylene oxide (EtO). It is hoped that this risk analysis will help define key types of data needed to quantify genetic risk, the biological considerations that go into such an analysis, and the inferences that must be drawn from mouse dose-response data when making predictions about human germ-cell risk. (Copyright (c) 1990. Cold Spring Harbor Laboratory Press.)

Keywords: *Germ cells, *Translocation(Genetics), *Mutagens, Ethylene oxide, Dose-response relationships, Risk assessment, Mice, Humans, Meiosis, Species diversity, Hereditary diseases, Reprints.

PB93-200335/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC.
Structure and Performance of the Health Effects Institute.
National Research Council, Washington, DC. Board on Environmental Studies and Toxicology.
c1993, 165p
See also PB88-242771. Sponsored by Environmental Protection Agency, Washington, DC.

In 1990, the EPA asked the National Research Council to evaluate the Health Effects Institute's first decade. In 1991, the NRC established the Committee to Review the Structure and Performance of the Health Effects Institute to review the concept, mission, management, and performance of HEI and how well it has contributed to a better understanding of the human health effects of exposure to motor vehicle emissions. The report covers the results of the study.

Keywords: *Exhaust emissions, *Motor vehicles, Organizational structure, Research, Procedures, Recommendations, Public health, Program evaluation, Health hazards, Exposure, *Health Effects Institute.

PB93-200517/REB PC **A10**/MF **A03**
National List of Asbestos Landfills.
Environmental Protection Agency, Washington, DC. Office of Enforcement.
Mar 92, 220p EPA/400/R-92/008

The national list of landfills which accept asbestos-containing waste material has been created to assist EPA and other agencies in their regional and cross-jurisdictional enforcement efforts regarding the waste disposal provisions of the asbestos NESHAP.

Keywords: *Asbestos, *Earth fills, *Listings, United States, Waste processing, Waste disposal, *Landfills, EPA Regions.

PB93-200525/REB PC **A04**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Guidance on the Relationship between the 15 Percent Rate-of-Progress Plans and Other Provisions of the Clean Air Act.
Pechan (E.H.) and Associates, Inc., Springfield, VA.
May 93, 73p EPA/452/R-93/007
See also PB93-122356. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.

The document focuses on the creditability of emissions reductions associated with programs covered by the Clean Air Act Amendments (CAAA) of 1990 toward the 15 percent volatile organic compound (VOC) emissions reduction requirements. The programs addressed in the document include those covered by Titles I through V of the CAAA. The programs addressed are: new source review (NSR), section 112 maximum achievable control technology (MACT) standards and early reductions, section 111 new source performance standards (NSPS), mobile source programs, Title IV nitrogen oxides (NOx) reductions, economic incentives programs (EIP's), and Title V operating permit programs.

Keywords: *Pollution regulations, *Ozone, *Air pollution abatement, State government, Nitrogen oxides, Pollutant sources, Requirements, Permits, Clean Air Act Amendments of 1990, State implementation plans, Volatile organic compounds, Emission inventories.

PB93-200541/REB PC **A05**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Policy, Planning and Evaluation.
Risk Communication About Chemicals in Your Community. Facilitator's Manual and Guide.
Lyndon B. Johnson School of Public Affairs, Austin, TX.
S. G. Hadden, and B. V. Bales. Dec 89, 99p EPA/230/09-89/067
Prepared in cooperation with Agency for Toxic Substances and Disease Registry, Atlanta, GA., Federal Emergency Management Agency, Washington, DC., and Department of Transportation, Washington, DC. Research and Special Programs Administration. Sponsored by Environmental Protection Agency, Washington, DC. Office of Policy, Planning and Evaluation.

The manual explains how to conduct a public workshop on chemical risk assessment and community public relations. It describes (in layman's terms) how to keep the local community informed of and prepared for various scenarios of chemical leakage. The manual also provides a glossary of terms, references and sources that can be used as supplements, state emergency response contacts and a partial list of hazardous materials.

Keywords: *Hazardous materials, *Risk assessment, *Communications management, Public information, Community relations, Local government, Industrial plants, Waste disposal, Waste processing plants, Public health, Manuals.

PB93-200640/REB PC **A04**/MF **A01**
Procedures for Estimating Probability of Nonattainment of a PM10 NAAQS Using Total Suspended Particulate or Inhalable Particulate Data (Draft).
Environmental Protection Agency, Research Triangle Park, NC. Monitoring and Data Analysis Div.
T. G. Pace, and N. H. Frank. Feb 84, 64p EPA/450/4-84/010
See also report dated Dec 86, PB87-171179.

The promulgation of the National Ambient Air Quality Standard (NAAQS) for Particulate Matter (PM) will require the revision of State Implementation Plans (SIPs) to account for the new standards. The purpose of the document is to describe a methodology for using these data to estimate the probability of nonattainment of the annual and 24-hour NAAQS for PM10 at various sampling sites in the country. The probability estimates will be used in conjunction with the Environmental Protection Agency (EPA) policy to help define where certain actions will be required. The document first discusses various measurement methods used to obtain the underlying rationale and methodologies for inferring ambient PM10 levels from available data. Methodologies for estimating the likelihood of not attaining PM10 NAAQS are presented, given ambient TSP data obtained with a high volume sampler. A procedure for estimating PM10 levels using IP data obtained with a dichotomous sampler is also described. Finally, limitations of the above methodologies are identified.

Keywords: *Air pollution sampling, *Particulates, *Total suspended particulates, *Air quality data, Air pollution standards, State implementation plans, Concentration(Composition), Study estimates, Site surveys, Particle size, Procedures, Inhalation, Assessments, Spatial distribution, Probability theory, *National Ambient Air Quality Standards.

PB93-200673/REB PC **A99**/MF **A06**
Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1. Background Information Document.
Office of Radiation Programs, Washington, DC.
Jun 88, 633p EPA/520/1-87/012-1

The Environmental Protection Agency is proposing environmental standards for the management and land disposal of low-level radioactive wastes and the land disposal of Naturally Occurring and Accelerator-Produced Radioactive Materials (NARM) waste. The two-

volume Draft Environmental Impact Statement (DEIS) is provided to support EPA's rulemaking for generally applicable environmental standards for the management and land disposal of low-level radioactive wastes and the land disposal of Naturally Occurring and Accelerator-Produced Radioactive Materials (NARM) waste. The first volume of the DEIS, the Background Information Document (BID), presents the technical treatise on the risk assessment. The BID includes the sources of radiation exposures, the routes of exposure, the methodology of the assessment, the individual doses/risk and the population health effects, and model sensitivity and uncertainties in the analysis.

Keywords: *Low-level radioactive wastes, *Environmental impact statements-draft, *Risk assessment, Public health, Radioactive minerals, Environmental exposure pathway, Radionuclide migration, Radiation hazards, Pollution regulations, Biological radiation effects, Radiation doses, *NARM(Naturally occurring and accelerator-produced radioactive materials), Dose-response relationships.

PB93-200780/REB PC **A05**/MF **A02**
Reregistration Eligibility Document (RED): Iron Salts.
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Feb 93, 99p EPA/738/S-93/001
See also PB93-198703.

The iron salts consist of three pesticide active ingredients that are eligible for reregistration: Iron (III) sulfate, Iron (II) sulfate monohydrate, and Iron (II) sulfate heptahydrate. Iron salts are registered for use as herbicides to control moss on lawns, turf, ornamental herbaceous plants, woody shrubs and vines. Registered products are formulated as soluble concentrates and granulars. They are applied by sprinkler can, hose-end sprayer, spreader, or by hand. The major use of iron salts in the United States is non-pesticidal, as a fertilizer micronutrient. Iron salts also are used as an electrolyte in dry cell batteries, as an animal feed additive, as a galvanizer and as an emulsion-breaker. They have further uses in water purification and sewage treatment, and in textile dying and calico printing.

Keywords: *Pesticides, *Iron sulfates, *Toxicity, Herbicides, Chemical properties, Agricultural chemistry, Risk assessment, *Iron salts, *Reregistration, Iron sulfate monohydrate, Iron sulfate heptahydrate.

PB93-200798/REB PC **A10**/MF **A03**
Aeros Manual Series. Volume 5. Aeros Manual of Codes. Update Number 9.
Environmental Protection Agency, Washington, DC. Office of Air and Radiation.
Nov 85, 221p EPA/450/2-76/005-9
See also PB82-240789 and PB81-200636.

The report updates the AEROS Manual Series Volume V by replacing certain pages with those contained within the report.

Keywords: *Air pollution, *Information systems, Exhaust emissions, Pollutant sources, Information retrieval, Manuals, *AEROS(Aerometric and emissions reporting system), National emission data system.

PB93-200806/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
Georgetown Univ., Washington, DC. Medical Center.
C. McNeil, E. B. Arkin, and D. McCallum. Sep 89, 160p EPA/560/1-89/002
Sponsored by Environmental Protection Agency, Washington, DC. Office of Pollution, Prevention, and Toxics.

The manual was prepared for State and local government officials, local emergency planning committee (LEPCs), and other community groups that want to make Title III work. It is intended as a practical guide for those who have little or no previous experience in the field of communication, whose time must be snatched from home and office, and whose resources are limited. The manual has three major sections: Part I discusses planning, which is vital to the success of a communication program; Part II suggests ways to get and keep people involved, especially important because Title III affects so many different sectors of the community; Part III, a how-to-do-it section, talks about specific tasks, such as giving a speech or writing a press release. Appendices include a detailed explanation of the law, a glossary, a list of recent studies related to Title III communications, a list of educational materials, and a list of State contacts.

Keywords: *Hazardous materials, *Information dissemination, *Communications management, *Community relations, Risk assessment, Public health, Decision making, Public information, Local government, Citizen participation, Manuals.

PB93-200814/REB PC **A07**/MF **A02**
Pesticide Safety and Training Materials Catalog (Catalogo de Materiales Educativos y Proteccion Sobre Pesticidas).
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Oct 89, 145p*
Portions of text are in Spanish.

The bibliography organizes the references by subheadings into which the materials are clustered by topic, based on their content. The sub-headings are as follows: Contaminated Laundry; Disposal, Storage, Spills, and Fires; Equipment and Calibration; Farmworker Specific Material; Handling Safety and Cleanup; Health Care Providers; Home Pesticide Use; Personal Protection; Poisoning and First Aid; Regulatory Issues; Specific Crop or Work Site; Water Concerns; and, Specific Pesticides and Specialized References. Each sub-heading appears in large bold type next to the left margin. The references are presented in chart format, with the titles of the materials appearing on the left margin, followed by a series of X's under column headings which describe the characteristics of the material. The column headings are: State Code, Item, Title, Audience, Language, and Media. The State Code is the state of origin for the material, and uses the two-letter postal zip code format. The intended Audience for each publication is based on the content of the material. The Language column indicates whether the material is available in English and/or Spanish. The Media column describes in what form the information is presented, that is, pamplet, slides, video, poster, book, or other media.

Keywords: *Pesticides, *Bibliographies, Materials handling, Safe handling, First aid, Accident prevention, Occupational safety and health, Training devices, Manuals.

PB93-200897/REB PC **A10**/MF **A03**
Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jan 92, 206p

The report focuses on the state of the national effort to control nonpoint source pollution as of October 1, 1989. Included are the findings of the state nonpoint source assessments; state programs for addressing problems identified in the assessments; related activities of EPA, other federal agencies, and others; and achievements to date on controlling nonpoint source pollution. The report does not discuss implementation activities funded with Fiscal Year 1990 grants and thus may understate the current level of state nonpoint source control activities.

Keywords: *Water pollution control, *Nonpoint sources, *Environmental impact assessments, *Pollution regulations, Surface waters, Rivers, Lakes, Wetlands, Ground water, Runoff, Mining, Waste disposal, Construction, Land use, State government, Local government, Clean Water Act, Regional programs, Habitat modification.

PB93-200905/REB PC **A14**/MF **A03**
Always a River: Supplemental Environmental Education Curriculum on the Ohio River and Water Grades K-12.
Andrew W. Breidenbach Environmental Research Center, Cincinnati, OH.
Sep 91, 309p AWBERC-91-09

he curriculum is a series of interactive hands-on activities, supported by background information, designed to engage students of all grade levels in investigating the Ohio River and its importance to the states through which it flows. The curriculum encompasses four primary objectives: to demonstrate that the Ohio River is part of a total ecosystem that includes its floodplain and watershed; to introduce the biological, physical, and chemical aspects of water and their importance to living things; to explore human use of the Ohio River and the environmental impacts of human activity on the river and its watershed; and to examine the Ohio River's influence on historical cultures and its implications for shaping modern life. Students will investigate each of these program areas in depth, focusing on such topics as the natural history of the river and its flora and fauna; the water cycle; the effects of physical and chemical properties on water quality and the organisms inhabiting a water body; the many uses of water and the importance of water conservation; drinking water and wastewater treatment; and cultures and settlements along the Ohio River Valley from ancient times to the present.

Keywords: *Ohio River, *Education, Hydrology, Guidelines, State government, Aquatic ecosystems, Flood plains, Watersheds, Aquatic biology, Water quality, Water pollution, Water chemistry, Environmental impacts, Man environment interactions, Cultural resources, History, Physical properties.

PB93-200913/REB PC **A14**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Air/Superfund National Technical Guidance Study Series: Evaluation of Short-Term Air Action Levels for Superfund Sites. Final rept.
Radian Corp., Austin, TX.
May 93, 305p EPA/451/R-93/009
Contract EPA-68-DO-0125
Sponsored by Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.

The report summarizes the results of an EPA-sponsored study to compile and evaluate information on short-term air action levels (AALs) used at Superfund sites. Because there is no simple or widely accepted method for estimating the risks of short-term exposures, there are no uniformly accepted short-term air action levels for emissions from Superfund sites. Air action levels have been established in a variety of ways, depending on waste types at the site, state guidelines, the potential for air emissions, cost, and individual project manager discretion. State and local guidelines are often based on occupational exposure limits (e.g., Threshold Limit Values) that have been divided by a safety factor to account for the differences in population and exposure of workers and residents. Some states are adopting other approaches, including the use of U.S. EPA-developed inhalation Reference Concentrations (RfCs).

Keywords: *Air pollution monitoring, *Superfund, *Hazardous materials, *Waste disposal, Environmental exposure pathway, Risk assessment, Occupational exposure, Government policies, Pollution regulations, State government, Local government, *Air action levels, *Short term exposure, Reference concentrations, Cleanup operations.

PB93-201127/REB PC **A04**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Thermal Degradation Characteristics of Environmentally Sensitive Pesticide Products. Final rept.
Dayton Univ., OH. Research Inst.
D. A. Tirey, B. Dellinger, W. A. Rubey, and P. H. Taylor. Jun 93, 63p EPA/600/R-93/102
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The thermal decomposition properties of the active ingredient of 16 pesticides have been theoretically examined. Experimental studies on 5 pesticide related materials were also conducted under controlled laboratory testing. Experimental studies of the high-temperature oxidation and pyrolysis of four key pesticide materials including the identification and quantification of products of incomplete combustion (PICs) were conducted. The four pesticides were: Aldicarb, Phorate, Atrazine, and Alachlor. A fifth material, a polyethylene blend bag which is used as an Atrazine container, was also examined. The examination of the incineration ranking among the 16 subject pesticides indicated that they should be considered thermally fragile.

However, each pesticide in the controlled laboratory testing decomposed to yield a large number of reaction intermediates. More intermediates were consistently produced under pyrolytic conditions and were decomposed by 700 deg C. Some persisted at the maximum testing temperature, 1000 deg C. It appears that these materials may be amenable to properly controlled, high-temperature incineration.

Keywords: *Pesticides, *Thermal degradation, *High temperature tests, Oxidation, Pyrolysis, Thermal stability, Thermal resistance, Waste disposal, Incineration.

PB93-201192/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of p-Toluidine (106-49-0). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 16p EPA/600/8-91/188, , OHEA-C-073-183
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

p-Toluidine is a probable human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. The potency factor (F) for p-toluidine is estimated to be 0.94 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. (Potency calculations for p-toluidine are based on data for p-toluidine hydrochloride.) Combining the weight-of-evidence group and the potency group, p-toluidine is assigned a 'LOW' hazard ranking.

Keywords: *Toluidines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS 106-49-0.

PB93-201200/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of o-Toluidine (95-53-4). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 22p EPA/600/8-91/187, , OHEA-C-073-182
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-290 908. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

The assessment of o-toluidine for potential carcinogenicity is based on data from studies using o-toluidine hydrochloride, since o-toluidine is rapidly and completely converted to the hydrochloride after oral ingestion. Therefore, this profile summarizes the relevant cancer literature on o-toluidine hydrochloride. o-Toluidine is a potential human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potentcy factor (F) for o-toluidine is estimated to be 0.069 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, o-toluidine is assigned a 'LOW' hazard ranking.

Keywords: *Toluidines, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS 95-53-4.

PB93-201218/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Thiourea (62-56-6). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 23p EPA/600/8-91/186, , OHEA-C-073-181
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Thiourea is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for thiourea is estimated to be 1.05 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, thiourea is assigned a 'MEDIUM' hazard ranking.

Keywords: *Thiourea, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogencity, Dose-response relationships, CAS 62-56-6.

PB93-201226/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Thioacetamide (62-55-5). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 23p EPA/600/8-91/185, , OHEA-C-073-180
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Thioacetamide is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for thioacetamide is estimated to be 24.76 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, thioacetamide is assigned a 'MEDIUM' hazard ranking.

Keywords: *Thioacetamide, *Amides, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 62-55-5.

PB93-201234/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Tetrachloroethylene (127-18-4). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 27p EPA/600/8-91/184, , OHEA-C-073-179
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-249704 and PB87-147054. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Tetrachloroethylene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for tetrachloroethylene is estimated to be 0.29 (mg/kg/day)-1, placing it in potency group 3 according to the EPA's Methodology for Evaluating Reportable Quantity Adjustments. Combining the weight-of-evidence group and the potency group, tetrachloroethylene is assigned a 'LOW' hazard ranking.

Keywords: *Tetrachloroethylene, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 127-18-4.

PB93-201242/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,1,2,2-Tetrachloroethane (79-34-5). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 19p EPA/600/8-91/183, , OHEA-C-073-178
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-277 453. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,1,2,2-Tetrachloroethane is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'Inadequate'. The potency factor (F) for 1,1,2,2-tetrachloroethane is estimated to be 1.66 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,1,2,2-tetrachloroethane is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Ethane/tetrachloro, *Carcinogenicity, Dose-response relationships, CAS: 79-34-5.

PB93-201259/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,1,1,2-Tetrachloroethane (630-20-6). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 18p EPA/600/8-91/182, , OHEA-C-073-177
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB83-218206. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,1,1,2-Tetrachloroethane is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'Inadequate'. The potency factor (F) for 1,1,1,2-tetrachloroethane is estimated to be 0.85 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,1,1,2-tetrachloroethane is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Ethane/tetrachloro, *Carcinogenicity, Dose-response relationships, CAS: 630-20-6.

PB93-201267/REB PC **A03/MF A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (1746-01-6). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 25p EPA/600/8-91/181, , OHEA-C-073-176
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB86-122546. Prepared in cooperation with Environmental Monitoring and Services, Inc., Washington, DC. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for 2,3,7,8-TCDD is estimated to be 659,000 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 2,3,7,8-TCDD is assigned a 'HIGH' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Dibenzodioxin/tetrachloro, *Carcinogenicity, Dose-response relationships, CAS: 1746-01-6.

PB93-201275/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Streptozotocin (18883-66-4). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 19p EPA/600/8-91/180, , OHEA-C-073-175
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Streptozotocin (also streptozocin) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for streptozotocin is estimated to be 109 (mg/kg/day)-1, placing it in potency group 1 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, streptozotocin is assigned a 'HIGH' hazard ranking.

Keywords: *Streptozocin, *Antibiotics, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 18883-66-4.

PB93-201283/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Selenium Sulfide (Selenium Disulfide) (7488-56-4). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 19p EPA/600/8-91/179, , OHEA-C-073-174
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB82-164542, PB82-164955 and PB82-165291. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Selenium sulfide (selenium disulfide) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies of selenium sulfide is 'Inadequate'. The potency factor (F) for selenium sulfide is estimated to be 0.93 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, selenium sulfide (selenium disulfide) is assigned a 'LOW' hazard ranking.

Keywords: *Selenium sulfides, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 7488-56-4.

PB93-201291/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Safrole (94-59-7). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 27p EPA/600/8-91/178, , OHEA-C-073-173
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-223 159. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Safrole is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and there are 'No Data' in humans for this compound. The potency factor (F) for safrole is estimated to be 0.18 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, safrole is assigned a 'LOW' hazard ranking.

Keywords: *Safrole, *Organic compounds, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 94-59-7.

PB93-202257/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Vinyl Chloride (75-01-4). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 34p EPA/600/8-91/199, , OHEA-C-073-194
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB85-119162. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Vinyl Chloride is a human carcinogen, classified as weight-of-evidence Group A under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Sufficient'. The potency factor (F) for vinyl chloride is estimated to be 18.1 (mg/kg/day)-1, placing it in potency group 2, according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, vinyl chloride is assigned a 'HIGH' hazard ranking.

Keywords: *Vinyl chloride, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 75-01-4.

PB93-202265/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Uracil Mustard (66-75-1). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 19p EPA/600/8-91/198, , OHEA-C-073-193
Contracts EPA-68-03-3112, EPA-68-03-3182
Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Uracil mustard is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Uracil mustard is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, uracil mustard is assigned a 'MEDIUM' hazard ranking.

Keywords: *Uracil mustard, *Uracils, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 66-75-1.

PB93-202273/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Trypan Blue (72-57-1). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 19p EPA/600/8-91/197, , OHEA-C-073-192
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB86-101722. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Trypan blue is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. Data available are inadequate for calculating a potency factor (F) and no quantitative inferences can be made. Trypan blue is, therefore, assigned to the median potency factor range and placed in potency group 2 under the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, trypan blue is assigned a 'MEDIUM' hazard ranking.

Keywords: *Trypan blue, *Azo dyes, *Organic compounds, *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS: 72-57-1.

PB93-202281/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Tris(2,3-Dibromopropyl) Phosphate (126-72-7). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 18p EPA/600/8-91/196, , OHEA-C-073-191
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-280 271. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Tris(2,3-dibromopropyl) phosphate is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for tris(2,3-dibromopropyl) phosphate is estimated to be 9.76 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, tris(2,3-dibromopropyl) phosphate is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Phosphoric acid/ tris(dibromo-(propyl-ester)), *Carcinogenicity, Dose-response relationships, CAS: 126-72-7.

PB93-202299/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 2,4,6-Trichlorophenol (88-06-2). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 20p EPA/600/8-91/195, , OHEA-C-073-190
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-202307 and PB-293 770. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

2,4,6-Trichlorophenol is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for 2,4,6-trichlorophenol is estimated to be 0.08 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 2,4,6-trichlorophenol is assigned a 'LOW' hazard ranking.

Keywords: *Phenols, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Phenol/trichloro, *Carcinogenicity, Dose-response relationships, CAS: 88-06-2.

PB93-202307/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 2,4,5-Trichlorophenol (95-95-4). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 13p EPA/600/8-91/194, , OHEA-C-073-189
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-202315. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environ-

mental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

2,4,5-Trichlorophenol cannot be assessed as a potential human carcinogen, and is, therefore, classified as weight-of-evidence Group D under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Inadequate,' and the evidence from human studies is 'Inadequate.' The potency factor (F) for 2,4,5-trichlorophenol cannot be estimated according to the CAG's methodology for evaluating potential carcinogen because inadequate data are available. Since 2,4,5-trichlorophenol is in weight-of-evidence Group D and has no potency group assignment due to insufficient data, 2,4,5-trichlorophenol is not assigned a hazard ranking based on potential carcinogenicity, and other criteria must be used for the purposes of RQ adjustment.

Keywords: *Phenols, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Phenol/trichloro, *Carcinogenicity, Dose-response relationships, CAS: 95-95-4.

PB93-202315/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Trichlorophenol (Mixed) (2516-78-22). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 20p EPA/600/8-91/193, , OHEA-C-073-188
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB93-202299. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Trichlorophenol (mixed) is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient,' and the evidence from human studies is 'No Data'. This is based on evaluation of the potential carcinogenicity of 2,4,6-trichlorophenol. The potency factor (F) for trichlorophenol is estimated to be 0.08 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, trichlorophenol (mixed) is assigned a 'LOW' hazard ranking.

Keywords: *Phenols, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Phenol/trichloro, *Carcinogenicity, Dose-response relationships, CAS: 2516-78-22.

PB93-202323/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Trichloroethylene (79-01-6). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 34p EPA/600/8-91/192, , OHEA-C-073-187
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB90-198631, PB88-185541, PB87-228045, PB85-249696 and PB-264 122. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Trichloroethylene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for trichloroethylene is estimated to be 0.10 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, trichloroethylene is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Ethylene/trichloro, *Carcinogenicity, Dose-response relationships, CAS: 79-01-6.

PB93-202331/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of Toxaphene (8001-35-2). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 18p EPA/600/8-91/190, , OHEA-C-073-185
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-292 290. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

Toxaphene is a probable human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'No Data'. The potency factor (F) for toxaphene is estimated to be 9.79 (mg/kg/day)-1, placing it in potency group 2 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, toxaphene is assigned a 'MEDIUM' hazard ranking.

Keywords: *Toxaphene, *Toxicity, *Risk assessment, Exposure, Public health, Insecticides, Neoplasms, Tolerances(Physiology), *Carcinogenicity, Dose-response relationships, CAS 8001-35-2.

PB93-202349/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of o-Toluidine Hydrochloride (636-21-5). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 22p EPA/600/8-91/189, , OHEA-C-073-184
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-290 908. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

o-Toluidine hydrochloride is a potential human carcinogen, classified as weight-of-evidence Group B2 under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Sufficient', and the evidence from human studies is 'Inadequate'. The potency factor (F) for o-toluidine hydrochloride is estimated to be 0.069 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, o-toluidine hydrochloride is assigned a 'LOW' hazard ranking.

Keywords: *Toluidines, *Toxicity, *Risk assessment, Exposure, Public health, Hazardous materials, Neoplasms, Tolerances(Physiology), *Toluidine hydrochloride, *Carcinogenicity, Dose-response relationships, CAS: 636-21-5.

PB93-202570/REB PC **A10**/MF **A03**
Compendium of Methods for Marine and Estuarine Environmental Studies.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Apr 89, 224p EPA/503/2-89/001
See also AD-A103 788, AD-A222 236 and PB86-147873. Prepared in cooperation with National Oceanic and Atmospheric Administration, Rockville, MD., and Army Engineer Waterways Experiment Station, Vicksburg, MS.

The document represents a prototype for a compendium of methods recommended by the U.S. Environmental Protection Agency (EPA) for use in estuarine and marine environmental studies, and in designing and implementing marine monitoring programs. The compendium is intended to be part of a cooperative sharing of methods among federal agencies.

Keywords: *Water pollution sampling, *Environmental monitoring, *Water pollution detection, *Water analysis, *Marine environments, Chemical analysis, Estuaries, Samplers, Sediments, Air pollution sampling, Marine biology, Air samplers, Waste disposal, Dredged materials.

PB93-202596/REB PC **A05**/MF **A01**
Volunteer Water Monitoring: A Guide for State Managers.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Aug 90, 76p EPA/440/4-90/010

Contents: Executive Summary; Volunteers in Water Monitoring; Planning a Volunteer Monitoring Program; Implementing a Volunteer Monitoring Program; Providing Credible Information; Costs and Funding; and Descriptions of Five Successful Programs.

Keywords: *Water management, *Water pollution standards, *State government, *Water pollution sampling, Guidelines, Volunteers, Streams, Lakes, Project planning, Quality assurance, Publicity, Quality control, Financing, Expenses, Case studies, Illinois, Kentucky, New York, Chesapeake Bay, Ohio, Pilot program.

PB93-202604/REB PC **A06**/MF **A02**
Ambient Aquatic Life Water Quality Criteria for Silver. Draft rept.
Environmental Research Lab., Narragansett, RI.
24 Sep 87, 112p EPA/440/5-87/011

Contents: Introduction; Acute Toxicity to Aquatic Animals; Chronic Toxicity to Aquatic Animals; Toxicity to Aquatic Plants; Bioaccumulation; National Criteria; Implementation.

Keywords: *Silver, *Toxicity, *Bioaccumulation, Water pollution effects(Animals), Water pollution effects(Plants), Industrial wastes, Waste water, Water hardness, Water chemistry, Salinity, Aquatic biology, *Water quality criteria.

PB93-202612/REB PC **A14**/MF **A03**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
Radian Corp., McLean, VA.
T. Grome, W. Sproat, M. Masley, L. Morgan, and C. Haretos. Mar 93, 309p EPA/800/R-93/001A
Contract EPA-68-CO-0032
See also Volume 2, PB93-202620. Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The collection of 30 addresses were delivered at the October 1992 conference on Clean Water and the American Economy. The topics included marine pollution, agricultural practices and pollution, pollution prevention and control technology, and pollution policies and regulations.

Keywords: *Water pollution economics, *Water supply, *Surface waters, *Meetings, Water quality, Potable water, Sea water, Water pollution control, Water pollution abatement, Water treatment, Economic analysis, Water conservation, Agricultural runoff, Fisheries, Waste water, Drinking water, Marine pollution, Clean Water Act.

PB93-202620/REB PC **A07**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
Radian Corp., McLean, VA.
T. Grome, W. Sproat, M. Masley, L. Morgan, and C. Haretos. Mar 93, 147p EPA/800/R-93/001B
Contract EPA-68-CO-0032
See also Volume 1, PB93-202612. Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The collection of 23 addresses were delivered at the October 1992 conference on Clean Water and the American Economy. The topic included ground water valuation, agricultural waste contamination, and pollution policies and regulations.

Keywords: *Water pollution economics, *Water supply, *Ground water, *Meetings, Water quality, Water pollution abatement, Potable water, Water conservation, Economic analysis, Government policies, Agricultural wastes, Drinking water, Clean Water Act.

PB93-202745/REB PC **A08**/MF **A02**
Guidance Manual for Control of Slug Loadings to POTWs.
Environmental Protection Agency, Washington, DC. Office of Water Enforcement and Permits.
Sep 88, 167p
See also PB92-111897.

Slug loadings are defined as any pollutant discharges which violate the specific prohibitions under 40 CFR 403.5(b). The guidance manual was developed by EPA to aid all publicly owned treatment works in developing and implementing specific programs and measures to control industrial users slug loadings. Technical guidance is provided for imposing a range of slug loading control measures on industrial users and, where prevention fails, engaging in remedial measures at the publicly owned treatment works.

Keywords: *Water pollution abatement, *Industrial waste treatment, *Waste water, *Hazardous materials, Water pollution control, Industrial wastes, Path of pollutants, Pretreatment, Government policies, Manuals, Guidelines, *POTW(Publicly owned treatment works), *Slug loadings.

PB93-202752/REB PC **A03**/MF **A01**
Environmental Research Lab.-Duluth, MN.
Ambient Aquatic Life Water Quality Criteria for Di-2-Ethylhexyl Phthalate. Draft rept.
Wisconsin Univ.-Superior.
L. T. Brooks, and R. S. Carr. Sep 87, 49p EPA/440/5-87/013
See also PB81-117780. Prepared in cooperation with Battelle Ocean Sciences, Duxbury, MA. Sponsored by Environmental Research Lab.-Duluth, MN.

Section 304(a)(1) of the Clean Water Act requires the Administrator of the Environmental Protection Agency to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all identifiable effects on health and welfare that might be expected from the presence of pollutants in any body of water. Pursuant to that end, the document proposes water quality criteria for the protection of aquatic life. These criteria do not involve consideration of effects on human health. The document is a draft, distributed for public review and comment. After considering all public comments and making any needed changes, EPA will issue the criteria in final form, at which time they will replace any previously published EPA aquatic life criteria for the pollutant, diethylhexyl phthalate.

Keywords: *Water quality, *Water pollution effects, *Aquatic biology, Aquatic ecosystems, Clean Water Act, Environmental effects, Toxicity, Aquatic animals, Aquatic plants, Plastic industry, Bioaccumulation, Implementation, Biological effects, *Phthalic acid/(diethylhexyl-ester), *Water quality criteria.

PB93-202760/REB PC **A03**/MF **A01**
Ambient Aquatic Life Water Quality Criteria for Hexachlorobenzene. Draft rept.
Environmental Research Lab.-Duluth, MN.
31 Aug 88, 49p EPA/440/5-88/092
See also PB92-173400.

The Clean Water Act requires the EPA Administrator to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all identifiable effects on health and welfare that might be expected from the presence of pollutants in any body of water. Pursuant to that end, the document proposes water quality criteria for the protection of aquatic life. These criteria do not involve consideration of effects on human health.

Keywords: *Water pollution effects, *Aquatic animals, *Aquatic plants, *Aquatic organisms, Exposure, Growth, Toxicity, Fungicides, Pesticides, Solvents, Pollutant sources, Biological accumulation, Risk assessment, Survival, Fresh water fishes, Crayfishes, Algae, Concentration(Composition), *Benzene/hexachloro, Oncorhynchus kitsutch, Coho salmon, Salmo gairdneri, Rainbow trout.

PB93-202778/REB PC **A03**/MF **A01**
Environmental Research Lab.-Duluth, MN.
Ambient Aquatic Life Water Quality Criteria for Antimony (III). Draft rept.
Wisconsin Univ.-Superior.
L. J. Larson, and R. S. Carr. 30 Aug 88, 44p EPA/440/5-88/093
See also PB91-161539. Prepared in cooperation with Battelle Ocean Sciences, Duxbury, MA. Sponsored by Environmental Research Lab.-Duluth, MN.

Section 304(a)(1) of the Clean Water Act requires the Administrator of the Environmental Protection Agency to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all identifiable effects on health and welfare that might be expected from the presence of pollutants in any body of water. Pursuant to that end, the document proposes water quality criteria for the protection of aquatic life. These criteria do not involve consideration of effects on human health. The document is a draft, distributed for public review and comment. After considering all public comments and making any needed changes, EPA will issue the criteria in final form, at which time they will replace any previously published EPA aquatic life criteria for the antimony.

Keywords: *Antimony, *Water quality, *Water pollution effects, *Aquatic biology, Aquatic ecosystems, Clean Water Act, Environmental effects, Toxicity, Aquatic animals, Aquatic plants, Bioaccumulation, Implementation, Biological effects, *Water quality criteria.

PB93-202802/REB PC **A07**/MF **A02**
Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Jul 92, 139p*

The report is a bibliography of drinking water training materials produced by the American Water Works Association, the Association of State Drinking Water Administrators, the National Rural Water Association, the Rural Community Assistance Program, the National Environmental Training Association, and the U.S. Environmental Protection Agency. Ordering information is included.

Keywords: *Personnel development, *Training, *Directories, *Bibliographies, Water systems, Public utilities, Water supply, States(United States), Manuals, Training devices, *Drinking water, Listings.

PB93-202828/REB PC **A08**/MF **A02**
Interim Report on Data and Methods for Assessment of 2,3,7,8-Tetrachlorodibenzo-p-dioxin Risks to Aquatic Life and Associated Wildlife.
Environmental Research Lab.-Duluth, MN.
P. M. Cook, R. J. Erickson, R. L. Spehar, S. P. Bradbury, and G. T. Ankley. Mar 93, 161p EPA/600/R-93/055

In April, 1991 the administrator of the U.S. Environmental Protection Agency (EPA) announced that the Agency would conduct a scientific reassessment of the risk of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), and similar chemicals, to human health and the environment. The reassessment plan includes a component on the risks of TCDD to aquatic life and associated wildlife. Research to provide needed exposure and effects information to better characterize these risks was initiated in September 1991. Because the results of the research effort will not be available until June 1995, the interim report was prepared to critically review and evaluate data and models currently available for analyzing TCDD exposure to, and effects on, aquatic life and wildlife and to identify major uncertainties that limit how well risks can be characterized. The report addresses TCDD exposure to, and bioaccumulation in, aquatic organisms, TCDD toxic effects on aquatic life and wildlife, and aspects of risk characterization to exemplify approaches and applicability of current information.

Keywords: *Dioxins, *Risk assessment, *Toxicity, Water pollution effects(Animals), Water pollution effects(Plants), Biological accumulation, Environmental exposure, Fresh water biology, Marine biology, *TCDD(Dioxin/tetrachlorodibenzo), Dose-response relationships.

PB93-202836/REB PC **A03**/MF **A01**
Corvallis Environmental Research Lab., OR.
Design and Construction of Demonstration/Research Wetlands for Treatment of Dairy Farm Wastewater.
Oregon State Univ., Corvallis.
M. J. Gamroth, and J. A. Moore. Jun 93, 14p EPA/600/R-93/105
Sponsored by Corvallis Environmental Research Lab., OR.

The report discusses the construction of nine wetland cells at the Oregon State University dairy farm. These wetlands will be used in a long-term project which will attempt to: (1) Develop optimal loading rates for milking parlor wastewater and diluted dairy cow manure, not only for maximum treatment efficiency, but also for adequate treatment of wastewater to allow direct discharge into surface waters; (2) Measure seasonal variation in treatment effectiveness; (3) Develop design criteria for farms with limited wastewater generations; (4) Measure variation in treatment efficiencies between several wetland plant species and develop propagation techniques for wetland plants. Over the next five years, observations and data from these wetlands should help develop better design criteria and economics for form-scale wetlands.

Keywords: *Wetlands, *Agricultural wastes, *Waste treatment, Dairies, Oregon, Organic wastes, Waste water, Biodegradation, Aquatic plants, Microorganisms, Loading rates.

PB93-202844/REB PC **A04**/MF **A01**
Corvallis Environmental Research Lab., OR.
Information Management Guidelines for the Wetlands Research Program.
ManTech Environmental Technology, Inc., Corvallis, OR.
L. E. Hughes, and A. J. Hairston. Jun 93, 65p EPA/600/R-93/106
Sponsored by Corvallis Environmental Research Lab., OR.

Resource managers must often make decisions based on Best Professional Judgement. They are forced to rely primarily on expert opinion because other decision making mechanisms are often limited by the availability of information and the time, money and personnel necessary to compile available information into a useful format. Providing managers with the data on which to base sound regulatory decisions is one important goal of information management within the Environmental Protection Agency (EPA). The document establishes guidelines for the minimum information about the data that should be available to all users. The intention is not to standardize the process of data management, but to provide a framework for planners to build on when defining local and regional information needs. The publication is designed to support the work of the EPA's Wetlands Research Program by serving as both a guide for data managers and a reference for resource managers. The guidelines focus on the requirements of most data consumers, such as data quality. The document does not define EPA policy. It presents possibilities for helping resource managers better understand how to manage information as a sound basis for decision making.

Keywords: *Wetlands, *Information management, *Data base management systems, Data bases, Research projects, Data retrieval, Data management, User needs, Wetlands Research Program.

PB93-202927/REB PC **A03**/MF **A01**
Office of Radiation Programs, Washington, DC. Technology Assessment Div.
On-Board Corrosion Analysis of a Recovered Nuclear Waste Container. Technical note.
Delaware Univ., Newark. Coll. of Marine Studies.
S. C. Dexter. Aug 79, 29p ORP/TAD-79/2
Contract EPA-WA-6-99-2767-J
See also PB83-263202 and PB81-109118. Sponsored by Office of Radiation Programs, Washington, DC. Technology Assessment Div.

During the 1976 Atlantic 2800m radioactive waste dumpsite survey, an 80-gallon low-level radioactive waste container was recovered. Within the two hour interval between the time the container first emerged from the ocean until it was encapsulated, the exterior condition of the drum, including the appearance of corrosion product films and attached biological growths, was extensively documented photographically. In the report, representative photographs, as well as the re-

sults of limited chemical and biological analyses performed by University of Delaware personnel during the above two hour interval, are presented. These results are discussed in light of previously published deep ocean corrosion data, and recommendations on improving shipboard sampling and analytical procedures are given.

Keywords: *Sea water corrosion, *Containers, *Radioactive wastes, Atlantic Ocean, Marine disposal, Radioactive waste disposal, Materials tests, Chemical analysis, Steels, Cements, Photographs, *Nuclear waste containers, Steel drums.

PB93-202935/REB PC **A04**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Preliminary Data Summary for the Pulp, Paper and Paperboard Point Source Category.
Jordan (E.C.) Co., Farmington Hills, MI.
Aug 89, 56p EPA/440/1-89/025
See also PB93-167021. Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

The Preliminary Data Summary for the Pulp, Paper and Paperboard Point Source category is a collection of four documents: (1) Overview of the United States Pulp, Paper and Paperboard Industry and Production Processes (October 1987); (2) U.S. EPA/Paper Industry Cooperative Dioxin Screening Study (March 1988); (3) Statement of Martha G. Prothro, Director, Office of Water Regulations and Standards, before the Subcommittee on Water Resources of the Committee on Public Works and Transportation, U.S. House of Representatives (July 13, 1988); (4) U.S. EPA/Paper Industry Cooperative Dioxin Study, Analytical Results (June 16, 1989).

Keywords: *Paper industry, *Water pollution sampling, *Water pollution detection, *Point sources, Papermaking, Paper mills, Pulp mills, Dioxins, Bleaching, Paperboards, Kraft bleaching process, Integrated segments, Nonintegrated segments, Secondary fibers segment.

PB93-203982/REB PC **A08**/MF **A02**
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
North American Lake Management Society, Washington, DC.
R. E. Wedepohl, D. R. Knauer, G. B. Wolbert, H. Olem, and P. J. Garrison. 1990, 172p EPA/440/4-90/007
Includes Hydrologic Investigations Atlas HA-710. See also PB88-230719. Sponsored by Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

In the manual the lake manager will find practical information on how to design and implement a lake monitoring program during and following a lake restoration project. In addition to describing monitoring methods for both the waterbody and the watershed, the manual deals with monitoring specific in-lake restoration techniques. Although the manual specifically guides the lake manager who must meet the Clean Lakes Program Phase II monitoring requirements, readers will find it helpful as a starting point for more comprehensive studies of lake ecosystems and useful in designing any lake study. Researchers will welcome its recommendations for consistent methods and quality assurance procedures.

Keywords: *Environmental monitoring, *Water quality management, *Water pollution sampling, *Lakes, *Reservoirs, Guidelines, Clean Water Act, Regulations, Long term effects, Watersheds, Quality assurance, Implementation, Trends, Sampling, Eutrophication, Algae, Water pollution control, Case studies, Clean Lakes Program.

PB93-204006/REB PC **A03**/MF **A01**
News-Notes Number 23: The Condition of the Environment and the Control of Nonpoint Sources of Water Pollution.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
Sep 92, 30p EPA/841/N-92/005
See also PB93-126183.

Contents: A Water Quality Highlight--Environmental Excellence Awards in EPA Region VI; Commentary--Lakes Conference Brings Exciting Opportunities; News-Notes Editorial Policy; Noteworthy Water Quality Happenings; News From The States; Notes on The Coastal Environment; Agricultural Notes; Notes on Riparian and Watershed Management; Notes on Environmental Education; NPS Electronic Bulletin Board (BBS) News.

Keywords: *Water pollution control, *Water pollution abatement, *Nonpoint sources, *Water quality, State programs, Coastal regions, Puget Sound, Water management, Agricultural products, Forest land, Education, Watersheds, Riparian waters, Standards, EPA region 6.

PB93-204030/REB PC **A03**/MF **A01**
News-Notes Number 21: The Condition of the Environment and the Nonpoint Sources of Water Pollution.
Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.
May 92, 36p
See also PB93-204006.

Contents: Commentary; Noteworthy Governmental Happenings; Notes on NPS Technology; Notes on Watershed Management; News From the States; Agricultural Notes; NPS Electronic Bulletin Board (BBS) News; Reviews; and Announcements of Interest.

Keywords: *Environmental management, *Water pollution control, *Habitats, Public land, US EPA, Pollution prevention, Government policies, Watersheds, Agriculture, Pesticides, Waste recycling, Decision making, Wetlands, Case studies, Wildlife, Monitoring, *Nonpoint sources, News bulletin, Electronic bulletin board.

PB93-204055/REB PC **A03**/MF **A01**
Development and Validation of a Source Test Method for 2,4-Toluene Diisocyanate.
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
S. C. Foster, J. F. McGaughey, F. W. Wilshire, and J. E. Knoll. 1993, 12p EPA/600/A-93/124
Prepared in cooperation with Radian Corp., Research Triangle Park, NC.

Four isocyanates are listed for regulation in the Clean Air Act Amendments of 1990: hexamethylene-1,6 diisocyanate, methylene diphenyl diisocyanate, and 2,4-toluene diisocyanate, each of which is used in the production of polymers, and methyl isocyanate which is an intermediate in the manufacture of the insecticide carbaryl. To support projected regulations, a study is under way to produce a source sampling and analysis method for the four pollutants cited above. In the procedure under development, the isocyanates are collected in an absorbing solution and derivatized with 1-(2-pyridyl)piperazine and analyzed by HPLC with UV detection. A system was developed in the laboratory to generate isocyanate atmospheres for optimization of sampling parameters and chromatographic conditions. The accuracy and precision of the method is determined in the field using train spiking and multiprobe sampling following the procedures outlined in EPA Method 301.

Keywords: *Isocyanates, *Air pollution detection, Reagents, Chromatographic analysis, Pollution sources, Insecticides, Tests, *Diisocyanate/toluene, Spike amount, Spike recovery.

PB93-204063/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Near Real-Time GC Analysis of Volatile Organic Compounds Using an On-Line Micro-Trap. Rept. for Jul 92-Feb 93.
New Jersey Inst. of Tech., Newark. Dept. of Chemical Engineering.
S. Mitra, H. H. Lai, and M. Jackson. 1993, 7p EPA/600/A-93/125
Grant EPA-R815734
Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

Micro-traps act as sample pre-concentrators for gas chromatography (GC) that can be used to make repetitive injections every few seconds. A thermal desorption micro-trap is made from a short segment of thin tubing containing an adsorbent or a chromatographic stationary phase. A carrier gas containing the analyte of interest can be introduced into the GC analytical column through the micro-trap which acts as a sample trap. Rapid heating of the micro-trap releases a 'concentration pulse' of the analyte that serves as a GC injection similar to that from an injection valve. Microtraps can be used in various applications such as process stream analysis, fast and multi-input chromatography.

Keywords: *Gas chromatography, *Volatility, *Organic compounds, *Real time operation, Air pollution, Traps, Injection, *VOC(Volatile organic compound).

PB93-204071/REB PC **A02**/MF **A01**
Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.
Indoor Concentration Modeling of Aerosol Strong Acidity.
Environmental and Occupational Health Sciences Inst., Piscataway, NJ. Exposure Measurement and Assessment Div.
M. Zelenka, J. Waldman, H. Suh, and P. Koutrakis. 1993, 9p EPA/600/A-93/126
Grant EPA-R816740
Prepared in cooperation with Harvard School of Public Health, Boston, MA. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Atmospheric Research and Exposure Assessment Lab.

A model for estimating indoor concentrations of acid aerosol was applied to data collected during the summer of 1989, in a densely populated location in New Jersey. The model, from a study of a semi-rural community in Pennsylvania, was used to estimate indoor concentrations of aerosol strong acidity (H+) at an elderly care residence in suburban New Jersey. The purpose of the present work is to assess the applicability of the model for predicting H+ exposures in a suburban environment and to evaluate the models performance for daytime and nighttime periods. Indoor and outdoor samples were taken at an elderly care home between June 20 and July 30, 1989. The indoor and outdoor monitoring schedule collected two 12-h samples per day. Samples were taken with the Indoor Denuder Sampler (IDS). Samples were analyzed for indoor and outdoor concentrations of aerosol strong acidity (H+), ammonia (NH3), and anion determination. The model generally underestimated the indoor H+ concentration. Slight improvement was seen in the model estimate of H+ for the nighttime period (7:00 pm to 7:00 am, local time). The model applied to the site in New Jersey did not predict the indoor H+ concentrations as well as it did for the experiment from which it was developed.

Keywords: *Indoor air pollution, *Air pollution sampling, *Acidity, Aerosols, Periodic variations, Study estimates, Models, Ammonia, Reprints, *Indoor environment, Indoor denuder sampler.

PB93-204113/REB PC **A03**/MF **A01**
Importance of Fish Diseases: An Overview.
Environmental Research Lab., Gulf Breeze, FL.
M. L. Kent, and J. W. Fournie. c1993, 28p EPA/600/A-93/130, CONTRIB-751
Pub. in Advances in Fisheries Science, Pathobiology of Marine and Estuarine Organisms, p1-24, 1992. Prepared in cooperation with Department of Fisheries and Oceans, Nanaimo (British Columbia). Pacific Biological Station.

Diseases of fishes can be important because they may induce mortality. Additionally, sublethal diseases may cause poor growth conversion, poor flesh quality, or undesirable visual changes. Furthermore, some pathogens of fish are infectious to humans. The review describes in three categories: wild fishes, captive cultured fishes, and fishes used as models in biological research. Some diseases of fishes may provide important insight on the basic mechanisms of diseases.

Keywords: *Marine fishes, *Animal diseases, *Pathology, Infectious diseases, Algae, Water pollution effects(Animals), Mortality, Morbidity, Neoplasms, Fisheries, Reprints.

PB93-204121/REB PC **A03**/MF **A01**
Determination of Nine Haloacetic Acids in Finished Drinking Water.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
H. Pourmoghaddas, and R. C. Dressman. 1992, 20p EPA/600/A-93/131
Pub. in Proceedings of the AWWA Water Quality Technology Conference, Toronto, Ontario, Canada, November 15-19, 1992, p447-464. Prepared in cooperation with Isfahan Univ. of Medical Sciences (Iran). School of Pharmacy and Pharmaceutical Sciences.

Whenever natural water or humic substances are chlorinated significant concentrations of haloacetic acids (HAAs) are produced. The presence of HAAs in drinking water are suspected to have an adverse health effect on humans. To control HAAs in drinking water, analytical techniques should be developed. EPA method 552.1, which was originally developed for the measurement of mono-, di-, and tri-chloroacetic acids, was modified to include the six brominated HAAs, which are also formed during water disinfection with chlorine in the presence of bromine ion.

Keywords: *Chlorination, *Potable water, *Chemical analysis, *Water treatment, Impurities, Concentration(Composition), Humus, Public health, Halogens, Chemical reactions, Chromatographic analysis, Standards, *Acetic acid/tribromo, Drinking water, Acetic acid/trichloro.

PB93-204139/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Microbial Degradation of Synthetic Chlorinated Compounds: Evolutionary Implications (Chapter 8). Book chapter.
Illinois Univ. at the Medical Center, Chicago. Dept. of Microbiology and Immunology.
R. K. Rothmel, R. A. Haugland, U. M. X. Sangodkar, W. M. Coco, and A. M. Ahakrabarty. 1990, 19p EPA/600/A-93/132
Grant EPA-R-812911
Pub. in Biodeterioration and Biodegradation, p276-291 1990. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Environmental release of synthetic chlorinated compounds in the form of herbicides/pesticides, solvents, refrigerants, etc., has created major concerns with regard to their effects on human health because of the persistence of many such compounds. The persistence of these compounds is a result of the inability of natural microorganisms to utilize them as a sole source of carbon and energy. Many microorganisms can utilize simple chlorinated compounds such as 3-chlorobenzoate (3Cba) or 2,4-dichlorophenoxyacetate (2,4-D) as their sole carbon source but cannot utilize higher chlorinated forms such as 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) and others. Under strong selection in a chemostat with 2,4,5-T as the only major source of carbon (directed evolution), it has been possible to isolate a strain of Pseudomonas cepacia AC1100 that can utilize 2,4,5-T as its sole source of carbon and energy.

Keywords: *Microorganisms, *Biodeterioration, *Chlorine organic compounds, *Public health, Synthesis(Chemistry), Herbicides, Solvents, Refrigerants, Selection, Carbon, Energy sources, Genes, Bacteria, Tests, Evolution(Development), Test methods, Enzymes, D 2-4 herbicide, T 2-4-5 herbicide, *Synthetic chlorinated compounds, *Pseudomonas cepacia, Genetic engineering.

PB93-204147/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Biodegradation of Chlorinated Organic Compounds by 'Phanerochaete chrysosporium', a Wood-Rotting Fungus.
Michigan State Univ., East Lansing. Dept. of Biochemistry.
J. A. Bumpus, and S. D. Aust. c1987, 13p EPA/600/A-93/133
Pub. in Solving Hazardous Waste Problems: Learning from Dioxins, ACS Symposium Series No. 338, Apirl 13-18, 1986, p340-349 (Chapter 28). Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Organohalides as a group represent an environmentally persistent class of chemicals, many of which accumulate in the food chain in the body fat of animals occupying higher trophic levels. Many of these compounds are toxic, mutagenic and/or carcinogenic. Furthermore, many sites exist worldwide that are contaminated with these compounds. Often these sites are old production or use facilities which contain high concentrations of the pollutant in question and represent potential health hazards. Of great concern in many cases is the threat of ground water contamination. Recent attention has focused on the possible usefulness of the white rot fungus Phanerochaete chrysosporium for the biodegradation of hazardous and environmentally persistent organohalides. The paper summarizes the present knowledge concerning the ability of this fungus to degrade halogenated organic compounds.

Keywords: *Biodegradation, *Dioxins, *Waste treatment, Fungi, Pollution control, Chlorine organic compounds, Biochemical reaction kinetics, Enzyme activity, Lignin, Mineralization, Reprints, Phanerochaete chrysosporium.

PB93-204154/REB PC **A02**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Mineralization of Recalcitrant Environmental Pollutants by a White Rot Fungus. Proceedings of the National Conference on Hazardous Wastes and Hazardous Materials. Held in Washington, DC. on March 16-18, 1987.
Michigan State Univ., East Lansing. Dept. of Biochemistry.
J. A. Bumpus, and S. D. Aust. 1993, 9p EPA/600/A-93/134
Grant EPA-R-813369
See also PB93-191575. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

The white rot fungus Phanerochaete chrysosporium is able to degrade lignin, a structurally complex, naturally occurring and environmentally persistent, non-repeating heteropolymer. Previous studies have shown that this fungus is also able to degrade a wide variety of synthetic organopollutants and that biodegradation is dependent, at least in part, on the lignin degrading system. Examples of recalcitrant chemicals that are degraded to carbon dioxide by this fungus include tetrachlorobiphenyl hexachlorobiphenyl, tetrachlorodibenzo(p)dioxin. A number of these compounds were selected for further study to more thoroughly document biodegradation. Using Chlordane and pentachlorophenol it was shown that, like lignin, mineralization of these two environmentally persistent xenobiotics was promoted in nutrient nitrogen deficient cultures while mineralization was suppressed in nutrient nitrogen sufficient cultures.

Keywords: *Biodeterioration, *Fungi, *Waste treatment, Lignin, Chlorine organic compounds, Bacteria, Carbon dioxide, Chlordan, Insecticides, Aromatic compounds, DDT insecticide, Carbon 14, Metabolism, *Phanerochate chrysoporium, White rot fungus, Synthetic organic compounds, Biphenyl/tetrachloro, Xenobiotics, Phenol/Pentachloro.

PB93-204162/REB PC **A03**/MF **A01**
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Recruitment of tft and clc Biodegradative Pathway Genes: Modes of Evolution. Book chapter.
Illinois Univ. at the Medical Center, Chicago. Dept. of Microbiology and Immunology.
W. M. Coco, U. M. X. Sangodkar, R. K. Rothmel, and A. M. Chakrabarty. 1993, 12p EPA/600/A-93/135
Grant EPA-R-812911-02
Pub. in Advances in Applied Biotechnology Series, 'Biotechnology and Biodegradation' Chapter 4, v4 p43-59. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.

Pseudomonas putida can utilize a simple chlorinated compound 3-chlorocatechol (3-clc) through elaboration of a plasmid pAC27 encoded pathway. The clc genes are clustered as an operon termed clcABD. The positive regulatory gene clcR maps close to but is transcribed divergently from the clcABD operon. A similar genetic organization for catechol (Cat) degradation has been shown, where the catB gene of the catBC operon and its divergently transcribed catR regulatory gene show appreciable homology to clcB and clcR. This suggests that clc genes evolved by diverging from an extant, regulated catechol pathway. In contrast, a strain of P. cepacia (AC1100) was isolated from a chemostat under strong selection in the presence of 2,4,5-trichlorophenoxyacetic acid (2,4,5-T). This strain is characterized by: (1) marked genetic instability specific to the tft genes of the 2,4,5-T pathway, (2) several copies of the insertion sequence, RS1100, and (3) lack of detectable hybridization of either RS1100 or of the chq locus in the tft pathway with DNA from several species of pseudomonads.

Keywords: *Biodeterioration, *Bacterial genes, *2-4-5-trichlorophenoxyacetic acid, *Evolution, Operon, Pseudomonas cepacia, Pseudomonas putida, Catechols, Deoxyribonucleic acids, Genetic transcription, Reprints, *3-Chlorocatechol.

PB93-204170/REB PC **A03**/MF **A01**
Observations on the State of Marine Disease Studies (Chapter 18). Book chapter.
Environmental Research Lab., Gulf Breeze, FL.
J. A. Couch. c1993, 23p EPA/600/A-93/136, CONTRIB-780
Pub. in Pathobiology of Marine and Estuarine Organisms, p511-530 1992. See also PB86-100286.

The state of marine disease studies is described. Perhaps the greatest area of success in the last 20 years has been in the identification and characterization of viruses, bacteria, fungi, protozoan and metazoan disease agents. The opening of new areas of investigation such as that of interactions between pollutants and infectious agents or non-infectious syndromes such as neoplasia have provided challenges to younger, better equipped investigators in recent efforts. These successes, though not complete in themselves, provide an impetus to understanding complex disease issues. Long standing enigmas, such as complete understanding of the complex life-cycles of devastating pathogens such as protozoans of shellfish, and roles of certain toxicants in fish diseases remain to be better understood.

Keywords: *Water pollution effects(Animals), *Estuaries, *Protozoal diseases, *Marine biology, Fungi, Fishes, Shellfish, Viruses, Bacteria, Species diversity, Reprints.

PB93-204584/REB PC **A03**/MF **A01**
Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.
Evaluation of the Potential Carcinogenicity of 1,1,2-Trichloroethane (79-00-5). Final rept.
Environmental Monitoring and Services, Inc., Washington, DC.
Jun 88, 17p EPA/600/8-91/191, , OHEA-C-073-186
Contracts EPA-68-03-3112, EPA-68-03-3182
See also PB-283 337 and PB86-134566. Prepared in cooperation with Syracuse Research Corp., NY. Sponsored by Environmental Protection Agency, Washington, DC. Office of Health and Environmental Assessment.

1,1,2-Trichloroethane is a possible human carcinogen, classified as weight-of-evidence Group C under the EPA Guidelines for Carcinogen Risk Assessment. Evidence on potential carcinogenicity from animal studies is 'Limited', and the evidence from human studies is 'No Data'. The potency factor (F) for 1,1,2-trichloroethane is estimated to be 0.36 (mg/kg/day)-1, placing it in potency group 3 according to the CAG's methodology for evaluating potential carcinogens. Combining the weight-of-evidence group and the potency group, 1,1,2-trichloroethane is assigned a 'LOW' hazard ranking.

Keywords: *Toxicity, *Risk assessment, *Trichloroethanes, Public health, Exposure, Hazardous materials, Neoplasms, Tolerances(Physiology), *Ethane/trichloro, *Carcinogenicity, Dose-response relationships, CAS: 79-00-5.

PB93-204923/REB PC **A02**/MF **A01**
Environmental Research Lab., Narragansett, RI.
Physiological Limitations on Phytoplankton Productivity in the Ocean. Journal article.
Brookhaven National Lab., Upton, NY. Oceanographic and Atmospheric Sciences Div.
P. G. Falkowski, R. M. Greene, and R. J. Geider.
c1992, 10p EPA/600/J-93/209 , , ERLN-X199

Contract DE-AC02-76CH00016, Grants NASA-UPN-16135-05-08
Pub. in Oceanography, v5 n2 p84-91, 1992. Sponsored by Environmental Research Lab., Narragansett, RI., Department of Energy, Washington, DC., National Aeronautics and Space Administration, Washington, DC., and National Science Foundation, Washington, DC.

The question of what limits primary productivity and phytoplankton biomass in natural waters has occupied oceanographers and limnologists for more than a century. To a large extent the difficulty in determining what limits primary production stems both from methodological deficiencies and semantic confusion. The identification of limiting factors has been based on primarily three techniques: correlative inference, experimental manipulation, and simulation modeling. Here the authors examine the concepts of limiting factors and explore the possibility of using in vivo chlorophyll fluorescence (a biophysical signal), in conjunction with molecular markers, to identify or diagnose factors limiting phytoplankton growth and production in the ocean.

Keywords: *Marine biology, *Plant growth, *Phytoplankton, *Limiting factors, Aquatic ecosystems, Marine plants, Environmental effects, Nutrients, Biomass, Fluorescence, Biological markers, Aquatic productivity, Reprints.

PB93-204931/REB PC **A03**/MF **A01**
Environmental Research Lab., Narragansett, RI.
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae. Journal article.
Brookhaven National Lab., Upton, NY. Oceanographic and Atmospheric Sciences Div.
R. M. Greene, R. J. Geider, Z. Kolber, and P. G. Falkowski. c1992, 13p EPA/600/J-93/210 , , ERLN-X210
Contract DE-AC02-76CH00016, Grant NSF-OCE89-15084
Pub. in Plant Physiology 100, p565-575 1992. Sponsored by Environmental Research Lab., Narragansett, RI., Department of Energy, Washington, DC., National Science Foundation, Washington, DC., and National Aeronautics and Space Administration, Washington, DC.

The role of iron in regulating light harvesting and photochemical energy conversion processes was examined in the marine unicellular chlorophyte Dunaliella tertiolecta and the marine diatom Phaeodactylum tricornutum. In both species, iron limitation led to a reduction in cellular chlorophyll concentrations, but an increase in the in vivo, chlorophyll-specific, optical absorption cross-sections. Moreover, the absorption cross-section of photosystem II, a measure of the photon target area of the traps, was higher in iron-limited cells and decreased rapidly following iron addition. Iron-limited cells exhibited reduced variable/maximum fluorescence ratios and a reduced fluorescence per unit absorption at all wave-lengths between 400 and 575 nm. Following iron addition, variable/maximum fluorescence ratios increased rapidly, reaching 90 percent of the maximum within 18 to 25 h. Thus, although more light was absorbed per unit of chlorophyll, iron limitation reduced the transfer efficiency of excitation energy in photosystem II.

Keywords: *Algae, *Marine biology, *Energy metabolism, *Photosynthesis, *Iron, Chlorophylls, Photochemistry, Fluorescence, Cytochromes, Growth, Plant proteins, Pigments, Reprints, Dunaliella tertiolecta, Phaeodactylum tricornutum.

PB93-204956/REB PC **A02**/MF **A01**
Observations on the Effect of Dissolved Oxygen and Temperature on Respiration Rates of the Bay Scallop, 'Argopecten irradians'. Journal article.
Environmental Research Lab., Narragansett, RI.
R. A. Voyer. c1992, 6p EPA/600/J-93/212, ERLN-1329
Pub. in Northeast Gulf Science, v12 n2 p147-150 Oct 92.

The bay scallop, Argopecten irradians, regulates its respiratory activity over a wide range of dissolved oxygen (DO) concentrations at temperatures of 17 C to 22 C (Van Dam 1954). Northern bay scallops, however, are physiologically active at temperatures below 17 C. The potentially significant influence of interactions between environmental variables, such as DO and temperature, on metabolic activity of aquatic animals has been emphasized. A limiting factor such as DO may act to restrict the potential range of activity of an aquatic animal. It was thus the goal of this study to evaluate the possible restricting effect of DO on bay scallop respiration rates at a temperature lower than those examined by Van Dam (1954).

Keywords: *Respiration, *Oxygen, *Temperature, Metabolism, Regression analysis, Reprints, *Bay scallops, *Argopecten irradians.

PB93-204980/REB PC **A03**/MF **A01**
Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
E. M. Lores, J. M. Patrick, and J. K. Summers. c1993, 12p EPA/600/J-93/215, CONTRIB-746
Pub. in Toxicology and Chemistry, v12 p541-550, 1993.

The effect of humic acid on accumulation of hexachlorobenzene (HCB) and hexachlorobiphenyl (HCBP) by sheepshead minnows (Cyprinodon variegatus) from two separate experiments is presented. In the first experiment, static sediment/water exposure chambers were used to determine the effect of dissolved organic carbon (DOC), in the form of terrestrial humic acid (HA), on partitioning of HCB among sediment, water, and sheepshead minnows. Sediments from three geographically different locations were used to test the effect of added HA (0, 3, and 30 mg/L) on accumulation in fish of sediment-bound HCB. Total organic carbon levels in sediment and water and residues of HCB ((14)C-labeled and unlabeled) in sediment, water, and whole-body tissue were measured. Fish/sediment ratios or accumulation relative to sediment (ARS) indicated that addition of HA did not reduce accumulation of sediment-bound toxicants. ARS ranged from 7.5 + or - 4 without added HA to 9.3 + or - 4 with 30 mg/L added HA, but were not statistically different. In a second experiment using HCBP with 0 and 30 mg/L HA and sediment from one location, HCBP concentration in water averaged 0.29 micrograms/L in non-HA tanks and 0.91 micrograms/L in the HA tanks, but both ARS ratios averaged 5.4. In conclusion, the authors believe that these tests indicate that HA does not significantly alter bioavailability of toxicants that are in equilibrium with sediment and water.

Keywords: *Water pollution effects(Animals), *Minnows, Humic acids, *Hexachlorobenzene, Toxicity, Sediments, Carbon, Hydrostatics, Reprints, *Hexachlorobiphenyl, Cyrrinodon variegatus.

PB93-205003/REB PC **A02**/MF **A01**
Strategy Using Bioreactors and Specially Selected Microorganisms for Bioremediation of Groundwater Contaminated with Creosote and Pentachlorophenol. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
J. G. Mueller, S. E. Lantz, D. Ross, R. J. Colvin, and D. P. Middaugh. c1993, 10p EPA/600/J-93/217
Pub. in Environmental Science and Technology, v27 p691-698, 1993. Prepared in cooperation with SBP Technologies, Inc., Gulf Breeze, FL., and ERM, Inc., Exton, PA.

A two-stage, continuous-flow, sequential inoculation bioreactor strategy for the bioremediation of ground water contaminated with creosote and pentachlorophenol (PCP) was evaluated at the bench- and pilot-scale levels. Performance of continually stirred tank reactors (CSTR) using specially-selected microorganisms was assessed according to chemical analyses of system influent, effluent and bioreactor residues, performing a mass balance evaluation, and comparative biological toxicity and teratogenicity measurements. When specially-selected bacteria capable of utilizing (mineralizing) high-molecular-weight polycyclic aromatic hydrocarbons (HMW PAHs) as primary growth substrates were used in pilot-sale bioreactors (120 gal), the concentration of creosote constituents was reduced from ca. 1,000 ppm in the ground water feed (flow rate = 30 GPD) to <7 ppm in the system effluent (removal efficiency of >99%). Notably, the cumulative concentration of 8 HMS PAHs (containing 4 or more fused rings) was reduced from 368 ppm in the ground water fed to 5.2 ppm in the system effluent. Moreover, the toxicity and teratogenicity of the bioreactor effluent was significantly reduced. Biodegradation of PCP was limited (ca. 18%) due in large part to poor inoculation and a high degree of abiotic loss (bioaccumulation and adsorption). In general, field data correlated well with those obtained from bench-scale studies.

Keywords: *Bioreactors, *Microorganisms, *Water pollution control, Biodegradation, Ground water, Creosote, Chemical analysis, Bench-scale experiments, Toxicity, Mitigation, Reprints, *Bioremediation, Phenol/pentachloro.

PB93-205060/REB PC **A02**/MF **A01**
Environmental Research Lab., Gulf Breeze, FL.
Isolation and Diversity of Actinomycetes in the Chesapeake Bay. Journal article.
Center of Marine Biotechnology, Baltimore, MD.
M. Takizawa, R. R. Colwell, and R. T. Hill. c1993, 8p CONTRIB-196, EPA/600/J-93/223
Grant NSF-BSR9020268
Pub. in Applied and Environmental Microbiology, v59 n4 p997-1002 Apr 93. Prepared in cooperation with Takeda Chemical Industries Ltd., Osaka (Japan). Discovery Research Labs. II. Sponsored by Environmental Research Lab., Gulf Breeze, FL., and National Science Foundation, Washington, DC.

Chesapeake Bay was investigated as a source of actinomycetes to screen for production of novel bioactive compounds. The presence of relatively large populations of actinoplanetes (chemotype II/D actinomycetes) in Chesapeake Bay sediment samples indicates that it is an eminently suitable ecosystem from which to isolate actinomycetes for screening programs. Actinomycetes were isolated from sediment samples collected in Chesapeake Bay with an isolation medium containing nalidixic acid, which proved to be more effective than heat pretreatment of samples. Actinomycetes counts ranged from a high of 140,000 to a low of 180 CFU/ml of sediment. Actinomycetes constituted 0.15 to 8.63% of the culturable microbial community. The majority of isolates from the eight stations studied were actinoplanetes (i.e., chemotype II/D), and 249 of these isolates were obtained in a total of 298 actinomycete isolates. Antimicrobial activity profiles indicated that diverse populations of actinoplanetes were present at each station. DNA hybridization studies showed considerable diversity among isolates between stations, but indicated that actinoplanete strains making up populations at nearby stations were more similar to each other than to populations sampled at distant stations. The diversity of actinoplanetes and the ease with which these organisms were isolated from Chesapeake Bay sediments make this a useful source of these actinomycetes. (Copyright (c) 1993, American Society for Microbiology.)

Keywords: *Actinomycetales, *Aquatic microbiology, *Chesapeake Bay, Microbial colony count, Species diversity, Nucleic acid hybridization, Nalidixic acid, Sediments, Bacterial DNA, Reprints, Actinoplanetes.

PB93-205094/REB PC **A03**/MF **A01**
Method for Quantifying the Prediction Uncertainties Associated with Water Quality Models. Journal article.
Environmental Research Lab., Gulf Breeze, FL.
J. K. Summers, H. T. Wilson, and J. Kou. c1993, 18p EPA/600/J-93/226, CONTRIB-741
Pub. in Ecological Modeling 65, p161-176 1993. Prepared in cooperation with Coastal Environmental Services, Inc., Linthicum, MD., and Versar, Inc., Columbia, MD.

Many environmental regulatory agencies depend on models to organize, understand, and utilize the information for regulatory decision making. A general analytical protocol was developed to quantify prediction error associated with commonly used surface water quality models. Its application is demonstrated by comparing water quality models configured to represent different levels of spatial, temporal, and mechanistic complexity. This comparison can be accomplished by fitting the models to a benchmark data set. Once the models are successfully fitted to the benchmark data, the prediction errors associated with each application can be quantified using the Monte Carlo simulation techniques.

Keywords: *Water quality, *Mathematical models, *Risk assessment, Probability theory, Ecosystems, Calibrating, Statistical analysis, Surface water, Monte Carlo method, Reprints.

PB93-206779/REB PC **A02**/MF **A01**
Pesticide Fact Sheet: Polyhedral Occlusion Bodies of the Nuclear Polyhedrosis Virus of 'Spodoptera exigua'.
Environmental Protection Agency, Chamblee, GA. Office of Pesticides Programs.
9 May 93, 6p EPA/737/F-93/005

The document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on nuclear polyhedrosis virus of Spodoptera exigua. The Fact Sheet is issued for registration of the new chemical.

Keywords: *Pesticides, *Toxic substances, Biological treatment, Path of pollutants, Regulations, Pest control, Toxicology, Agricultural products, Ecology, Endangered species, Microorganisms, *Spod-X, *Registration, Use patterns, Science findings, Chemical information fact sheet, Beet armyworm, Spodoptera exigua, Nuclear polyhedrosis virus.

PB93-206787/REB PC **A01**/MF **A01**
Pesticide Fact Sheet: 'Metarhizium anisopliae' Strain ESF1.
Environmental Protection Agency, Washington, DC. Office of Pesticides and Toxic Substances.
1 Jun 93, 5p EPA/737/F-93/006

The document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on Metarhizium anisopliae Strain ESF1. The Fact Sheet is issued for registration of the new chemical.

Keywords: *Pesticides, *Toxic substances, Insecticides, Toxicology, Ecology, Biological treatment, *Bio-Path, *Registration, Metarhizium anisopliae, Chemical information fact sheet, Use patterns, Science findings.

PB93-504538/REB CP **D05**
COMPLEX1 (for Microcomputers). Software.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Mar 93, 1 diskette EPA/SW/DK-89/176
System: IBM-PC or compatible; MS DOS 5.0 or greater operating system. Language: FORTRAN. Computer source code is included. Supersedes PB90-500414.
The software is on one 3 1/2 inch diskette, 1.44M high density.

The computer model is a multiple point source code with terrain adjustment. The model specifications for testing were suggested by team 'B' on complex terrain at the Regional Workshop on Air Quality Modeling in Chicago, February 1980. It is a sequential model utilizing hourly meteorological input. It assumes a normal distribution in the vertical and a uniform distribution across a 22.5 degree sector. The initial screening technique for complex terrain applications, described in the Guideline on Air Quality Models (revised), has been incorporated as an option in COMPLEX1.

Keywords: *Software, *Models-simulation, *Air pollution, Meteorology, Topographic features, Terrain, Point sources, Air quality, Diskettes.

PB93-504546/REB CP **D02**
Emissions and Fuel Economy Results 1992 Car Models (for Microcomputers). Software.
Environmental Protection Agency, Ann Arbor, MI. Certification Div.
1992, 1 diskette EPA/SW/DK-93/048
System: IBM PC or compatible; MS DOS 5.0 or greater operating system. Product needs: 3.6 Mb of hard disk space, 640 Ram and 133 column screen to display all information at once. See also PB91-167692, PB87-205266, PB86-124906, PB93-164523, PB93-164531, PB91-510008 and PB91-228759. Other formats available as PB93-504553 (1993).
The software is on one 3 1/2 inch diskette, 1.44M high density. File format: ASCII text.

Emissions and Fuel Economy Results 1992 Car Models contains 3 separate reports: (1) '1992 Test Car List--Passenger Cars'; states: For each model year, each manufacturer must calculate the fuel economy for similar vehicles. It contains key test parameters, actual emission levels, and actual fuel economy for each of the specific test vehicles required for the 1992 model year. The subsequent average data can be found in the file 'Fuel Economy Guide'; (2) '1992 Fuel Economy Guide-6 Number'; states: For each model year, the Energy Policy and Conservation Act requires that a compilation of fuel economy values be provided to the public. These data are intended to help the consumer compare the fuel economy of similar size cars, light-duty trucks, and special purpose vehicles. The adjusted and unadjusted fuel economy values are provided for city, highway and a combination of city and highway driving; (3) 'Federal Certification Test Results for the 1992 Model Year'; states: Each manufacturer of a passenger car, (light-duty vehicle), light-duty truck, motorcycle, heavy-duty gasoline engine, and heavy-duty diesel engine is required to demonstrate compliance with the applicable exhaust emission standard. The report contains all of the individual tests that were required by the certification procedures found in Title 40 of the Code of Federal Regulations in Part 86.

Keywords: *Emission factors, *Fuel economy, *Automotive fuels, Diskettes, Exhaust emissions, Mobile pollutant sources, Air pollution, Nitrogen oxides, US EPA, Clean Air Act.

PB93-504553/REB CP **D02**
Emissions and Fuel Economy Results 1993 Car Models (for Microcomputers). Software.
Environmental Protection Agency, Ann Arbor, MI. Certification Div.
1993, 1 diskette EPA/SW/DK-93/049
System: IBM PC or compatible; MS DOS 5.0 or greater operating system. Product needs: 3.6 Mb of hard disk space, 640 Ram and 133 column screen to display all information at once. See also PB91-167692, PB87-205266, PB86-124906, PB93-164523, PB93-164531, PB91-510008 and PB91-228759. Other formats available as PB93-504546 (1992).
The software is on one 3 1/2 inch diskette, 1.44M high density. File format: ASCII.

Emissions and Fuel Economy Results 1993 Car Models contains 3 separate reports: (1) '1993 Test Car List--Passenger Cars'; states: For each model year, each manufacturer must calculate the fuel economy for similar vehicles. It contains key test parameters, actual emission levels, and actual fuel economy for each of the specific test vehicles required for the 1993 model year. The subsequent average data can be found in the file 'Fuel Economy Guide'; (2) '1993 Fuel Economy Guide-6 Number'; states: For each model year, the Energy Policy and Conservation Act requires that a compilation of fuel economy values be provided to the public. These data are intended to help the consumer compare the fuel economy of similar size cars, light-duty trucks, and special purpose vehicles. The adjusted and unadjusted fuel economy values are provided for city, highway and a combination of city and highway driving; (3) 'Federal Certification Test Results for the 1993 Model Year'; states: Each manufacturer of a passenger car, (light-duty vehicle), light-duty truck, motorcycle, heavy-duty gasoline engine, and heavy-duty diesel engine is required to demonstrate compliance with the applicable exhaust emission standard. The report contains all of the individual tests that were required by the certification procedures found in Title 40 of the Code of Federal Regulations in Part 86.

Keywords: *Emission factors, *Fuel economy, *Automotive fuels, Diskettes, Exhaust emissions, Mobile pollutant sources, Air pollution, Nitrogen oxides, US EPA, Clean Air Act.

PB93-504595/REB CP **T05**
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Synonym and Preferred Name File, January 1993. Data file.
Environmental Protection Agency, Washington, DC.
Jan 93, mag tape* EPA/DF/MT-93/037
System: IBM 3081 K64; MVS-XA SP 2.2.3-DFP 3.1 operating system. File format: EBCDIC. Supersedes PB93-500197. See also PB86-220795 (Plantsite Information 1986) and PB86-220803 (Production Information 1986).
Available in 9-track EBCDIC character set, 1600 or 6250 bpi. Documentation included; may be ordered separately as PB93-155166.

The computer tape contains the Inventory Synonym Name File and the Inventory Preferred Name File of the Toxic Substances Control Act (TSCA) Toxic Substance Inventory. These files reflect the 61,277 substances on the non-confidential Inventory file as of January 1, 1993. The EPA 'N' flag, which indicates a polymeric substance containing no free-radical initiator in its Inventory name, but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used, appears on these tapes for the appropriate polymers that were included in the 1990 Supplement. The tapes do not include this flag for polymers that were listed in the 1985 Edition. A review of the statistics for the amounts of CBI and non-CBI records on the source file and the file that produced these tapes, as well as the types of data elements selected, confirms that no TSCA CBI data are on the tapes.

Keywords: *Data file, *Environmental surveys, *Chemical compounds, Magnetic tapes, Polymers, Free radicals, Revisions, Inventories, *Toxic Substances Control Act, *Chemical Substances Inventory, CAS Registry Number, Chemical nomenclature.

PB93-504793/REB CP **D02**
Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) Version 2.0 (for Microcomputers). Software.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
1991, 1 diskette EPA/SW/DK-92/038
System: IBM compatible; MS DOS operating system, 20K. Language: Compiled DBase files. Supersedes PB92-501626.
The software is on one 3 1/2 inch diskette, 720K double density. Documentation is on a diskette.

Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) presents a qualitative association of pollutants and sources or air pollutant/source 'crosswalk' and presents air toxic emission factors. More than 15,000 crosswalk associations are presented. More than 7,600 emission factors for 400 air toxics are presented. The following items are included: Standard Industrial Classification (SIC) code, Source Classification Code (SCC), pollutant name, CAS number, SIC description, SCC description, industrial process description, operating process description, notes about control and derivation of factors, and references.

Keywords: *Software, *Emission factors, *Air pollution, *Data base management systems, Toxic substances, Pollution sources, Chemical compounds, Standard industrial classifications, Industrial wastes, Diskettes, CAS registry numbers, Source classification codes, XATEF system.

PB93-504959/REB CP **D02**
Geo-EAS: Software for Geostatistics 1.2.1 (5 1/4 Inch Version) (for Microcomputers). Software.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Jun 90, 3 diskettes EPA/SW/DK-93/039
System: IBM-PC/XT/AT/PS-2 or compatible; DOS 3.0+ operating system, 640K. Language: Executable FORTRAN. The program requires 3 MB of storage. Math coprocessor recommended but not required. Graphics support is provided for Hercules, CGA, and EGA. Support is provided for plotters which accept HPGL plotting commands. Supersedes PB89-151245. Other formats available as PB93-504967.
The software is on three 5 1/4 inch diskettes, 1.2M high density. Documentation included; may be ordered separately as PB93-163236.

Geo-EAS is designed to make it easy for the novice to use geostatistical methods and to learn by doing. It also provides sufficient power and flexibility for the experienced user to solve practical problems. Geostatistical methods are useful for site assessment and monitoring where data are collected on a spatial network of sampling locations. Examples of environmental applications include lead and cadmium concentrations in soils surrounding smelters, and sulfate deposition in rainfall. Extensive use of screen graphic such as maps, histograms, scatter plots and variograms help the user search for patterns, correlations, and problems in a data set.

Keywords: *Software, *Geology, Diskettes, Statistics, Contours, Mapping, Data processing, Pollution, Site surveys.

PB93-504967/REB CP **D02**
Geo-EAS: Software for Geostatistics 1.2.1 (3 1/2 inch Version) (for Microcomputers). Software.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Jun 90, 3 diskettes* EPA/SW/DK-93/040

System: IBM-PC/XT/AT/PS-2 or compatible; DOS 3.0+ operating system, 640K. Language: Executable FORTRAN. The program requires 3 MB of storage. Math coprocessor recommended but not required. Graphics support is provided for Hercules, CGA, and EGA. Support is provided for plotters which accept HPGL plotting commands. Other formats available as PB93-504959.
The software is on three 3 1/2 inch diskettes, 1.44M high density. Documentation included; may be ordered separately as PB93-163236.

The complexity of contaminant distribution and migration at hazardous waste sites requires a mathematical method that is capable of interpreting raw data and converting them to useful information. The program offers the environmental scientist an interactive tool for performing two-dimensional geostatistical analyses of spatially distributed data. Geostatistical methods are useful for site assessment and monitoring where data are collected on a spatial network of sampling locations. Examples of environmental applications include lead and cadmium concentrations in soils surrounding smelters, and sulfate deposition in rainfall. Extensive use of screen graphics such as maps, histograms, scatter plots and variograms help the user search for patterns, correlations, and problems in a data set. Individual programs can be run independently; the statistics and graphics routines may prove useful even when a full geostatistical study is not appropriate. For ease of use, the programs are controlled interactively through screen menus and use simple ASCII data files.

Keywords: *Software, *Hazardous materials, *Transport, Diskettes, Solid wastes, Land pollution, Air pollution, Water pollution, Algorithms, *Geo-EAS computer program, Geostatistics.

PB93-505154/REB CP **D02**
ASESS 1.01A (3 1/2 Inch Diskette) (for Microcomputers). Software.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Jan 91, 1 diskette EPA/SW/DK-93/041
System: IBM PC, AT, XT, PS2 or compatible; MS DOS 3.0 or higher operating system, 640K. Language: Fortran. Math coprocessor is recommended, but not required. Minimum graphics hardware is Hercules graphics card, monochrome display with graphics capabilities, CGA and EGA. Other formats available as 5 1/4 inch diskette, PB93-505295.
The software is on one 3 1/2 inch diskette, 1.44M high density. Documentation included; may be ordered separately as PB93-163251 and PB90-242306.

ASSESS is an interactive program designed to assist the user in statistically determining the quality of data from soil samples taken at a hazardous waste site. The user-friendly program was created to assess precision and bias in the sampling of soils. The total error in a sampling regimen is the sum of measurement variability and natural variability of the contamination. It is the field scientist's challenge to mitigate the measurement variability by careful sample-taking, thoughtful sampling design, and the use of recommended quality assessment samples. The greatest potential for error, both random and bias, is in the sampling step. Field conditions, tool contamination, operator differences, all can affect variability and bias in a sample before it gets to the analytical step. The value of ASSESS is its ability to detect and isolate error at critical steps in the sampling and measurement function. ASSESS plots graphics directly on the screen to give the user a quick look at data or results.

Keywords: *Software, *Soil analysis, *Hazardous materials, *Data integrity, Sampling, Precision, Bias, Soil tests, Measurement, Errors, Computer graphics, Diskettes.

PB93-505162/REB CP **D02**
Geophysics Advisor Expert System (Version 2.0) (for Microcomputers). Software.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Oct 92, 1 diskette EPA/SW/DK-93/042
System: IBM compatible; MS DOS 3.0 + operating system. Language: True Basic.
The software is on one 5 1/4 inch diskette, 360K double density. Documentation included; may be ordered separately as PB93-163285.

The program aids in the sampling and monitoring of hazardous waste sites. It asks questions about the site, cultural noise, and the contamination problem. The program then considers several geophysical methods: electromagnetic induction; resistivity; ground-penetrating radar; magnetic; seismic; soil gas; gravity; and radiometric. Geophysics Advisor recommends the type or types of geophysics that will most likely fit the site requirements for determining the location of contamination and providing site characterization. The program will also tell the user if the use of geophysics is not suitable for the site. A relative numerical ranking of the various methods is shown on screen.

Keywords: *Software, *Hazardous materials, *Detection, *Geophysics, *Sites, Contamination, Electromagnetic induction, Resistivity exploration, Radar, Magnetic detection, Seismic detection, Gravity, Radiometry, Expert systems, Diskettes, Soil gases.

PB93-505238/REB CP **D02**
Volatile Organic Compound/Particulate Matter Speciation Data Base Management System (SPECIATE), Version 1.5 (for Microcomputers). Software.
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
Feb 93, 1 diskette* EPA/SW/DK-92/043
System: IBM compatible; DOS 3.0 or greater operating system, 8K. File contains compressed data. User will follow instructions and unpack file according to directions on diskette. System will then build indexes. Supersedes PB92-500354. See also PB88-157888, PB87-230660, and PB86-146511.
The software is on one 3 1/2 inch diskette, 1.44M high density. File format: Wordperfect.

SPECIATE presents Volatile Organic Compound (VOC) and Particulate Matter (PM) species profiles for more than 400 source categories. The species profiles consist of weight percentages of individual compounds of total VOC and total PM. Speciation factors are used to estimate emissions of air toxics from emission factors or estimates of total VOC's and PM. Speciated emission factors are also presented in the data base.

Keywords: *Software, *Particulates, *Data bases, Air pollution, Pollutant sources, Emission factors, Data base management systems, Toxicity, Diskettes, *SPECIATE system, *Volatile organic compounds.

PB93-505295/REB CP **D02**
ASSESS 1.01A (5 1/4 Inch Diskette) (for Microcomputers). Software.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Jan 91, 1 diskette EPA/SW/DK-93/044
System: IBM PC, AT, XT, PS2 or compatible; MS DOS 3.0 or higher operating system, 640K. Language: Fortran. Math coprocessor is recommended, but not required. Minimum graphics hardware is Hercules graphics card, monochrome display with graphics capabilities, CGA and EGA. Other formats available as 3 1/2 inch diskette, PB93-505154.
The software is on one 5 1/4 inch diskette, 1.2M high density. Documentation included; may be ordered separately as PB93-163251 and PB90-242306.

ASSESS is an interactive program designed to assist the user in statistically determining the quality of data from soil samples taken at a hazardous waste site. The user-friendly program was created to assess precision and bias in the sampling of soils. The total error in a sampling regimen is the sum of measurement variability and natural variability of the contamination. It is the field scientist's challenge to mitigate the measurement variability by careful sample-taking, thoughtful sampling design, and the use of recommended quality assessment samples. The greatest potential for error, both random and bias, is in the sampling step. Field conditions, tool contamination, operator differences, all can affect variability and bias in a sample before it gets to the analytical step. The value of ASSESS is its ability to detect and isolate error at critical steps in the sampling and measurement function. ASSESS plots graphics directly on the screen to give the user a quick look at data or results.

Keywords: *Software, *Soil analysis, *Hazardous materials, *Data integrity, Sampling, Precision, Bias, Soil tests, Measurement, Errors, Computer graphics, Diskettes.

PB93-505303/REB CP **D02**
SCOUT: A Data Analysis Program (Version 1.40) (for Microcomputers). Software.
Environmental Monitoring Systems Lab., Las Vegas, NV.
Sep 92, 1 diskette EPA/SW/DK-93/045
System: IBM PC compatible; MS DOS 3.0 or higher operating system. Language: PASCAL. A math coprocessor is recommended but not required. EGA or VGA graphics is required.
Both diskettes (3 1/2 and 5 1/4 inch) are included in this package, both contain identical information.

Scout is a user friendly and menu driven environmental software package that addresses the various needs of data analysts and decision makers. It was developed to identify multivariate or univariate outliers, to test variables for lack of normality, to graph raw data and principal component scores, and to provide output of the results of principal component analysis. Scout provides interactive graphics in two and three dimensions. It allows a quick visual inspection of data, it accentuates obvious outliers, and it provides an easy means of comparing one data set with another. Scout has the flexibility to allow viewing and limited editing of a data set. Scout features on-line help, with a 'built in' user guide.

Keywords: *Software, *Environmental protection, *Data analysis, Interactive graphics, Two dimensional models, Three dimensional models, On-line systems, Outliers(Statistics), Diskettes.

PB93-505733/REB CP **T02**
Aquatic Toxicity Information on VAX VMS Backup (AQUIRE for VMS). Data file.
Environmental Research Lab.-Duluth, MN.
31 Mar 93, mag tape EPA/DF/MT-93/051
System: DEC VAX 4500; V5.5-1 operating system. This is a VAX VMS backup tape with executable and data files stored in BACKUP save sets. Supersedes PB92-500479. Other formats available as PB93-505725 (non VMS).
Available in 9-track, ASCII character set tape, 1600 bpi or 6250 bpi. Documentation included; may be ordered separately as PB93-192631.

The purpose of AQUIRE is to provide scientists and managers quick access to a comprehensive, systematic, computerized compilation of aquatic toxicity data. Scientific papers published both nationally and internationally on the toxicity of chemicals to aquatic organisms and plants are collected and reviewed for AQUIRE. Independently compiled data files that meet AQUIRE parameter and quality assurance criteria are also included. Relevant toxicity test results and related test information for any individual chemicals analyzed using freshwater and marine organisms in laboratory and field conditions, are included in the database. During 1992 and early 1993, nine data updates were made to the AQUIRE system. AQUIRE now contains 109,338 individual aquatic toxicity test results for 5,159 chemicals, 2,429 organisms, and over 160 endpoints reviewed from 7,517 publications.

Keywords: *Toxicity, *Databases, *Water pollution effects(Plants), *Water pollution effects(Animals), Aquatic plants, Aquatic animals, Hazardous materials, Fresh water biology, Marine biology, Magnetic tapes, *AQUIRE data base.

PB93-963100/REB Standing Order
Superfund: Environmental Response and Health and Safety (Training Materials). Irregular repts.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
1993, open series
Available on Standing Order, deposit account required (minimum deposit $225 U.S., Canada, and Mexico; all others $450). Single copies also available in paper copy only.

The materials covers environmental response; training manuals; field procedures; standard operating guides; hazardous waste operations; and health and safety.

Keywords: *Superfund, *Training, Education, Occupational safety and health, Hazardous materials, Guidelines, Procedures, *Educational materials.

PB93-963201/REB
see individual report for order number and price
National Priorities List Sites.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
1992,49 issues
Also available as a package containing 49 NPL Sites, PB93-963250.
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 publication provides general Superfund background information and descriptions of activities at each State National Priorities List (NPL) site. It 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. Compiles site summary fact sheets on each State site being cleaned up under the Superfund Program. Other individual documents are also available as:
Alabama. 1992, 70p PC A04, MF A01 **PB93-963201/REB**
Alaska. 1992, 56p PC A04, MF A01 **PB93-963202/REB**
United States Territories. 1992, 52p PC A04, MF A01 **PB93-963203/REB**
Arizona and Nevada. 1992, 74p PC A04, MF A01 **PB93-963204/REB**
Arkansas. 1992, 61p PC A04, MF A01 **PB93-963205/REB**
California and Hawaii. 1992, 261p PC A12, MF A03 **PB93-963206/REB**
Colorado. 1992, 88p PC A05, MF A01 **PB93-963207/REB**
Connecticut. 1992, 73p PC A04, MF A01 **PB93-963208/REB**
Delaware. 1992, 90p PC A05, MF A01 **PB93-963209/REB**
Florida. 1992, 168p PC A08, MF A02 **PB93-963210/REB**
Georgia. 1992, 70p PC A04, MF A01 **PB93-963211/REB**
Idaho. 1992, 62p PC A04, MF A01 **PB93-963212/REB**
Illinois. 1992, 120p PC A06, MF A02 **PB93-963213/REB**
Indiana. 1992, 120p PC A06, MF A02 **PB93-963214/REB**
Iowa. 1992, 78p PC A05, MF A01 **PB93-963215/REB**
Kansas. 1992, 59p PC A04, MF A01 **PB93-963216/REB**
Kentucky. 1992, 82p PC A05, MF A01 **PB93-963217/REB**
Louisiana. 1992, 64p PC A04, MF A01 **PB93-963218/REB**
Maine. 1992, 64p PC A04, MF A01 **PB93-963219/REB**
Maryland. 1992, 68p PC A04, MF A01 **PB93-963220/REB**
Massachusetts. 1992, 109p PC A06, MF A02 **PB93-963221/REB**
Michigan. 1992, 208p PC A10, MF A03 **PB93-963222/REB**
Minnesota. 1992, 133p PC A07, MF A02 **PB93-963223/REB**
Mississippi. 1992, 46p PC A03, MF A01 **PB93-963224/REB**
Missouri. 1992, 98p PC A05, MF A02 **PB93-963225/REB**
Montana. 1992, 56p PC A04, MF A01 **PB93-963226/REB**
Nebraska. 1992, 60p PC A04, MF A01 **PB93-963227/REB**
New Hampshire. 1992, 80p PC A05, MF A01 **PB93-963228/REB**
New Jersey. 1992, 314p PC A14, MF A03 **PB93-963229/REB**
New Mexico. 1992, 56p PC A04, MF A01 **PB93-963230/REB**
New York. 1992, 238p PC A11, MF A03 **PB93-963231/REB**
North Carolina. 1992, 96p PC A05, MF A01 **PB93-963232/REB**
North and South Dakota. 1992, 51p PC A04, MF A01 **PB93-963233/REB**
Ohio. 1992, 117p PC A06, MF A02 **PB93-963234/REB**
Oklahoma. 1992, 62p PC A04, MF A01 **PB93-963235/REB**
Oregon. 1992, 62p PC A04, MF A01 **PB93-963236/REB**
Pennsylvania. 1992, 272p PC A12, MF A03 **PB93-963237/REB**
Puerto Rico and Virgin Islands. 1992, 57p PC A04, MF A01 **PB93-963238/REB**
Rhode Island. 1992, 72p PC A04, MF A01 **PB93-963239/REB**
South Carolina. 1992, 94p PC A05, MF A01 **PB93-963240/REB**
Tennessee. 1992, 74p PC A04, MF A01 **PB93-963241/REB**
Texas. 1992, 106p PC A06, MF A02 **PB93-963242/REB**
Utah. 1992, 64p PC A04, MF A01 **PB93-963243/REB**
Vermont. 1992, 58p PC A04, MF A01 **PB93-963244/REB**
Virginia. 1992, 92p PC A05, MF A01 **PB93-963245/REB**
Washington. 1992, 158p PC A08, MF A02 **PB93-963246/REB**
West Virginia. 1992, 54p PC A04, MF A01 **PB93-963247/REB**
Wisconsin. 1992, 127p PC A07, MF A02 **PB93-963248/REB**
Wyoming. 1992, 41p PC A03, MF A01 **PB93-963249/REB**

PB93-963250/REB PC**$700.00**
National Priorities List Sites (1992).
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
1992, 4835p-in 49v
Package includes 49 NPL Sites, PB93-963201 through PB93-963249.

No abstract available.

PB93-963258/REB PC **A01**/MF **A01**
Required Contracts Management Training for Regional Superfund Personnel. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
7 Jul 92, 3p EPA/540/F-93/004, OSWER-9202.1-05
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 memorandum establishes the required training regarding the management of contracts for all regional Superfund program personnel.

Keywords: *Superfund, *Training, *Contract management, Education, Personnel development, Contracts.

PB93-963259/REB PC **A02**/MF **A01**
Overview of the Outyear Liability Model (OLM). Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Mar 93, 8p OSWER-9200.2-15FS
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 an overview of the Outyear Liability Model developed to assist EPA in projecting activity levels, costs, and resource needs associated with the Superfund Program.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Liabilities, US EPA, Cost analysis, Resources, Budgets, Site surveys, Environmental policy, *Outyear Liability Model, *Office of Solid Waste and Emergency Response, Comprehensive Environmental Response Compensation and Liability Act, Comprehensive Environmental Response Compensation and Liability Information System, National Priorities List, Superfund Comprehensive Accomplishments Plan.

PB93-963268/REB PC **A01**/MF **A01**
Standard Document for Remedial Site Assessment Decisions. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
8 Dec 92, 4p OSWER-9345.0-07
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 National Contingency Plan (NCP) requires the U.S. Environmental Protection Agency (EPA) to assess all releases and threatened releases throughout the United States pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended. In accordance with the NCP, EPA conducts PAs and SIs to assess sites where releases or threatened releases may exist. After evaluating information collected during a PA or SI, EPA then decides on the need for further investigative or response action. All Regions document remedial site assessment decisions, but procedures vary. To ensure adequate documentation of such decisions, the site assessment program has developed a standard site assessment decision sheet.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, Remedial action, Site surveys, Decision making, Information dissemination, Cleanup operations.

PB93-963274/REB PC **A04**/MF **A01**
Superfund: EPA/ICMA Superfund Revitalization Conference. Held in Chicago, Illinois on November 12-13, 1992.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Apr 93, 52p EPA/540/R-93/055, OSWER-9202.1-11
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 summary report outlines the comments made by the introductory speakers as well as the conclusions drawn from the group discussions. The report highlights those recommendations that were strongly endorsed by a large number of attendees. The report also identifies points on which the different groups could not reach consensus.

Keywords: *Superfund, *Hazardous materials, *Waste management, *Meetings, Recommendations, Volunteers, Sites, Remedial action, Liabilities, Cooperation, Groups, Citizen participation, US EPA, Government policies, Cleanup, Responsible parties.

PB93-963275/REB PC **A03**/MF **A01**
Initiatives to Streamline the Alternative Remedial Contracting Strategy (ARCS) Contracts' Award Fee Process. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
4 Sep 92, 32p EPA/540/F-93/016, OSWER-9202.1-06
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 directive delineates changes to the Alternative Remedial Contracting Strategy (ARCS) award fee process which will streamline the system for evaluating contractors' performance.

Keywords: *Superfund, *Waste management, *Hazardous materials, Contractors, Performance evaluation, Remedial action, Alternatives, Incentives, Bonuses, Fees, *Office of Solid Waste and Emergency Response, *Alternative Remedial Contracting Strategy, Regional management teams.

PB93-963276/REB PC **A01**/MF **A01**
Performance Tracking under ARCS Contracts. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
8 Sep 92, 3p EPA/540/F-93/015, OSWER-9242.6-13
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.

The directive discusses the development of a non-resource intensive method for reporting performance based work allocation results under the ARCS (Alternative Remedial Contracting Strategy) contractors.

Keywords: *Superfund, *Waste management, *Hazardous materials, Contractors, Remedial action, Performance evaluation, Incentive contracts, Fees, Imple-

mentation, *Office of Solid Waste and Emergency Response, *Alternative Remedial Contracting Strategy.

PB93-963278/REB PC **A01/MF A01**
Amendment to Historical Definitions of NPL Deletion Start and Completion Dates.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
8 Oct 92, 2p EPA/540/F-93/013, OSWER-9320.2-05
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 memorandum amends two historical CERCLIS (Comprehensive Environmental Response Compensation and Liability Information System) definitions of the NPL (National Priorities List) deletion process start and completion dates in the Superfund Comprehensive Accomplishments Plan (SCAP) Manual of FY 1987 and the Superfund Program Management Manual of FY 1988.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Revisions, Definitions, *Superfund Comprehensive Accomplishments Plan, *Office of Solid Waste and Emergency Response, National Priorities List.

PB93-963279/REB PC **A01/MF A01**
Identification of a Senior Superfund Official for Addressing Special NPL Site-Related Issues. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
22 May 92, 3p EPA/540/F-93/014, OSWER-9202.1-04
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 directive identifies a senior Superfund official responsible for reviewing and addressing specific issues at NPL (National Priorities List) sites that cannot be resolved at the Regional level and identifies criteria for NPL site referrals to this official.

Keywords: *Superfund, *Waste management, *Hazardous materials, Criteria, Remedial action, Site surveys, Assessments, Reviews, *Office of Solid Waste and Emergency Response, National Priorities List, Responsibilities, Cleanup operations, National Incident Coordination Team.

PB93-963280/REB PC **A03/MF A01**
Guidance on Program Management Activities under ARCS. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
11 Feb 93, 24p EPA/540/F-93/012, OSWER-9202.1-09
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 division of program management costs into administrative support costs and technical cleanup costs and the development of guidance on cost management activities.

Keywords: *Superfund, *Waste management, *Hazardous materials, Costs, Guidelines, Administrative procedures, Remedial action, Recommendations, *Office of Solid Waste and Emergency Response, Cleanup, Alternative Remedial Contracting Strategy.

PB93-963281/REB PC **A01/MF A01**
Clarification of Delegation to Approve Consistency Exemptions at NPL Sites. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
3 Jun 92, 2p EPA/540/F-93/011, OSWER-9360.2-04A
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 or microfiche.

The directive clarifies Regional authority to approve exemptions from the $2 million statutory limit on Superfund removal actions.

Keywords: *Superfund, *Waste management, *Hazardous materials, Regional analysis, Remedial action, Authority, Administrative procedures, Funds, Implementation, *Office of Solid Waste and Emergency Response, National Priorities List, Regional Administrators, Cleanup operations.

PB93-963282/REB PC **A02/MF A01**
Use of Time and Materials and Cost Reimbursement Subcontracts for Remedial Actions under the Alternative Remedial Contracting Strategy Contracts. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
29 Jul 92, 6p EPA/540/F-93/010, OSWER-9242.3-09
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 is intended to establish agency guidance on the use of time and materials and cost reimbursement contracts for remedial actions in general and to provide specific instruction regarding the use of these approaches in subcontracting under the Alternative Remedial Contracting Strategy (ARCS) contracts.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Contracts, Reimbursements, Subcontracts, Alternatives, Implementation, *Office of Solid Waste and Emergency Response, *Altrnative Remedial Contracting Strategy.

PB93-963283/REB PC **A01/MF A01**
Smart Moves in Superfund - Regional Pilots and Initiatives. Volume 1, Number 2, September 1992. Bulletin.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Sep 92, 4p OSWER-9202.1-02I-VOL-1-NO-2
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 issue of the Smart Moves in Superfund bulletin series highlights regional pilots and initiatives to streamline cleanup through the Superfund Accelerated Cleanup Model.

Keywords: *Waste management, *Superfund, *Hazardous materials, Remedial action, Assessments, Incentives, Regional analysis, Implementation, *Superfund Accelerated Cleanup Model, Cleanup.

PB93-963284/REB PC **A01/MF A01**
Smart Moves in Superfund - Revitalization One Year Later. Volume 1, Number 3, January 1993. Bulletin.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Jan 93, 4p OSWER-9202.1-02I-VOL-1-NO-3
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 issue of the Smart Moves in Superfund bulletin series provides an update on the revitalization effort, highlighting National Priorities List (NPL) construction completions, accelerating cleanup, the Superfund Accelerated Cleanup Model, risk assessment/risk management, contracts management, enforcement policy/equity, interagency cooperation, public forms, and state meetings.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Risk assessment, Contracts, Law enforcement, Interagency cooperation, Performance evaluation, Site surveys, *Office of Solid Waste and Emergency Response, Revitalization, Cleanup, Superfund Accelerated Cleanup Model, National Priorities List, Cooperative agreements.

PB93-963289/REB PC **A01/MF A01**
HSED SACM Report. Volume 1, Number 1, January 1993. Intermittent bulletin.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Jan 93, 2p OSWER-9203.1-07I-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 bulletin is issued by the Hazardous Site Evaluation Division to keep regional staff up-to-date on program and procedural changes resulting from the Superfund Accelerated Cleanup Model.

Keywords: *Hazardous materials, *Waste management, *Remedial action, Program management, Directives, Guidelines, Compliance, US EPA, Sites, Risk assessment, Personnel, Cooperation, Meetings, *Superfund Accelerated Cleanup Model(SACM), Bulletin, *Waste removal, EPA regions.

PB93-963290/REB PC **A01/MF A01**
Response Action Contractor Final Indemnification Guidelines. Volume 2, Number 1, March 1993. Intermittent bulletin.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Mar 93, 4p OSWER-9202.1-02I-VOL-2-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 Final Guidelines supersede EPA's Interim Guidance on Indemnification which, since 1987, has prescribed the standard terms and conditions for indemnification agreements with Superfund response action contractors (RACs). Under CERCLA Section 119, EPA has discretionary authority to indemnify RACs for third-party damage claims based on negligent release during a response action. The Final Guidelines affect all response action contracts, including ARCS, ERCS, TES, and TAT. The Guidelines also impact grants, contracts issued by States under cooperative agreements with EPA, closed contracts, and contracts awarded by the U.S. Army Corps of Engineers and other Federal agencies operating under interagency agreements with EPA to cleanup Superfund sites.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, Contractors, Contract terms, Remedial action, Liabilities, Contracts, State government, Guidelines, Cleanup operations, Indemnification.

PB93-963291/REB PC **A02/MF A01**
Further Direction on Implementing the Superfund Accelerated Cleanup Model (SACM). Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
27 Apr 93, 6p OSWER-9203.1-08
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 memorandum provides a summary of progress to date in implementing SACM and refines goals and strategies in transitioning to full implementation in FY 1994.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, Remedial action, Law enforcement, Compliance, Assessments, Public relations, Decision making, Guidelines, *SACM(Superfund Accelerated Cleanup Model), Cleanup operations.

PB93-963292/REB PC **A01/MF A01**
Superfund Response Action Contracts. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
May 93, 4p OSWER-9242.2-08FS
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 discusses the EPA's Response Action Contracts to provide professional architect/engineer services to support response planning and oversight of activities, including contract services required, contract structure, and the procurement process.

Keywords: *Superfund, *US EPA, *Contract administration, *Technical assistance, *Waste management, Engineering, Construction, Sites, Contracted services, Procurement, Design, Remedial action, Superfund Amendments and Reauthorization Act of 1986(SARA).

PB93-963324/REB PC **A01**/MF **A01**
SARA '200' Remedial Action Starts Requirement. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
22 Dec 92, 3p EPA/540/F-93/008, OSWER-9355.0-24A
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 modifies methods for tracking the Superfund Amendments and Reauthorization Act (SARA) '200' remedial action first starts.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Contractors, Implementation, Requirements, *Office of Solid Waste and Emergency Response, Comprehensive Environmental Response Compensation and Liability Act, Cleanup operations.

PB93-963325/REB PC **A02**/MF **A01**
Permits and Permit 'Equivalency' Processes for CERCLA On-Site Response Actions. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
19 Feb 92, 7p EPA/540/F-93/009, OSWER-9355.7-03
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 is intended to clarify the EPA policy with respect to attaining permits for activities at Comprehensive Environmental Response Compensation and Liability Act (CERCLA) sites.

Keywords: *Superfund, *Waste management, *Hazardous materials, US EPA, Environmental policy, Remedial action, Permits, Compliance, *Office of Solid Waste and Emergency Response, Applicable or Relevant and Appropriate Requirements, Remedial response, Comprehensive Environmental Response Compensation and Liability Act, Cleanup operations.

PB93-963328/REB PC **A04**/MF **A01**
Compendium of ROD Language for FY 1993 Focus Areas. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Apr 93, 61p EPA/540/R-93/059, OSWER-9355.3-17
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 compendium covers five major areas of focus for Record of Decision (ROD) language. These include: Rationale for the selected remedy, Clean-up levels, Eco-risk assessment, Applicable or Relevant and Appropriate Requirements (ARARs), and Enforcement Activities. Examples of good documentation of each of the five ROD areas of focus are presented in the compendium.

Keywords: *Waste management, *Superfund, *Remedial action, *Hazardous materials, Directives, Terminology, Guidelines, Risk assessment, Ecology, Law enforcement, Alternatives, Licenses, Statutes, Toxicity, Water pollution control, Administrative procedures, Chemical compounds, Decisions and orders, Consent orders, *Record of Decision, Cleanup, Applicable or Relevant and Appropriate Requirements, Comprehensive Environmental Response Compensation and Liability Act, Reference materials.

PB93-963333/REB PC **A02**/MF **A01**
Guidance on Setting Priorities for NPL Candidate Sites. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
28 Oct 92, 7p EPA/540/F-93/030, OSWER-9203.1-06
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 guidance document identifies factors that will help EPA regions decide the order in which they should consider sites with completed site inspections for inclusion on the NPL (National Priorities List).

Keywords: *Superfund, *Inspection, *Site surveys, Hazardous materials, Government policies, Pollution regulations, Evaluation, Guidelines, *National Priorities List, Hazard Ranking System.

PB93-963334/REB PC **A01**/MF **A01**
ATSDR Health Consultations under CERCLA. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
21 Nov 91, 3p OSWER-9285.4-06
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 memorandum clarifies issues related to Agency for Toxic Substances and Disease Registry (ATSDR) health consultations requested under CERCLA by the Superfund removal, remedial, and site assessment programs.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Risk assessment, Public health, Toxicology, Health hazards, Public relations, Information dissemination, Lead(Metal), Cleanup operations, Soil contamination.

PB93-963336/REB PC **A03**/MF **A01**
Ensuring the Adequacy of Cost Share Provisions in Superfund State Contracts. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
29 Mar 93, 11p OSWER-9375.7-01
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 memorandum requests regional offices to re-examine existing Superfund State Contracts (SSCs) for Fund-financed remedial actions to verify that they adequately reflect incurred and projected remedial action costs.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Contract management, Remedial action, Contracts, Costs, Project management, State government, Cleanup operations, Cost share assurances.

PB93-963338/REB PC **A03**/MF **A01**
Discussions with the Public Concerning NPL Listings. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
30 Apr 93, 20p OSWER-9320.1-11
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 memorandum briefly outlines EPA's policy on site-related discussions prior to and during rulemaking concerning the listing of sites on the National Priorities List. Recently some Regions, as well as several members of Congress, have raised the question of what types of site-related discussions are permissible between EPA personnel and the public (e.g., potentially responsible parties (PRPs) or commenters) prior to and during the listing process.

Keywords: *Waste management, *Government policies, *Hazardous materials, *Directives, Waste disposal, Sites, US EPA, Citizen participation, Assessments, Remedial action, Cleanup, Decision making, State government, *National Priorities List, Listings, *Potentially responsible parties(PRPs).

PB93-963401/REB PC **A01**/MF **A01**
OSWER Integrated Health and Safety Standard Operating Practices. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Feb 93, 2p EPA/540/F-93-007, OSWER-9285.0-01A
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 implements the OSWER (Office of Solid Waste and Emergency Response) Integrated Health and Safety Standards Operating Practices in conjunction with the OSHA (Occupational Safety and Health Act) Worker Protection Standards, replacing the OSWER Integrated Health and Safety Policy.

Keywords: *Superfund, *Waste management, *Hazardous materials, *Occupational safety and health, Standards, Safety, Training, US EPA, Requirements, *Office of Solid Waste and Emergency Response.

PB93-963408/REB PC **A01**/MF **A01**
Facility Response Plans. Fact sheet.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Feb 93, 4p EPA/540/F-93/029, OSWER-9360.8-06FS
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 general information on EPA's intended implementation of the Clean Water Act Section 311 requirements regarding facility response plans.

Keywords: *Oil spills, *Regulations, *Facilities management, Onshore sites, Land pollution, Water pollution, Storage facilities, Terminal facilities, Contingency planning, *Oil Pollution Act, *Facility Response Plan, Clean Water Act, Substanial harm facilities, Non-transportation related facilities.

PB93-963410/REB PC **A02**/MF **A01**
Expedited Response Actions. Directive (Final).
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Jul 86, 6p EPA/540/F-93/033, OSWER-9360.0-10
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 document summarizes response action procedures in an attempt to clarify the distinction between expedited response actions and remedial actions.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, Remedial action, *Expedited response action, National Priorities List, Cleanup operations.

PB93-963411/REB PC **A03**/MF **A01**
Questions and Answers on Release Notification Requirements and Reportable Quantity Adjustments. Directive (Final).
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Oct 89, 28p EPA/540/F-93/032, OSWER-9360.7-11
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 answers questions for the regulatory community concerning CERCLA and SARA Title III release notification requirements and reportable quantity adjustments.

Keywords: *Superfund, *Reporting requirements, Hazardous materials, Radioactive materials, Environment pollution, Guidelines, Pollution regulations, *Pollutant releases, Reportable quantity, Notification requirements.

PB93-963412/REB PC **A03**/MF **A01**
Guidance for Federal Facilities on Release Notification Requirements under CERCLA and SARA Title III. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Nov 90, 29p EPA/9360.7-06
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 is intended as guidance for federal facilities to better understand CERCLA and SARA Title II release notification requirements.

Keywords: *Superfund, *Pollution regulations, Hazardous materials, Radioactive materials, Environment pol-

lution, Federal agencies, Reporting requirements, Guidelines, *Federal facilities, Pollutant releases.

PB93-963501/REB PC **A01**/MF **A01**
Reassignment of CLP Transportation Functions. Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
19 Jan 93, 4p EPA/540/F-93/006, OSWER-9240.0-25
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 reassignment of the responsibility of providing CLP (Contract Laboratory Program) sample coolers to the regions and their support contractors.

Keywords: *Superfund, *Waste management, *Hazardous materials, Allocations, Contractors, Samples, Hazardous materials transportation, *Office of Solid Waste and Emergency Response, Contract Laboratory Program, Responsibilities.

PB93-963502/REB PC **A03**/MF **A01**
Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A). Directive.
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
6 Jul 92, 24p EPA/540/F-93-005, OSWER-9240.0-02B
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 memorandum provides procedures for tracking Potentially Responsible Party (PRP) analytical services on a national basis in accordance with EPA policy.

Keywords: *Superfund, *Waste management, *Hazardous materials, Remedial action, Analytical techniques, US EPA, Laboratories, Quality control, Information transfer, *Office of Solid Waste and Emergency Response, *Potentially responsible parties, On-scene coordinators, Remedial project managers, Responsibilities.

PB93-963702/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 1): Darling Hill Dump, Lyndon, VT. (First Remedial Action), June 1992. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Jun 92, 37p EPA/ROD/R01-92/064
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; all others $400. Also available individually in paper copy or microfiche.

The 3.5-acre Darling Hill Dump site is an inactive solid waste disposal facility in the town of Lyndon, Caledonia County, Vermont. Approximately 3,200 residents within the area are served by the Lyndonville Municipal Well Field, located within 0.5 mile to the southwest. As a result of detecting low levels of VOCs in the ground water at the Lyndonville Municipal Wellfield, a number of investigations were performed by EPA and the state, which revealed VOCs and metals in the ground water and soil at the site. Subsequent investigations have revealed that the pumping of the municipal wells inhibits flow of contaminants past the wellfield and that the site is neither contaminating area surface waters nor posing a significant physical hazard to area residences. The ROD addresses continued monitoring of ground water, surface water, and sediments at the Darling Hill Dump Site. The results of the RI show that the levels of organic compounds and metals do not appear to pose an unacceptable risk to human health or the environment. Therefore, there are no contaminants of concern affecting the site. The selected remedial action for the site includes no further action because significant levels of contaminants are not present at the site.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Remedial action, *Pollution control, Solid waste disposal, Municipal wastes, Industrial wastes, Water pollution, Land pollution, Volatile organic compounds, Metals, *Record of Decision, First remedial action - Final, EPA region 1, Cleanup, Caledonia County(Vermont).

PB93-963805/REB PC **A06**/MF **A02**
Superfund Record of Decision (EPA Region 2): Pasley Solvents and Chemicals, Town of Hempstead, Nassau County, NY. (First Remedial Action), April 1992. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
24 Apr 92, 101p EPA/ROD/R02-92/171
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; all others $400. Also available individually in paper copy or microfiche.

The approximately 0.5-acre Pasley Solvents and Chemical site is a former oil, solvent, and chemical storage tank farm located in the Town of Hempstead, Nassau County, New York. The only drinking water source in the area consists of aquifers; four public water supply wellfields are located within 2 miles of the site. In 1980, after Pasley requested a chemical storage and removal permit, a state inspection revealed soil contamination with VOCs beneath the above-ground storage tanks and recommended a remedial investigation and clean-up plan. The ROD addresses the contaminated surface soil and ground water as a final remedy. 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 naphthalene. The selected remedial action at the site are included.

Keywords: *Superfund, *Hazardous materials, *Remedial action, *Waste disposal, *Pollution control, Solvents, Storage tanks, Land pollution, Water pollution, Ground water, Volatile organic compounds, Naphthalene, Aromatic polycyclic hydrocarbons, Potable water, *Record of Decision, EPA region 2, Nassau County(New York), First remedial action - Final, Cleanup.

PB93-963907/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 3): Dixie Caverns Landfill Site, Operable Unit 2, Roanoke County, VA. (Second Remedial Action), September 1992. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
28 Sep 92, 26p EPA/ROD/R03-92/161
See also PB92-963929.
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; all others $400. Also available individually in paper copy or microfiche.

The 39-acre Dixie Caverns County Landfill is a former municipal landfill in Roanoke County, Virginia. During operation, the landfill accepted an estimated 440,000 cubic yards of municipal and industrial wastes, including refuse, scrap metal, fly ash, and sludge. In 1983, EPA investigations identified several disposal areas, including a discarded drum area, a sludge pit, and a large fly ash pile, which contained elevated levels of metals. The ROD addresses OU2, those areas at the site that were not addressed by OU1 or by the 1992 removal order. Previous and ongoing removal and remedial actions have addressed or will address all risks posed by the site; therefore, there are no contaminants of concern affecting the site. The selected remedial action for the site is no further action.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Pollution control, *Remedial action, Earth fills, Municipal wastes, Industrial wastes, Fly ash, Sludge disposal, Metal scrap, *Record of Decision, Roanoke County(Virginia), EPA region 3, Second remedial action - Final, Cleanup.

PB93-964106/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 5): Clare Water Supply Site, Clare County, Clare, MI. (Second Remedial Action), September 1992. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
16 Sep 92, 57p EPA/ROD/R05-92/209
See also PB91-921459.
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; all others $400. Also available individually in paper copy or microfiche.

The Clare Water Supply site is a municipal well field in the City of Clare, Clare County, Michigan. An estimated 3,300 residents of Clare use the municipal water supply as their drinking water supply. In 1981, state investigations of the municipal wells showed VOC contamination in the ground water. In 1982, soil samples taken during the installation of monitoring wells showed soil contamination from seven industrial facilities bordering the well field and attributed contamination of the shallow perched aquifer to the leaching of contaminants from these areas. The ROD addresses the contaminated soil and ground water as a final remedial action for the site. The primary contaminants of concern affecting the soil and ground water are VOCs, including benzene, PCE, TCE, and xylenes. The selected remedial action for the site are included.

Keywords: *Superfund, *Waste disposal, *Hazardous materials, *Pollution control, *Remedial action, Water supply, Land pollution, Water pollution, Ground water, Soil contamination, Volatile organic compounds, Potable water, Industrial wastes, *Record of Decision, Cleanup, Clare County(Michigan), Second remedial action - Final, EPA region 5.

PB93-964111/REB PC **A05**/MF **A02**
Superfund Record of Decision (EPA Region 5): Kohler Landfill, Kohler, WI. (First Remedial Action), March 1992.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Mar 92, 97p EPA/ROD/R05-92/206
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; all others $400. Also available individually in paper copy or microfiche.

The 40-acre Kohler Company Landfill site is an operating landfill at the Kohler manufacturing facility in Kohler, Sheboygan County, Wisconsin. The estimated 57,000 people who reside within 3 miles of the site use the Sheboygan municipal system from Lake Michigan as their drinking water supply. From the early 1950's to the present, the Kohler Company has used the landfill as the primary location for disposing of manufacturing and foundry wastes generated at the Kohler manufacturing facilities. In 1983, EPA detected contaminated surface-water runoff at the landfill. Studies have revealed that ground water is contaminated due to leaching of chemical constituents from the landfill. The ROD addresses source contamination through containment of the waste mass as the first of two remedial actions planned for the site. A future ROD will address the contaminated ground water. The primary contaminants of concern affecting the waste mass and ground water are VOCs, including benzene, toluene, TCE, and xylenes; other organics including phenolic compounds; and metals, including arsenic, chromium, and lead. The selected remedial action for the site are included.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Pollution control, *Remedial action, Earth fills, Land pollution, Soil contamination, Industrial wastes, Manufacturing, Volatile organic compounds, Organic compounds, Metals, *Record of Decision, First remedial action, Sheboygan County(Wisconsin), Cleanup, EPA region 5.

PB93-964113/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 5): Metal Working Shop, Benzie County, Lake Ann, MI. (First Remedial Action), June 1992. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Jun 92, 27p EPA/ROD/R05-92/199
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; all others $400. Also available individually in paper copy or microfiche.

The 2.7-acre Metal Working Shop (MWS) site is a manufacturing facility in Lake Ann, Benzie County, Michigan. Land use in the area includes residential, recreational, agricultural, and timberlands. A variety of metal

finishing and tool and die operations have been conducted at the site during the past 26 years. A 1987 investigation conducted by an independent contractor included collecting several soil samples and installing three groundwater monitoring wells. The investigation revealed that there was no soil or ground water contamination; however, it did not prove the absence of potentially present contamination based on historical dumping. The ROD provides a final action, and no aditional OUs or additional separate actions are planned. No site-related organic contamination was identified during the RI and inorganic constituents approximated background levels; therefore, there are no contaminants of concern onsite. The selected remedial action for the site includes no further action because no significant levels of contaminants exist onsite.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Pollution control, *Remedial action, Metal working, Land pollution, Water pollution sampling, *Record of Decision, EPA region 5, First remedial action - Final, Cleanup, Benzie County(Michigan).

PB93-964116/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 5): Savanna Army Depot, Savanna, IL. (First Remedial Action), March 1992. Final rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
31 Mar 92, 73p EPA/ROD/R05-92/200
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; all others $400. Also available individually in paper copy or microfiche.

The Savanna Army Depot Activity (SVADA) site, an active military installation, is located 70 miles west of Rockford, Illinois, in a remote and sparsely populated area. From 1943 to 1969, ammunition washout operations were conducted in the northwestern portion of the facility. As a result, wastewater containing explosive compounds was produced, discharged to a drain trough, and piped to four unlined lagoons, referred to as the 'lower lagoons,' which drained into a ditch and onto the Mississippi River. Since 1979, the SVADA lagoon ares have been the subject of several U.S. Army investigations, which revealed significant contamination of the soil with high concentrations of the explosive trinitrotoluene (TNT) and other organic compounds. The soil is also a continued source of ground water contamination. The ROD addresses a final remedy for the Washout Lagoon Area Soil at SVADA as OU1. A future ROD will address the ground water in the vicinity of the lagoons. The primary contaminants of concern affecting the soil are organics, including TNT; nitrobenzene (NB); 2,4,6-TNT; 2,4-dinitrotoluene (DNT); 2-amino-4,6,DNT; 1,3,5-trinitrobenzene (TNB); and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX). The selected remedial action for the site are included.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Pollution control, *Remedial action, Land pollution, Soil contamination, Explosives, Organic compounds, Military facilities, Lagoons(Ponds), Waste water, *Record of Decision, Cleanup, EPA region 5, First remedial action - Final, Rockford(Illinois), Savanna Army Depot Activity.

PB93-964120/REB PC **A04**/MF **A01**
Superfund Record of Decision (EPA Region 5): Torch Lake Site, Operable Units 1 and 3, Houghton County, MI. (First Remedial Action), September 1992.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Sep 92, 65p EPA/ROD/R05-92/215
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; all others $400. Also available individually in paper copy or microfiche.

The 2,700-acre Torch Lake site is a copper milling and smelting facility in Houghton County, Michigan. The lake, a repository of milling wastes, served as the waterway for transportation to support the mining industry. In the late 1960's, copper milling ceased. In 1972, a discharge of 27,000 gallons of cupric ammonium carbonate leaching liquor occurred into the north end of Torch Lake from the storage vats at the Lake Linden Leaching Plant. The state investigated the spill and found no harmful effects associated with the spill; however, discoloration of several acres of lake bottom was noted. The ROD addresses removal of debris, surface tailings, and slag pile/beach, and disposal of drums on the western shore of the site, as OU1, and remediation of slag pile locations through the mid-Keweenaw Peninsula, as OU3. The primary contaminants of concern affecting the soil, debris, and slag pile/beach are organics, including PAHs; and metals, including arsenic, chromium, lead, and copper. The selected remedial action for the site are included.

Keywords: *Superfund, *Hazardous materials, *Waste disposal, *Pollution control, *Remedial action, Torch Lake, Tailings, Land pollution, Soil contamination, Leaching, Chemical spills, Aromatic polycyclic hydrocarbons, Metals, Copper, Slags, Drums(Containers), *Record of Decision, EPA region 5, Cleanup, First remedial action, Houghton County(Michigan).

PB93-964604/REB PC **A03**/MF **A01**
Superfund Record of Decision (EPA Region 10): Elmendorf Air Force Base, Operable Unit 2, Source Area ST41, Anchorage, AK. (First Remedial Action), September 1992. Interim rept.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
1 Sep 92, 31p EPA/ROD/R10-92/044
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; all others $400. Also available individually in paper copy or microfiche.

The 13,130-acre Elmendorf Air Force Base (AFB) site is located adjacent to the municipality of Anchorage, Alaska. From 1940 to 1991, Elmendorf AFB used a 20-acre portion of the site, referred to as source area ST41, to store the fuel product JP-4 and aviation gasoline in four 1-million gallon underground tanks. As a result of numerous leaks and above-ground spills since the tanks were installed in the 1940s, USAF conducted investigations through its Installation Restoration Program (IRP). These investigations revealed several hundred thousand gallons of fuel in the ground water and soil. The ROD addresses an interim remedy at Elmendorf AFB. The action is needed to reduce further spread of fuel constituents through the recovery of floating product on the ground water surface, and containment of seeps. Future RODs will include a final remedy for ground water and soil at ST41, as OU2, and will address the other six OUs at the site. The primary contaminants of concern affecting the ground water at ST41 are the compounds in JP-4, especially VOCs such as benzene, toluene, and xylenes. The selected interim remedial action for the site are included.

Keywords: *Superfund, *Waste disposal, *Hazardous materials, *Pollution control, *Remedial action, Military facilities, Volatile organic compounds, Ground water, Water pollution, Oil pollution, Oil spills, Leakage, Storage tanks, Underground storage, Land pollution, *Record of Decision, Elmendorf Air Force Base, First remedial action - Interim, Cleanup, Anchorage(Alaska), EPA region 10.

DE93769990/REB PC **A04**/MF **A01**
Air pollutants in urban areas. A bibliography 1985-1991. Bibliography.
Swedish Environmental Protection Agency, Solna.
I. Saven. Sep 92, 58p SNV-4087

The research program "Air Pollutants in Urban Areas" was carried out 1978-1991. The project was supported by the Swedish Environmental Protection Agency, the Swedish car industry, the Swedish Petroleum Institute, the County Council of Stockholm and the Swedish Transport Research Board. During the last three years 13 different projects were going on. This bibliography covers reports published from 1985 and onwards and contains also a register with authors and co-authors. 107 references are listed, often including an abstract.

Keywords: *Air Pollution, *Urban Areas, *Bibliographies, Coordinated Research Programs, Sweden, *Foreign technology, EDB/540120.

DE93778468/REB PC **A04**/MF **A01**
Lichen sensitivity and air pollution - a review of literature data.
Swedish Environmental Protection Agency, Solna.
I. D. Insarova, G. E. Insarov, S. M. Semenov, S. Braakenhielm, and S. Hultengren. 1992, 72p SNV-4007

The paper summarizes the estimates of epiphytic lichen sensitivity to air pollution performed by various authors. Principles and methods for unifying diverse information on lichen sensitivity are presented. The summarizing table contains data on about 250 lichen species growing on tree-phorophytes of 15 taxa in Europe, Asia and part of North America. Air pollutants include SO(sub 2), NO(sub x), CO, dust, heavy metals, etc. Data are given that provide a basis for construction of an index (integral index) for detection of trends and other changes in epiphytic lichens as a response to air pollution. (au).

Keywords: *Biological Indicators, *Lichens, Air Pollution, Carbon Monoxide, Dusts, Metals, Monitoring, Nitrogen Oxides, Reviews, Sensitivity, Sulfur Dioxide, Transfrontier Pollution, *Foreign technology, EDB/550000, Reviews, *Air pollution effects(Plants).

DE93778469/REB PC **A05**/MF **A01**
Release of PCB and mercury from fibre sediments.
Swedish Environmental Protection Agency, Solna.
M. Elert, L. O. Hoeglund, and M. Lindgren. 1992, 77p SNV-4076

The present study considers the environmental consequences of fibre sediments contaminated with mercury and PCBs. Release rates of contaminants from fibre sediments, before and after remedial actions involving dredging and land disposal, are compared. The mechanisms for the release of contaminants have been identified and quantified for both situations. Mathematical models are formulated and solved analytically or numerically. Calculations show the impact of sorption effects, diffusion, advection, erosion, sedimentation and release to the atmosphere. Chemical conditions, degradation and production are also studied. The relative importance of the different mechanisms is hard to determine due to lack of reliable input data. However, sorption, erosion, advection and probably also release to the atmosphere will be the most important mechanisms in the case without any remedial actions. In the case of dredging and land disposal, sorption, advection and possibly also release of volatile compounds to the atmosphere will determine the release rate. The study is focused on two contaminants, mercury and PCB. For mercury the most important parameters are: sorption into the fibre material, chemical form, volatility and biomethylation and demethylation. For PCB the most important parameters are: sorption onto the fibre material, chemical form and possible microbial degradation. The release rate from the fibre sediment has been estimated to be up to about 4 mg/m(sup 2),yr for PCB and 5 mg/m(sup 2),yr for mercury, depending on the higher volatility. The release rate from the land disposal has been estimated to 0.3 mg/m(sup 2),yr for PCB and 1.6 mg/m(sup 2),yr for mercury, where 1.3 mg/m(sup 2),yr is released to the atmosphere. (99 refs., 14 figs., 13 tabs.) (au).

Keywords: *Mercury, *Polychlorinated Biphenyls, Advection, Air Pollution, Emission, Environmental Transport, Erosion, Fibers, Paper Industry, *Sediments, Sorption, Water Pollution, Wood Wastes, *Foreign technology, EDB/540320, EDB/540220.

DE93778470/REB PC **A03**/MF **A01**
Trace elements in agricultural soils. Fluxes, balances and background values.
Swedish Environmental Protection Agency, Solna.
A. Andersson. Jul 92, 49p SNV-4077

Balances between removed and supplied quantities of trace elements indicate slow depletion of the micro nutrients Zn, Cu and Mn in farming based on cash crops and conventional fertilization. In farming based on livestock there is a slow increase caused by the utilization of manure and additions in feed additives. The soil levels of Cd, Hg and Pb are slowly increasing in both types of farming, mainly due to additions in commercial fertilizers (Cd) and by deposition (Cd, Hg, Pb). The rate of increase is for Cd ca 0.20-025%, for Hg 0.10-0.20% and for Pb 0.04-0.09% annually. Where recommended applications of sewage sludge are utilized, these rates are increased by factors of 2, 4 and 12, respectively. Despite improvements, the major parts of most trace elements in sewage sludge are still of other origins than food and agricultural soils. Probable quantities of trace elements added to agricultural soils during this century have been estimated. Sources considered were commercial fertilizers, lime, feed additives, fungicides and the atmospheric deposition. The estimates

indicate that the concentrations of Cd, Hg and Pb have been increased by ca 33, 46 and 14%, respectively, based on the levels 1900. For Zn, Cu, Mn, Ni and Cr estimated increases are 10% (Zn) or below, i.e. rather small and insignificant. Locally the situation may, however, be different. Any increase of the present soil contents of toxic elements has to be considered unfavourable. Therefore, in order to obtain steady state conditions the additions of Cd, Hg and Pb should be reduced to 0.25-0.75, 0.025-0.095 and 0.9-7 gxha(sup -1)xyear(sup -1), respectively. (72 refs., 14 tabs.) (au).

Keywords: Soils, Agriculture, Arsenic, Cadmium, Chromium, Copper, Environmental Transport, Experimental Data, Fertilizers, Lead, Manganese, Mercury, Nickel, Nutrients, Sewage Sludge, Trace Amounts, Zinc, Tables(data), *Foreign technology, EDB/540220, *Soil chemistry, *Trace elements.

DE93778471/REB PC **A03**/MF **A01**
Critical concentrations of heavy metals in the mor horizon of Swedish forests.
Swedish Environmental Protection Agency, Solna.
G. Tyler. Jul 92, 38p SNV-4078
With summary in Swedish.

Current knowledge of heavy-metal effects on the biology of the mor horizon in Swedish forests is reviewed. Elements mainly considered are Cu, Zn, Cd, Pb, and Hg, though Cr, Ni and V are also discussed to some extent. Mor (rawhumus) was chosen because it is the most widespread type of organic matter (humus) horizon in Sweden. Critical concentration is defined as the lowest total content (microgram per gram dry weight of the mor) which has proved to exert or, for excellent reasons, is suspected to exert a negative influence on the biology of the mor. Alternatively, the critical concentration is defined as the degree of increase above a current base-line concentration in the mor, to which the soil biology is adapted, necessary to evoke adverse effects. The effect of each metal is mostly considered in isolation. It has usually not been possible, due to lack of knowledge, to take into consideration interactions between metals, or influence of other soils properties on the biological effects. Nor have shock effects on soil microorganisms caused by other components than metals, contained in various waste products applied to mor horizons, been considered. A summary of critical concentrations to different processes and organism groups is given. (15 refs., 2 figs., 7 tabs.) (au).

Keywords: *Soils, Biological Effects, Environmental Effects, Enzyme Inhibitors, Forests, Humus, Invertebrates, Limiting Values, Metals, Microorganisms, Sweden, *Foreign technology, EDB/560300, EDB/540220.

DE93778472/REB PC **A03**/MF **A01**
Heavy metal concentrations in agricultural soils critical to microorganisms.
Swedish Environmental Protection Agency, Solna.
E. Witter. Jul 92, 49p SNV-4079

Critical heavy metal levels for microorganisms in mineral agricultural soils are derived from laboratory and field studies reported in the literature. Critical levels are defined as the heavy metal concentrations or the heavy metal loads which have been shown to negatively affect microbial populations, or microbially mediated processes. No attempt is made to assess the impact of the observed negative effects on functioning of the soil ecosystem, or on soil fertility and productivity. Most emphasis is placed on effects observed in long term field experiments. The heavy metals arsenic, cadmium, chromium, copper, mercury, nickel, lead, vanadium and zinc were considered, but there was only sufficient evidence to determine critical levels for copper, zinc and nickel with some degree of confidence. There was a lack of clear evidence from field studies for the other heavy metals. The critical levels for copper, nickel and zinc derived from the laboratory studies were similar to those derived form field studies, when expressed as relative increases over soil background concentrations. The critical levels for copper, nickel and zinc were converted to maximum allowable concentrations (MAC). The MAC values are intended to aid the safeguarding of the functioning of the soil ecosystem, and the conservation of long term soil fertility and productivity against negative effects of long term metal accumulation on microorganisms in agricultural soils. the proposed MAC values for copper, nickel and zinc for Swedish agricultural soils, based solely on effects on soil microorganisms, are 30, 50, and 80 (mu)g g(sup -1) soil, respectively. (89 refs., 5 tabs.) (au).

Keywords: *Soils, Agriculture, Biological Effects, Copper, Environmental Transport, Experimental Data, Land Pollution, Limiting Values, Metals, Microorganisms, Nickel, Soil Chemistry, Toxicity, Zinc, Tables(data), *Foreign technology, EDB/560300, EDB/540220.

DE93778473/REB PC **A07**/MF **A02**
Long-term forest fertilization experiments in Finland and Sweden - their use for vitality and nutrient balance studies.
Swedish Environmental Protection Agency, Solna.
H. Helmisaari, and H. S. Helmisaari. Oct 92, 129p SNV-4099
With summary in Swedish and Finnish.

The aim of this survey was to compile and describe long-term forest fertilization experiments on mineral soils in Finland and Sweden, to evaluate the usefulness of these experiments in providing information about changes in nutrient balance in trees and soil and to give recommendations concerning the future use of these experiments in forest vitality research. In total, 52 FFRI (Finnish Forest Research Institute), 62 IFI (Institute for Forest Improvement, Sweden) and 21 SUAS (Swedish University of Agricultural Sciences) fertilization experiments are described in a tabular form. The sites and stand characteristics, treatments, samplings and measurements presented in the tables give a comprehensive overview of the experiments included. All experiments described here are situated on mineral soils. A comparison of the analysed soil variables in control and fertilized plots will give information about changes in soil nutrient status after long-term fertilization. The relationship between soil variables and stand and tree variables, (e.g. needle loss, needle nutrient concentrations, needle discolouration, needle nutrient ratios) in stands showing nutrient imbalances should also be studied in all experiments (both Finnish and Swedish). An analysis of vegetation date are available only from a few experiments, the data from them should be analysed. Nutrient budgets should be developed for the stands in those experiments that have received high amounts of nitrogen for a long time. Nutrient budgets can provide information about the distribution of the excess nitrogen inputs in forest ecosystems as well as the possible leaching losses of different nutrients. (86 refs., 2 figs., 3 apps.) (au).

Keywords: *Forestry, Conifers, Experimental Data, Fertilizers, Field Tests, Finland, Nutrients, Research Programs, Soil Chemistry, *Soils, Sweden, Tables(data), *Foreign technology, EDB/090700.

DE93778474/REB PC **A08**/MF **A02**
Freshwater environmental monitoring in Sweden. Proposals from a working group.
Swedish Environmental Protection Agency, Solna.
T. Wiederholm. Sep 92, 151p SNV-4111
With 9 p Swedish summary.

The proposed Freshwater Monitoring Program presented in this report addresses the environmental monitoring goals recently proposed by the Swedish Environmental Protection Agency. The overall objective for the Nation's freshwater resources is 'Native species should occur in stable, well-balanced populations, and pollution should not limit the values of water as a fisheries, recreation, and raw water resource' (SEPA 1990b). This place two aspects in focus, namely, (1) the biodiversity of freshwater system and (2) water as a resource. In addition, the Freshwater Monitoring program should indicate losses of material from terrestrial ecosystems and the loading of substances, such as nutrients, to marine areas. Indicators relevant to these various aspects have been proposed by the working group. The primary objective was to select biological indicator variables that, as much as possible, directly reflect the quality and usability of water as a resource. In some cases surrogate variable may, however, be used. These may be chemical variables which indirectly reflect biological conditions, when adequate knowledge of the relationship between the measured chemical and biological response variable is known. A number of physico-chemical variables are also needed to support the evaluation of biological data. (88 refs., 5 figs., 21 tabs.) (au).

Keywords: *Fresh Water, Aquatic Ecosystems, Biological Indicators, Environmental Policy, Lakes, Monitoring, Research Programs, Resource Management, Rivers, Sweden, Water Chemistry, *Water Quality, *Foreign technology, EDB/540310.

DE93778475/REB PC **A14**/MF **A03**
Aatgaerder mot klimatfoeraendringar. (Measures against climatic change).
Swedish Environmental Protection Agency, Solna.
K. Loevgren, L. Bernergaard, J. Karlsson, L. Westermark, and K. Oesterberg. Oct 92, 304p SNV-4120
Swedish.

Carbon dioxide is the main culprit in the temperature rise of the atmosphere. In Sweden, carbon dioxide comprises 80% of the total contribution to the greenhouse effect. Studies have shown that there are firm possibilities to reduce the emission of carbon dioxide through improved efficiency and conversion to other energy sources. To achieve the environmental goals and to prevent the risk for serious effects of a temperature rise, the release of carbon dioxide have to be reduced by 50-80% within the next 50 years. A first-hand goal ought to be to stabilize the emission on the 1990 level from the year 2000. The primary areas of necessary change are the energy and transportation sectors. Also described in the report are how to reduce the release of other greenhouse gases, and which decisions have to be taken to reduce the effects of a temperature rise.

Keywords: *Climatic Change, Agriculture, *Air Pollution Abatement, *Carbon Dioxide, Control, *Energy Conservation, Energy Supplies, Fluorine Compounds, Forecasting, Forestry, Global Aspects, Greenhouse Gases, Methane, Nitrous Oxide, Sweden, Transport, *Foreign technology, EDB/540120.

DE93778476/REB PC **A04**/MF **A01**
Recovery of CFCs from refrigeration equipment. Current processes.
Swedish Environmental Protection Agency, Solna.
Oct 92, 69p SNV-4146
Also available in Swedish as SNV--4096.

Processes for removal of freon from refrigerators and freezers are used for the removal of CFC 12, the refrigerant in the cooling system and removal of CFC 11, which is found in the cells of the polyurethane insulating material. CFC 12 is removed using well-established techniques from the refrigeration industry, suited to the purpose of quickly emptying discarded refrigerators and freezers of both their refrigerant and oil. It is possible to recover at least 95% of both refrigerant and oil. CFC 11 must first be removed from the polyurethane foam and then be isolated in liquid form. In the late 1980s a number of methods were developed in Germany which were based on mechanical destruction of the cells and recovery of the CFC 11 gas thus liberated. It is difficult to establish how good results have been since it is not known with certainty how much CFC 11 remains in discarded refrigerators and freezers. A system for recovery of CFCs from 60000 refrigerators and freezers a year requires an investment (not including the cost of the premises themselves) of 6 million SEK for a manual process and 18 million SEK for a mechanical one. The operating cost is approximately 175 SEK per unit including the revenue from metal recovery. A mechanical process is to be preferred from an environmental point of view. All existing processes need further development. Feasible and reliable yields of at least 80% R 11 should be possible within a year or two. Mechanical shredding is considered to have the best potential. It is recommended that recovery and removal of freon be started in Sweden on the basis of German techniques using mechanical shredding and with open disclosure of yield. 12 refs., 15 figs.

Keywords: *Chlorofluorocarbons, *Air Pollution Abatement, Greenhouse Gases, *Refrigerating Machinery, Removal, Separation Processes, *Foreign technology, EDB/540120.

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Expanding Global Forest Management: An 'Easy First' Proposal.
PB93-199669/REB PC **A02**/MF **A01**

Expedited Response Actions.
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Experimental Investigation of PIC Formation in CFC-12 Incineration.
PB93-191294/REB PC **A07**/MF **A02**

Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
PB93-963502/REB PC **A03**/MF **A01**

Extrapolation Modeling of Aerosol Deposition in Human and Laboratory Rat Lungs.
PB93-181097/REB PC **A03**/MF **A01**

Extreme Clonal Diversity and Divergence in Populations of a Selfing Hermaphroditic Fish.
PB93-169019/REB PC **A02**/MF **A01**

Facility Response Plans.
PB93-963408/REB PC **A01**/MF **A01**

Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB PC **A03**/MF **A01**

Fate of 'Bacillus sphaericus' 2362 Spores in Nontarget Invertebrates.
PB93-168995/REB PC **A02**/MF **A01**

Feasibility of Including Fugitive PM-10 Emissions Estimates in the EPA Emissions Trends Report.
PB93-169084/REB PC **A03**/MF **A01**

Federal Register, Volume 58, No. 72. Part 2. Environmental Protection Agency, 40 CFR Parts 122 et al. Water Quality Guidance for the Great Lakes System and Correction; Proposed Rules.
PB93-183002/REB PC **A11**/MF **A03**

Federal Test Procedure Review Project: Status Report.
PB93-197903/REB PC **A03**/MF **A01**

Field and Laboratory Studies of Chemical Contamination and Environmentally Related Diseases in Fish and Molluscs of New England.
PB93-199438/REB PC **A02**/MF **A01**

Field-Deployable Monitors for Volatile Organic Compounds in Air. (Essential Capabilities of a Portable Gas Chromatograph).
PB93-185700/REB PC **A03**/MF **A01**

Forest Sector Carbon Budget of the United States: Carbon Pools and Flux under Alternative Policy Options.
PB93-196996/REB PC **A10**/MF **A03**

Framework for Characterization. (Revised Final Report March 1992).
PB93-191237/REB PC **A04**/MF **A01**

Frequency and Nature of Specific-Locus Mutations Induced in Female Mice by Radiations and Chemicals: A Review.
PB93-194447/REB PC **A03**/MF **A01**

Freshwater environmental monitoring in Sweden. Proposals from a working group.
DE93778474/REB PC **A08**/MF **A02**

Fuel Economy Guide, 1993. 3-Number.
PB93-169340/REB PC **A04**/MF **A01**

Fuel Economy Guide, 1993. 6 Number.
PB93-169357/REB PC **A04**/MF **A01**

Further Direction on Implementing the Superfund Accelerated Cleanup Model (SACM).
PB93-963291/REB PC **A02**/MF **A01**

Future Context of Sustainable Agriculture: Planning for Uncertainty.
PB93-191518/REB PC **A03**/MF **A01**

Gene Expression during Oogenesis in Mice.
PB93-194389/REB PC **A03**/MF **A01**

Gene Expression in Pre-Implantation Mammalian Embryos.
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General Public Notification for Public Water Systems.
PB93-167096/REB PC **A05**/MF **A01**

Genetic Toxicology of Putative Nongenotoxic Carcinogens.
PB93-175636/REB PC **A03**/MF **A01**

Genus- and Group-Specific Hybridization Probes for Determinative and Environmental Studies of Sulfate-Reducing Bacteria.
PB93-168987/REB PC **A02**/MF **A01**

Geo-EAS: Software for Geostatistics 1.2.1 (3 1/2 inch Version) (for Microcomputers).
PB93-504967/REB CP **D02**

Geo-EAS: Software for Geostatistics 1.2.1 (5 1/4 Inch Version) (for Microcomputers).
PB93-504959/REB CP **D02**

Geophysics Advisor Expert System, Version 2.0.
PB93-163285/REB PC **A03**/MF **A01**

Geophysics Advisor Expert System (Version 2.0) (for Microcomputers).
PB93-505162/REB CP **D02**

Geostatistical Environmental Assessment Software: User's Guide. GEO-EAS 1.2.1.
PB93-163236/REB PC **A07**/MF **A02**

Glass Markets Information System: Application Records.
PB93-193902/REB PC **A21**/MF **A04**

Glass Markets Information System; Application Summary Reports.
PB93-197887/REB PC **A05**/MF **A01**

Glucocorticoid Effects on Natural and Humoral Immunity in Mallards.
PB93-199644/REB PC **A03**/MF **A01**

Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring.
PB93-181071/REB PC **A03**/MF **A01**

Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB PC **A09**/MF **A03**

Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
PB93-154722/REB PC **A04**/MF **A01**

Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB PC **A05**/MF **A01**

Greening of World Trade: A Report to EPA from the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology.
PB93-176980/REB PC **A11**/MF **A03**

Guidance for Federal Facilities on Release Notification Requirements under CERCLA and SARA Title III.
PB93-963412/REB PC **A03**/MF **A01**

Guidance for Growth Factors, Projections, and Control Strategies for the 15 Percent Rate-of-Progress Plans.
PB93-186476/REB PC **A09**/MF **A03**

Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB PC **A08**/MF **A02**

Guidance Manual for POTW Pretreatment Program Development.
PB93-186112/REB PC **A14**/MF **A03**

Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
PB93-186633/REB PC **A03**/MF **A01**

Guidance on Program Management Activities under ARCS.
PB93-963280/REB PC **A03**/MF **A01**

Guidance on Setting Priorities for NPL Candidate Sites.
PB93-963333/REB PC **A02**/MF **A01**

Guidance on the Relationship between the 15 Percent Rate-of-Progress Plans and Other Provisions of the Clean Air Act.
PB93-200525/REB PC **A04**/MF **A01**

Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
PB93-199107/REB PC **A04**/MF **A01**

Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
PB93-186245/REB PC **A09**/MF **A02**

Guide to the Asbestos NESHAP as Revised November 1990.
PB93-199362/REB PC **A04**/MF **A01**

Guideline for Graphic Arts Calculations.
PB93-199370/REB PC **A05**/MF **A01**

Heavy metal concentrations in agricultural soils critical to microorganisms.
DE93778472/REB PC **A03**/MF **A01**

Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB PC **A03**/MF **A01**

HSED SACM Report. Volume 1, Number 1, January 1993.
PB93-963289/REB PC **A01**/MF **A01**

Human Upper Respiratory Tract Responses to Inhaled Pollutants with Emphasis on Nasal Lavage.
PB93-181089/REB PC **A02**/MF **A01**

Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB PC **A03**/MF **A01**

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Impacts of Climate Change on Rice Yield: A Comparison of Four Model Performances.
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Importance of Experimenter-Blind Procedure in Neurotoxicology (Mini-Review).
PB93-175628/REB PC **A02**/MF **A01**

Importance of Fish Diseases: An Overview.
PB93-204113/REB PC **A03**/MF **A01**

In-situ Bioventing: Two U.S. EPA and Air Force Sponsored Field Studies.
PB93-194231/REB PC **A03**/MF **A01**

Incineration of Hazardous Waste: A Critical Review Update.
PB93-185916/REB PC **A03**/MF **A01**

Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
PB93-185585/REB PC **A09**/MF **A02**

Indoor Concentration Modeling of Aerosol Strong Acidity.
PB93-204071/REB PC **A02**/MF **A01**

Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB PC **A03**/MF **A01**

Infection Intensity of 'Perkinsus marinus' Disease in 'Crassostrea virginica' (Gmelin, 1791) from the Gulf of Mexico Maintained under Different Laboratory Conditions.
PB93-168912/REB PC **A02**/MF **A01**

Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene.
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Information Management Guidelines for the Wetlands Research Program.
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Institutional Solutions to Drinking Water Problems: Maine Case Studies.
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Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings.
PB93-191492/REB PC **A02**/MF **A01**

Interim Report on Data and Methods for Assessment of 2,3,7,8-Tetrachlorodibenzo-p-dioxin Risks to Aquatic Life and Associated Wildlife.
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Interleukin-8 Expression in Normal Nasal Epithelium and Its Modulation by Infection with Respiratory Syncytial Virus and Cytokines Tumor Necrosis Factor, Interleukin-1, and Interleukin-6.
PB93-175677/REB PC **A02**/MF **A01**

International Validation of a Neurobehavioral Screening Battery: The IPCS/WHO Collaborative Study.
PB93-175594/REB PC **A02**

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Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
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Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
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Isolation and Diversity of Actinomycetes in the Chesapeake Bay.
PB93-205060/REB PC **A02**/MF **A01**

Issues and Approaches to Improving Transportation Modeling for Air Quality Analysis.
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Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F.
PB93-191302/REB PC **A13**/MF **A03**

Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 2. Appendices G-N.
PB93-191310/REB PC **A15**/MF **A03**

Laboratory Studies on the Stability and Transport of Inorganic Colloids Through Natural Aquifer Material (Chapter 49).
PB93-175537/REB PC **A02**/MF **A01**

LDCRS Flow from Double-Lined Landfills and Surface Impoundments.
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Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB PC **A03**/MF **A01**

Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
PB93-174522/REB PC **A03**/MF **A01**

Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
PB93-174530/REB PC **A03**/MF **A01**

Learning Guide for State/Local Drinking Water Agreements.
PB93-185601/REB PC **A07**/MF **A02**

Lichen sensitivity and air pollution - a review of literature data.
DE93778468/REB PC **A04**/MF **A01**

Life Cycle Analysis (Video Conference Paper).
PB93-194207/REB PC **A02**/MF **A01**

Light-Duty Automotive Technology and Fuel Economy Trends through 1993.
PB93-199255/REB PC **A06**/MF **A02**

Lignin Degradation and Lignin Peroxidase Production in Cultures of 'Phanerochaete chrysosporium' Immobilized on Porous Ceramic Supports.
PB93-199529/REB PC **A02**/MF **A01**

Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
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Long-term forest fertilization experiments in Finland and Sweden - their use for vitality and nutrient balance studies.
DE93778473/REB PC **A07**/MF **A02**

Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1. Background Information Document.
PB93-200673/REB PC **A99**/MF **A06**

Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
PB93-200897/REB PC **A10**/MF **A03**

Marine and Estuarine Protection: Programs and Activities.
PB93-179000/REB PC **A03**/MF **A01**

Markets for Recovered Aluminum.
PB93-170132/REB PC **A03**/MF **A01**

Markets for Recovered Glass.
PB93-169845/REB PC **A03**/MF **A01**

Maternal Age Effect: The Enigma of Down Syndrome and Other Trisomic Conditions.
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Measurement of Biogenic Emissions from Corn.
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Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
PB93-168821/REB PC **A03**/MF **A01**

Mechanisms of Aldehyde-Induced Bronchial Reactivity: Role of Airway Epithelium.
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Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
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Methodology to Estimate Nonroad Equipment Populations by Nonattainment Areas.
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Methods for the Analysis of Carpet Samples for Asbestos.
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Methods for the Determination of Chemical Substances in Marine and Estuarine Environmental Samples.
PB93-182913/REB PC **A05**/MF **A01**

Microbial Degradation of Synthetic Chlorinated Compounds: Evolutionary Implications (Chapter 8).
PB93-204139/REB PC **A03**/MF **A01**

Mineralization of Recalcitrant Environmental Pollutants by a White Rot Fungus. Proceedings of the National Conference on Hazardous Wastes and Hazardous Materials. Held in Washington, DC. on March 16-18, 1987.
PB93-204154/REB PC **A02**/MF **A01**

Missouri Chlordane Exposure Study: A Report on Persons Who Consumed Chlordane-Contaminated Fish.
PB93-148252/REB PC **A08**/MF **A02**

Mite Antigen Concentrations in House Dust and the Occurrence of Wheezing in Children with Dust Mite Allergy.
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Modeling Indoor Concentrations and Exposures.
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Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
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Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB PC **A08**/MF **A02**

Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
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MULTIMED: The Multimedia Exposure Assessment Model for Evaluating the Land Disposal of Wastes-Model Theory.
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National Priorities List Sites: Alabama, 1992.
PB93-963201/REB
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PB93-206787/REB PC **A01**/MF **A01**

Pesticide Fact Sheet Number 240: Dimethenamid. SAN 582H/Frontier (Trade Name) Herbicide.
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Pesticide Fact Sheet: Polyhedral Occlusion Bodies of the Nuclear Polyhedrosis Virus of 'Spodoptera exigua'.
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Pesticide Reregistration Progress Report.
PB93-178994/REB PC **A03**/MF **A01**

Pesticide Reregistration Rejection Rate Analysis Residue Chemistry/Environmental Fate Follow Up Guidance for Conducting Rotational Crop Studies.
PB93-194041/REB PC **A03**/MF **A01**

Pesticide Reregistration Rejection Rate Analysis Residue Chemistry. Follow-up Guidance for Generating Storage Stability Data; Submission of Raw Data; Maximum Theoretical Concentration Factors; Flowchart Diagrams.
PB93-193696/REB PC **A04**/MF **A01**

Pesticide Safety and Training Materials Catalog (Catalogo de Materiales Educativos y Proteccion Sobre Pesticidas).
PB93-200814/REB PC **A07**/MF **A02**

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Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
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Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
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Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10.
PB93-175776/REB PC **A08**/MF **A02**

Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
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Response Action Contractor Final Indemnification Guidelines. Volume 2, Number 1, March 1993.
PB93-963290/REB PC **A01**/MF **A01**

Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
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PB93-963283/REB PC **A01**/MF **A01**

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PB93-963284/REB PC **A01**/MF **A01**

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Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
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PB93-174753/REB PC **E99**/MF **E99**

Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 1.
PB93-174761/REB PC **A24**/MF **A04**

Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 2.
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Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
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Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 2.
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PB93-181055/REB PC **A02**/MF **A01**

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PB93-198976/REB PC **A12**/MF **A03**

Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
PB93-200806/REB PC **A08**/MF **A02**

Toxic Chemical Release Inventory Reporting Form R and Instructions. Revised 1992 Version. Section 313 of the Emergency Planning and Community Right-to-Know Act.
PB93-194140/REB PC **A06**/MF **A02**

Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Inventory Synonym and Preferred Name File, January 1993, Documentation.
PB93-155166/REB PC **A03**/MF **A01**

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PB93-185619/REB PC **A17**/MF **A03**

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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.

SAMPLE ENTRY

Use: Keywords Term	**GLOBAL ASPECTS**
Title	Sensitivity of Ecological Landscapes and Regions to Global Climatic Change
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PB93-202836/REB

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PB93-191518/REB

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DE93769990/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
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PB93-200798/REB

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PB93-180966/REB

Coprocessing of Fossil Fuels and Biomass for CO2 Emission Reduction in the Transportation Sector.
PB93-194165/REB

Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
PB93-196194/REB

Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
PB93-196202/REB

Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
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PB93-197903/REB

Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report.
PB93-197929/REB

Reporting and Recordkeeping Requirements for Waste Disposal: A Field Guide.
PB93-199115/REB

Alternative Control Technology Document: Control of VOC Emissions from the Application of Agricultural Pesticides.
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Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
PB93-199297/REB

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Air pollutants in urban areas. A bibliography 1985-1991.
DE93769990/REB
EPA Bibliography on Surface Contamination.
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Urban Runoff Management Information/Education Products. Version 1.
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Pesticide Safety and Training Materials Catalog (Catalogo de Materiales Educativos y Proteccion Sobre Pesticidas).
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Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
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PB93-193761/REB
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Contaminated Sediments Critical Issue Forum. Held in Annapolis, Maryland on December 10, 1992.
PB93-194017/REB
Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
PB93-196665/REB
Isolation and Diversity of Actinomycetes in the Chesapeake Bay.
PB93-205060/REB

CHESAPEAKE BAY PROGRAM
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
PB93-193738/REB

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Quantitative Estimates of Soil in Normal Children between the Ages of 2 and 7 Years: Population-Based Estimates Using Aluminum, Silicon, and Titanium as Soil Tracer Elements.
PB93-199461/REB

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Source Apportionment of Air Pollution in China: Extending the Usefulness of Receptor Modeling by Combining Multivariate and Chemical Mass Balance Models.
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Methane Emissions from Wetland Rice Areas of Asia.
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PB93-185239/REB

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PB93-198695/REB

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PB93-194249/REB

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PB93-194462/REB

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PB93-194447/REB

CHRYSENE
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PB93-185155/REB

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PB93-175727/REB

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CLEANUP OPERATIONS
Commencement Bay Nearshore/Tideflats Feasibility Study. Executive Summary.
PB93-181220/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 1.
PB93-181238/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 2. Appendices.
PB93-181246/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Development of Sediment Cleanup Goals.
PB93-181253/REB

CLIMATIC CHANGE
Aatgaerder mot klimatfoeraendringar. (Measures against climatic change).
DE93778475/REB

CLIMATIC CHANGES
Impacts of Climate Change on Rice Yield: A Comparison of Four Model Performances.
PB93-191526/REB

COAL GAS
Evaluation of the Potential Carcinogenicity of Coke Oven Emissions.
PB93-185163/REB

COASTAL NONPOINT PROGRAMS
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance.
PB93-193795/REB

COASTAL REGIONS
Summary of Implementation and Demonstration Projects in Bays and Estuaries.
PB93-194637/REB

COASTAL ZONE MANAGEMENT
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance.
PB93-193795/REB

COASTS
Marine and Estuarine Protection: Programs and Activities.
PB93-179000/REB
Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
PB93-185833/REB

COKE OVENS
Evaluation of the Potential Carcinogenicity of Coke Oven Emissions.
PB93-185163/REB

COKING
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F.
PB93-191302/REB
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 2. Appendices G-N.
PB93-191310/REB

COLIFORM BACTERIA
Total Coliform Rule: Implementation Manual (Including Appendix D).
PB93-186658/REB

COLLOIDS
Laboratory Studies on the Stability and Transport of Inorganic Colloids Through Natural Aquifer Material (Chapter 49).
PB93-175537/REB

COLORADO
National Priorities List Sites: Colorado, 1992.
PB93-963207/REB

COLORADO PLATEAU PILOT STUDY
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
PB93-181618/REB

COMBINED SEWERS
Storm and Combined Sewer Overflow: An Overview of EPA's Research Program.
PB93-185957/REB

COMBUSTION EFFICIENCY
Experimental Investigation of PIC Formation in CFC-12 Incineration.
PB93-191294/REB

COMBUSTION PRODUCTS
Characterization of Emissions from the Simulated Open-Burning of Non-Metallic Automobile Shredder Residue.
PB93-172914/REB
Biomass Combustion in Gas-Turbine-Based Systems.
PB93-185742/REB
Development of Sampling and Analytical Methods for the Measurement of Nitrous Oxide from Fossil Fuel Combustion Sources.
PB93-194330/REB
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 1.
PB93-198950/REB
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 2, Appendices.
PB93-198968/REB

COMBUSTORS
Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans: Removal from Flue Gas and Distribution in Ash/Residue of a Refuse-Derived Fuel Combustor.
PB93-173169/REB

COMMENCEMENT BAY
Commencement Bay Nearshore/Tideflats Feasibility Study. Executive Summary.
PB93-181220/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 1.
PB93-181238/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 2. Appendices.
PB93-181246/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Development of Sediment Cleanup Goals.
PB93-181253/REB

COMMERCIAL BUILDINGS
Building and HVAC Characterization for Commercial Building Indoor Air Quality Investigations.
PB93-198844/REB

COMMUNICATIONS MANAGEMENT
Risk Communication About Chemicals in Your Community. Facilitator's Manual and Guide.
PB93-200541/REB
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
PB93-200806/REB

COMMUNITY RELATIONS
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
PB93-200806/REB

COMPLIANCE DATA SYSTEM
Compliance Data System Quality Assurance Manual, June 1984.
PB93-199339/REB

COMPUTERIZED SIMULATION
Contingency Analysis Modeling for Superfund Sites and Other Sources.
PB93-169126/REB
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
PB93-174027/REB
User's Manual for the Plume Visibility Model PLUVUE II (Revised).
PB93-188233/REB

CONCRETE SLABS
Recommended Foundation Barrier Construction Standard of the Florida Radon Research Program.
PB93-199388/REB

CONDENSED AROMATICS
Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene.
PB93-185874/REB

CONFIDENTIALITY
Protecting Confidentiality in Establishment Surveys.
PB93-180958/REB
TSCA Confidential Business Information Security Manual.
PB93-184844/REB
Discussion: Response to Internal Reviews of My Paper, 1993 Census Bureau Annual Research Conference.
PB93-191385/REB

CONGENITAL ABNORMALITIES
Developmental Anomalies Derived from Exposure of Zygotes and First-Cleavage Embryos to Mutagens.
PB93-194496/REB
Contemporary Issues in Toxicology: A New Frontier in Understanding the Mechanisms of Developmental Abnormalities.
PB93-199628/REB

CONGO RED
Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring.
PB93-181071/REB

CONNECTICUT
National Priorities List Sites: Connecticut, 1992.
PB93-963208/REB

CONSTRUCTION MATERIALS
Characterizing Material Sources and Sinks: Current Approaches (Part 2. Chemical and Physical Characterization).
PB93-175560/REB

CONTAINERS
On-Board Corrosion Analysis of a Recovered Nuclear Waste Container.
PB93-202927/REB

CONTAMINATION
EPA Bibliography on Surface Contamination.
PB93-168904/REB

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PB93-169126/REB

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PB93-963258/REB
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PB93-963336/REB

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Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report.
PB93-197929/REB

COOLING TOWERS
Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers.
PB93-181592/REB

COPPER
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
PB93-167757/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
PB93-174514/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
PB93-174522/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
PB93-174530/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
PB93-174555/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
PB93-174563/REB

Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB
Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
PB93-194181/REB

COPROCESSING
Coprocessing of Fossil Fuels and Biomass for CO2 Emission Reduction in the Transportation Sector.
PB93-194165/REB

CORN
Measurement of Biogenic Emissions from Corn.
PB93-180883/REB

CORONA DESTRUCTION REACTORS
Corona Destruction: An Innovative Control Technology for VOCs and Air Toxics.
PB93-173672/REB

CORROSION
Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
PB93-194181/REB

CORROSION PREVENTION
Statistical Procedures for Corrosion Studies.
PB93-199412/REB
Corrosion Control Principles and Strategies for Reducing Lead and Copper in Drinking Water Systems.
PB93-199420/REB

COST ANALYSIS
Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
PB93-154730/REB

COST ESTIMATES
Estimation of the Cost of Using Chemical Protective Clothing.
PB93-168805/REB

CRACKING (FRACTURING)
Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
PB93-196616/REB

CRADLE-TO-GRAVE STUDIES
Broad-Based Environmental Life Cycle Assessment.
PB93-199495/REB

CRAWLSPACE SUBMEMBRANE DEPRESSURIZATION SYSTEMS
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB

CREOSOTE
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB
Evaluation of the Potential Carcinogenicity of Creosote (8001-58-9).
PB93-185171/REB

CRITERIA DOCUMENT
Air Quality Criteria for Carbon Monoxide.
PB93-167492/REB

CULTIVATION
Sustainable Agriculture and the Environment in the Humid Tropics.
PB93-173920/REB
Conservation Tillage Impacts on National Soil and Atmospheric Carbon Levels.
PB93-191500/REB

CYCLOHEXANE/ALPHA-HEXACHLORO
Evaluation of the Potential Carcinogenicity of Alpha-Hexachlorocyclohexane (319-84-6).
PB93-185049/REB

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PB93-185056/REB

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Evaluation of the Potential Carcinogenicity of Cyclophosphamide (50-18-0).
PB93-185189/REB

CYTOCHROME P-450
Differential Hepatotoxicity and Cytochrome P450 Responses of Fischer-344 Rats to the Three Isomers of Dichlorobenzene.
PB93-175719/REB
Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay.
PB93-199594/REB

CYTOKINES
Interleukin-8 Expression in Normal Nasal Epithelium and Its Modulation by Infection with Respiratory Syncytial Virus and Cytokines Tumor Necrosis Factor, Interleukin-1, and Interleukin-6.
PB93-175677/REB
Cytokine (Tumor Necrosis Factor, IL-6, and IL-8) Production by Respiratory Syncytial Virus-Infected Human Alveolar Macrophages.
PB93-181006/REB

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Cytoplasmic Microtubular Dynamics and Chromatin Organization during Mammalian Oogenesis and Oocyte Maturation.
PB93-194413/REB

DATA ANALYSIS
SCOUT: A Data Analysis Program (Version 1.40) (for Microcomputers).
PB93-505303/REB

DATA BASE MANAGEMENT SYSTEMS
Data Management Strategy for the Tampa Bay National Estuary Program: Recommendations and Implementation Plan.
PB93-191633/REB
Information Management Guidelines for the Wetlands Research Program.
PB93-202844/REB
Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) Version 2.0 (for Microcomputers).
PB93-504793/REB

DATA BASES
Volatile Organic Compound/Particulate Matter Speciation Data Base Management System (SPECIATE), Version 1.5 (for Microcomputers).
PB93-505238/REB

DATA FILE
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Synonym and Preferred Name File, January 1993.
PB93-504595/REB

DATA INTEGRITY
ASSESS User's Guide.
PB93-163251/REB
ASESS 1.01A (3 1/2 Inch Diskette) (for Microcomputers).
PB93-505154/REB
ASSESS 1.01A (5 1/4 Inch Diskette) (for Microcomputers).
PB93-505295/REB

DATABASES
Database of Benthic Sampling Locations in Tampa Bay.
PB93-191211/REB
Aquatic Toxicity Information on VAX VMS Backup (AQUIRE for VMS).
PB93-505733/REB

DAUNOMYCIN
Evaluation of the Potential Carcinogenicity of Daunomycin (20830-81-3).
PB93-185197/REB

DAUNORUBICIN
Evaluation of the Potential Carcinogenicity of Daunomycin (20830-81-3).
PB93-185197/REB

DBCP (DIBROMO-3-CHLOROPROPANE/1-2)
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PB93-185304/REB

DDD INSECTICIDE
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PB93-185205/REB

DDE INSECTICIDE
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PB93-185247/REB

DDT
Evaluation of the Potential Carcinogenicity of DDT (50-29-3).
PB93-185254/REB
Effects of Culture Parameters on DDT (1,1,1-Trichloro-2,2-BIS(4-Chlorophenyl)Ethane) Biodegradation by 'Phanerochaete chrysosporium'.
PB93-191567/REB
Biodegradation of DDT (1,1,1-Trichloro-2,2-Bis(4-Chlorophenyl)Ethane) by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191617/REB

DECONTAMINATION
Evaluation of Laboratory Tests to Determine the Effectiveness of Chemical Surface Washing Agents.
PB93-194215/REB

DELAWARE
National Priorities List Sites: Delaware, 1992.
PB93-963209/REB

DELAYED HYPERSENSITIVITY
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
PB93-175651/REB

DELISTING PETITIONS
Petitions to Delist Hazardous Wastes: A Guidance Manual. Second Edition.
PB93-169365/REB

DEMOLITION
Asbestos Release during Building Demolition Activities.
PB93-199537/REB

DEOXYRIBONUCLEIC ACIDS
DNA Isolation from Small Tissue Samples Using Salt and Spermine.
PB93-181048/REB
Breakage and Binding of DNA by Reaction Products of Hypochlorous Acid with Aniline, 1-Napthylamine, or 1-Naphthol.
PB93-181063/REB

DEPOSITION
Dry Deposition Flux Calculations for the National Dry Deposition Network.
PB93-178242/REB
Analysis of Atmospheric Deposition Samples from Easton, Pennsylvania.
PB93-181600/REB
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
PB93-193738/REB
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
PB93-199636/REB

DESORPTION
Sorption and Reemission of Formaldehyde by Gypsum Wallboard.
PB93-180917/REB

DETECTION
Geophysics Advisor Expert System, Version 2.0.
PB93-163285/REB
Geophysics Advisor Expert System (Version 2.0) (for Microcomputers).
PB93-505162/REB

DETERGENTS
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB

DEWATERING
Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
PB93-174506/REB

DIALLATE
Evaluation of the Potential Carcinogenicity of Diallate (2303-16-4).
PB93-185262/REB

DIATOMS
Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae).
PB93-199545/REB

DIBENZANTHRACENES
Evaluation of the Potential Carcinogenicity of Dibenz(a,h)Anthracene (53-70-3).
PB93-185288/REB

DIBENZODIOXIN/TETRACHLORO
Evaluation of the Potential Carcinogenicity of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (1746-01-6).
PB93-201267/REB

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PB93-185296/REB

DICHLOROBENZENES
Differential Hepatotoxicity and Cytochrome P450 Responses of Fischer-344 Rats to the Three Isomers of Dichlorobenzene.
PB93-175719/REB

DICHLOROBENZILATE/ETHYL
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PB93-192359/REB

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PB93-194272/REB

DIETHANOLAMINE/N-NITROSO
Evaluation of the Potential Carcinogenicity of N-Nitrosodiethanolamine (1116-54-7).
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DIETHYLARSINE
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PB93-184877/REB

DIETHYLHEXYL PHTHALATES
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PB93-185098/REB

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PB93-196442/REB

DIETHYLSTILBESTROL
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PB93-194306/REB

DIHYDROXYNAPHTHALENES
Bacterial Metabolism of Naphthalene: Construction and Use of Recombinant Bacteria to Study Ring Cleavage of 1,2-Dihydroxynaphthalene and Subsequent Reactions.
PB93-168938/REB

DIISOCYANATE/TOLUENE
Development and Validation of a Source Test Method for 2,4-Toluene Diisocyanate.
PB93-204055/REB

DIMETHENAMID
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PB93-185429/REB

DIOXINS
Interim Report on Data and Methods for Assessment of 2,3,7,8-Tetrachlorodibenzo-p-dioxin Risks to Aquatic Life and Associated Wildlife.
PB93-202828/REB
Biodegradation of Chlorinated Organic Compounds by 'Phanerochaete chrysosporium', a Wood-Rotting Fungus.
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Discussions with the Public Concerning NPL Listings.
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DIRECTORIES
Directory of OAQPS Information Services, May 1993.
PB93-196624/REB
Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
PB93-202802/REB

DISINFECTANTS
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PB93-185395/REB

DOMINANT GENES
Bleomycin: Female-Specific Dominant Lethal Effects in Mice.
PB93-194470/REB

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Maternal Age Effect: The Enigma of Down Syndrome and Other Trisomic Conditions.
PB93-194421/REB

DRINKING WATER
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB
National Public Water System Supervision Program. FY 1992 Compliance Report.
PB93-180867/REB
Determining Beryllium in Drinking Water by Graphite Furnace Atomic Absorption Spectroscopy.
PB93-185924/REB
Drinking Water Regulations under the Safe Drinking Water Act.
PB93-194033/REB
Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules.
PB93-194058/REB
Comparison of the Efficiency of Polycarbonate and Mixed Cellulose Ester Filters for Use in the Filtration of Water Samples.
PB93-194363/REB
Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
PB93-202802/REB

DRUG ADMINISTRATION ROUTES
Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns.
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Dynamic River Basin Water Quality Model.
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EARTH FILLS
LDCRS Flow from Double-Lined Landfills and Surface Impoundments.
PB93-179885/REB
Subtitle D Landfill Application Manual for the Multimedia Exposure Assessment Model (MULTIMED).
PB93-185536/REB
Town of Edinburg Landfill Reclamation Demonstration Project.
PB93-198976/REB
National List of Asbestos Landfills.
PB93-200517/REB

EASTERN REGION (UNITED STATES)
Spatiotemporal Variability of Non-Urban Ozone Concentrations Over the Eastern United States and Its Potential Replication by Satellite Data.
PB93-191328/REB

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Sea Urchin ('Strongylocentrotus purpuratus') Fertilization Test Method.
PB93-196988/REB

ECHINOIDEA
Status and Applications of Echinoid ('Phylum echinodermata') Toxicity Test Methods.
PB93-185825/REB

ECOLOGY
Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings.
PB93-191492/REB
Soil Biology and Ecology.
PB93-199453/REB

ECONOMIC ANALYSIS
Estimation of the Cost of Using Chemical Protective Clothing.
PB93-168805/REB

ECONOMIC IMPACT
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB
Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
PB93-167740/REB
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
PB93-167757/REB
Economic Analysis of Effluent Guidelines: Mineral Mining and Processing Industry.
PB93-167765/REB
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
PB93-167773/REB
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry. Phase 2.
PB93-167781/REB
Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
PB93-173979/REB
Re-Evaluation of the Economic Impact Analysis of Effluent Limitations Guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers Industry Using Revised Compliance Costs. (Revised January 1992).
PB93-186104/REB

ECOSYSTEMS
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
PB93-181618/REB
Statistical Evaluation of the EMAP-Wetlands Classification.
PB93-199446/REB

EDUCATION
Precollege Education: A Vital Component if Sustainable Agriculture is to Take Root.
PB93-168870/REB
Always a River: Supplemental Environmental Education Curriculum on the Ohio River and Water Grades K-12.
PB93-200905/REB

EDUCATIONAL MATERIALS
Superfund: Environmental Response and Health and Safety (Training Materials).
PB93-963100/REB

ELECTRIC CORONA
Corona Destruction: An Innovative Control Technology for VOCs and Air Toxics.
PB93-173672/REB

ELECTRONIC BULLETIN BOARDS
Control Technology Center FY92: A Summary of Program Accomplishments.
PB93-199230/REB

ELECTROPHORESIS
Electrophoresis Gel Buffer Recirculator for under Twenty Dollars.
PB93-181014/REB

ELECTROPLATING
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PB93-175503/REB

EMAP (ENVIRONMENTAL MONITORING AND ASSESSMENT PROGRAM)
Statistical Evaluation of the EMAP-Wetlands Classification.
PB93-199446/REB

EMBRYO DEVELOPMENT
Embryonic Development in vitro Following Short-Duration Exposure to Heat.
PB93-194538/REB
Contemporary Issues in Toxicology: A New Frontier in Understanding the Mechanisms of Developmental Abnormalities.
PB93-199628/REB

EMBRYOS
Gene Expression in Pre-Implantation Mammalian Embryos.
PB93-194397/REB
Developmental Anomalies Derived from Exposure of Zygotes and First-Cleavage Embryos to Mutagens.
PB93-194496/REB

EMERGENCIES
Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
PB93-184455/REB

EMISSION CONTROL
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
PB93-199321/REB

EMISSION FACTORS
Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers.
PB93-181592/REB
Emissions and Fuel Economy Results 1992 Car Models (for Microcomputers).
PB93-504546/REB
Emissions and Fuel Economy Results 1993 Car Models (for Microcomputers).
PB93-504553/REB
Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) Version 2.0 (for Microcomputers).
PB93-504793/REB

EMISSION INVENTORIES
Commercial Marine Vessel Contributions to Emission Inventories.
PB93-173961/REB
Methodology to Estimate Nonroad Equipment Populations by Nonattainment Areas.
PB93-174332/REB
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PB93-180875/REB
Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers.
PB93-181592/REB
Nonroad Mobile Source Sales and Attrition Study: Identification and Evaluation of Available Data Sources.
PB93-190098/REB

EMISSIONS
Air/Superfund National Technical Guidance Study Series. Models for Estimating Air Emission Rates from Superfund Remedial Actions.
PB93-186807/REB

EMPIRICAL MODELS
Empirical Model of Vehicle Emissions.
PB93-199602/REB

EMS (ETHYL METHANESULFONATE)
Evaluation of the Potential Carcinogenicity of Ethyl Methanesulfonate (62-50-0).
PB93-193597/REB

ENERGY CONSERVATION
Aatgaerder mot klimatfoeraendringar. (Measures against climatic change).
DE93778475/REB

ENERGY CONSUMPTION
Development of Residential Wood Consumption Estimation Models.
PB93-199248/REB

ENERGY METABOLISM
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB

ENGINEERING
Program for Providing Engineering Technical Assistance to Site Remediation Managers.
PB93-185809/REB

ENHANCED TRICKLE-DOWN MODEL
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PB93-199636/REB

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PB93-194512/REB

ENVIRONMENT MANAGEMENT
Regional Nonpoint Source Program Summary.
PB93-169134/REB
Statistical Evaluation of the EMAP-Wetlands Classification.
PB93-199446/REB

ENVIRONMENT POLLUTION
Broad-Based Environmental Life Cycle Assessment.
PB93-199495/REB

ENVIRONMENTAL CHEMICAL SUBSTITUTES
Physical Properties of Fluorinated Propane and Butane Derivatives as Alternative Refrigerants.
PB93-173102/REB
R-245ca: A Potential Far-Term Alternative for R-11.
PB93-173144/REB

ENVIRONMENTAL EFFECTS
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
PB92-228642/REB

ENVIRONMENTAL EXPOSURE PATHWAY
Air/Superfund National Technical Guidance Study Series. Volume 1. Overview of Air Pathway Assessments for Superfund Sites (Revised).
PB93-173987/REB

ENVIRONMENTAL HEALTH
Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB
Summary of Workshop III: Evoked Potentials.
PB93-175610/REB
EPA Priorities for Biologic Markers Research in Environmental Health.
PB93-181113/REB

ENVIRONMENTAL IMPACT ASSESSMENTS
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects.
PB93-173714/REB
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB
Statistical Evaluation of the EMAP-Wetlands Classification.
PB93-199446/REB
Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
PB93-200897/REB

ENVIRONMENTAL IMPACT STATEMENTS-DRAFT
Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1. Background Information Document.
PB93-200673/REB

ENVIRONMENTAL ISSUES
Statistical Problems Arising from Environmental Issues.
PB93-185718/REB
Online Guided Tour of the Cleanup Information Bulletin Board System. (CLU-IN: Cleanup Information Bulletin Board).
PB93-193704/REB

ENVIRONMENTAL MANAGEMENT
News-Notes Number 21: The Condition of the Environment and the Nonpoint Sources of Water Pollution.
PB93-204030/REB

ENVIRONMENTAL MONITORING
Effects of Kraft Mill Effluent on the Sexuality of Fishes: An Environmental Early Warning.
PB93-168847/REB
Research and Information Needs Related to Nonpoint Source Pollution and Wetlands in the Watershed: An EPA Perspective.
PB93-168862/REB
Evaluation of Sampling Strategies to Characterize Dissolved Oxygen Conditions in Northern Gulf of Mexico Estuaries.
PB93-169050/REB
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects.
PB93-173714/REB
Statistical Problems Arising from Environmental Issues.
PB93-185718/REB
Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
PB93-185833/REB
Compendium of Methods for Marine and Estuarine Environmental Studies.
PB93-202570/REB
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB

ENVIRONMENTAL MONITORING AND ASSESSMENT PROGRAM
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
PB93-181618/REB

ENVIRONMENTAL POLICY
Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings.
PB93-191492/REB

ENVIRONMENTAL POLLUTANTS
Developing Improved Strategies to Determine Male Reproductive Risk from Environmental Toxins.
PB93-167286/REB
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium'.
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Oxidation of Persistent Environmental Pollutants by a White Rot Fungus.
PB93-191575/REB
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium': Involvement of the Lignin Degrading System.
PB93-191583/REB

ENVIRONMENTAL PROTECTION
Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB
Precollege Education: A Vital Component if Sustainable Agriculture is to Take Root.
PB93-168870/REB
Regulatory Applications of Sediment Criteria.
PB93-174472/REB
Evaluation of Environmental Marketing Terms in the United States.
PB93-175784/REB
Greening of World Trade: A Report to EPA from the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology.
PB93-176980/REB
Marine and Estuarine Protection: Programs and Activities.
PB93-179000/REB
Framework for Characterization. (Revised Final Report March 1992).
PB93-191237/REB
Expanding Global Forest Management: An 'Easy First' Proposal.
PB93-199669/REB
SCOUT: A Data Analysis Program (Version 1.40) (for Microcomputers).
PB93-505303/REB

ENVIRONMENTAL SURVEYS
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Inventory Synonym and Preferred Name File, January 1993, Documentation.
PB93-155166/REB
Using a Neural Network to Estimate Solvent Consumption.
PB93-173110/REB
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
PB93-181618/REB
Compendium of Current Monitoring Programs in Tampa Bay and Its Watershed.
PB93-191666/REB
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Synonym and Preferred Name File, January 1993.
PB93-504595/REB

ENVIRONMENTAL TRANSPORT
Laboratory Studies on the Stability and Transport of Inorganic Colloids Through Natural Aquifer Material (Chapter 49).
PB93-175537/REB
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
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VIRTUS, a Model of Virus Transport in Unsaturated Soils.
PB93-185890/REB
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry/Environmental Fate Follow Up Guidance for Conducting Rotational Crop Studies.
PB93-194041/REB
Investigation of Contaminant Transport from the Saginaw Confined Disposal Facility.
PB93-199610/REB

ENZYME INDUCTION
Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay.
PB93-199594/REB

EPA REGION 1
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB

EPA REGION 10
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB

EPA REGION 2
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB

EPA REGION 3
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB

EPA REGION 4
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB

EPA REGION 5
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB

EPA REGION 6
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB

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PB93-163780/REB

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Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB

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Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
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EPICHLOROHYDRIN
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Chemical Characterization of Indoor Air of Homes from Communes in Xuan Wei, China, with High Lung Cancer Mortality Rate.
PB93-173680/REB

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Interleukin-8 Expression in Normal Nasal Epithelium and Its Modulation by Infection with Respiratory Syncytial

Virus and Cytokines Tumor Necrosis Factor, Interleukin-1, and Interleukin-6.
PB93-175677/REB

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Benzene Equipment Leak Inspection Manual.
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PB93-185932/REB

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Steroidogenic Assessment Using Ovary Culture in Cycling Rats: Effects of Bis(2-Diethylhexyl) Phthalate on Ovarian Steroid Production.
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Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
PB93-185833/REB
Distribution of Selected Fish Species in Tampa Bay.
PB93-191229/REB
Estuary Program Primer. National Estuary Program.
PB93-193753/REB
Summary of Implementation and Demonstration Projects in Bays and Estuaries.
PB93-194637/REB
Design of a Basinwide Monitoring Program for the Tampa Bay Estuary.
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Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
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Evaluation of the Potential Carcinogenicity of 1,1,1,2-Tetrachloroethane (630-20-6).
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PB93-194454/REB
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PB93-190098/REB
Issues and Approaches to Improving Transportation Modeling for Air Quality Analysis.
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Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems.
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Empirical Model of Vehicle Emissions.
PB93-199602/REB
Structure and Performance of the Health Effects Institute.
PB93-200335/REB

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Test Car List, 1993. Passenger Cars.
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Importance of Experimenter-Blind Procedure in Neurotoxicology (Mini-Review).
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PB93-173698/REB

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Guidance for Federal Facilities on Release Notification Requirements under CERCLA and SARA Title III.
PB93-963412/REB

FEDERAL TEST PROCEDURE
Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines. Federal Certification Test Results for 1993 Model Year.
PB93-164523/REB
Test Car List, 1993. Passenger Cars.
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Mineralization of Recalcitrant Environmental Pollutants by a White Rot Fungus. Proceedings of the National Conference on Hazardous Wastes and Hazardous Materials. Held in Washington, DC. on March 16-18, 1987.
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Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
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PB93-963248/REB
National Priorities List Sites: Wyoming, 1992.
PB93-963249/REB
Overview of the Outyear Liability Model (OLM).
PB93-963259/REB
Standard Document for Remedial Site Assessment Decisions.
PB93-963268/REB
Superfund: EPA/ICMA Superfund Revitalization Conference. Held in Chicago, Illinois on November 12-13, 1992.
PB93-963274/REB
Initiatives to Streamline the Alternative Remedial Contracting Strategy (ARCS) Contracts' Award Fee Process.
PB93-963275/REB
Performance Tracking under ARCS Contracts.
PB93-963276/REB
Amendment to Historical Definitions of NPL Deletion Start and Completion Dates.
PB93-963278/REB
Identification of a Senior Superfund Official for Addressing Special NPL Site-Related Issues.
PB93-963279/REB
Guidance on Program Management Activities under ARCS.
PB93-963280/REB
Clarification of Delegation to Approve Consistency Exemptions at NPL Sites.
PB93-963281/REB
Use of Time and Materials and Cost Reimbursement Subcontracts for Remedial Actions under the Alternative Remedial Contracting Strategy Contracts.
PB93-963282/REB
Smart Moves in Superfund - Regional Pilots and Initiatives. Volume 1, Number 2, September 1992.
PB93-963283/REB
Smart Moves in Superfund - Revitalization One Year Later. Volume 1, Number 3, January 1993.
PB93-963284/REB
HSED SACM Report. Volume 1, Number 1, January 1993.
PB93-963289/REB
Response Action Contractor Final Indemnification Guidelines. Volume 2, Number 1, March 1993.
PB93-963290/REB
Further Direction on Implementing the Superfund Accelerated Cleanup Model (SACM).
PB93-963291/REB
SARA '200' Remedial Action Starts Requirement.
PB93-963324/REB
Permits and Permit 'Equivalency' Processes for CERCLA On-Site Response Actions.
PB93-963325/REB
Compendium of ROD Language for FY 1993 Focus Areas.
PB93-963328/REB
ATSDR Health Consultations under CERCLA.
PB93-963334/REB
Ensuring the Adequacy of Cost Share Provisions in Superfund State Contracts.
PB93-963336/REB
Discussions with the Public Concerning NPL Listings.
PB93-963338/REB
OSWER Integrated Health and Safety Standard Operating Practices.
PB93-963401/REB
Expedited Response Actions.
PB93-963410/REB
Reassignment of CLP Transportation Functions.
PB93-963501/REB
Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
PB93-963502/REB
Superfund Record of Decision (EPA Region 1): Darling Hill Dump, Lyndon, VT. (First Remedial Action), June 1992.
PB93-963702/REB
Superfund Record of Decision (EPA Region 2): Pasley Solvents and Chemicals, Town of Hempstead, Nassau County, NY. (First Remedial Action), April 1992.
PB93-963805/REB
Superfund Record of Decision (EPA Region 3): Dixie Caverns Landfill Site, Operable Unit 2, Roanoke County, VA. (Second Remedial Action), September 1992.
PB93-963907/REB
Superfund Record of Decision (EPA Region 5): Clare Water Supply Site, Clare County, Clare, MI. (Second Remedial Action), September 1992.
PB93-964106/REB
Superfund Record of Decision (EPA Region 5): Kohler Landfill, Kohler, WI. (First Remedial Action), March 1992.
PB93-964111/REB
Superfund Record of Decision (EPA Region 5): Metal Working Shop, Benzie County, Lake Ann, MI. (First Remedial Action), June 1992.
PB93-964113/REB
Superfund Record of Decision (EPA Region 5): Savanna Army Depot, Savanna, IL. (First Remedial Action), March 1992.
PB93-964116/REB
Superfund Record of Decision (EPA Region 5): Torch Lake Site, Operable Units 1 and 3, Houghton County, MI. (First Remedial Action), September 1992.
PB93-964120/REB
Superfund Record of Decision (EPA Region 10): Elmendorf Air Force Base, Operable Unit 2, Source Area ST41, Anchorage, AK. (First Remedial Action), September 1992.
PB93-964604/REB

HEALTH EFFECTS INSTITUTE
Structure and Performance of the Health Effects Institute.
PB93-200335/REB

HEART FUNCTION TESTS
Distribution of Cardiac Output during Diurnal Changes of Activity in Rats.
PB93-180982/REB

HEART RATE
Acute Effects of Ozone on Heart Rate and Body Temperature in the Unanesthetized, Unrestrained Rat Maintained at Different Ambient Temperatures.
PB93-175586/REB

HEAT
Skeletal Development Following Heat Exposure in the Rat.
PB93-194520/REB
Embryonic Development in vitro Following Short-Duration Exposure to Heat.
PB93-194538/REB

HEAT-SHOCK PROTEINS
Persistence of the Heat-Shock Response Over Time in a Common 'Mytilus' Mussel.
PB93-185866/REB
Stress Proteins in Aquatic Organisms: An Environmental Perspective.
PB93-199578/REB

HEPTACHLOR
Evaluation of the Potential Carcinogenicity of Heptachlor (76-44-8).
PB93-190478/REB

HEPTACHLOR EPOXIDE
Evaluation of the Potential Carcinogenicity of Heptachlor Epoxide (1024-57-3).
PB93-190486/REB

HERMAPHRODITISM
Extreme Clonal Diversity and Divergence in Populations of a Selfing Hermaphroditic Fish.
PB93-169019/REB

HEXACHLOROBENZENE
Evaluation of the Potential Carcinogenicity of Hexachlorobenzene (118-74-1).
PB93-190494/REB
Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB

HEXACHLOROBIPHENYL
Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB

HEXACHLOROBUTADIENE
Evaluation of the Potential Carcinogenicity of Hexachlorobutadiene (87-68-3).
PB93-190502/REB

HEXAMITA SALMONIS
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'.
PB93-169035/REB

HIGH TEMPERATURE TESTS
Thermal Degradation Characteristics of Environmentally Sensitive Pesticide Products.
PB93-201127/REB

HOMARUS AMERICANUS
Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae.
PB93-185841/REB

HOUSEHOLD WASTES
Proceedings of the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (7th). Held in Minneapolis, Minnesota on December 8-12, 1992.
PB93-170116/REB

HOUSES
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB

HUMAN HEALTH CRITERIA
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB
Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB

HYDRAULIC CONDUCTIVITY
Development and Application of Borehole Flowmeters for Environmental Assessment.
PB93-185817/REB
Parameters Affecting the Measurement of Hydraulic Conductivity for Solidified/Stabilized Wastes.
PB93-199396/REB

HYDRAZINE
Evaluation of the Potential Carcinogenicity of Hydrazine (302-01-2).
PB93-190528/REB

HYDRAZINE/DIETHYL
Evaluation of the Potential Carcinogenicity of 1,2-Diethylhydrazine (1615-80-1).
PB93-194298/REB

HYDRAZINE/DIPHENYL
Evaluation of the Potential Carcinogenicity of 1,2-Diphenylhydrazine (122-66-7).
PB93-192326/REB

HYDRAZINES
Evaluation of the Potential Carcinogenicity of 1,2-Diethylhydrazine (1615-80-1).
PB93-194298/REB

HYDROCARB PROCESS
Coprocessing of Fossil Fuels and Biomass for CO2 Emission Reduction in the Transportation Sector.
PB93-194165/REB

HYDROCARBONS
Aerobic Soil Microcosms for Long-Term Biodegradation of Hydrocarbon Vapors.
PB93-181196/REB
Hydrocarbon Vapor Diffusion in Intact Core Sleeves.
PB93-181204/REB

HYDROGEOLOGY
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
PB93-199636/REB

HYDROLOGY
Quality Assurance and Quality Control in the Development and Application of Ground-Water Models.
PB93-178226/REB

HYPOCHLOROUS ACIDS
Breakage and Binding of DNA by Reaction Products of Hypochlorous Acid with Aniline, 1-Napthylamine, or 1-Naphthol.
PB93-181063/REB

IDAHO
National Priorities List Sites: Idaho, 1992.
PB93-963212/REB

ILLINOIS
National Priorities List Sites: Illinois, 1992.
PB93-963213/REB

IMINODIPROPIONITRILES
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB

IMMUNOASSAY
Immunoassay for p-Nitrophenol in Urine (Chapter XX).
PB93-175552/REB

IN-SITU PROCESSING
In-situ Bioventing: Two U.S. EPA and Air Force Sponsored Field Studies.
PB93-194231/REB

INADEQUATE TESTS
Evaluation of the Potential Carcinogenicity of Diethylarsine (692-42-2).
PB93-184877/REB

INCINERATORS
Technical Support for the Incineration of Sewage Sludge.
PB93-110617/REB
What to Do Before You 'Nuke' Your Multiple Hearth Furnace: Practical Tips and Techniques for Improving Operation, Reducing Emissions and Meeting the Regulations.
PB93-175479/REB
Emissions from Sludge Incinerators with Venturi and Tray Scrubbers and Wet Electrostatic Precipitators: Metals, Chromium and Nickel Compounds, and Organics.
PB93-175487/REB
Continuous Monitoring of Total Hydrocarbon Emissions from Sludge Incinerators.
PB93-175495/REB

Incineration of Hazardous Waste: A Critical Review Update.
PB93-185916/REB
Experimental Investigation of PIC Formation in CFC-12 Incineration.
PB93-191294/REB
Methodology to Apportion Ambient Air Measurements to Investigate Potential Effects on Air Quality Near Waste Incinerators.
PB93-191393/REB

INDIAN TRIBES
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
PB93-185585/REB

INDIANA
National Priorities List Sites: Indiana, 1992.
PB93-963214/REB

INDOOR AIR POLLUTION
Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991.
PB93-172922/REB
Assessing Potential Exposures from Routine Use of VOC-Contaminated Groundwater.
PB93-173060/REB
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB
Chemical Characterization of Indoor Air of Homes from Communes in Xuan Wei, China, with High Lung Cancer Mortality Rate.
PB93-173680/REB
Characterizing Material Sources and Sinks: Current Approaches (Part 2. Chemical and Physical Characterization).
PB93-175560/REB
Modeling Indoor Concentrations and Exposures.
PB93-175578/REB
Air Filter Particle-Size Efficiency Testing for Diameters Greater Than 1 mu m.
PB93-180909/REB
Sorption and Reemission of Formaldehyde by Gypsum Wallboard.
PB93-180917/REB
Human Upper Respiratory Tract Responses to Inhaled Pollutants with Emphasis on Nasal Lavage.
PB93-181089/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
PB93-196194/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
PB93-196202/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
PB93-196210/REB
Building and HVAC Characterization for Commercial Building Indoor Air Quality Investigations.
PB93-198844/REB
Indoor Concentration Modeling of Aerosol Strong Acidity.
PB93-204071/REB

INDOOR ENVIRONMENT
Indoor Concentration Modeling of Aerosol Strong Acidity.
PB93-204071/REB

INDUCED HYPERTHERMIA
Skeletal Development Following Heat Exposure in the Rat.
PB93-194520/REB
Embryonic Development in vitro Following Short-Duration Exposure to Heat.
PB93-194538/REB

INDUSTRIAL HEATING
Alternative Control Techniques Document-NOx Emissions from Process Heaters.
PB93-186211/REB

INDUSTRIAL SAFETY
Estimation of the Cost of Using Chemical Protective Clothing.
PB93-168805/REB

INDUSTRIAL WASTE TREATMENT
Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB

INFLAMMATION
Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone.
PB93-181055/REB

INFORMATION DISSEMINATION
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
PB93-200806/REB

INFORMATION MANAGEMENT
TSCA Confidential Business Information Security Manual.
PB93-184844/REB
Information Management Guidelines for the Wetlands Research Program.
PB93-202844/REB

INFORMATION SERVICES
Directory of OAQPS Information Services, May 1993.
PB93-196624/REB

INFORMATION SYSTEMS
Office of Water Environmental and Program Information Systems Compendium, FY 1992.
PB93-186203/REB
Data Management Strategy for the Tampa Bay National Estuary Program: Recommendations and Implementation Plan.
PB93-191633/REB
Online Guided Tour of the Cleanup Information Bulletin Board System. (CLU-IN: Cleanup Information Bulletin Board).
PB93-193704/REB
Glass Markets Information System: Application Records.
PB93-193902/REB
Compliance Data System Quality Assurance Manual, June 1984.
PB93-199339/REB
Aeros Manual Series. Volume 5. Aeros Manual of Codes. Update Number 9.
PB93-200798/REB

INORGANIC COMPOUNDS
Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
PB93-193787/REB

INSECTICIDES
Effects of Culture Parameters on DDT (1,1,1-Trichloro-2,2-BIS(4-Chlorophenyl)Ethane) Biodegradation by 'Phanerochaete chrysosporium'.
PB93-191567/REB
Biodegradation of DDT (1,1,1-Trichloro-2,2-Bis(4-Chlorophenyl)Ethane) by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191617/REB

INSPECTION
Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
PB93-199107/REB
Guidance on Setting Priorities for NPL Candidate Sites.
PB93-963333/REB

INSTRUCTIONS
Toxic Chemical Release Inventory Reporting Form R and Instructions. Revised 1992 Version. Section 313 of the Emergency Planning and Community Right-to-Know Act.
PB93-194140/REB

INTERLEUKIN-8
Interleukin-8 Expression in Normal Nasal Epithelium and Its Modulation by Infection with Respiratory Syncytial Virus and Cytokines Tumor Necrosis Factor, Interleukin-1, and Interleukin-6.
PB93-175677/REB

INTERMEDIATE FILAMENTS
Anomalous Phosphorylated Neurofilament Aggregations in Central and Peripheral Axons of Hens Treated with Tri-Ortho-Cresyl Phosphate (TOCP).
PB93-175735/REB

INTERNATIONAL AGREEMENTS
Expanding Global Forest Management: An 'Easy First' Proposal.
PB93-199669/REB

INTERNATIONAL TRADE
Greening of World Trade: A Report to EPA from the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology.
PB93-176980/REB

INTERSTITIAL WATER
Comparison of Methods for Collecting Interstitial Water for Trace Organic Compounds and Metals Analyses.
PB93-199552/REB

INVERTEBRATES
Fate of 'Bacillus sphaericus' 2362 Spores in Nontarget Invertebrates.
PB93-168995/REB

ION EXCLUSION CHROMATOGRAPHY
Determination of Carboxylic Acids by Ion-Exclusion Chromatography with Non-Suppressed Conductivity and Optical Detectors.
PB93-181212/REB

IOWA
National Priorities List Sites: Iowa, 1992.
PB93-963215/REB

IRON
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB

IRON AND STEEL INDUSTRY
Summary of Factors Affecting Compliance by Ferrous Foundaries. Volume 1. Text.
PB93-199347/REB

IRON SALTS
RED Facts: Iron Salts.
PB93-198703/REB
Reregistration Eligibility Document (RED): Iron Salts.
PB93-200780/REB

IRON SULFATES
RED Facts: Iron Salts.
PB93-198703/REB
Reregistration Eligibility Document (RED): Iron Salts.
PB93-200780/REB

IRRIGATION
Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
PB93-186260/REB

ISOCYANATES
Development and Validation of a Source Test Method for 2,4-Toluene Diisocyanate.
PB93-204055/REB

ISOENZYMES
Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay.
PB93-199594/REB

ISOFLUROPHOSPHATE
Relationship between Serum Cholinesterase Activity and the Change in Body Temperature and Motor Activity in the Rat: A Dose-Response Study of Diisopropyl Fluorophosphate.
PB93-175644/REB

ISOSAFROLE
Evaluation of the Potential Carcinogenicity of Isosafrole (120-58-1).
PB93-190544/REB

JURISDICTION
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
PB93-185585/REB

KANSAS
National Priorities List Sites: Kansas, 1992.
PB93-963216/REB

KENTUCKY
National Priorities List Sites: Kentucky, 1992.
PB93-963217/REB

KEPONE
Evaluation of the Potential Carcinogenicity of Kepone Chlordecone (143-50-0).
PB93-190569/REB

KERATINOCYTES
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
PB93-175651/REB

KRESS INDIRECT DRY COOLING SYSTEM
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F.
PB93-191302/REB
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 2. Appendices G-N.
PB93-191310/REB

LABORATORIES
Infection Intensity of 'Perkinsus marinus' Disease in 'Crassostrea virginica' (Gmelin, 1791) from the Gulf of Mexico Maintained under Different Laboratory Conditions.
PB93-168912/REB

LAKES
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB

LAND MANAGEMENT
Sustainable Agriculture and the Environment in the Humid Tropics.
PB93-173920/REB

LAND POLLUTION
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
PB93-181188/REB

LAND POLLUTION ABATEMENT
Regulatory Applications of Sediment Criteria.
PB93-174472/REB

LAND POLLUTION CONTROL
Aerobic Soil Microcosms for Long-Term Biodegradation of Hydrocarbon Vapors.
PB93-181196/REB
Hydrocarbon Vapor Diffusion in Intact Core Sleeves.
PB93-181204/REB
In-situ Bioventing: Two U.S. EPA and Air Force Sponsored Field Studies.
PB93-194231/REB

LAND RECLAMATION
Town of Edinburg Landfill Reclamation Demonstration Project.
PB93-198976/REB

LANDFILLS
Town of Edinburg Landfill Reclamation Demonstration Project.
PB93-198976/REB
National List of Asbestos Landfills.
PB93-200517/REB

LASIOCARPINE
Evaluation of the Potential Carcinogenicity of Lasiocarpine (303-34-4).
PB93-190577/REB

LAW ENFORCEMENT
Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
PB93-177178/REB
Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
PB93-199107/REB

LEACHATES
Evaluation of Mitigation for Acid Aluminum Leachate from a Highway Fill in Garrett County, Maryland.
PB93-180321/REB

LEACHING
Subtitle D Landfill Application Manual for the Multimedia Exposure Assessment Model (MULTIMED).
PB93-185536/REB

LEAD
Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
PB93-194181/REB

LEAD AND COPPER RULE
Statistical Procedures for Corrosion Studies.
PB93-199412/REB
Corrosion Control Principles and Strategies for Reducing Lead and Copper in Drinking Water Systems.
PB93-199420/REB

LEAD (METAL)
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil.
PB93-173128/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
PB93-174514/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
PB93-174522/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
PB93-174530/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
PB93-174555/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
PB93-174563/REB
Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB
Medium Systems That Failed to Conduct Required Initial Lead Tap Monitoring and Reporting.
PB93-196632/REB

LEAKAGE
LDCRS Flow from Double-Lined Landfills and Surface Impoundments.
PB93-179885/REB
Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
PB93-185783/REB
Benzene Equipment Leak Inspection Manual.
PB93-199123/REB
Screening Methodology for Assessing Leaking UST Sites and Clean Up Technologies.
PB93-199404/REB

LEAKAGE DETECTION COLLECTION AND REMOVAL SYSTEMS
LDCRS Flow from Double-Lined Landfills and Surface Impoundments.
PB93-179885/REB

LETHAL GENES
Bleomycin: Female-Specific Dominant Lethal Effects in Mice.
PB93-194470/REB

LICENSES
U.S. EPA NPDES: Basic Permit Writers' Course. Workbook.
PB93-185619/REB

LICHENS
Lichen sensitivity and air pollution - a review of literature data.
DE93778468/REB

LIFE CYCLES
Synthesis of Basic Life Histories of Tampa Bay Species.
PB93-196012/REB

LIFE (DURABILITY)
Life Cycle Analysis (Video Conference Paper).
PB93-194207/REB

LIGNIN
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium': Involvement of the Lignin Degrading System.
PB93-191583/REB
Ring Fission of Anthracene by a Eukaryota.
PB93-199503/REB
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
PB93-199511/REB
Lignin Degradation and Lignin Peroxidase Production in Cultures of 'Phanerochaete chrysosporium' Immobilized on Porous Ceramic Supports.
PB93-199529/REB

LIGNINASES
Biological Oxidations of Organic Compounds by Enzymes from a White Rot Fungus.
PB93-191369/REB

LIMITING FACTORS
Physiological Limitations on Phytoplankton Productivity in the Ocean.
PB93-204923/REB

LININGS
Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
PB93-196616/REB

LISTINGS
National List of Asbestos Landfills.
PB93-200517/REB

LIVER
Differential Hepatotoxicity and Cytochrome P450 Responses of Fischer-344 Rats to the Three Isomers of Dichlorobenzene.
PB93-175719/REB
Analysis of DNA Strand Breaks Induced in Rodent Liver In vivo, Hepatocytes in Primary Culture, and a Human Cell Line by Chlorinated Acetic Acids and Chlorinated Acetaldehydes.
PB93-180974/REB

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Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae.
PB93-185841/REB

LONG RANGE PLANNING
Future Context of Sustainable Agriculture: Planning for Uncertainty.
PB93-191518/REB

LOUISIANA
National Priorities List Sites: Louisiana, 1992.
PB93-963218/REB

LOW-LEVEL RADIOACTIVE WASTES
Transport of Low-Level Radioactive Soil at Deep-Ocean Disposal Site.
PB93-199487/REB
Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1. Background Information Document.
PB93-200673/REB

LUNG
Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone.
PB93-181055/REB
Extrapolation Modeling of Aerosol Deposition in Human and Laboratory Rat Lungs.
PB93-181097/REB

MACROPHAGES
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
PB93-175651/REB

MAINE
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB
National Priorities List Sites: Maine, 1992.
PB93-963219/REB

MALE INFERTILITY
Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring.
PB93-181071/REB

MANUFACTURING
Life Cycle Analysis (Video Conference Paper).
PB93-194207/REB

MAPS
Comparison of Systematic and Random Sampling for Estimating the Accuracy of Maps Generated from Remotely Sensed Data.
PB93-191443/REB

MARINE BIOLOGY
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects.
PB93-181162/REB
Oligohaline Areas in Tampa Bay Tributaries: Spatial Extent and Species Lists.
PB93-191179/REB
Observations on the State of Marine Disease Studies (Chapter 18).
PB93-204170/REB
Physiological Limitations on Phytoplankton Productivity in the Ocean.
PB93-204923/REB
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB

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PB93-170116/REB
Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991.
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Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
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Sampling and Assessment Issues in Using Fish as Indicators of Ecological Condition in Lakes: A Workshop Report. (3rd Draft Report).
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Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
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Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
PB93-200897/REB
News-Notes Number 23: The Condition of the Environment and the Control of Nonpoint Sources of Water Pollution.
PB93-204006/REB
News-Notes Number 21: The Condition of the Environment and the Nonpoint Sources of Water Pollution.
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Baseline Point Source Load Inventory, 1985. 1991 Reevaluation Report No. 2.
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Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
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Smart Moves in Superfund - Revitalization One Year Later. Volume 1, Number 3, January 1993.
PB93-963284/REB
SARA '200' Remedial Action Starts Requirement.
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Reassignment of CLP Transportation Functions.
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Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
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OFFSHORE DRILLING
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Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
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PB93-174613/REB

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Always a River: Supplemental Environmental Education Curriculum on the Ohio River and Water Grades K-12.
PB93-200905/REB

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PB93-963235/REB

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ENU Mutagenesis in the Mouse Electrophoretic Specific-Locus Test. 2. Mutational Studies of Mature Oocytes.
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PB93-963236/REB

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Potential Bias from Non-Continuous Monitoring of Ambient Ozone Concentrations for Characterizing Hourly and Daily 7- and 12-Hour Average Concentrations.
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PB93-175776/REB
Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada.
PB93-191401/REB
Procedures for Estimating Probability of Nonattainment of a PM10 NAAQS Using Total Suspended Particulate or Inhalable Particulate Data (Draft).
PB93-200640/REB
Volatile Organic Compound/Particulate Matter Speciation Data Base Management System (SPECIATE), Version 1.5 (for Microcomputers).
PB93-505238/REB

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PB93-174027/REB
MULTIMED: The Multimedia Exposure Assessment Model for Evaluating the Land Disposal of Wastes-Model Theory.
PB93-186252/REB

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Importance of Fish Diseases: An Overview.
PB93-204113/REB

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Acute Effects of Ethanol on Pattern Reversal and Flash-Evoked Potentials in Rats and the Relationship to Body Temperature.
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PB93-963237/REB

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PB93-168912/REB

PERMITS
Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants.
PB93-184620/REB

PERSONNEL DEVELOPMENT
Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
PB93-202802/REB

PESTICIDE RESIDUES
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry/Environmental Fate Follow Up Guidance for Conducting Rotational Crop Studies.
PB93-194041/REB

PESTICIDES
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
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PB93-163798/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos.
PB93-168920/REB
Reregistration Eligibility Document (RED): Oxalic Acid.
PB93-169100/REB

Agricultural Pesticide Emissions Associated with Common Crops in the United States.
PB93-173136/REB
RED Facts: Oxalic Acid.
PB93-173953/REB
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
PB93-174027/REB
Pesticide Reregistration Progress Report.
PB93-178994/REB
Evaluation of the Potential Carcinogenicity of Aldrin (309-00-2).
PB93-181642/REB
Biodegradation of Pentachlorophenol by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191559/REB
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry. Follow-up Guidance for Generating Storage Stability Data; Submission of Raw Data; Maximum Theoretical Concentration Factors; Flowchart Diagrams.
PB93-193696/REB
Evaluation of the Potential Carcinogenicity of Dieldrin (60-57-1).
PB93-194272/REB
Pesticide Fact Sheet Number 240: Dimethenamid. SAN 582H/Frontier (Trade Name) Herbicide.
PB93-198695/REB
RED Facts: Iron Salts.
PB93-198703/REB
Pesticide Fact Sheet: Arsenic Acid (H3AsO4).
PB93-198711/REB
Alternative Control Technology Document: Control of VOC Emissions from the Application of Agricultural Pesticides.
PB93-199131/REB
Reregistration Eligibility Document (RED): Iron Salts.
PB93-200780/REB
Pesticide Safety and Training Materials Catalog (Catalogo de Materiales Educativos y Proteccion Sobre Pesticidas).
PB93-200814/REB
Thermal Degradation Characteristics of Environmentally Sensitive Pesticide Products.
PB93-201127/REB
Pesticide Fact Sheet: Polyhedral Occlusion Bodies of the Nuclear Polyhedrosis Virus of 'Spodoptera exigua'.
PB93-206779/REB
Pesticide Fact Sheet: 'Metarhizium anisopliae' Strain ESF1.
PB93-206787/REB

PETROLEUM PIPELINES
Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
PB93-185783/REB

PETROLEUM PRODUCTS
Screening Methodology for Assessing Leaking UST Sites and Clean Up Technologies.
PB93-199404/REB

PETROLEUM REFINERIES
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown, Virginia. Ecological Impacts of the Yorktown Refinery on the York River Estuarine Environment.
PB92-228634/REB

PETROLEUM REFINING
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
PB92-228519/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Pollution Prevention Workshop.
PB92-228543/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
PB92-228568/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Surface Water Data.
PB92-228584/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
PB92-228592/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
PB92-228642/REB

PETROLEUM TRANSPORTATION
Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers.
PB93-181592/REB

PHAEODACTYLUM TRICORNUTUM
Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae).
PB93-199545/REB

PHAGOCYTOSIS
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
PB93-175651/REB

PHANEROCHAETE CHRYSOSPORIUM
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191351/REB
Biological Oxidations of Organic Compounds by Enzymes from a White Rot Fungus.
PB93-191369/REB
Biodegradation of 2,4,5-Trichlorophenoxyacetic Acid in Liquid Culture and in Soil by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191542/REB
Biodegradation of Pentachlorophenol by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191559/REB
Effects of Culture Parameters on DDT (1,1,1-Trichloro-2,2-BIS(4-Chlorophenyl)Ethane) Biodegradation by 'Phanerochaete chrysosporium'.
PB93-191567/REB
Oxidation of Persistent Environmental Pollutants by a White Rot Fungus.
PB93-191575/REB
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium': Involvement of the Lignin Degrading System.
PB93-191583/REB
Biodegradation of Polycyclic Aromatic Hydrocarbons by 'Phanerochaete chrysosporium'.
PB93-191591/REB
Biodegradation of Crystal Violet by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191609/REB
Biodegradation of DDT (1,1,1-Trichloro-2,2-Bis(4-Chlorophenyl)Ethane) by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191617/REB
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
PB93-199511/REB

PHANEROCHATE CHRYSOPORIUM
Mineralization of Recalcitrant Environmental Pollutants by a White Rot Fungus. Proceedings of the National Conference on Hazardous Wastes and Hazardous Materials. Held in Washington, DC. on March 16-18, 1987.
PB93-204154/REB

PHARMACOKINETICS
Physiological Pharmacokinetic Modeling of Inhaled Trichloroethylene in Rats.
PB93-180990/REB

PHARMACOLOGY
Glucocorticoid Effects on Natural and Humoral Immunity in Mallards.
PB93-199644/REB

PHASE 2 RULE
Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
PB93-193787/REB

PHENACETIN
Evaluation of the Potential Carcinogenicity of Phenacetin (62-44-2).
PB93-196566/REB

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Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
PB93-199511/REB

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PB93-168920/REB
Evaluation of the Potential Carcinogenicity of Pentachlorophenol (87-86-5).
PB93-196558/REB

PHENOL/TRICHLORO
Evaluation of the Potential Carcinogenicity of 2,4,6-Trichlorophenol (88-06-2).
PB93-202299/REB
Evaluation of the Potential Carcinogenicity of 2,4,5-Trichlorophenol (95-95-4).
PB93-202307/REB
Evaluation of the Potential Carcinogenicity of Trichlorophenol (Mixed) (2516-78-22).
PB93-202315/REB

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Evaluation of the Potential Carcinogenicity of Pentachlorophenol (87-86-5).
PB93-196558/REB
Evaluation of the Potential Carcinogenicity of 2,4,6-Trichlorophenol (88-06-2).
PB93-202299/REB
Evaluation of the Potential Carcinogenicity of 2,4,5-Trichlorophenol (95-95-4).
PB93-202307/REB
Evaluation of the Potential Carcinogenicity of Trichlorophenol (Mixed) (2516-78-22).
PB93-202315/REB

PHENOTYPE
Conjugal Gene Transfer to Aquatic Bacteria Detected by the Generation of a New Phenotype.
PB93-169068/REB

PHOSPHORIC ACID/TRIS (DIBROMO- (PROPYL-ESTER))
Evaluation of the Potential Carcinogenicity of Tris(2,3-Dibromopropyl) Phosphate (126-72-7).
PB93-202281/REB

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Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin.
PB93-199586/REB

PHOTOCHEMICAL REACTIONS
Photochemical Conversion of Solar Energy in the Environment.
PB93-167187/REB

PHOTOSYNTHESIS
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB

PHOTOVOLTAIC POWER SUPPLIES
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 1.
PB93-174761/REB

PHTHALIC ACID/BIS (2-DIETHYLHEXYL)
Steroidogenic Assessment Using Ovary Culture in Cycling Rats: Effects of Bis(2-Diethylhexyl) Phthalate on Ovarian Steroid Production.
PB93-181022/REB

PHTHALIC ACID/ (DIETHYLHEXYL-ESTER)
Ambient Aquatic Life Water Quality Criteria for Di-2-Ethylhexyl Phthalate.
PB93-202752/REB

PHYSIOLOGY
Physiological Pharmacokinetic Modeling of Inhaled Trichloroethylene in Rats.
PB93-180990/REB

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PB93-204923/REB

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Evaluation of the Bioremediation of a Contaminated Soil with Phytotoxicity Tests.
PB93-191625/REB

PINFISH
Annual Cycle of Blood Chemistry Parameters in Striped Mullet ('Mugil cephalus' L.) and Pinfish ('Lagodon rhomboides' L.) from the Gulf of Mexico.
PB93-168953/REB

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Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB

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PB93-196517/REB

PLANT GROWTH
Physiological Limitations on Phytoplankton Productivity in the Ocean.
PB93-204923/REB

PLASTICS INDUSTRY
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
PB93-167773/REB

PLUME VISIBILITY MODEL
User's Manual for the Plume Visibility Model PLUVUE II (Revised).
PB93-188233/REB

POINT SOURCES
Air Emissions Testing.
PB93-180933/REB
Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada.
PB93-191401/REB
Baseline Point Source Load Inventory, 1985. 1991 Reevaluation Report No. 2.
PB93-193761/REB
Preliminary Data Summary for the Pulp, Paper and Paperboard Point Source Category.
PB93-202935/REB

POLLUTANT RELEASES
Toxic Chemical Release Inventory Reporting Form R and Instructions. Revised 1992 Version. Section 313 of the Emergency Planning and Community Right-to-Know Act.
PB93-194140/REB

Questions and Answers on Release Notification Requirements and Reportable Quantity Adjustments.
PB93-963411/REB

POLLUTANTS

Using a Neural Network to Estimate Solvent Consumption.
PB93-173110/REB

Ring Fission of Anthracene by a Eukaryota.
PB93-199503/REB

POLLUTION ABATEMENT

Planning and Progress of EPA's Pollution Prevention Research Program.
PB93-185767/REB

POLLUTION CONTROL

Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991.
PB93-172922/REB

Sustainable Agriculture and the Environment in the Humid Tropics.
PB93-173920/REB

Planning and Progress of EPA's Pollution Prevention Research Program.
PB93-185767/REB

VIRTUS, a Model of Virus Transport in Unsaturated Soils.
PB93-185890/REB

Control Technology Center FY92: A Summary of Program Accomplishments.
PB93-199230/REB

National Priorities List Sites: Alabama, 1992.
PB93-963201/REB

National Priorities List Sites: Alaska, 1992.
PB93-963202/REB

National Priorities List Sites: The United States Territories, 1992.
PB93-963203/REB

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PB93-963204/REB

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National Priorities List Sites: Maine, 1992.
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PB93-963220/REB

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PB93-963221/REB

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PB93-963222/REB

National Priorities List Sites: Minnesota, 1992.
PB93-963223/REB

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PB93-963224/REB

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PB93-963225/REB

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PB93-963229/REB

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PB93-963230/REB

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PB93-963231/REB

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PB93-963232/REB

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PB93-963248/REB

National Priorities List Sites: Wyoming, 1992.
PB93-963249/REB

Superfund Record of Decision (EPA Region 1): Darling Hill Dump, Lyndon, VT. (First Remedial Action), June 1992.
PB93-963702/REB

Superfund Record of Decision (EPA Region 2): Pasley Solvents and Chemicals, Town of Hempstead, Nassau County, NY. (First Remedial Action), April 1992.
PB93-963805/REB

Superfund Record of Decision (EPA Region 3): Dixie Caverns Landfill Site, Operable Unit 2, Roanoke County, VA. (Second Remedial Action), September 1992.
PB93-963907/REB

Superfund Record of Decision (EPA Region 5): Clare Water Supply Site, Clare County, Clare, MI. (Second Remedial Action), September 1992.
PB93-964106/REB

Superfund Record of Decision (EPA Region 5): Kohler Landfill, Kohler, WI. (First Remedial Action), March 1992.
PB93-964111/REB

Superfund Record of Decision (EPA Region 5): Metal Working Shop, Benzie County, Lake Ann, MI. (First Remedial Action), June 1992.
PB93-964113/REB

Superfund Record of Decision (EPA Region 5): Savanna Army Depot, Savanna, IL. (First Remedial Action), March 1992.
PB93-964116/REB

Superfund Record of Decision (EPA Region 5): Torch Lake Site, Operable Units 1 and 3, Houghton County, MI. (First Remedial Action), September 1992.
PB93-964120/REB

Superfund Record of Decision (EPA Region 10): Elmendorf Air Force Base, Operable Unit 2, Source Area ST41, Anchorage, AK. (First Remedial Action), September 1992.
PB93-964604/REB

POLLUTION PREVENTION

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
PB92-228519/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Pollution Prevention Workshop.
PB92-228543/REB

Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
PB92-228568/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Surface Water Data.
PB92-228584/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
PB92-228592/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB

Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown, Virginia. Ecological Impacts of the Yorktown Refinery on the York River Estuarine Environment.
PB92-228634/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
PB92-228642/REB

Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
PB93-185833/REB

EPA's Life Cycle Methodology: Guidelines for Use in Development of Packaging.
PB93-194199/REB

Life Cycle Analysis (Video Conference Paper).
PB93-194207/REB

POLLUTION PREVENTION RESEARCH PROGRAM

Planning and Progress of EPA's Pollution Prevention Research Program.
PB93-185767/REB

POLLUTION REGULATION

Guide to the Asbestos NESHAP as Revised November 1990.
PB93-199362/REB

POLLUTION REGULATIONS

Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB

Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB

Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB

Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
PB93-193787/REB

Drinking Water Regulations under the Safe Drinking Water Act.
PB93-194033/REB

Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
PB93-199297/REB

Guidance on the Relationship between the 15 Percent Rate-of-Progress Plans and Other Provisions of the Clean Air Act.
PB93-200525/REB

Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
PB93-200897/REB

Guidance for Federal Facilities on Release Notification Requirements under CERCLA and SARA Title III.
PB93-963412/REB

POLYCHLORINATED BIPHENYLS

Release of PCB and mercury from fibre sediments.
DE93778469/REB

Evaluation of the Potential Carcinogenicity of Polychlorinated Biphenyls (1336-36-3) Including Specific Aroclors.
PB93-196574/REB

POLYCHLORINATED DIBENZODIOXINS

Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans: Removal from Flue Gas and Distribution in Ash/Residue of a Refuse-Derived Fuel Combustor.
PB93-173169/REB

POLYCHLORINATED DIBENZOFURANS

Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans: Removal from Flue Gas and Distribution in Ash/Residue of a Refuse-Derived Fuel Combustor.
PB93-173169/REB

POLYCHLOROBIPHENYL COMPOUNDS

Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay.
PB93-199594/REB

POLYETHYLENE

Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
PB93-196616/REB

PORTABLE EQUIPMENT

Evaluation of Portable Gas Chromatographs.
PB93-168813/REB

POTABLE WATER

General Public Notification for Public Water Systems.
PB93-167096/REB

Effect of the Distribution System on Drinking-Water Quality.
PB93-173722/REB

Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
PB93-174514/REB

Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
PB93-174522/REB

Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
PB93-174530/REB

Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB

Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
PB93-174555/REB

Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
PB93-174563/REB

Reactions of Potential Organic Water Contaminants with Aqueous Chlorine and Monochloramine.
PB93-175040/REB
Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
PB93-180842/REB
National Public Water System Supervision Program. FY 1992 Compliance Report.
PB93-180867/REB
Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
PB93-184455/REB
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
PB93-185585/REB
Learning Guide for State/Local Drinking Water Agreements.
PB93-185601/REB
Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB
Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
PB93-193787/REB
Drinking Water Regulations under the Safe Drinking Water Act.
PB93-194033/REB
Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules.
PB93-194058/REB
Determination of Nine Haloacetic Acids in Finished Drinking Water.
PB93-204121/REB

POTENTIAL RESPONSIBLE PARTY
Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
PB93-177178/REB

POTENTIALLY RESPONSIBLE PARTIES
Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
PB93-963502/REB

POTENTIALLY RESPONSIBLE PARTIES (PRPS)
Discussions with the Public Concerning NPL Listings.
PB93-963338/REB

POTOMAC RIVER
Application of the Ecotone Concept in Defining Nutrient Management Requirements for the Upper Potomac River Basin.
PB93-199560/REB

POTOMAC RIVER BASIN
Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin.
PB93-199586/REB

POTW (PUBLICLY OWNED TREATMENT WORKS)
Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB

PREIMPLANTATION PHASE
Gene Expression in Pre-Implantation Mammalian Embryos.
PB93-194397/REB

PRENATAL EXPOSURE DELAYED EFFECTS
Effects of Prenatal Administration of Azo Dyes on Testicular Development in the Mouse: A Structure Activity Profile of Dyes Derived from Bensidine, Dimethylbenzidine, or Dimethoxybenzidine.
PB93-175750/REB

PRETREATMENT PROCESSES
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
PB93-167757/REB

PREY PREFERENCE
Does Prey Preference Affect Habitat Choice in Antarctic Seabirds.
PB93-191476/REB

PRINCE WILLIAM SOUND
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB

PRINTING
Ink and Cleaner Waste Reduction Evaluation for Flexographic Printers.
PB93-191286/REB

PRINTING INKS
Guideline for Graphic Arts Calculations.
PB93-199370/REB

PRODUCT COMPARISON
Life Cycle Analysis (Video Conference Paper).
PB93-194207/REB

PROGRAM MANAGEMENT
Program for Providing Engineering Technical Assistance to Site Remediation Managers.
PB93-185809/REB
Design of a Basinwide Monitoring Program for the Tampa Bay Estuary.
PB93-194694/REB

PROJECT MANAGEMENT
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
PB92-228519/REB
Statistical Problems Arising from Environmental Issues.
PB93-185718/REB

PROJECT PLANNING
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB
Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
PB93-184455/REB

PROPANE/2-NITRO
Evaluation of the Potential Carcinogenicity of 2-Nitropropane (79-46-9).
PB93-196418/REB

PROPANE/PENTAFLUORO
R-245ca: A Potential Far-Term Alternative for R-11.
PB93-173144/REB

PROTECTIVE CLOTHING
Estimation of the Cost of Using Chemical Protective Clothing.
PB93-168805/REB

PROTOCOL GASES
Analysis of Protocol Gases: An On-Going Quality Assurance Audit.
PB93-168839/REB

PROTOZOAL DISEASES
Observations on the State of Marine Disease Studies (Chapter 18).
PB93-204170/REB

PROTOZOAN INFECTIONS
Infection Intensity of 'Perkinsus marinus' Disease in 'Crassostrea virginica' (Gmelin, 1791) from the Gulf of Mexico Maintained under Different Laboratory Conditions.
PB93-168912/REB
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'.
PB93-169035/REB

PRZM-2 MODEL
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
PB93-174027/REB

PSEUDOMONAS AERUGINOSA
Bacterial Metabolism of Naphthalene: Construction and Use of Recombinant Bacteria to Study Ring Cleavage of 1,2-Dihydroxynaphthalene and Subsequent Reactions.
PB93-168938/REB
Competition Potentials of Environmentally Applied Bacteria with Human Fecal Microbiota.
PB93-181147/REB

PSEUDOMONAS CEPACIA
Selection of a 'Pseudomonas cepacia' Strain Constitutive for the Degradation of Trichloroethylene.
PB93-169027/REB
Microbial Degradation of Synthetic Chlorinated Compounds: Evolutionary Implications (Chapter 8).
PB93-204139/REB

PSEUDOMONAS PUTIDA
Use of a Novel Plasmid to Monitor the Fate of a Genetically Engineered 'Pseudomonas putida' Strain.
PB93-169001/REB

PUBLIC HEALTH
Technical Support Document for the Surface Disposal of Sewage Sludge.
PB93-110591/REB
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB
Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB
Air Quality Criteria for Carbon Monoxide.
PB93-167492/REB
Economic Benefits of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
PB93-168797/REB
Modeling Indoor Concentrations and Exposures.
PB93-175578/REB
Comparative Ability of Various PCBs, PCDFs, and TCDD to Induce Cytochrome P450 1A1 and 1A2 Activity Following 4 Weeks of Treatment (Short Communication).
PB93-175685/REB
Evaluation of the Potential Carcinogenicity of Diethylarsine (692-42-2).
PB93-184877/REB
Evaluation of the Potential Carcinogenicity of Asbestos (1332-21-4).
PB93-184885/REB
Evaluation of the Potential Carcinogenicity of Auramine (492-80-8).
PB93-184893/REB
Evaluation of the Potential Carcinogenicity of Azaserine (115-02-6).
PB93-184901/REB
Evaluation of the Potential Carcinogenicity of Chloromethyl Methyl Ether (Technical Grade) (107-30-2).
PB93-185122/REB
Methodology to Apportion Ambient Air Measurements to Investigate Potential Effects on Air Quality Near Waste Incinerators.
PB93-191393/REB
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
PB93-199321/REB
Microbial Degradation of Synthetic Chlorinated Compounds: Evolutionary Implications (Chapter 8).
PB93-204139/REB

PUBLIC WATER SYSTEM
Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
PB93-186633/REB
Surface Water Treatment Rule. Implementation Manual (Including Appendix D).
PB93-186641/REB

PUBLIC WATER SYSTEMS
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB
Total Coliform Rule: Implementation Manual (Including Appendix D).
PB93-186658/REB

PUBLICLY OWNED TREATMENT WORKS (POTW)
Guidance Manual for POTW Pretreatment Program Development.
PB93-186112/REB

PUERTO RICO
National Priorities List Sites: Puerto Rico and Virgin Islands, 1992.
PB93-963238/REB

PUGET SOUND
Taxonomic Level Sufficient for Assessing a Moderate Impact on Macrobenthic Communities in Puget Sound, Washington, USA.
PB93-185858/REB

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Chemical Characterization of Indoor Air of Homes from Communes in Xuan Wei, China, with High Lung Cancer Mortality Rate.
PB93-173680/REB

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Effects of Kraft Mill Effluent on the Sexuality of Fishes: An Environmental Early Warning.
PB93-168847/REB

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Evaluation of the Potential Carcinogenicity of Indeno(1,2,3-CD)Pyrene (193-39-5).
PB93-190536/REB

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PB93-168839/REB
EPA'S QA Program on the Suppliers of Protocol Gases.
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Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems.
PB93-199263/REB

RADIATION DOSES
Frequency and Nature of Specific-Locus Mutations Induced in Female Mice by Radiations and Chemicals: A Review.
PB93-194447/REB
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
PB93-199321/REB

RADIOACTIVE CONTAMINATION
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PB93-185551/REB

RADIOACTIVE ISOTOPES
Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules.
PB93-194058/REB

RADIOACTIVE WASTE DISPOSAL
Transport of Low-Level Radioactive Soil at Deep-Ocean Disposal Site.
PB93-199487/REB

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Environmental Characteristics of EPA, NRC, and DOE Sites Contaminated with Radioactive Substances.
PB93-185551/REB
On-Board Corrosion Analysis of a Recovered Nuclear Waste Container.
PB93-202927/REB

RADON
Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991.
PB93-172922/REB
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB

Alternate Performance Standard Project: Interpreting the Post-Construction Test.
PB93-175529/REB

Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
PB93-196194/REB

Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
PB93-196202/REB

Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
PB93-196210/REB

Recommended Foundation Barrier Construction Standard of the Florida Radon Research Program.
PB93-199388/REB

RATS

Twenty-Four Hour Rhythms of Selected Ambient Temperature in Rat and Hamster.
PB93-175727/REB

RCRA (RESOURCE CONSERVATION AND RECOVERY ACT)

RCRA Implementation Plan, FY 1993.
PB93-176956/REB

REAL TIME OPERATION

Near Real-Time GC Analysis of Volatile Organic Compounds Using an On-Line Micro-Trap.
PB93-204063/REB

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Sequence, Genomic Organization of the EcoRI-A Fragment of 'Autographa californica' Nuclear Polyhedrosis Virus, and Identification of a Viral-Encoded Protein Resembling the Outer Capsid Protein VP8 of Rotavirus.
PB93-168946/REB

RUNOFF
Urban Runoff Management Information/Education Products. Version 1.
PB93-190932/REB

SACCHARIN
Evaluation of the Potential Carcinogenicity Saccharin (81-07-2).
PB93-196608/REB

SACM (SUPERFUND ACCELERATED CLEANUP MODEL)
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PB93-963291/REB

SAFE DRINKING WATER ACT AMENDMENTS OF 1986
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
PB93-185585/REB

SAFROLE
Evaluation of the Potential Carcinogenicity of Safrole (94-59-7).
PB93-201291/REB

SAFROLE/DIHYDRO
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PB93-185312/REB

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PB93-196988/REB

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PB93-182913/REB

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PB93-202927/REB

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PB93-174472/REB

SEDIMENTS
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PB93-173698/REB
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
PB93-173706/REB
Recalculation of Screening Level Concentrations for Nonpolar Organic Contaminants in Marine Sediments.
PB93-174464/REB
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects.
PB93-181162/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Executive Summary.
PB93-181220/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 1.
PB93-181238/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 2. Appendices.
PB93-181246/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Development of Sediment Cleanup Goals.
PB93-181253/REB
Physical and Chemical Parameters of Sediment Extraction and Fractionation That Influence Toxicity, as Evaluated by Microtox (Trade Name).
PB93-185882/REB
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB
Bioassay-Directed Fractionation of Organic Contaminants in an Estuarine Sediment Using the New Mutagenic Bioassay, Mutatox (Trade Name).
PB93-194504/REB
Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
PB93-196020/REB

SELENIUM SULFIDES
Evaluation of the Potential Carcinogenicity of Selenium Sulfide (Selenium Disulfide) (7488-56-4).
PB93-201283/REB

SEMIVOST METHOD
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PB93-180891/REB

SENECIO JACOBAEA
Bacillus thuringiensis var. kurstaki Affects a Beneficial Insect, the Cinnabar Moth (Lepidoptera: Arctidae).
PB93-199651/REB

SERVICE LIFE
EPA's Life Cycle Methodology: Guidelines for Use in Development of Packaging.
PB93-194199/REB
Broad-Based Environmental Life Cycle Assessment.
PB93-199495/REB

SEWAGE SLUDGE
Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB
Technical Support Document for the Surface Disposal of Sewage Sludge.
PB93-110591/REB
Technical Support for the Incineration of Sewage Sludge.
PB93-110617/REB
Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
PB93-174506/REB

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PB93-175479/REB

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SHIPS
Commercial Marine Vessel Contributions to Emission Inventories.
PB93-173961/REB

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Air/Superfund National Technical Guidance Study Series: Evaluation of Short-Term Air Action Levels for Superfund Sites.
PB93-200913/REB

SILICATE TECHNOLOGY CORPORATION
Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils.
PB93-172948/REB

SILVER
Ambient Aquatic Life Water Quality Criteria for Silver.
PB93-202604/REB

SITE SURVEYS
Guidance on Setting Priorities for NPL Candidate Sites.
PB93-963333/REB

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Geophysics Advisor Expert System, Version 2.0.
PB93-163285/REB
Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
PB93-177178/REB
Geophysics Advisor Expert System (Version 2.0) (for Microcomputers).
PB93-505162/REB

SIZE DETERMINATION
Spray Characteristics of Two Types of Fuel Injectors.
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SKELETON
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SLUDGE DISPOSAL
What to Do Before You 'Nuke' Your Multiple Hearth Furnace: Practical Tips and Techniques for Improving Operation, Reducing Emissions and Meeting the Regulations.
PB93-175479/REB
Emissions from Sludge Incinerators with Venturi and Tray Scrubbers and Wet Electrostatic Precipitators: Metals, Chromium and Nickel Compounds, and Organics.
PB93-175487/REB
Continuous Monitoring of Total Hydrocarbon Emissions from Sludge Incinerators.
PB93-175495/REB

SLUDGE DRYING
Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
PB93-174506/REB

SLUG LOADINGS
Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB

SLURRIES
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB

SMALL SYSTEMS
Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
PB93-180642/REB

SMELTING
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry, Phase 2.
PB93-167781/REB

SOAPS
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB

SODIUM NITRITE
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB

SOFTWARE
COMPLEX1 (for Microcomputers).
PB93-504538/REB
Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) Version 2.0 (for Microcomputers).
PB93-504793/REB
Geo-EAS: Software for Geostatistics 1.2.1 (5 1/4 Inch Version) (for Microcomputers).
PB93-504959/REB
Geo-EAS: Software for Geostatistics 1.2.1 (3 1/2 inch Version) (for Microcomputers).
PB93-504967/REB
ASESS 1.01A (3 1/2 Inch Diskette) (for Microcomputers).
PB93-505154/REB
Geophysics Advisor Expert System (Version 2.0) (for Microcomputers).
PB93-505162/REB
Volatile Organic Compound/Particulate Matter Speciation Data Base Management System (SPECIATE), Version 1.5 (for Microcomputers).
PB93-505238/REB
ASSESS 1.01A (5 1/4 Inch Diskette) (for Microcomputers).
PB93-505295/REB
SCOUT: A Data Analysis Program (Version 1.40) (for Microcomputers).
PB93-505303/REB

SOIL ANALYSIS
ASSESS User's Guide.
PB93-163251/REB
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
PB93-181188/REB
ASESS 1.01A (3 1/2 Inch Diskette) (for Microcomputers).
PB93-505154/REB
ASSESS 1.01A (5 1/4 Inch Diskette) (for Microcomputers).
PB93-505295/REB

SOIL CHEMISTRY
Trace elements in agricultural soils. Fluxes, balances and background values.
DE93778470/REB

SOIL CONSERVATION
Conservation Tillage Impacts on National Soil and Atmospheric Carbon Levels.
PB93-191500/REB

SOIL CONTAMINATION
Biodegradation of 2,4,5-Trichlorophenoxyacetic Acid in Liquid Culture and in Soil by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191542/REB

SOIL GASES
Air/Superfund National Technical Guidance Study Series. Air Emissions from Area Sources: Estimating Soil and Soil-Gas Sample Number Requirements.
PB93-173995/REB
Aerobic Soil Microcosms for Long-Term Biodegradation of Hydrocarbon Vapors.
PB93-181196/REB
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PB93-181204/REB

SOIL PROPERTIES
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PB93-173995/REB

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Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils.
PB93-172948/REB
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PB93-194231/REB

SOILS
Critical concentrations of heavy metals in the mor horizon of Swedish forests.
DE93778471/REB
Heavy metal concentrations in agricultural soils critical to microorganisms.
DE93778472/REB
Long-term forest fertilization experiments in Finland and Sweden - their use for vitality and nutrient balance studies.
DE93778473/REB
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB
Subtitle D Landfill Application Manual for the Multimedia Exposure Assessment Model (MULTIMED).
PB93-185536/REB
Quantitative Estimates of Soil in Normal Children between the Ages of 2 and 7 Years: Population-Based Estimates Using Aluminum, Silicon, and Titanium as Soil Tracer Elements.
PB93-199461/REB

SOLAR CELLS
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 1.
PB93-174761/REB

SOLAR COLLECTORS
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
PB93-174787/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 2.
PB93-174795/REB

SOLAR COOLING SYSTEMS
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
PB93-174787/REB

SOLAR ENERGY
Photochemical Conversion of Solar Energy in the Environment.
PB93-167187/REB

SOLAR ENERGY CONVERSION
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 1.
PB93-174761/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 2.
PB93-174779/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
PB93-174787/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 2.
PB93-174795/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 1.
PB93-174803/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 2.
PB93-174811/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 4.
PB93-174829/REB

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Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 1.
PB93-174803/REB

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Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
PB93-174787/REB

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PB93-194546/REB

SOLID WASTE DISPOSAL
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
PB92-228568/REB

SOLID WASTE MANAGEMENT
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PB93-194546/REB

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PB93-185908/REB

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Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils.
PB93-172948/REB
Parameters Affecting the Measurement of Hydraulic Conductivity for Solidified/Stabilized Wastes.
PB93-199396/REB

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PB93-173110/REB

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Building and HVAC Characterization for Commercial Building Indoor Air Quality Investigations.
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PB93-181048/REB

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PB93-206779/REB

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Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils.
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PB93-199396/REB

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Two New Gas Standards Programs at the National Institute of Standards and Technology.
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Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
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Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance.
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Volunteer Water Monitoring: A Guide for State Managers.
PB93-202596/REB

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PB93-186476/REB

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Using Method 301 to Validate Sampling and Analytical Methods for Selected CAAA Compounds.
PB93-191419/REB

STATIONARY SOURCES
Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10.
PB93-175776/REB
Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
PB93-199297/REB

STATISTICAL ANALYSIS
Comparison of Systematic and Random Sampling for Estimating the Accuracy of Maps Generated from Remotely Sensed Data.
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Statistical Problems Arising from Environmental Issues.
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Steroidogenic Assessment Using Ovary Culture in Cycling Rats: Effects of Bis(2-Diethylhexyl) Phthalate on Ovarian Steroid Production.
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PB93-181030/REB

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STORM SEWERS
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PB93-185957/REB

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PB93-168953/REB

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PB93-196665/REB

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PB93-175511/REB

SUBSURFACE INVESTIGATIONS
Screening Methodology for Assessing Leaking UST Sites and Clean Up Technologies.
PB93-199404/REB

SULFATE-REDUCING BACTERIA
Genus- and Group-Specific Hybridization Probes for Determinative and Environmental Studies of Sulfate-Reducing Bacteria.
PB93-168987/REB

SULFUR DIOXIDE
Proceedings: 1991 SO2 Control Symposium. Volume 1. Opening Session and Sessions 1-3.
PB93-196095/REB
Proceedings: 1991 SO2 Control Symposium. Volume 2. Sessions 4 and 5A.
PB93-196103/REB
Proceedings: 1991 SO2 Control Symposium. Volume 3. Sessions 5B and 6.
PB93-196111/REB
Proceedings: 1991 SO2 Control Symposium. Volume 4. Session 7.
PB93-196129/REB
Proceedings: 1991 SO2 Control Symposium. Volume 5. Session 8.
PB93-196137/REB

SUPERFUND
Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
PB93-168821/REB
Air/Superfund National Technical Guidance Study Series. Volume 1. Overview of Air Pathway Assessments for Superfund Sites (Revised).
PB93-173987/REB
RCRA Implementation Plan, FY 1993.
PB93-176956/REB
Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
PB93-177178/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Executive Summary.
PB93-181220/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 1.
PB93-181238/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 2. Appendices.
PB93-181246/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Development of Sediment Cleanup Goals.
PB93-181253/REB
Environmental Characteristics of EPA, NRC, and DOE Sites Contaminated with Radioactive Substances.
PB93-185551/REB
Air/Superfund National Technical Guidance Study Series. Models for Estimating Air Emission Rates from Superfund Remedial Actions.
PB93-186807/REB
Toxic Chemical Release Inventory Reporting Form R and Instructions. Revised 1992 Version. Section 313 of the Emergency Planning and Community Right-to-Know Act.
PB93-194140/REB
Air/Superfund National Technical Guidance Study Series. Volume 4. Guidance for Ambient Air Monitoring at Superfund Sites (Revised).
PB93-199214/REB
Air/Superfund National Technical Guidance Study Series: Evaluation of Short-Term Air Action Levels for Superfund Sites.
PB93-200913/REB
Superfund: Environmental Response and Health and Safety (Training Materials).
PB93-963100/REB
National Priorities List Sites: Alabama, 1992.
PB93-963201/REB
National Priorities List Sites: Alaska, 1992.
PB93-963202/REB
National Priorities List Sites: The United States Territories, 1992.
PB93-963203/REB
National Priorities List Sites: Arizona and Nevada, 1992.
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National Priorities List Sites: Wyoming, 1992.
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Required Contracts Management Training for Regional Superfund Personnel.
PB93-963258/REB
Overview of the Outyear Liability Model (OLM).
PB93-963259/REB
Standard Document for Remedial Site Assessment Decisions.
PB93-963268/REB
Superfund: EPA/ICMA Superfund Revitalization Conference. Held in Chicago, Illinois on November 12-13, 1992.
PB93-963274/REB
Initiatives to Streamline the Alternative Remedial Contracting Strategy (ARCS) Contracts' Award Fee Process.
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Use of Time and Materials and Cost Reimbursement Subcontracts for Remedial Actions under the Alternative Remedial Contracting Strategy Contracts.
PB93-963282/REB
Smart Moves in Superfund - Regional Pilots and Initiatives. Volume 1, Number 2, September 1992.
PB93-963283/REB
Smart Moves in Superfund - Revitalization One Year Later. Volume 1, Number 3, January 1993.
PB93-963284/REB
Response Action Contractor Final Indemnification Guidelines. Volume 2, Number 1, March 1993.
PB93-963290/REB
Further Direction on Implementing the Superfund Accelerated Cleanup Model (SACM).
PB93-963291/REB
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PB93-963292/REB
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Permits and Permit 'Equivalency' Processes for CERCLA On-Site Response Actions.
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ATSDR Health Consultations under CERCLA.
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Ensuring the Adequacy of Cost Share Provisions in Superfund State Contracts.
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OSWER Integrated Health and Safety Standard Operating Practices.
PB93-963401/REB
Expedited Response Actions.
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Questions and Answers on Release Notification Requirements and Reportable Quantity Adjustments.
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Guidance for Federal Facilities on Release Notification Requirements under CERCLA and SARA Title III.
PB93-963412/REB
Reassignment of CLP Transportation Functions.
PB93-963501/REB
Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
PB93-963502/REB
Superfund Record of Decision (EPA Region 1): Darling Hill Dump, Lyndon, VT. (First Remedial Action), June 1992.
PB93-963702/REB
Superfund Record of Decision (EPA Region 2): Pasley Solvents and Chemicals, Town of Hempstead, Nassau County, NY. (First Remedial Action), April 1992.
PB93-963805/REB
Superfund Record of Decision (EPA Region 3): Dixie Caverns Landfill Site, Operable Unit 2, Roanoke County, VA. (Second Remedial Action), September 1992.
PB93-963907/REB
Superfund Record of Decision (EPA Region 5): Clare Water Supply Site, Clare County, Clare, MI. (Second Remedial Action), September 1992.
PB93-964106/REB
Superfund Record of Decision (EPA Region 5): Kohler Landfill, Kohler, WI. (First Remedial Action), March 1992.
PB93-964111/REB
Superfund Record of Decision (EPA Region 5): Metal Working Shop, Benzie County, Lake Ann, MI. (First Remedial Action), June 1992.
PB93-964113/REB
Superfund Record of Decision (EPA Region 5): Savanna Army Depot, Savanna, IL. (First Remedial Action), March 1992.
PB93-964116/REB
Superfund Record of Decision (EPA Region 5): Torch Lake Site, Operable Units 1 and 3, Houghton County, MI. (First Remedial Action), September 1992.
PB93-964120/REB
Superfund Record of Decision (EPA Region 10): Elmendorf Air Force Base, Operable Unit 2, Source Area ST41, Anchorage, AK. (First Remedial Action), September 1992.
PB93-964604/REB

SUPERFUND ACCELERATED CLEANUP MODEL
HSED SACM Report. Volume 1, Number 1, January 1993.
PB93-963289/REB

SUPERFUND ACCELERATED CLEANUP MODEL (SACM)
Smart Moves in Superfund - Regional Pilots and Initiatives. Volume 1, Number 2, September 1992.
PB93-963283/REB

SUPERFUND COMPREHENSIVE ACCOMPLISHMENTS PLAN
Amendment to Historical Definitions of NPL Deletion Start and Completion Dates.
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PB93-168904/REB

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Technical Support Document for the Surface Disposal of Sewage Sludge.
PB93-110591/REB

SURFACE WATERS
Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
PB93-185833/REB
Sampling and Assessment Issues in Using Fish as Indicators of Ecological Condition in Lakes: A Workshop Report. (3rd Draft Report).
PB93-186278/REB
Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
PB93-186633/REB
Surface Water Treatment Rule. Implementation Manual (Including Appendix D).
PB93-186641/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB

SURFACTANTS
Evaluation of Laboratory Tests to Determine the Effectiveness of Chemical Surface Washing Agents.
PB93-194215/REB

SURVEYS
Protecting Confidentiality in Establishment Surveys.
PB93-180958/REB
Discussion: Response to Internal Reviews of My Paper, 1993 Census Bureau Annual Research Conference.
PB93-191385/REB

SUSTAINABLE AGRICULTURE
Sustainable Agriculture and the Environment in the Humid Tropics.
PB93-173920/REB
Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings.
PB93-191492/REB
Future Context of Sustainable Agriculture: Planning for Uncertainty.
PB93-191518/REB

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Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
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SYNTHETIC CHLORINATED COMPOUNDS
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SYNTHETIC ORGANIC CHEMICALS
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Database of Benthic Sampling Locations in Tampa Bay.
PB93-191211/REB
Distribution of Selected Fish Species in Tampa Bay.
PB93-191229/REB
Framework for Characterization. (Revised Final Report March 1992).
PB93-191237/REB
Compendium of Current Monitoring Programs in Tampa Bay and Its Watershed.
PB93-191666/REB
Design of a Basinwide Monitoring Program for the Tampa Bay Estuary.
PB93-194694/REB
Synthesis of Basic Life Histories of Tampa Bay Species.
PB93-196012/REB

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Distribution of Selected Fish Species in Tampa Bay.
PB93-191229/REB
Framework for Characterization. (Revised Final Report March 1992).
PB93-191237/REB

TAXONOMY
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PB93-174464/REB

TCDD (DIOXIN/TETRACHLORODIBENZO)
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PB93-202828/REB

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PB93-175685/REB

TOXIC SUBSTANCES
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB
Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB
EPA Bibliography on Surface Contamination.
PB93-168904/REB
Reregistration Eligibility Document (RED): Oxalic Acid.
PB93-169100/REB
Corona Destruction: An Innovative Control Technology for VOCs and Air Toxics.
PB93-173672/REB
RED Facts: Oxalic Acid.
PB93-173953/REB
International Validation of a Neurobehavioral Screening Battery: The IPCS/WHO Collaborative Study.
PB93-175594/REB
Endpoints of Spermatotoxicity in the Rat After Short Duration Exposures to Fourteen Reproductive Toxicants.
PB93-175768/REB
Pesticide Reregistration Progress Report.
PB93-178994/REB
Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants.
PB93-184620/REB
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
PB93-193738/REB
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB
Sea Urchin ('Strongylocentrotus purpuratus') Fertilization Test Method.
PB93-196988/REB
Pesticide Fact Sheet: Polyhedral Occlusion Bodies of the Nuclear Polyhedrosis Virus of 'Spodoptera exigua'.
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Pesticide Fact Sheet: 'Metarhizium anisopliae' Strain ESF1.
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Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Inventory Synonym and Preferred Name File, January 1993, Documentation.
PB93-155166/REB
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Synonym and Preferred Name File, January 1993.
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Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
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Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
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Slowing the Waste Behemoth: Source Reduction is Overshadowed by Recycling's Success.
PB93-194546/REB

WASTE REMOVAL
HSED SACM Report. Volume 1, Number 1, January 1993.
PB93-963289/REB

WASTE SHIPMENT RECORD
Reporting and Recordkeeping Requirements for Waste Disposal: A Field Guide.
PB93-199115/REB

WASTE TREATMENT
Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils.
PB93-172948/REB
Role of Fungal Ligninolytic Enzymes in Pollutant Degradation.
PB93-194223/REB
Parameters Affecting the Measurement of Hydraulic Conductivity for Solidified/Stabilized Wastes.
PB93-199396/REB
Screening Methodology for Assessing Leaking UST Sites and Clean Up Technologies.
PB93-199404/REB
Design and Construction of Demonstration/Research Wetlands for Treatment of Dairy Farm Wastewater.
PB93-202836/REB
Biodegradation of Chlorinated Organic Compounds by 'Phanerochaete chrysosporium', a Wood-Rotting Fungus.
PB93-204147/REB
Mineralization of Recalcitrant Environmental Pollutants by a White Rot Fungus. Proceedings of the National Conference on Hazardous Wastes and Hazardous Materials. Held in Washington, DC. on March 16-18, 1987.
PB93-204154/REB

WASTE WATER
Continuous Monitoring of Total Hydrocarbon Emissions from Sludge Incinerators.
PB93-175495/REB
Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB

WATER ANALYSIS
Compendium of Methods for Marine and Estuarine Environmental Studies.
PB93-202570/REB

WATER CHEMISTRY
Reactions of Potential Organic Water Contaminants with Aqueous Chlorine and Monochloramine.
PB93-175040/REB

WATER CONSERVATION
Reclamation of Urban Stormwater.
PB93-185791/REB
Framework for Characterization. (Revised Final Report March 1992).
PB93-191237/REB

WATER DISTRIBUTION
Medium Systems That Failed to Conduct Required Initial Lead Tap Monitoring and Reporting.
PB93-196632/REB

WATER DISTRIBUTION (APPLIED)
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB

WATER MANAGEMENT
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB
Volunteer Water Monitoring: A Guide for State Managers.
PB93-202596/REB

WATER MONITORING PROGRAMS
Compendium of Current Monitoring Programs in Tampa Bay and Its Watershed.
PB93-191666/REB

WATER POLLUTION
Missouri Chlordane Exposure Study: A Report on Persons Who Consumed Chlordane-Contaminated Fish.
PB93-148252/REB
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
PB93-154722/REB
Effect of the Distribution System on Drinking-Water Quality.
PB93-173722/REB
Reactions of Potential Organic Water Contaminants with Aqueous Chlorine and Monochloramine.
PB93-175040/REB
Laboratory Studies on the Stability and Transport of Inorganic Colloids Through Natural Aquifer Material (Chapter 49).
PB93-175537/REB
Quality Assurance and Quality Control in the Development and Application of Ground-Water Models.
PB93-178226/REB
Comparison of the Efficiency of Polycarbonate and Mixed Cellulose Ester Filters for Use in the Filtration of Water Samples.
PB93-194363/REB
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
PB93-199636/REB

WATER POLLUTION ABATEMENT
Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance.
PB93-154748/REB
Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
PB93-167740/REB
Economic Analysis of Effluent Guidelines: Mineral Mining and Processing Industry.
PB93-167765/REB
Regional Nonpoint Source Program Summary.
PB93-169134/REB
Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
PB93-173979/REB
Regulatory Impact Analysis of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
PB93-174613/REB
Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants.
PB93-184620/REB
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
PB93-193738/REB
Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB
Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
PB93-193787/REB
Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB
News-Notes Number 23: The Condition of the Environment and the Control of Nonpoint Sources of Water Pollution.
PB93-204006/REB

WATER POLLUTION CONTROL
Proposed Water Quality Guidance for the Great Lakes System.
PB93-164515/REB
Research and Information Needs Related to Nonpoint Source Pollution and Wetlands in the Watershed: An EPA Perspective.
PB93-168862/REB
Regional Nonpoint Source Program Summary.
PB93-169134/REB
Performance and Cost Evaluation of Bioremediation Techniques for Fuel Spills.
PB93-175545/REB
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Executive Summary.
PB93-181220/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 1.
PB93-181238/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 2. Appendices.
PB93-181246/REB
Commencement Bay Nearshore/Tideflats Feasibility Study. Development of Sediment Cleanup Goals.
PB93-181253/REB
Federal Register, Volume 58, No. 72. Part 2. Environmental Protection Agency, 40 CFR Parts 122 et al. Water Quality Guidance for the Great Lakes System and Correction; Proposed Rules.
PB93-183002/REB
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
PB93-185585/REB
Reclamation of Urban Stormwater.
PB93-185791/REB
Storm and Combined Sewer Overflow: An Overview of EPA's Research Program.
PB93-185957/REB
Re-Evaluation of the Economic Impact Analysis of Effluent Limitations Guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers Industry Using Revised Compliance Costs. (Revised January 1992).
PB93-186104/REB
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F.
PB93-191302/REB
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 2. Appendices G-N.
PB93-191310/REB
Bioremediation Treatability Trials Using Nutrient Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191336/REB
Nutrient Movement through Beach Media: Problems and Field Results Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191344/REB
Baseline Point Source Load Inventory, 1985. 1991 Re-evaluation Report No. 2.
PB93-193761/REB
Drinking Water Regulations under the Safe Drinking Water Act.
PB93-194033/REB
Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules.
PB93-194058/REB
Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
PB93-196665/REB
Corrosion Control Principles and Strategies for Reducing Lead and Copper in Drinking Water Systems.
PB93-199420/REB
Lignin Degradation and Lignin Peroxidase Production in Cultures of 'Phanerochaete chrysosporium' Immobilized on Porous Ceramic Supports.
PB93-199529/REB
Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
PB93-200897/REB
News-Notes Number 23: The Condition of the Environment and the Control of Nonpoint Sources of Water Pollution.
PB93-204006/REB
News-Notes Number 21: The Condition of the Environment and the Nonpoint Sources of Water Pollution.
PB93-204030/REB
Strategy Using Bioreactors and Specially Selected Microorganisms for Bioremediation of Groundwater Contaminated with Creosote and Pentachlorophenol.
PB93-205003/REB

WATER POLLUTION DETECTION
Compendium of Methods for Marine and Estuarine Environmental Studies.
PB93-202570/REB
Preliminary Data Summary for the Pulp, Paper and Paperboard Point Source Category.
PB93-202935/REB

WATER POLLUTION ECONOMIC
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
PB93-167757/REB

WATER POLLUTION ECONOMICS
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB
Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
PB93-167740/REB
Economic Analysis of Effluent Guidelines: Mineral Mining and Processing Industry.
PB93-167765/REB
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
PB93-167773/REB
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry. Phase 2.
PB93-167781/REB
Economic Benefits of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
PB93-168797/REB
Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
PB93-173979/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB

WATER POLLUTION EFFECTS
Economic Benefits of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
PB93-168797/REB
Accumulation of Polychlorinated Organic Contaminants from Sediment by Three Benthic Marine Species.
PB93-173698/REB
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
PB93-173706/REB
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects.
PB93-173714/REB
Recalculation of Screening Level Concentrations for Nonpolar Organic Contaminants in Marine Sediments.
PB93-174464/REB
Regulatory Applications of Sediment Criteria.
PB93-174472/REB
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects.
PB93-181162/REB
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB
Sea Urchin ('Strongylocentrotus purpuratus') Fertilization Test Method.
PB93-196988/REB
Ambient Aquatic Life Water Quality Criteria for Di-2-Ethylhexyl Phthalate.
PB93-202752/REB
Ambient Aquatic Life Water Quality Criteria for Hexachlorobenzene.
PB93-202760/REB
Ambient Aquatic Life Water Quality Criteria for Antimony (III).
PB93-202778/REB

WATER POLLUTION EFFECTS (ANIMAL)
Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay.
PB93-199594/REB

WATER POLLUTION EFFECTS (ANIMALS)
Effects of Kraft Mill Effluent on the Sexuality of Fishes: An Environmental Early Warning.
PB93-168847/REB
Effects of Chemical Contaminants on Blood Chemistry of Teleost Fish: A Bibliography and Synopsis of Selected Effects.
PB93-168961/REB
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB
Status and Applications of Echinoid ('Phylum echinodermata') Toxicity Test Methods.
PB93-185825/REB
Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene.
PB93-185874/REB
Effects of Pentachlorophenol-Contaminated Food Organisms on Toxicity and Bioaccumulation in the Frog 'Xenopus laevis'.
PB93-191450/REB
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB
Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
PB93-196020/REB
Field and Laboratory Studies of Chemical Contamination and Environmentally Related Diseases in Fish and Molluscs of New England.
PB93-199438/REB
Observations on the State of Marine Disease Studies (Chapter 18).
PB93-204170/REB
Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB
Aquatic Toxicity Information on VAX VMS Backup (AQUIRE for VMS).
PB93-505733/REB

WATER POLLUTION EFFECTS (HUMANS)
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB
Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB

WATER POLLUTION EFFECTS (MATERIALS)
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Contaminated Sediments Critical Issue Forum. Held in Annapolis, Maryland on December 10, 1992.
PB93-194017/REB

WATER POLLUTION EFFECTS (PLANTS)
Aquatic Toxicity Information on VAX VMS Backup (AQUIRE for VMS).
PB93-505733/REB

WATER POLLUTION MONITORING
Program to Analyze Aquifer Test Data and Check for Validity with the Jacob Method.
PB93-181154/REB
Total Coliform Rule: Implementation Manual (Including Appendix D).
PB93-186658/REB
Compendium of Current Monitoring Programs in Tampa Bay and Its Watershed.
PB93-191666/REB
Medium Systems That Failed to Conduct Required Initial Lead Tap Monitoring and Reporting.
PB93-196632/REB
Investigation of Contaminant Transport from the Saginaw Confined Disposal Facility.
PB93-199610/REB

WATER POLLUTION SAMPLING
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB

Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
PB93-163780/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
PB93-174514/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
PB93-174522/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
PB93-174530/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
PB93-174555/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
PB93-174563/REB
Consensus Method for Determining Groundwaters under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA).
PB93-180818/REB
Passive Sampling of Groundwater Monitoring Wells without Purging: Multilevel Well Chemistry and Tracer Disappearance.
PB93-181170/REB
Statistical Procedures for Corrosion Studies.
PB93-199412/REB
Comparison of Methods for Collecting Interstitial Water for Trace Organic Compounds and Metals Analyses.
PB93-199552/REB
Compendium of Methods for Marine and Estuarine Environmental Studies.
PB93-202570/REB
Volunteer Water Monitoring: A Guide for State Managers.
PB93-202596/REB
Preliminary Data Summary for the Pulp, Paper and Paperboard Point Source Category.
PB93-202935/REB
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB

WATER POLLUTION STANDARDS

Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
PB93-154730/REB
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
PB93-167757/REB
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
PB93-167773/REB
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry. Phase 2.
PB93-167781/REB
Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
PB93-180842/REB
Volunteer Water Monitoring: A Guide for State Managers.
PB93-202596/REB

WATER QUALITY

Freshwater environmental monitoring in Sweden. Proposals from a working group.
DE93778474/REB
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB
Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB
Proposed Water Quality Guidance for the Great Lakes System.
PB93-164515/REB
Evaluation of Sampling Strategies to Characterize Dissolved Oxygen Conditions in Northern Gulf of Mexico Estuaries.
PB93-169050/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
PB93-174514/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
PB93-174522/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
PB93-174530/REB
Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
PB93-174555/REB
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
PB93-174563/REB
National Public Water System Supervision Program. FY 1992 Compliance Report.
PB93-180867/REB
Passive Sampling of Groundwater Monitoring Wells without Purging: Multilevel Well Chemistry and Tracer Disappearance.
PB93-181170/REB
Learning Guide for State/Local Drinking Water Agreements.
PB93-185601/REB
Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
PB93-186260/REB
Oligohaline Areas in Tampa Bay Tributaries: Spatial Extent and Species Lists.
PB93-191179/REB
Framework for Characterization. (Revised Final Report March 1992).
PB93-191237/REB
Ambient Aquatic Life Water Quality Criteria for Di-2-Ethylhexyl Phthalate.
PB93-202752/REB
Ambient Aquatic Life Water Quality Criteria for Antimony (III).
PB93-202778/REB
News-Notes Number 23: The Condition of the Environment and the Control of Nonpoint Sources of Water Pollution.
PB93-204006/REB
Method for Quantifying the Prediction Uncertainties Associated with Water Quality Models.
PB93-205094/REB

WATER QUALITY CRITERIA

Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
PB93-154730/REB
Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance.
PB93-154748/REB
Ambient Aquatic Life Water Quality Criteria for Silver.
PB93-202604/REB
Ambient Aquatic Life Water Quality Criteria for Di-2-Ethylhexyl Phthalate.
PB93-202752/REB
Ambient Aquatic Life Water Quality Criteria for Antimony (III).
PB93-202778/REB

WATER QUALITY DATA

Dynamic River Basin Water Quality Model.
PB93-190890/REB

WATER QUALITY MANAGEMENT

Regional Nonpoint Source Program Summary.
PB93-169134/REB
Effect of the Distribution System on Drinking-Water Quality.
PB93-173722/REB
U.S. EPA NPDES: Basic Permit Writers' Course. Workbook.
PB93-185619/REB
Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
PB93-186245/REB
Estuary Program Primer. National Estuary Program.
PB93-193753/REB
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB

WATER QUALITY PROGRAMS

Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
PB93-186245/REB

WATER QUALITY STANDARDS

Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance.
PB93-154748/REB
Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants.
PB93-184620/REB

WATER RESOURCES

Office of Water Environmental and Program Information Systems Compendium, FY 1992.
PB93-186203/REB

WATER SUPPLY

General Public Notification for Public Water Systems.
PB93-167096/REB
National Public Water System Supervision Program. FY 1992 Compliance Report.
PB93-180867/REB
Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
PB93-184455/REB
Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
PB93-186633/REB
Surface Water Treatment Rule. Implementation Manual (Including Appendix D).
PB93-186641/REB
Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
PB93-194181/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB

WATER TREATMENT

National Public Water System Supervision Program. FY 1992 Compliance Report.
PB93-180867/REB
Combined Use of Ion Exchange Resins and Granular Activated Carbon for the Control of Organic Matter and Disinfection By-Products.
PB93-185759/REB
Guidance Manual for POTW Pretreatment Program Development.
PB93-186112/REB
Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
PB93-186633/REB
Surface Water Treatment Rule. Implementation Manual (Including Appendix D).
PB93-186641/REB
Total Coliform Rule: Implementation Manual (Including Appendix D).
PB93-186658/REB
Tribal Water Utility Management.
PB93-190908/REB
Statistical Procedures for Corrosion Studies.
PB93-199412/REB
Corrosion Control Principles and Strategies for Reducing Lead and Copper in Drinking Water Systems.
PB93-199420/REB
Determination of Nine Haloacetic Acids in Finished Drinking Water.
PB93-204121/REB

WATERSHED MANAGEMENT

Application of the Ecotone Concept in Defining Nutrient Management Requirements for the Upper Potomac River Basin.
PB93-199560/REB

WEST VIRGINIA

National Priorities List Sites: West Virginia, 1992.
PB93-963247/REB

WETLANDS

Research and Information Needs Related to Nonpoint Source Pollution and Wetlands in the Watershed: An EPA Perspective.
PB93-168862/REB
Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
PB93-186260/REB
Methane Emissions from Wetland Rice Areas of Asia.
PB93-191468/REB
Statistical Evaluation of the EMAP-Wetlands Classification.
PB93-199446/REB
Design and Construction of Demonstration/Research Wetlands for Treatment of Dairy Farm Wastewater.
PB93-202836/REB
Information Management Guidelines for the Wetlands Research Program.
PB93-202844/REB

WHITE OAK RUN

Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
PB93-199636/REB

WILDLIFE

Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
PB93-154722/REB

WINDSOR (ONTARIO)

Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada.
PB93-191401/REB

WISCONSIN
National Priorities List Sites: Wisconsin, 1992.
PB93-963248/REB

WOOD BURNING APPLIANCES
Development of Residential Wood Consumption Estimation Models.
PB93-199248/REB

WOOD BURNING FURNACES
Development of Residential Wood Consumption Estimation Models.
PB93-199248/REB

WOOD FUELS
Development of Residential Wood Consumption Estimation Models.
PB93-199248/REB

WOOD PRODUCTS
Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
PB93-167740/REB

Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 1.
PB93-198950/REB

Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 2, Appendices.
PB93-198968/REB

WOOD WASTES
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 1.
PB93-198950/REB

Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 2, Appendices.
PB93-198968/REB

WYOMING
National Priorities List Sites: Wyoming, 1992.
PB93-963249/REB

XENOPUS LAEVIS
Effects of Pentachlorophenol-Contaminated Food Organisms on Toxicity and Bioaccumulation in the Frog 'Xenopus laevis'.
PB93-191450/REB

YORK RIVER
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown, Virginia. Ecological Impacts of the Yorktown Refinery on the York River Estuarine Environment.
PB92-228634/REB

YORKTOWN (VIRGINIA)
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
PB92-228519/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Pollution Prevention Workshop.
PB92-228543/REB

Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
PB92-228568/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Surface Water Data.
PB92-228584/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
PB92-228592/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
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Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
PB92-228519/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
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Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Pollution Prevention Workshop.
PB92-228543/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
PB92-228642/REB

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Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Surface Water Data.
PB92-228584/REB

Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB

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PB93-185551/REB

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PB93-169340/REB

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PB93-169357/REB

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PB93-185601/REB

National Public Water System Supervision Program. FY 1992 Compliance Report.
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PB93-186393/REB

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Re-Evaluation of the Economic Impact Analysis of Effluent Limitations Guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers Industry Using Revised Compliance Costs. (Revised January 1992).
PB93-186104/REB

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Reactions of Potential Organic Water Contaminants with Aqueous Chlorine and Monochloramine.
PB93-175040/REB

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Summary of Factors Affecting Compliance by Ferrous Foundaries. Volume 1. Text.
PB93-199347/REB

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EPA/822/R-93/003
Technical Support for the Incineration of Sewage Sludge.
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Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Synonym and Preferred Name File, January 1993.
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EPA/540/F-93/030
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HSED SACM Report. Volume 1, Number 1, January 1993.
PB93-963289/REB

EPA/540/F-93/014
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Online Guided Tour of the Cleanup Information Bulletin Board System. (CLU-IN: Cleanup Information Bulletin Board).
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PB93-169365/REB

EPA/530/R-93/008
Proceedings of the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (7th). Held in Minneapolis, Minnesota on December 8-12, 1992.
PB93-170116/REB

EPA/540/F-93/032
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PB93-963411/REB

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PB93-963258/REB

Response Action Contractor Final Indemnification Guidelines. Volume 2, Number 1, March 1993.
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EPA/540/F-93/008
SARA '200' Remedial Action Starts Requirement.
PB93-963324/REB

Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
PB93-177178/REB

Smart Moves in Superfund - Regional Pilots and Initiatives. Volume 1, Number 2, September 1992.
PB93-963283/REB

Smart Moves in Superfund - Revitalization One Year Later. Volume 1, Number 3, January 1993.
PB93-963284/REB

Standard Document for Remedial Site Assessment Decisions.
PB93-963268/REB

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Superfund: EPA/ICMA Superfund Revitalization Conference. Held in Chicago, Illinois on November 12-13, 1992.
PB93-963274/REB

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PB93-963292/REB

EPA/540/F-93/010
Use of Time and Materials and Cost Reimbursement Subcontracts for Remedial Actions under the Alternative Remedial Contracting Strategy Contracts.
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PB93-200798/REB

EPA/520/1-91/019
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
PB93-199321/REB

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PB93-504553/REB

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Federal Test Procedure Review Project: Status Report.
PB93-197903/REB

EPA/340/1-90/015
Guide to the Asbestos NESHAP as Revised November 1990.
PB93-199362/REB

EPA/520/1-87/012-1
Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1. Background Information Document.
PB93-200673/REB

Methodology to Estimate Nonroad Equipment Populations by Nonattainment Areas.
PB93-174332/REB

On-Board Corrosion Analysis of a Recovered Nuclear Waste Container.
PB93-202927/REB

EPA/340/1-90/016
Reporting and Recordkeeping Requirements for Waste Disposal: A Field Guide.
PB93-199115/REB

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EPA/450/1-89/001A
Air/Superfund National Technical Guidance Study Series. Volume 1. Overview of Air Pathway Assessments for Superfund Sites (Revised).
PB93-173987/REB

EPA/451/R-93/007
Air/Superfund National Technical Guidance Study Series. Volume 4. Guidance for Ambient Air Monitoring at Superfund Sites (Revised).
PB93-199214/REB

EPA/453/R-93/015
Alternative Control Techniques Document-NOx Emissions from Process Heaters.
PB93-186211/REB

EPA/453/R-92/019
Alternative Control Technology Document: Carbon Reactivation Processes.
PB93-180826/REB

EPA/453/R-92/011
Alternative Control Technology Document: Control of VOC Emissions from the Application of Agricultural Pesticides.
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EPA/340/1-84/011
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PB93-199339/REB

EPA/SW/DK-92/038
Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) Version 2.0 (for Microcomputers).
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EPA/452/B-93/006
Directory of OAQPS Information Services, May 1993.
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EPA/450/4-91/005B
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PB93-169084/REB

EPA/452/R-93/002
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EPA/452/R-93/007
Guidance on the Relationship between the 15 Percent Rate-of-Progress Plans and Other Provisions of the Clean Air Act.
PB93-200525/REB

EPA/340/1-85/019
Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
PB93-199107/REB

EPA/452/R-93/003
Issues and Approaches to Improving Transportation Modeling for Air Quality Analysis.
PB93-194066/REB

EPA/450/4-84/010
Procedures for Estimating Probability of Nonattainment of a PM10 NAAQS Using Total Suspended Particulate or Inhalable Particulate Data (Draft).
PB93-200640/REB

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Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10.
PB93-175776/REB

EPA/340/1-86/005A
Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
PB93-199297/REB

EPA/452/R-93/011
Study of Highway Vehicle Emission Inventory Procedures for Selected Urban Areas.
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PB93-193910/REB

EPA/SW/DK-92/043
Volatile Organic Compound/Particulate Matter Speciation Data Base Management System (SPECIATE), Version 1.5 (for Microcomputers).
PB93-505238/REB

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Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report.
PB93-197929/REB

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Emissions and Fuel Economy Results 1992 Car Models (for Microcomputers).
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EPA/420/R-93/003
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EPA/AA/TDG-93/01
Light-Duty Automotive Technology and Fuel Economy Trends through 1993.
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PB93-167732/REB

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Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
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EPA/230/09-89/067
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Pesticide Reregistration Rejection Rate Analysis Residue Chemistry. Follow-up Guidance for Generating Storage Stability Data; Submission of Raw Data; Maximum Theoretical Concentration Factors; Flowchart Diagrams.
PB93-193696/REB

Pesticide Safety and Training Materials Catalog (Catalogo de Materiales Educativos y Proteccion Sobre Pesticidas).
PB93-200814/REB

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Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB

EPA/734/R-92/002
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB

EPA/734/R-92/003
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PB93-163731/REB

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PB93-163749/REB

EPA/734/R-92/005
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
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Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
PB93-167740/REB

EPA/230/1-76/041A
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
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EPA/440/2-85/030
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry. Phase 2.
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EPA/440/2-84/001
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
PB93-167773/REB

Regulatory Applications of Sediment Criteria.
PB93-174472/REB

WATER PROGRAM OPERATIONS

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Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB

EPA/800/R-93/001A
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB

EPA/841/B-93/003
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance.
PB93-193795/REB

EPA/503/2-89/001
Compendium of Methods for Marine and Estuarine Environmental Studies.
PB93-202570/REB

Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
PB93-202802/REB

EPA/821/R-93/001
Economic Benefits of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
PB93-168797/REB

EPA/821/R-93/004
Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
PB93-173979/REB

EPA/503/8-88/003
Estuary Program Primer. National Estuary Program.
PB93-193753/REB

Federal Register, Volume 58, No. 72. Part 2. Environmental Protection Agency, 40 CFR Parts 122 et al. Water Quality Guidance for the Great Lakes System and Correction; Proposed Rules.
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EPA/570/9-89/002
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Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
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Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB

Guidance Manual for POTW Pretreatment Program Development.
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Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
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EPA/812/B-93/004
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
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EPA/812/B-92/004
Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
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EPA/812/B-92/005
Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
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Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
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Marine and Estuarine Protection: Programs and Activities.
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Medium Systems That Failed to Conduct Required Initial Lead Tap Monitoring and Reporting.
PB93-196632/REB

EPA/440/4-90/007
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
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EPA/812/B-92/007
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EPA/812/B-92/008
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
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EPA/812/B-92/009
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News-Notes Number 21: The Condition of the Environment and the Nonpoint Sources of Water Pollution.
PB93-204030/REB

EPA/841/N-92/005
News-Notes Number 23: The Condition of the Environment and the Control of Nonpoint Sources of Water Pollution.
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EPA/800/B-92/001
Office of Water Environmental and Program Information Systems Compendium, FY 1992.
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EPA/440/1-89/025
Preliminary Data Summary for the Pulp, Paper and Paperboard Point Source Category.
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Proposed Water Quality Guidance for the Great Lakes System.
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Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules.
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EPA/812/B-92/004
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EPA/821/R-93/002
Regulatory Impact Analysis of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
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Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance.
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Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
PB93-180842/REB

EPA/842/B-92/009
Summary of Implementation and Demonstration Projects in Bays and Estuaries.
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EPA/430/9-87/010
Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
PB93-174506/REB

Surface Water Treatment Rule. Implementation Manual (Including Appendix D).
PB93-186641/REB

EPA/822/R-93/002
Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB

EPA/822/R-93/001B
Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB

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EPA/812/B-93/005
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EPA/833/B-92/004
U.S. EPA NPDES: Basic Permit Writers' Course. Workbook.
PB93-185619/REB

EPA/833/K-93/001
Urban Runoff Management Information/Education Products. Version 1.
PB93-190932/REB

EPA/440/4-90/010
Volunteer Water Monitoring: A Guide for State Managers.
PB93-202596/REB

OFFICE OF DRINKING WATER

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Drinking Water Regulations under the Safe Drinking Water Act.
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REGION III - PHILADELPHIA, PA
Baseline Point Source Load Inventory, 1985. 1991 Re-evaluation Report No. 2.
PB93-193761/REB

Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
PB93-196665/REB

Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
PB93-196020/REB

Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries and Chincoteague Bay, 1991.
PB93-191120/REB

Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
PB93-193738/REB

Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Contaminated Sediments Critical Issue Forum. Held in Annapolis, Maryland on December 10, 1992.
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Regional Nonpoint Source Program Summary.
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EPA/910/9-92/029
Consensus Method for Determining Groundwaters under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA).
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A.S.L. AND ASSOCIATES, HELENA, MT.
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Evaluation of Environmental Marketing Terms in the United States.
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Recommended Foundation Barrier Construction Standard of the Florida Radon Research Program.
(EPA/600/R-93/091)
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ACUREX CORP., RESEARCH TRIANGLE PARK, NC.
R-245ca: A Potential Far-Term Alternative for R-11.
(EPA/600/J-93/075)
PB93-173144/REB

ACUREX ENVIRONMENTAL CORP., RESEARCH TRIANGLE PARK, NC.
Characterization of Emissions from the Simulated Open-Burning of Non-Metallic Automobile Shredder Residue.
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(EPA/600/R-93/090)
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ALBERTA ENVIRONMENTAL CENTRE, VEGREVILLE.
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AMERICAN SOLAR ENERGY SOCIETY, BOULDER, CO.
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991.
PB93-174753/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 1.
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Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 2.
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Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
(EPA/600/R-93/058C)
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Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 2.
(EPA/600/R-93/058D)
PB93-174795/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 1.
(EPA/600/R-93/058E)
PB93-174803/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 2.
(EPA/600/R-93/058E)
PB93-174811/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 4.
(EPA/600/R-93/058G)
PB93-174829/REB

AMOCO CORP./ENVIRONMENTAL PROTECTION AGENCY, YORKTOWN, VA. POLLUTION PREVENTION PROJECT.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
PB92-228519/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Pollution Prevention Workshop.
PB92-228543/REB
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
PB92-228568/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown, Virginia. Ecological Impacts of the Yorktown Refinery on the York River Estuarine Environment.
PB92-228634/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
PB92-228642/REB

AMOCO OIL CO., NAPERVILLE, IL.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Surface Water Data.
PB92-228584/REB

ANDREW W. BREIDENBACH ENVIRONMENTAL RESEARCH CENTER, CINCINNATI, OH.
AWBERC-91-09
Always a River: Supplemental Environmental Education Curriculum on the Ohio River and Water Grades K-12.
PB93-200905/REB

AQUA TERRA CONSULTANTS, MOUNTAIN VIEW, CA.
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PB93-185536/REB

ASCI CORP., ATHENS, GA.
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
(EPA/600/R-93/046)
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ASCI CORP., NARRAGANSETT, RI.
Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay.
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PB93-174464/REB

BATTELLE OCEAN SCIENCES, DUXBURY, MA.
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PB93-174472/REB

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Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F.
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PB93-191302/REB
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(EPA/530/R-92/014M)
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BROOKHAVEN NATIONAL LAB., UPTON, NY. OCEANOGRAPHIC AND ATMOSPHERIC SCIENCES DIV.
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Study of Highway Vehicle Emission Inventory Procedures for Selected Urban Areas.
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CENTER OF MARINE BIOTECHNOLOGY, BALTIMORE, MD.
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CINCINNATI UNIV. MEDICAL CENTER, OH.
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(TBNEP-06-92)
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Data Management Strategy for the Tampa Bay National Estuary Program: Recommendations and Implementation Plan.
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PB93-191633/REB
Compendium of Current Monitoring Programs in Tampa Bay and Its Watershed.
(TBNEP-02-92)
PB93-191666/REB

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Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
(EPA/520/1-91/019)
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Regional Modeling Analysis of the Dependencies of Atmospheric Oxidants to Perturbations in NOx and Hydrocarbon Emissions.
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CONNECTICUT UNIV., STORRS.
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
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CONNECTICUT UNIV., STORRS. DEPT. OF CIVIL ENGINEERING.
Relationships between Ozone Precursor Levels and Response to Emissions Reductions: Analysis of Regional Oxidant Model Results for the Northeastern United States.
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CORVALLIS ENVIRONMENTAL RESEARCH LAB., OR.
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Technical Support Document for Land Application of Sewage Sludge. Volume 2.
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Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
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ELECTRIC POWER RESEARCH INST., PALO ALTO, CA.
EPRI-TR-101054-VOL-1
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Proceedings: 1991 SO2 Control Symposium. Volume 5. Session 8.
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Proceedings: 1991 SO2 Control Symposium. Held in Washington, DC. on December 3-6, 1991.
PB93-196087/REB

ENERGY AND ENVIRONMENTAL ANALYSIS, INC., ARLINGTON, VA.
Methodology to Estimate Nonroad Equipment Populations by Nonattainment Areas.
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ENERGY AND ENVIRONMENTAL RESEARCH CORP., IRVINE, CA.
Biomass Combustion in Gas-Turbine-Based Systems.
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Benzene Equipment Leak Inspection Manual.
(EPA/340/1-90/001)
PB93-199123/REB

ENTROPY ENVIRONMENTALISTS, INC., RESEARCH TRIANGLE PARK, NC.
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Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems.
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ENVIRONMENTAL MONITORING SYSTEMS LAB., CINCINNATI, OH.
EPA/600/R-92/121
Methods for the Determination of Chemical Substances in Marine and Estuarine Environmental Samples.
PB93-182913/REB

ENVIRONMENTAL MONITORING SYSTEMS LAB., LAS VEGAS, NV.
EPA/600/8-91/008A
Geostatistical Environmental Assessment Software: User's Guide. GEO-EAS 1.2.1.
PB93-163236/REB
EPA/600/A-93/074
Immunoassay for p-Nitrophenol in Urine (Chapter XX).
PB93-175552/REB
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Geophysics Advisor Expert System, Version 2.0.
(EPA/SW/DK-93/042A)
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Geo-EAS: Software for Geostatistics 1.2.1 (5 1/4 Inch Version) (for Microcomputers).
(EPA/SW/DK-93/039)
PB93-504959/REB
Geo-EAS: Software for Geostatistics 1.2.1 (3 1/2 inch Version) (for Microcomputers).
(EPA/SW/DK-93/040)
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ASESS 1.01A (3 1/2 Inch Diskette) (for Microcomputers).
(EPA/SW/DK-93/041)
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Geophysics Advisor Expert System (Version 2.0) (for Microcomputers).
(EPA/SW/DK-93/042)
PB93-505162/REB
ASSESS 1.01A (5 1/4 Inch Diskette) (for Microcomputers).
(EPA/SW/DK-93/044)
PB93-505295/REB
SCOUT: A Data Analysis Program (Version 1.40) (for Microcomputers).
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ENVIRONMENTAL MONITORING SYSTEMS LAB., LAS VEGAS, NV. EXPOSURE ASSESSMENT RESEARCH DIV.
EPA/620/R-93/001
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
PB93-181618/REB

ENVIRONMENTAL PROTECTION AGENCY, ANN ARBOR, MI. CERTIFICATION DIV.

Emissions and Fuel Economy Results 1992 Car Models (for Microcomputers).
(EPA/SW/DK-93/048)
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Emissions and Fuel Economy Results 1993 Car Models (for Microcomputers).
(EPA/SW/DK-93/049)
PB93-504553/REB

ENVIRONMENTAL PROTECTION AGENCY, ANN ARBOR, MI. MOTOR VEHICLE EMISSION LAB.

Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines. Federal Certification Test Results for 1993 Model Year.
PB93-164523/REB

ENVIRONMENTAL PROTECTION AGENCY, ANN ARBOR, MI. OFFICE OF MOBILE SOURCES.

EPA/AA/TDG-93/01
Light-Duty Automotive Technology and Fuel Economy Trends through 1993.
PB93-199255/REB

ENVIRONMENTAL PROTECTION AGENCY, ANN ARBOR, MI. TECHNOLOGY DEVELOPMENT GROUP.

EPA/AA/TDG-93/04
Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report.
PB93-197929/REB

EPA/AA/TDG-93/05
Spray Characteristics of Two Types of Fuel Injectors.
PB93-180859/REB

ENVIRONMENTAL PROTECTION AGENCY, ANNAPOLIS, MD. CHESAPEAKE BAY PROGRAM.

CBP/TRS-85/93
Baseline Point Source Load Inventory, 1985. 1991 Re-evaluation Report No. 2.
PB93-193761/REB

CBP/TRS-86/93
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
PB93-193738/REB

CBP/TRS-87/93
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Contaminated Sediments Critical Issue Forum. Held in Annapolis, Maryland on December 10, 1992.
PB93-194017/REB

ENVIRONMENTAL PROTECTION AGENCY, ARLINGTON, VA. SPECIAL REVIEW AND REREGISTRATION DIV.

EPA/738/R-93/001
Pesticide Reregistration Progress Report.
PB93-178994/REB

ENVIRONMENTAL PROTECTION AGENCY, CHAMBLEE, GA. OFFICE OF PESTICIDES PROGRAMS.

EPA/737/F-93/005
Pesticide Fact Sheet: Polyhedral Occlusion Bodies of the Nuclear Polyhedrosis Virus of 'Spodoptera exigua'.
PB93-206779/REB

ENVIRONMENTAL PROTECTION AGENCY, CHICAGO, IL. WATER DIV.

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Regional Nonpoint Source Program Summary.
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ENVIRONMENTAL PROTECTION AGENCY, CINCINNATI, OH. RISK REDUCTION ENGINEERING LAB.

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EPA/600/A-93/067
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EPA/600/A-93/096
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EPA/600/A-93/118
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PB93-199412/REB

EPA/600/A-93/119
Corrosion Control Principles and Strategies for Reducing Lead and Copper in Drinking Water Systems.
PB93-199420/REB

EPA/600/A-93/131
Determination of Nine Haloacetic Acids in Finished Drinking Water.
PB93-204121/REB

EPA/600/J-93/085
Effect of the Distribution System on Drinking-Water Quality.
PB93-173722/REB

EPA/600/J-93/143
New Approaches to Estimation of Solid-Waste Quantity and Composition.
PB93-185908/REB

EPA/600/J-93/144
Incineration of Hazardous Waste: A Critical Review Update.
PB93-185916/REB

EPA/600/J-93/145
Determining Beryllium in Drinking Water by Graphite Furnace Atomic Absorption Spectroscopy.
PB93-185924/REB

EPA/600/J-93/146
Identifying Escherichia Species with Biochemical Test Kits and Standard Bacteriological Tests.
PB93-185932/REB

EPA/600/J-93/166
Evaluation of the Bioremediation of a Contaminated Soil with Phytotoxicity Tests.
PB93-191625/REB

EPA/600/J-93/167
Methods for the Analysis of Carpet Samples for Asbestos.
PB93-194355/REB

EPA/600/J-93/190
Broad-Based Environmental Life Cycle Assessment.
PB93-199495/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. AIR AND ENERGY ENGINEERING RESEARCH LAB.

EPA/600/A-93/061
Technological Options for Acid Rain Control.
PB93-173094/REB

EPA/600/A-93/070
Simulation of Performance of Chlorine-Free Fluorinated Ethers and Fluorinated Hydrocarbons to Replace CFC-11 and CFC-114 in Chillers.
PB93-175511/REB

EPA/600/A-93/077
Air Filter Particle-Size Efficiency Testing for Diameters Greater Than 1 mu m.
PB93-180909/REB

EPA/600/A-93/078
Sorption and Reemission of Formaldehyde by Gypsum Wallboard.
PB93-180917/REB

EPA/600/A-93/109
Coprocessing of Fossil Fuels and Biomass for CO2 Emission Reduction in the Transportation Sector.
PB93-194165/REB

EPA/600/J-93/077
Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans: Removal from Flue Gas and Distribution in Ash/Residue of a Refuse-Derived Fuel Combustor.
PB93-173169/REB

EPA/600/J-93/078
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB

EPA/600/J-93/086
Pollution Prevention for Cleaner Air: EPA's Air and Energy Engineering Research Laboratory.
PB93-173730/REB

EPA/600/J-93/087
Characterizing Material Sources and Sinks: Current Approaches (Part 2. Chemical and Physical Characterization).
PB93-175560/REB

EPA/600/J-93/088
Modeling Indoor Concentrations and Exposures.
PB93-175578/REB

EPA/600/R-93/083A
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
PB93-196194/REB

EPA/600/R-93/083B
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
PB93-196202/REB

EPA/600/R-93/083C
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
PB93-196210/REB

Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Held in Minneapolis, Minnesota on September 22-25, 1992.
PB93-196186/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. ATMOSPHERIC RESEARCH AND EXPOSURE ASSESSMENT LAB.

EPA/600/A-93/054
Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
PB93-168821/REB

EPA/600/A-93/055
Analysis of Protocol Gases: An On-Going Quality Assurance Audit.
PB93-168839/REB

EPA/600/A-93/058
Assessing Potential Exposures from Routine Use of VOC-Contaminated Groundwater.
PB93-173060/REB

EPA/600/A-93/065
Agricultural Pesticide Emissions Associated with Common Crops in the United States.
PB93-173136/REB

EPA/600/A-93/075
Measurement of Biogenic Emissions from Corn.
PB93-180883/REB

EPA/600/A-93/079
Spatiotemporal Variability of Non-Urban Ozone Concentrations Over the Eastern United States and Its Potential Replication by Satellite Data.
PB93-191328/REB

EPA/600/A-93/081
Air Emissions Testing.
PB93-180933/REB

EPA/600/A-93/082
Mite Antigen Concentrations in House Dust and the Occurrence of Wheezing in Children with Dust Mite Allergy.
PB93-180941/REB

EPA/600/A-93/083
Protecting Confidentiality in Establishment Surveys.
PB93-180958/REB

EPA/600/A-93/085
Field-Deployable Monitors for Volatile Organic Compounds in Air. (Essential Capabilities of a Portable Gas Chromatograph).
PB93-185700/REB

EPA/600/A-93/087
Statistical Problems Arising from Environmental Issues.
PB93-185718/REB

EPA/600/A-93/088
Source Apportionment of Air Pollution in China: Extending the Usefulness of Receptor Modeling by Combining Multivariate and Chemical Mass Balance Models.
PB93-185726/REB

EPA/600/A-93/089
Multiple Metals Stack Emission Measurement Methodology for Stationary Sources, Current Status.
PB93-185734/REB

EPA/600/A-93/103
Discussion: Response to Internal Reviews of My Paper, 1993 Census Bureau Annual Research Conference.
PB93-191385/REB

EPA/600/A-93/104
Methodology to Apportion Ambient Air Measurements to Investigate Potential Effects on Air Quality Near Waste Incinerators.
PB93-191393/REB

EPA/600/A-93/105
Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada.
PB93-191401/REB

EPA/600/A-93/107
Two New Gas Standards Programs at the National Institute of Standards and Technology.
PB93-191427/REB

EPA/600/A-93/110
EPA'S QA Program on the Suppliers of Protocol Gases.
PB93-194173/REB

EPA/600/A-93/124
Development and Validation of a Source Test Method for 2,4-Toluene Diisocyanate.
PB93-204055/REB

EPA/600/R-93/037
Determination of the Strong Acidity of Atmospheric Fine-Particles (< 2.5 mum) Using Annular Denuder Technology. Standard Method, Enhanced Method.
PB93-178234/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. MONITORING AND DATA ANALYSIS DIV.
EPA/450/4-84/010
Procedures for Estimating Probability of Nonattainment of a PM10 NAAQS Using Total Suspended Particulate or Inhalable Particulate Data (Draft).
PB93-200640/REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. OFFICE OF AIR QUALITY PLANNING AND STANDARDS.
EPA/340/1-85/019
Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
PB93-199107/REB
EPA/450/3-92/001A
VOC/HAP Emissions from Marine Vessel Loading Operations. Technical Support Document for Proposed Standards.
PB93-193910/REB
EPA/452/B-93/006
Directory of OAQPS Information Services, May 1993.
PB93-196624/REB
EPA/453/R-92/011
Alternative Control Technology Document: Control of VOC Emissions from the Application of Agricultural Pesticides.
PB93-199131/REB
EPA/453/R-92/019
Alternative Control Technology Document: Carbon Reactivation Processes.
PB93-180826/REB
COMPLEX1 (for Microcomputers).
(EPA/SW/DK-89/176)
PB93-504538/REB
Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) Version 2.0 (for Microcomputers).
(EPA/SW/DK-92/038)
PB93-504793/REB
Volatile Organic Compound/Particulate Matter Speciation Data Base Management System (SPECIATE), Version 1.5 (for Microcomputers).
(EPA/SW/DK-92/043)
PB93-505238/REB

ENVIRONMENTAL PROTECTION AGENCY, SEATTLE, WA. REGION X.
EPA/910/9-91/019
Dynamic River Basin Water Quality Model.
PB93-190890/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC.
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Inventory Synonym and Preferred Name File, January 1993, Documentation.
PB93-155166/REB
Test Car List, 1993. Passenger Cars.
PB93-164531/REB
Fuel Economy Guide, 1993. 3-Number.
PB93-169340/REB
Fuel Economy Guide, 1993. 6 Number.
PB93-169357/REB
Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
PB93-184455/REB
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Synonym and Preferred Name File, January 1993.
(EPA/DF/MT-93/037)
PB93-504595/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. ENGINEERING AND ANALYSIS DIV.
EPA/440/1-91/009B
Re-Evaluation of the Economic Impact Analysis of Effluent Limitations Guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers Industry Using Revised Compliance Costs. (Revised January 1992).
PB93-186104/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF AIR AND RADIATION.
EPA/420/R-93/006
Federal Test Procedure Review Project: Status Report.
PB93-197903/REB
EPA/450/2-76/005-9
Aeros Manual Series. Volume 5. Aeros Manual of Codes. Update Number 9.
PB93-200798/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF DRINKING WATER.
EPA/570/F-90/017
Drinking Water Regulations under the Safe Drinking Water Act.
PB93-194033/REB
EPA/570/F-91/044
Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
PB93-193787/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE.
EPA/ROD/R01-92/064
Superfund Record of Decision (EPA Region 1): Darling Hill Dump, Lyndon, VT. (First Remedial Action), June 1992.
PB93-963702/REB
EPA/ROD/R02-92/171
Superfund Record of Decision (EPA Region 2): Pasley Solvents and Chemicals, Town of Hempstead, Nassau County, NY. (First Remedial Action), April 1992.
PB93-963805/REB
EPA/ROD/R03-92/161
Superfund Record of Decision (EPA Region 3): Dixie Caverns Landfill Site, Operable Unit 2, Roanoke County, VA. (Second Remedial Action), September 1992.
PB93-963907/REB
EPA/ROD/R05-92/199
Superfund Record of Decision (EPA Region 5): Metal Working Shop, Benzie County, Lake Ann, MI. (First Remedial Action), June 1992.
PB93-964113/REB
EPA/ROD/R05-92/200
Superfund Record of Decision (EPA Region 5): Savanna Army Depot, Savanna, IL. (First Remedial Action), March 1992.
PB93-964116/REB
EPA/ROD/R05-92/206
Superfund Record of Decision (EPA Region 5): Kohler Landfill, Kohler, WI. (First Remedial Action), March 1992.
PB93-964111/REB
EPA/ROD/R05-92/209
Superfund Record of Decision (EPA Region 5): Clare Water Supply Site, Clare County, Clare, MI. (Second Remedial Action), September 1992.
PB93-964106/REB
EPA/ROD/R05-92/215
Superfund Record of Decision (EPA Region 5): Torch Lake Site, Operable Units 1 and 3, Houghton County, MI. (First Remedial Action), September 1992.
PB93-964120/REB
EPA/ROD/R10-92/044
Superfund Record of Decision (EPA Region 10): Elmendorf Air Force Base, Operable Unit 2, Source Area ST41, Anchorage, AK. (First Remedial Action), September 1992.
PB93-964604/REB
Superfund: Environmental Response and Health and Safety (Training Materials).
PB93-963100/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF ENFORCEMENT.
EPA/400/R-92/008
National List of Asbestos Landfills.
PB93-200517/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF GROUND WATER AND DRINKING WATER.
EPA/570/F-91/047
Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB
National Public Water System Supervision Program. FY 1992 Compliance Report.
PB93-180867/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT.
EPA/600/8-90/045F
Air Quality Criteria for Carbon Monoxide.
PB93-167492/REB
EPA/600/J-90/119
Quantitative Estimates of Soil in Normal Children between the Ages of 2 and 7 Years: Population-Based Estimates Using Aluminum, Silicon, and Titanium as Soil Tracer Elements.
PB93-199461/REB
EPA/600/J-93/169
Editorial Introduction (to Female Germ Cells: Biology and Genetic Risk).
PB93-194371/REB
EPA/600/J-93/176
Organization of the Ovarian Follicle and Events in the Biology: Oogenesis, Ovulation or Atresia.
PB93-194439/REB
EPA/600/J-93/185
Skeletal Development Following Heat Exposure in the Rat.
PB93-194520/REB
EPA/600/J-93/186
Embryonic Development in vitro Following Short-Duration Exposure to Heat.
PB93-194538/REB
EPA/600/J-93/203
Contemporary Issues in Toxicology: A New Frontier in Understanding the Mechanisms of Developmental Abnormalities.
PB93-199628/REB
EPA/600/J-93/208
Quantification of Germ-Cell Risk Associated with the Induction of Heritable Translocations.
PB93-199677/REB
OHEA-E-325
Quantitative Estimates of Soil in Normal Children between the Ages of 2 and 7 Years: Population-Based Estimates Using Aluminum, Silicon, and Titanium as Soil Tracer Elements.
PB93-199461/REB
OHEA-R-472
Editorial Introduction (to Female Germ Cells: Biology and Genetic Risk).
PB93-194371/REB
OHEA-R-479
Organization of the Ovarian Follicle and Events in the Biology: Oogenesis, Ovulation or Atresia.
PB93-194439/REB
OHEA-R-495
Skeletal Development Following Heat Exposure in the Rat.
PB93-194520/REB
OHEA-R-496
Embryonic Development in vitro Following Short-Duration Exposure to Heat.
PB93-194538/REB
OHEA-R-501
Contemporary Issues in Toxicology: A New Frontier in Understanding the Mechanisms of Developmental Abnormalities.
PB93-199628/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF MARINE AND ESTUARINE PROTECTION.
EPA/503/8-88/003
Estuary Program Primer. National Estuary Program.
PB93-193753/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF PESTICIDE PROGRAMS.
EPA/734/12-92/011
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB
EPA/734/R-92/001
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB
EPA/734/R-92/002
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB
EPA/734/R-92/003
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB
EPA/734/R-92/004
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB
EPA/734/R-92/005
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB
EPA/734/R-92/006
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB
EPA/734/R-92/007
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB
EPA/734/R-92/008
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
PB93-163780/REB
EPA/734/R-92/009
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB
EPA/734/R-92/010
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB
EPA/737/F-93/001
Pesticide Fact Sheet Number 240: Dimethenamid. SAN 582H/Frontier (Trade Name) Herbicide.
PB93-198695/REB
EPA/737/R-93/001
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry. Follow-up Guidance for Generating Storage Stability Data; Submission of Raw Data; Maximum Theoretical Concentration Factors; Flowchart Diagrams.
PB93-193696/REB
EPA/738/B-93/001
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry/Environmental Fate Follow Up Guidance for Conducting Rotational Crop Studies.
PB93-194041/REB
EPA/738/F-92/014
RED Facts: Oxalic Acid.
PB93-173953/REB
EPA/738/F-93/002
RED Facts: Iron Salts.
PB93-198703/REB
EPA/738/F-93/003
Pesticide Fact Sheet: Arsenic Acid (H3AsO4).
PB93-198711/REB
EPA/738/R-92/004
Reregistration Eligibility Document (RED): Oxalic Acid.
PB93-169100/REB
EPA/738/S-93/001
Reregistration Eligibility Document (RED): Iron Salts.
PB93-200780/REB

ISBN-0-16-0362645-2
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB

Pesticide Safety and Training Materials Catalog (Catalogo de Materiales Educativos y Proteccion Sobre Pesticidas).
PB93-200814/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF PESTICIDES AND TOXIC SUBSTANCES.

EPA/737/F-93/006
Pesticide Fact Sheet: 'Metarhizium anisopliae' Strain ESF1.
PB93-206787/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF POLICY, PLANNING AND EVALUATION.

EPA/230/1-73/026
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB

EPA/230/B-93/001
Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
PB93-186245/REB

ISBN-0-16-041708-2
Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
PB93-186245/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF POLLUTION, PREVENTION, AND TOXICS.

EPA/745/K-93/001
Toxic Chemical Release Inventory Reporting Form R and Instructions. Revised 1992 Version. Section 313 of the Emergency Planning and Community Right-to-Know Act.
PB93-194140/REB

TSCA Confidential Business Information Security Manual.
PB93-184844/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF RADIATION AND INDOOR AIR.

EPA/402/R-93/011
Environmental Characteristics of EPA, NRC, and DOE Sites Contaminated with Radioactive Substances.
PB93-185551/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF RESEARCH AND DEVELOPMENT.

EPA/600/J-93/127
Program to Analyze Aquifer Test Data and Check for Validity with the Jacob Method.
PB93-181154/REB

OHEA-E-493
Program to Analyze Aquifer Test Data and Check for Validity with the Jacob Method.
PB93-181154/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF SOLID WASTE.

EPA/530/SW-90/071A
Markets for Recovered Glass.
PB93-169845/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE.

EPA/530/R-92/017
RCRA Implementation Plan, FY 1993.
PB93-176956/REB

EPA/530/SW-90/072A
Markets for Recovered Aluminum.
PB93-170132/REB

EPA/540/F-93/004
Required Contracts Management Training for Regional Superfund Personnel.
PB93-963258/REB

EPA/540/F-93-005
Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
PB93-963502/REB

EPA/540/F-93/006
Reassignment of CLP Transportation Functions.
PB93-963501/REB

EPA/540/F-93-007
OSWER Integrated Health and Safety Standard Operating Practices.
PB93-963401/REB

EPA/540/F-93/008
SARA '200' Remedial Action Starts Requirement.
PB93-963324/REB

EPA/540/F-93/009
Permits and Permit 'Equivalency' Processes for CERCLA On-Site Response Actions.
PB93-963325/REB

EPA/540/F-93/010
Use of Time and Materials and Cost Reimbursement Subcontracts for Remedial Actions under the Alternative Remedial Contracting Strategy Contracts.
PB93-963282/REB

EPA/540/F-93/011
Clarification of Delegation to Approve Consistency Exemptions at NPL Sites.
PB93-963281/REB

EPA/540/F-93/012
Guidance on Program Management Activities under ARCS.
PB93-963280/REB

EPA/540/F-93/013
Amendment to Historical Definitions of NPL Deletion Start and Completion Dates.
PB93-963278/REB

EPA/540/F-93/014
Identification of a Senior Superfund Official for Addressing Special NPL Site-Related Issues.
PB93-963279/REB

EPA/540/F-93/015
Performance Tracking under ARCS Contracts.
PB93-963276/REB

EPA/540/F-93/016
Initiatives to Streamline the Alternative Remedial Contracting Strategy (ARCS) Contracts' Award Fee Process.
PB93-963275/REB

EPA/540/F-93/029
Facility Response Plans.
PB93-963408/REB

EPA/540/F-93/030
Guidance on Setting Priorities for NPL Candidate Sites.
PB93-963333/REB

EPA/540/F-93/032
Questions and Answers on Release Notification Requirements and Reportable Quantity Adjustments.
PB93-963411/REB

EPA/540/F-93/033
Expedited Response Actions.
PB93-963410/REB

EPA/540/R-93/001
National Priorities List Sites: Alabama, 1992.
PB93-963201/REB

EPA/540/R-93/002
National Priorities List Sites: Alaska, 1992.
PB93-963202/REB

EPA/540/R-93/003
National Priorities List Sites: Arizona and Nevada, 1992.
PB93-963204/REB

EPA/540/R-93/004
National Priorities List Sites: Arkansas, 1992.
PB93-963205/REB

EPA/540/R-93/005
National Priorities List Sites: California and Hawaii, 1992.
PB93-963206/REB

EPA/540/R-93/006
National Priorities List Sites: Colorado, 1992.
PB93-963207/REB

EPA/540/R-93/007
National Priorities List Sites: Connecticut, 1992.
PB93-963208/REB

EPA/540/R-93/008
National Priorities List Sites: Delaware, 1992.
PB93-963209/REB

EPA/540/R-93/009
National Priorities List Sites: Florida, 1992.
PB93-963210/REB

EPA/540/R-93/010
National Priorities List Sites: Georgia, 1992.
PB93-963211/REB

EPA/540/R-93/011
National Priorities List Sites: Idaho, 1992.
PB93-963212/REB

EPA/540/R-93/012
National Priorities List Sites: Illinois, 1992.
PB93-963213/REB

EPA/540/R-93/013
National Priorities List Sites: Indiana, 1992.
PB93-963214/REB

EPA/540/R-93/014
National Priorities List Sites: Iowa, 1992.
PB93-963215/REB

EPA/540/R-93/015
National Priorities List Sites: Kansas, 1992.
PB93-963216/REB

EPA/540/R-93/016
National Priorities List Sites: Kentucky, 1992.
PB93-963217/REB

EPA/540/R-93/017
National Priorities List Sites: Louisiana, 1992.
PB93-963218/REB

EPA/540/R-93/018
National Priorities List Sites: Maine, 1992.
PB93-963219/REB

EPA/540/R-93/019
National Priorities List Sites: Maryland, 1992.
PB93-963220/REB

EPA/540/R-93/020
National Priorities List Sites: Massachusetts, 1992.
PB93-963221/REB

EPA/540/R-93/021
National Priorities List Sites: Michigan, 1992.
PB93-963222/REB

EPA/540/R-93/022
National Priorities List Sites: Minnesota, 1992.
PB93-963223/REB

EPA/540/R-93/023
National Priorities List Sites: Mississippi, 1992.
PB93-963224/REB

EPA/540/R-93/024
National Priorities List Sites: Missouri, 1992.
PB93-963225/REB

EPA/540/R-93/025
National Priorities List Sites: Montana, 1992.
PB93-963226/REB

EPA/540/R-93/026
National Priorities List Sites: Nebraska, 1992.
PB93-963227/REB

EPA/540/R-93/027
National Priorities List Sites: New Hampshire, 1992.
PB93-963228/REB

EPA/540/R-93/028
National Priorities List Sites: New Jersey, 1992.
PB93-963229/REB

EPA/540/R-93/029
National Priorities List Sites: New Mexico, 1992.
PB93-963230/REB

EPA/540/R-93/030
National Priorities List Sites: New York, 1992.
PB93-963231/REB

EPA/540/R-93/031
National Priorities List Sites: North Carolina, 1992.
PB93-963232/REB

EPA/540/R-93/032
National Priorities List Sites: North and South Dakota, 1992.
PB93-963233/REB

EPA/540/R-93/033
National Priorities List Sites: Ohio, 1992.
PB93-963234/REB

EPA/540/R-93/034
National Priorities List Sites: Oklahoma, 1992.
PB93-963235/REB

EPA/540/R-93/035
National Priorities List Sites: Oregon, 1992.
PB93-963236/REB

EPA/540/R-93/036
National Priorities List Sites: Pennsylvania, 1992.
PB93-963237/REB

EPA/540/R-93/037
National Priorities List Sites: Rhode Island, 1992.
PB93-963239/REB

EPA/540/R-93/038
National Priorities List Sites: South Carolina, 1992.
PB93-963240/REB

EPA/540/R-93/039
National Priorities List Sites: Tennessee, 1992.
PB93-963241/REB

EPA/540/R-93/040
National Priorities List Sites: Texas, 1992.
PB93-963242/REB

EPA/540/R-93/041
National Priorities List Sites: Utah, 1992.
PB93-963243/REB

EPA/540/R-93/042
National Priorities List Sites: Vermont, 1992.
PB93-963244/REB

EPA/540/R-93/043
National Priorities List Sites: Virginia, 1992.
PB93-963245/REB

EPA/540/R-93/044
National Priorities List Sites: Washington, 1992.
PB93-963246/REB

EPA/540/R-93/045
National Priorities List Sites: West Virginia, 1992.
PB93-963247/REB

EPA/540/R-93/046
National Priorities List Sites: Wisconsin, 1992.
PB93-963248/REB

EPA/540/R-93/047
National Priorities List Sites: Wyoming, 1992.
PB93-963249/REB

EPA/540/R-93/048
National Priorities List Sites: Puerto Rico and Virgin Islands, 1992.
PB93-963238/REB

EPA/540/R-93/049
National Priorities List Sites: The United States Territories, 1992.
PB93-963203/REB

EPA/540/R-93/055
Superfund: EPA/ICMA Superfund Revitalization Conference. Held in Chicago, Illinois on November 12-13, 1992.
PB93-963274/REB

EPA/540/R-93/059
Compendium of ROD Language for FY 1993 Focus Areas.
PB93-963328/REB

EPA/542/B-93/001
Online Guided Tour of the Cleanup Information Bulletin Board System. (CLU-IN: Cleanup Information Bulletin Board).
PB93-193704/REB

EPA/9360.7-06
Guidance for Federal Facilities on Release Notification Requirements under CERCLA and SARA Title III.
PB93-963412/REB

OSWER DIRECTIVE-9420.00-08
RCRA Implementation Plan, FY 1993.
PB93-176956/REB

OSWER-9200.2-15FS
Overview of the Outyear Liability Model (OLM).
PB93-963259/REB

OSWER-9200.5-702B
National Priorities List Sites: Alabama, 1992.
PB93-963201/REB

OSWER-9200.5-703B
National Priorities List Sites: Alaska, 1992.
PB93-963202/REB

OSWER-9200.5-704B
National Priorities List Sites: Arizona and Nevada, 1992.
PB93-963204/REB

OSWER-9200.5-705B
National Priorities List Sites: Arkansas, 1992.
PB93-963205/REB

OSWER-9200.5-706B
National Priorities List Sites: California and Hawaii, 1992.
PB93-963206/REB

OSWER-9200.5-707B
National Priorities List Sites: Colorado, 1992.
PB93-963207/REB

OSWER-9200.5-708B
National Priorities List Sites: Connecticut, 1992.
PB93-963208/REB
OSWER-9200.5-709B
National Priorities List Sites: Delaware, 1992.
PB93-963209/REB
OSWER-9200.5-710B
National Priorities List Sites: Florida, 1992.
PB93-963210/REB
OSWER-9200.5-711B
National Priorities List Sites: Georgia, 1992.
PB93-963211/REB
OSWER-9200.5-713B
National Priorities List Sites: Idaho, 1992.
PB93-963212/REB
OSWER-9200.5-714B
National Priorities List Sites: Illinois, 1992.
PB93-963213/REB
OSWER-9200.5-715B
National Priorities List Sites: Indiana, 1992.
PB93-963214/REB
OSWER-9200.5-716B
National Priorities List Sites: Iowa, 1992.
PB93-963215/REB
OSWER-9200.5-717B
National Priorities List Sites: Kansas, 1992.
PB93-963216/REB
OSWER-9200.5-718B
National Priorities List Sites: Kentucky, 1992.
PB93-963217/REB
OSWER-9200.5-719B
National Priorities List Sites: Louisiana, 1992.
PB93-963218/REB
OSWER-9200.5-720B
National Priorities List Sites: Maine, 1992.
PB93-963219/REB
OSWER-9200.5-721B
National Priorities List Sites: Maryland, 1992.
PB93-963220/REB
OSWER-9200.5-722B
National Priorities List Sites: Massachusetts, 1992.
PB93-963221/REB
OSWER-9200.5-723B
National Priorities List Sites: Michigan, 1992.
PB93-963222/REB
OSWER-9200.5-724B
National Priorities List Sites: Minnesota, 1992.
PB93-963223/REB
OSWER-9200.5-725B
National Priorities List Sites: Mississippi, 1992.
PB93-963224/REB
OSWER-9200.5-726B
National Priorities List Sites: Missouri, 1992.
PB93-963225/REB
OSWER-9200.5-727B
National Priorities List Sites: Montana, 1992.
PB93-963226/REB
OSWER-9200.5-728B
National Priorities List Sites: Nebraska, 1992.
PB93-963227/REB
OSWER-9200.5-729B
National Priorities List Sites: New Hampshire, 1992.
PB93-963228/REB
OSWER-9200.5-730B
National Priorities List Sites: New Jersey, 1992.
PB93-963229/REB
OSWER-9200.5-731B
National Priorities List Sites: New Mexico, 1992.
PB93-963230/REB
OSWER-9200.5-732B
National Priorities List Sites: New York, 1992.
PB93-963231/REB
OSWER-9200.5-733B
National Priorities List Sites: North Carolina, 1992.
PB93-963232/REB
OSWER-9200.5-734B
National Priorities List Sites: North and South Dakota, 1992.
PB93-963233/REB
OSWER-9200.5-735B
National Priorities List Sites: Ohio, 1992.
PB93-963234/REB
OSWER-9200.5-736B
National Priorities List Sites: Oklahoma, 1992.
PB93-963235/REB
OSWER-9200.5-737B
National Priorities List Sites: Oregon, 1992.
PB93-963236/REB
OSWER-9200.5-738B
National Priorities List Sites: Pennsylvania, 1992.
PB93-963237/REB
OSWER-9200.5-739B
National Priorities List Sites: Rhode Island, 1992.
PB93-963239/REB
OSWER-9200.5-740B
National Priorities List Sites: South Carolina, 1992.
PB93-963240/REB
OSWER-9200.5-741B
National Priorities List Sites: Tennessee, 1992.
PB93-963241/REB
OSWER-9200.5-742B
National Priorities List Sites: Texas, 1992.
PB93-963242/REB
OSWER-9200.5-743B
National Priorities List Sites: Utah, 1992.
PB93-963243/REB
OSWER-9200.5-744B
National Priorities List Sites: Vermont, 1992.
PB93-963244/REB
OSWER-9200.5-745B
National Priorities List Sites: Virginia, 1992.
PB93-963245/REB
OSWER-9200.5-746B
National Priorities List Sites: Washington, 1992.
PB93-963246/REB
OSWER-9200.5-747B
National Priorities List Sites: West Virginia, 1992.
PB93-963247/REB
OSWER-9200.5-748B
National Priorities List Sites: Wisconsin, 1992.
PB93-963248/REB
OSWER-9200.5-749B
National Priorities List Sites: Wyoming, 1992.
PB93-963249/REB
OSWER-9200.5-750B
National Priorities List Sites: The United States Territories, 1992.
PB93-963203/REB
OSWER-9200.5-751B
National Priorities List Sites: Puerto Rico and Virgin Islands, 1992.
PB93-963238/REB
OSWER-9202.1-02I-VOL-1-NO-2
Smart Moves in Superfund - Regional Pilots and Initiatives. Volume 1, Number 2, September 1992.
PB93-963283/REB
OSWER-9202.1-02I-VOL-1-NO-3
Smart Moves in Superfund - Revitalization One Year Later. Volume 1, Number 3, January 1993.
PB93-963284/REB
OSWER-9202.1-02I-VOL-2-NO-1
Response Action Contractor Final Indemnification Guidelines. Volume 2, Number 1, March 1993.
PB93-963290/REB
OSWER-9202.1-04
Identification of a Senior Superfund Official for Addressing Special NPL Site-Related Issues.
PB93-963279/REB
OSWER-9202.1-05
Required Contracts Management Training for Regional Superfund Personnel.
PB93-963258/REB
OSWER-9202.1-06
Initiatives to Streamline the Alternative Remedial Contracting Strategy (ARCS) Contracts' Award Fee Process.
PB93-963275/REB
OSWER-9202.1-09
Guidance on Program Management Activities under ARCS.
PB93-963280/REB
OSWER-9202.1-11
Superfund: EPA/ICMA Superfund Revitalization Conference. Held in Chicago, Illinois on November 12-13, 1992.
PB93-963274/REB
OSWER-9203.1-06
Guidance on Setting Priorities for NPL Candidate Sites.
PB93-963333/REB
OSWER-9203.1-07I-VOL-1-NO-1
HSED SACM Report. Volume 1, Number 1, January 1993.
PB93-963289/REB
OSWER-9203.1-08
Further Direction on Implementing the Superfund Accelerated Cleanup Model (SACM).
PB93-963291/REB
OSWER-9240.0-02B
Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
PB93-963502/REB
OSWER-9240.0-25
Reassignment of CLP Transportation Functions.
PB93-963501/REB
OSWER-9242.2-08FS
Superfund Response Action Contracts.
PB93-963292/REB
OSWER-9242.3-09
Use of Time and Materials and Cost Reimbursement Subcontracts for Remedial Actions under the Alternative Remedial Contracting Strategy Contracts.
PB93-963282/REB
OSWER-9242.6-13
Performance Tracking under ARCS Contracts.
PB93-963276/REB
OSWER-9285.0-01A
OSWER Integrated Health and Safety Standard Operating Practices.
PB93-963401/REB
OSWER-9285.4-06
ATSDR Health Consultations under CERCLA.
PB93-963334/REB
OSWER-9320.1-11
Discussions with the Public Concerning NPL Listings.
PB93-963338/REB
OSWER-9320.2-05
Amendment to Historical Definitions of NPL Deletion Start and Completion Dates.
PB93-963278/REB
OSWER-9345.0-07
Standard Document for Remedial Site Assessment Decisions.
PB93-963268/REB
OSWER-9355.0-24A
SARA '200' Remedial Action Starts Requirement.
PB93-963324/REB
OSWER-9355.3-17
Compendium of ROD Language for FY 1993 Focus Areas.
PB93-963328/REB
OSWER-9355.7-03
Permits and Permit 'Equivalency' Processes for CERCLA On-Site Response Actions.
PB93-963325/REB
OSWER-9360.0-10
Expedited Response Actions.
PB93-963410/REB
OSWER-9360.2-04A
Clarification of Delegation to Approve Consistency Exemptions at NPL Sites.
PB93-963281/REB
OSWER-9360.7-11
Questions and Answers on Release Notification Requirements and Reportable Quantity Adjustments.
PB93-963411/REB
OSWER-9360.8-06FS
Facility Response Plans.
PB93-963408/REB
OSWER-9375.7-01
Ensuring the Adequacy of Cost Share Provisions in Superfund State Contracts.
PB93-963336/REB
National Priorities List Sites (1992).
PB93-963250/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF THE ASSISTANT ADMINISTRATOR FOR WATER.

EPA/440/4-90/010
Volunteer Water Monitoring: A Guide for State Managers.
PB93-202596/REB
EPA/503/2-89/001
Compendium of Methods for Marine and Estuarine Environmental Studies.
PB93-202570/REB
EPA/503/9-89/002
Marine and Estuarine Protection: Programs and Activities.
PB93-179000/REB
EPA/570/9-91/035
Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
PB93-180842/REB
EPA/570/9-91/700
Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules.
PB93-194058/REB
EPA/800/B-92/001
Office of Water Environmental and Program Information Systems Compendium, FY 1992.
PB93-186203/REB
EPA/812/B-92/004
Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
PB93-174522/REB
EPA/812/B-92/005
Lead and Copper Monitoring Guidance for Water Systems Serving 501 to 3,300 Persons.
PB93-174530/REB
EPA/812/B-92/006
Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB
EPA/812/B-92/007
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
PB93-174555/REB
EPA/812/B-92/008
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
PB93-174514/REB
EPA/812/B-92/009
Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
PB93-174563/REB
EPA/812/B-93/004
Indian Primacy Procedures Handbook for the Public Water System Supervision (PWSS) Program and the Underground Injection Control (UIC) Program.
PB93-185585/REB
EPA/812/B-93/005
Tribal Water Utility Management.
PB93-190908/REB
EPA/812/R-92/003
Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
PB93-186633/REB
EPA/812/R-93/002
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB
EPA/812/R-93/003
Medium Systems That Failed to Conduct Required Initial Lead Tap Monitoring and Reporting.
PB93-196632/REB
EPA/833/B-92/004
U.S. EPA NPDES: Basic Permit Writers' Course. Workbook.
PB93-185619/REB
EPA/833/K-93/001
Urban Runoff Management Information/Education Products. Version 1.
PB93-190932/REB
EPA/841/B-93/003
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance.
PB93-193795/REB

EPA/841/N-92/005
News-Notes Number 23: The Condition of the Environment and the Control of Nonpoint Sources of Water Pollution.
PB93-204006/REB

EPA/842/B-92/009
Summary of Implementation and Demonstration Projects in Bays and Estuaries.
PB93-194637/REB

Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB

Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB

Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
PB93-154722/REB

Proposed Water Quality Guidance for the Great Lakes System.
PB93-164515/REB

Federal Register, Volume 58, No. 72. Part 2. Environmental Protection Agency, 40 CFR Parts 122 et al. Water Quality Guidance for the Great Lakes System and Correction; Proposed Rules.
PB93-183002/REB

Guidance Manual for POTW Pretreatment Program Development.
PB93-186112/REB

Surface Water Treatment Rule. Implementation Manual (Including Appendix D).
PB93-186641/REB

Total Coliform Rule: Implementation Manual (Including Appendix D).
PB93-186658/REB

Managing Nonpoint Source Pollution. Final Report to Congress on Section 319 of the Clean Water Act (1989).
PB93-200897/REB

Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
PB93-202802/REB

News-Notes Number 21: The Condition of the Environment and the Nonpoint Sources of Water Pollution.
PB93-204030/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF WASTE PROGRAMS ENFORCEMENT.

Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
PB93-177178/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF WATER ENFORCEMENT AND PERMITS.

EPA/440/4-87/005
Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants.
PB93-184620/REB

Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF WATER PLANNING AND STANDARDS.

EPA/230/1-76/041A
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
PB93-167757/REB

EPA/230/1-76/065E
Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
PB93-167740/REB

EPA/230/2-74/059A
Economic Analysis of Effluent Guidelines: Mineral Mining and Processing Industry.
PB93-167765/REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. REPRODUCTIVE AND DEVELOPMENTAL TOXICOLOGY BRANCH.

EPA/600/J-93/047
Developing Improved Strategies to Determine Male Reproductive Risk from Environmental Toxins.
PB93-167286/REB

OHEA-R-469
Developing Improved Strategies to Determine Male Reproductive Risk from Environmental Toxins.
PB93-167286/REB

ENVIRONMENTAL RESEARCH LAB., ATHENS, GA.

EPA/600/A-93/042
Photochemical Conversion of Solar Energy in the Environment.
PB93-167187/REB

ENVIRONMENTAL RESEARCH LAB.-DULUTH, GROSSE ILE, MI. LARGE LAKES RESEARCH STATION.

Investigation of Contaminant Transport from the Saginaw Confined Disposal Facility.
(EPA/600/J-93/202)
PB93-199610/REB

ENVIRONMENTAL RESEARCH LAB.-DULUTH, MN.

EPA/440/5-88/092
Ambient Aquatic Life Water Quality Criteria for Hexachlorobenzene.
PB93-202760/REB

EPA/600/R-93/055
Interim Report on Data and Methods for Assessment of 2,3,7,8-Tetrachlorodibenzo-p-dioxin Risks to Aquatic Life and Associated Wildlife.
PB93-202828/REB

Aquatic Toxicity Information on VAX VMS Backup (AQUIRE for VMS).
(EPA/DF/MT-93/051)
PB93-505733/REB

ENVIRONMENTAL RESEARCH LAB., GULF BREEZE, FL.

CONTRIB-737
Occurrence of Agglutinins in the Pallial Cavity Mucus of Oysters.
PB93-169043/REB

CONTRIB-741
Method for Quantifying the Prediction Uncertainties Associated with Water Quality Models.
PB93-205094/REB

CONTRIB-745
Evaluation of Sampling Strategies to Characterize Dissolved Oxygen Conditions in Northern Gulf of Mexico Estuaries.
PB93-169050/REB

CONTRIB-746
Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB

CONTRIB-751
Importance of Fish Diseases: An Overview.
PB93-204113/REB

CONTRIB-777
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos.
PB93-168920/REB

CONTRIB-779
Conjugal Gene Transfer to Aquatic Bacteria Detected by the Generation of a New Phenotype.
PB93-169068/REB

CONTRIB-780
Observations on the State of Marine Disease Studies (Chapter 18).
PB93-204170/REB

CONTRIB-795
Bacterial Metabolism of Naphthalene: Construction and Use of Recombinant Bacteria to Study Ring Cleavage of 1,2-Dihydroxynaphthalene and Subsequent Reactions.
PB93-168938/REB

EPA/600/A-93/056
Effects of Kraft Mill Effluent on the Sexuality of Fishes: An Environmental Early Warning.
PB93-168847/REB

EPA/600/A-93/130
Importance of Fish Diseases: An Overview.
PB93-204113/REB

EPA/600/A-93/136
Observations on the State of Marine Disease Studies (Chapter 18).
PB93-204170/REB

EPA/600/J-93/058
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos.
PB93-168920/REB

EPA/600/J-93/059
Bacterial Metabolism of Naphthalene: Construction and Use of Recombinant Bacteria to Study Ring Cleavage of 1,2-Dihydroxynaphthalene and Subsequent Reactions.
PB93-168938/REB

EPA/600/J-93/061
Annual Cycle of Blood Chemistry Parameters in Striped Mullet ('Mugil cephalus' L.) and Pinfish ('Lagodon rhomboides' L.) from the Gulf of Mexico.
PB93-168953/REB

EPA/600/J-93/062
Effects of Chemical Contaminants on Blood Chemistry of Teleost Fish: A Bibliography and Synopsis of Selected Effects.
PB93-168961/REB

EPA/600/J-93/063
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB

EPA/600/J-93/065
Fate of 'Bacillus sphaericus' 2362 Spores in Nontarget Invertebrates.
PB93-168995/REB

EPA/600/J-93/066
Use of a Novel Plasmid to Monitor the Fate of a Genetically Engineered 'Pseudomonas putida' Strain.
PB93-169001/REB

EPA/600/J-93/067
Extreme Clonal Diversity and Divergence in Populations of a Selfing Hermaphroditic Fish.
PB93-169019/REB

EPA/600/J-93/069
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'.
PB93-169035/REB

EPA/600/J-93/070
Occurrence of Agglutinins in the Pallial Cavity Mucus of Oysters.
PB93-169043/REB

EPA/600/J-93/071
Evaluation of Sampling Strategies to Characterize Dissolved Oxygen Conditions in Northern Gulf of Mexico Estuaries.
PB93-169050/REB

EPA/600/J-93/072
Conjugal Gene Transfer to Aquatic Bacteria Detected by the Generation of a New Phenotype.
PB93-169068/REB

EPA/600/J-93/215
Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB

EPA/600/J-93/217
Strategy Using Bioreactors and Specially Selected Microorganisms for Bioremediation of Groundwater Contaminated with Creosote and Pentachlorophenol.
PB93-205003/REB

EPA/600/J-93/226
Method for Quantifying the Prediction Uncertainties Associated with Water Quality Models.
PB93-205094/REB

ENVIRONMENTAL RESEARCH LAB.-NARRAGANSETT, NEWPORT, OR.

EPA/600/A-93/108
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB

EPA/600/A-93/120
Field and Laboratory Studies of Chemical Contamination and Environmentally Related Diseases in Fish and Molluscs of New England.
PB93-199438/REB

EPA/600/J-93/083
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
PB93-173706/REB

EPA/600/J-93/084
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects.
PB93-173714/REB

EPA/600/J-93/195
Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae).
PB93-199545/REB

EPA/600/R-93/097
Sea Urchin ('Strongylocentrotus purpuratus') Fertilization Test Method.
PB93-196988/REB

ERLN-N139
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
PB93-173706/REB

ERLN-N143
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects.
PB93-173714/REB

ERLN-N175
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB

ERLN-N208
Sea Urchin ('Strongylocentrotus purpuratus') Fertilization Test Method.
PB93-196988/REB

ERLN-NX12
Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae).
PB93-199545/REB

ERLN-1408
Field and Laboratory Studies of Chemical Contamination and Environmentally Related Diseases in Fish and Molluscs of New England.
PB93-199438/REB

ENVIRONMENTAL RESEARCH LAB.-NARRAGANSETT, NEWPORT, OR. MARK O. HATFIELD MARINE SCIENCE CENTER.

EPA/600/J-93/138
Taxonomic Level Sufficient for Assessing a Moderate Impact on Macrobenthic Communities in Puget Sound, Washington, USA.
PB93-185858/REB

ERLN-N183
Taxonomic Level Sufficient for Assessing a Moderate Impact on Macrobenthic Communities in Puget Sound, Washington, USA.
PB93-185858/REB

ENVIRONMENTAL RESEARCH LAB.-NARRAGANSETT, NEWPORT, OR. PACIFIC ECOSYSTEMS BRANCH.

CBP/TRS-89/93
Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
PB93-196020/REB

CONTRIB-N-240
Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
PB93-196020/REB

EPA/600/J-93/196
Comparison of Methods for Collecting Interstitial Water for Trace Organic Compounds and Metals Analyses.
PB93-199552/REB

ERNL-N087
Comparison of Methods for Collecting Interstitial Water for Trace Organic Compounds and Metals Analyses.
PB93-199552/REB

ENVIRONMENTAL RESEARCH LAB., NARRAGANSETT, RI.
EPA/440/5-87/011
Ambient Aquatic Life Water Quality Criteria for Silver.
PB93-202604/REB
EPA/600/J-93/082
Accumulation of Polychlorinated Organic Contaminants from Sediment by Three Benthic Marine Species.
PB93-173698/REB
EPA/600/J-93/128
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects.
PB93-181162/REB
EPA/600/J-93/137
Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae.
PB93-185841/REB
EPA/600/J-93/183
Bioassay-Directed Fractionation of Organic Contaminants in an Estuarine Sediment Using the New Mutagenic Bioassay, Mutatox (Trade Name).
PB93-194504/REB
EPA/600/J-93/184
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB
EPA/600/J-93/189
Transport of Low-Level Radioactive Soil at Deep-Ocean Disposal Site.
PB93-199487/REB
EPA/600/J-93/197
Application of the Ecotone Concept in Defining Nutrient Management Requirements for the Upper Potomac River Basin.
PB93-199560/REB
EPA/600/J-93/199
Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin.
PB93-199586/REB
EPA/600/J-93/212
Observations on the Effect of Dissolved Oxygen and Temperature on Respiration Rates of the Bay Scallop, 'Argopecten irradians'.
PB93-204956/REB
ERLN/CONTRIB-1083
Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin.
PB93-199586/REB
ERLN-1187
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects.
PB93-181162/REB
ERLN-1329
Observations on the Effect of Dissolved Oxygen and Temperature on Respiration Rates of the Bay Scallop, 'Argopecten irradians'.
PB93-204956/REB
ERLN-1331
Accumulation of Polychlorinated Organic Contaminants from Sediment by Three Benthic Marine Species.
PB93-173698/REB
ERLN-1332
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB
ERLN-1436
Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae.
PB93-185841/REB
ERLN-1438
Bioassay-Directed Fractionation of Organic Contaminants in an Estuarine Sediment Using the New Mutagenic Bioassay, Mutatox (Trade Name).
PB93-194504/REB
ERLN-1504
Application of the Ecotone Concept in Defining Nutrient Management Requirements for the Upper Potomac River Basin.
PB93-199560/REB

ENVIRONMENTAL RESOURCES MANAGEMENT-SOUTHEAST, INC., MARIETTA, GA.
Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
(EPA/430/9-87/010)
PB93-174506/REB

ENVIRONMENTAL RISK LTD., BLOOMFIELD, CT.
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 1.
(NYSERDA-92-08-VOL-1)
PB93-198950/REB
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 2, Appendices.
(NYSERDA-92-08-VOL-2)
PB93-198968/REB

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC., DURHAM, NC.
Dry Deposition Flux Calculations for the National Dry Deposition Network.
(EPA/600/R-93/065)
PB93-178242/REB

FAUCETT (JACK) ASSOCIATES, BETHESDA, MD.
JACKFAU-92-444-1
Nonroad Mobile Source Sales and Attrition Study: Identification and Evaluation of Available Data Sources.
(EPA/420/R-93/004)
PB93-190098/REB

FLORIDA UNIV., GAINESVILLE. DEPT. OF NUCLEAR ENGINEERING SCIENCES.
Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991.
(EPA/600/R-93/052)
PB93-172922/REB

FOREST PRODUCTS LAB., MADISON, WI.
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
(EPA/600/J-93/192)
PB93-199511/REB

GEORGETOWN UNIV., WASHINGTON, DC. MEDICAL CENTER.
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
(EPA/560/1-89/002)
PB93-200806/REB

GEORGIA UNIV., ATHENS. DEPT. OF PHARMACOLOGY AND TOXICOLOGY.
Distribution of Cardiac Output during Diurnal Changes of Activity in Rats.
(EPA/600/J-93/109)
PB93-180982/REB
Physiological Pharmacokinetic Modeling of Inhaled Trichloroethylene in Rats.
(EPA/600/J-93/110)
PB93-180990/REB

GEOSYNTEC CONSULTANTS, ATLANTA, GA.
LDCRS Flow from Double-Lined Landfills and Surface Impoundments.
(EPA/600/R-93/070)
PB93-179885/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC.
EPA/600/J-93/105
Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns.
PB93-175743/REB
EPA/600/J-93/107
Endpoints of Spermatotoxicity in the Rat After Short Duration Exposures to Fourteen Reproductive Toxicants.
PB93-175768/REB
EPA/600/J-93/108
Analysis of DNA Strand Breaks Induced in Rodent Liver In vivo, Hepatocytes in Primary Culture, and a Human Cell Line by Chlorinated Acetic Acids and Chlorinated Acetaldehydes.
PB93-180974/REB
EPA/600/J-93/114
Effect of Methoxychlor on Ovarian Steroidogenesis: Role in Early Pregnancy Loss.
PB93-181030/REB
EPA/600/J-93/117
Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone.
PB93-181055/REB
EPA/600/J-93/121
Extrapolation Modeling of Aerosol Deposition in Human and Laboratory Rat Lungs.
PB93-181097/REB
EPA/600/J-93/123
EPA Priorities for Biologic Markers Research in Environmental Health.
PB93-181113/REB
EPA/600/J-93/125
Repeated Maternal Separation in the Neonatal Rat: Cellular Mechanisms Contributing to Brain Growth Sparing.
PB93-181139/REB
EPA/600/J-93/126
Competition Potentials of Environmentally Applied Bacteria with Human Fecal Microbiota.
PB93-181147/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. CLINICAL RESEARCH BRANCH.
EPA/600/J-93/120
Human Upper Respiratory Tract Responses to Inhaled Pollutants with Emphasis on Nasal Lavage.
PB93-181089/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. ENVIRONMENTAL TOXICOLOGY DIV.
EPA/600/J-93/089
Acute Effects of Ozone on Heart Rate and Body Temperature in the Unanesthetized, Unrestrained Rat Maintained at Different Ambient Temperatures.
PB93-175586/REB
EPA/600/J-93/099
Comparative Ability of Various PCBs, PCDFs, and TCDD to Induce Cytochrome P450 1A1 and 1A2 Activity Following 4 Weeks of Treatment (Short Communication).
PB93-175685/REB
EPA/600/J-93/102
Differential Hepatotoxicity and Cytochrome P450 Responses of Fischer-344 Rats to the Three Isomers of Dichlorobenzene.
PB93-175719/REB
EPA/600/J-93/122
Comments on Recent Data for Particle Deposition in Human Nasal Passages.
PB93-181105/REB
EPA/600/J-93/124
Interspecies Modeling of Inhaled Particle Deposition Patterns.
PB93-181121/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. GENETIC TOXICOLOGY DIV.
EPA/600/J-93/094
Genetic Toxicology of Putative Nongenotoxic Carcinogens.
PB93-175636/REB
EPA/600/J-93/115
DNA Isolation from Small Tissue Samples Using Salt and Spermine.
PB93-181048/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. HUMAN STUDIES DIV.
EPA/600/J-93/092
Summary of Workshop III: Evoked Potentials.
PB93-175610/REB
EPA/600/J-93/093
Importance of Experimenter-Blind Procedure in Neurotoxicology (Mini-Review).
PB93-175628/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. NEUROTOXICOLOGY DIV.
EPA/600/J-93/091
Characterization of Disulfoton-Induced Behavioral and Neurochemical Effects Following Repeated Exposure.
PB93-175602/REB
EPA/600/J-93/095
Relationship between Serum Cholinesterase Activity and the Change in Body Temperature and Motor Activity in the Rat: A Dose-Response Study of Diisopropyl Fluorophosphate.
PB93-175644/REB
EPA/600/J-93/097
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB
EPA/600/J-93/101
Acute Effects of Ethanol on Pattern Reversal and Flash-Evoked Potentials in Rats and the Relationship to Body Temperature.
PB93-175701/REB
EPA/600/J-93/103
Twenty-Four Hour Rhythms of Selected Ambient Temperature in Rat and Hamster.
PB93-175727/REB
EPA/600/J-93/104
Anomalous Phosphorylated Neurofilament Aggregations in Central and Peripheral Axons of Hens Treated with Tri-Ortho-Cresyl Phosphate (TOCP).
PB93-175735/REB

HEALTH EFFECTS RESEARCH LAB., RESEARCH TRIANGLE PARK, NC. REPRODUCTIVE TOXICOLOGY BRANCH.
EPA/600/J-93/106
Effects of Prenatal Administration of Azo Dyes on Testicular Development in the Mouse: A Structure Activity Profile of Dyes Derived from Bensidine, Dimethylbenzidine, or Dimethoxybenzidine.
PB93-175750/REB
EPA/600/J-93/113
Steroidogenic Assessment Using Ovary Culture in Cycling Rats: Effects of Bis(2-Diethylhexyl) Phthalate on Ovarian Steroid Production.
PB93-181022/REB
EPA/600/J-93/119
Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring.
PB93-181071/REB

IIT RESEARCH INST., CHICAGO, IL.
Evaluation of Portable Gas Chromatographs.
(EPA/600/A-93/053)
PB93-168813/REB

ILLINOIS DEPT. OF ENERGY AND NATURAL RESOURCES, CHAMPAIGN. HAZARDOUS WASTE RESEARCH AND INFORMATION CENTER.
Ink and Cleaner Waste Reduction Evaluation for Flexographic Printers.
(EPA/600/R-93/086)
PB93-191286/REB

ILLINOIS UNIV. AT THE MEDICAL CENTER, CHICAGO. DEPT. OF MICROBIOLOGY AND IMMUNOLOGY.
Microbial Degradation of Synthetic Chlorinated Compounds: Evolutionary Implications (Chapter 8).
(EPA/600/A-93/132)
PB93-204139/REB
Recruitment of tft and clc Biodegradative Pathway Genes: Modes of Evolution.
(EPA/600/A-93/135)
PB93-204162/REB

ILLINOIS UNIV. AT URBANA-CHAMPAIGN. DEPT. OF VETERINARY PATHOBIOLOGY.
Genus- and Group-Specific Hybridization Probes for Determinative and Environmental Studies of Sulfate-Reducing Bacteria.
(EPA/600/J-93/064)
PB93-168987/REB

INFORM, INC., NEW YORK.
Slowing the Waste Behemoth: Source Reduction is Overshadowed by Recycling's Success.
(EPA/600/J-93/187)
PB93-194546/REB

INSTITUTE FOR CANCER RESEARCH, PHILADELPHIA, PA.
Effects of Formaldehyde on Xenotransplanted Human Respiratory Epithelium.
(HEI/RR-92/51)
PB93-179950/REB

IT CORP., CINCINNATI, OH.
EPA Bibliography on Surface Contamination.
(EPA/600/J-93/056)
PB93-168904/REB
Visual Inspection and AHERA Clearance at Asbestos Abatement Sites.
(EPA/600/A-93/084)
PB93-180966/REB
Comparison of the Efficiency of Polycarbonate and Mixed Cellulose Ester Filters for Use in the Filtration of Water Samples.
(EPA/600/J-93/168)
PB93-194363/REB
Asbestos Release during Building Demolition Activities.
(EPA/600/J-93/194)
PB93-199537/REB

IT ENVIRONMENTAL PROGRAMS, INC., CINCINNATI, OH.
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
(EPA/600/R-93/066)
PB93-178259/REB

JACA CORP., FORT WASHINGTON, PA.
Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10.
(EPA/452/R-93/001)
PB93-175776/REB

JORDAN (E.C.) CO., FARMINGTON HILLS, MI.
Preliminary Data Summary for the Pulp, Paper and Paperboard Point Source Category.
(EPA/440/1-89/025)
PB93-202935/REB

KANSAS UNIV., LAWRENCE. DIV. OF CONTINUING EDUCATION.
General Public Notification for Public Water Systems.
(EPA/570/9-89/002)
PB93-167096/REB

KING ENGINEERING ASSOCIATES, INC., TAMPA, FL.
Review of Tampa Bay Information for Interim Nutrient Budgets and Historical Loadings of Bay Segments.
(TBNEP-03-92)
PB93-191187/REB

LAWRENCE LIVERMORE NATIONAL LAB., CA. BIOMEDICAL SCIENCES DIV.
Spatial Distribution of Sperm-Derived Chromatin in Zygotes Determined by Fluorescence In situ Hybridization.
(EPA/600/J-93/172, OHEA-R-475)
PB93-194405/REB

LITTLE (ARTHUR D.), INC., CAMBRIDGE, MA.
Estimation of the Cost of Using Chemical Protective Clothing.
(EPA/600/A-93/052)
PB93-168805/REB

LOVELACE BIOMEDICAL AND ENVIRONMENTAL RESEARCH INST., ALBUQUERQUE, NM. INHALATION TOXICOLOGY RESEARCH INST.
Role of Ozone in Tracheal Cell Transformation.
(HEI/RR-92/50)
PB93-179935/REB

LYNDON B. JOHNSON SCHOOL OF PUBLIC AFFAIRS, AUSTIN, TX.
Risk Communication About Chemicals in Your Community. Facilitator's Manual and Guide.
(EPA/230/09-89/067)
PB93-200541/REB

M.D. ANDERSON CANCER CENTER, HOUSTON, TX.
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
(EPA/600/J-93/096)
PB93-175651/REB

MANCHESTER ENVIRONMENTAL LAB., PORT ORCHARD, WA.
EPA/910/9-92/029
Consensus Method for Determining Groundwaters under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA).
PB93-180818/REB

MANTECH ENVIRONMENTAL TECHNOLOGY, INC., ADA, OK.
Passive Sampling of Groundwater Monitoring Wells without Purging: Multilevel Well Chemistry and Tracer Disappearance.
(EPA/600/J-93/129)
PB93-181170/REB
Determination of Carboxylic Acids by Ion-Exclusion Chromatography with Non-Suppressed Conductivity and Optical Detectors.
(EPA/600/J-93/133)
PB93-181212/REB

MANTECH ENVIRONMENTAL TECHNOLOGY, INC., CORVALLIS, OR.
Precollege Education: A Vital Component if Sustainable Agriculture is to Take Root.
(EPA/600/J-93/053)
PB93-168870/REB
Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
(EPA/600/R-93/071)
PB93-186260/REB
Sampling and Assessment Issues in Using Fish as Indicators of Ecological Condition in Lakes: A Workshop Report. (3rd Draft Report).
(EPA/620/R-93/005)
PB93-186278/REB
Methane Emissions from Wetland Rice Areas of Asia.
(EPA/600/J-93/149)
PB93-191468/REB
Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings.
(EPA/600/J-93/152)
PB93-191492/REB
Conservation Tillage Impacts on National Soil and Atmospheric Carbon Levels.
(EPA/600/J-93/153)
PB93-191500/REB
Future Context of Sustainable Agriculture: Planning for Uncertainty.
(EPA/600/J-93/154)
PB93-191518/REB
Impacts of Climate Change on Rice Yield: A Comparison of Four Model Performances.
(EPA/600/J-93/155)
PB93-191526/REB
Statistical Evaluation of the EMAP-Wetlands Classification.
(EPA/600/A-93/121)
PB93-199446/REB
Bacillus thuringiensis var. kurstaki Affects a Beneficial Insect, the Cinnabar Moth (Lepidoptera: Arctidae).
(EPA/600/J-93/206)
PB93-199651/REB
Information Management Guidelines for the Wetlands Research Program.
(EPA/600/R-93/106)
PB93-202844/REB

MANTECH ENVIRONMENTAL TECHNOLOGY, INC., RESEARCH TRIANGLE PARK, NC.
International Validation of a Neurobehavioral Screening Battery: The IPCS/WHO Collaborative Study.
(EPA/600/J-93/090)
PB93-175594/REB
Near-Lifetime Exposure of the Rat to a Simulated Urban Profile of Nitrogen Dioxide: Pulmonary Function Evaluation.
(EPA/600/J-93/100)
PB93-175693/REB
Electrophoresis Gel Buffer Recirculator for under Twenty Dollars.
(EPA/600/J-93/112)
PB93-181014/REB

MARYLAND STATE HIGHWAY ADMINISTRATION, BALTIMORE.
Evaluation of Mitigation for Acid Aluminum Leachate from a Highway Fill in Garrett County, Maryland.
(FHWA/MD-89/14)
PB93-180321/REB

MARYLAND UNIV., COLLEGE PARK. DEPT. OF MECHANICAL ENGINEERING.
Simulation of Nonazeotropic Refrigerant Mixtures for Use in a Dual-Circuit Refrigerator/Freezer with Countercurrent Heat Exchangers.
(EPA/600/J-93/079)
PB93-173664/REB

MASSACHUSETTS UNIV., AMHERST.
Hydrocarbon Vapor Diffusion in Intact Core Sleeves.
(EPA/600/J-93/132)
PB93-181204/REB

MASSACHUSETTS UNIV., AMHERST. DEPT. OF CIVIL ENGINEERING.
Aerobic Soil Microcosms for Long-Term Biodegradation of Hydrocarbon Vapors.
(EPA/600/J-93/131)
PB93-181196/REB

MEDICAL RESEARCH COUNCIL, CHILTON (ENGLAND). RADIOBIOLOGY UNIT.
Radiation- and Chemically-Induced Chromosome Aberrations in Mouse Oocytes: A Comparison with Effects in Males.
(EPA/600/J-93/179, OHEA-R-482)
PB93-194462/REB

META SYSTEMS, INC., CAMBRIDGE, MA.
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
(EPA/440/2-84/001)
PB93-167773/REB

MICHIGAN STATE UNIV., EAST LANSING.
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium'.
(EPA/600/A-93/099)
PB93-191351/REB

MICHIGAN STATE UNIV., EAST LANSING. DEPT. OF BIOCHEMISTRY.
Oxidation of Persistent Environmental Pollutants by a White Rot Fungus.
(EPA/600/J-93/160)
PB93-191575/REB
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium': Involvement of the Lignin Degrading System.
(EPA/600/J-93/161)
PB93-191583/REB
Biodegradation of DDT (1,1,1-Trichloro-2,2-Bis(4-Chlorophenyl)Ethane) by the White Rot Fungus 'Phanerochaete chrysosporium'.
(EPA/600/J-93/164)
PB93-191617/REB
Biodegradation of Chlorinated Organic Compounds by 'Phanerochaete chrysosporium', a Wood-Rotting Fungus.
(EPA/600/A-93/133)
PB93-204147/REB
Mineralization of Recalcitrant Environmental Pollutants by a White Rot Fungus. Proceedings of the National Conference on Hazardous Wastes and Hazardous Materials. Held in Washington, DC. on March 16-18, 1987.
(EPA/600/A-93/134)
PB93-204154/REB

MIDWEST RESEARCH INST., CARY, NC.
Alternative Control Techniques Document-NOx Emissions from Process Heaters.
(EPA/453/R-93/015)
PB93-186211/REB

MIDWEST RESEARCH INST., KANSAS CITY, MO.
Summary of Factors Affecting Compliance by Ferrous Foundaries. Volume 1. Text.
(EPA/340/1-80/020)
PB93-199347/REB

MINNESOTA UNIV., ST. PAUL. DEPT. OF GENETICS AND CELL BIOLOGY.
Oxidation of Nitrapyrin to 6-Chloropicolinic Acid by the Ammonia-Oxidizing Bacterium 'Nitrosomonas europaea'.
(EPA/600/J-93/073)
PB93-169076/REB

MISSOURI DEPT. OF HEALTH, JEFFERSON CITY.
Missouri Chlordane Exposure Study: A Report on Persons Who Consumed Chlordane-Contaminated Fish.
(ATSDR/HS-93/21)
PB93-148252/REB

NATIONAL ADVISORY COUNCIL FOR ENVIRONMENTAL POLICY AND TECHNOLOGY, WASHINGTON, DC. TRADE AND ENVIRONMENT COMMITTEE.
ISBN-0-16-041702-3
Greening of World Trade: A Report to EPA from the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology.
(EPA/100/R-93/002)
PB93-176980/REB

NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC., MEDFORD, MA.
Expanding Global Forest Management: An 'Easy First' Proposal.
PB93-199669/REB

NATIONAL ENVIRONMENTAL HEALTH ASSOCIATION, DENVER, CO.
Learning Guide for State/Local Drinking Water Agreements.
PB93-185601/REB

NATIONAL INST. OF STANDARDS AND TECHNOLOGY (BFRL), GAITHERSBURG, MD.
NISTIR-4979
Building and HVAC Characterization for Commercial Building Indoor Air Quality Investigations.
PB93-198844/REB

NATIONAL RESEARCH COUNCIL, WASHINGTON, DC.
ISBN-0-309-0;4844-3
Protecting Visibility in National Parks and Wilderness Areas.
PB93-186393/REB
ISBN-0-309-04749-8
Sustainable Agriculture and the Environment in the Humid Tropics.
PB93-173920/REB

NATIONAL RESEARCH COUNCIL, WASHINGTON, DC. BOARD ON ENVIRONMENTAL STUDIES AND TOXICOLOGY.
Structure and Performance of the Health Effects Institute.
PB93-200335/REB

NEVADA UNIV., LAS VEGAS. DEPT. OF CHEMISTRY.
Empirical Model of Vehicle Emissions.
(EPA/600/J-93/201)
PB93-199602/REB

NEW JERSEY INST. OF TECH., NEWARK. DEPT. OF CHEMICAL ENGINEERING.
Near Real-Time GC Analysis of Volatile Organic Compounds Using an On-Line Micro-Trap.
(EPA/600/A-93/125)
PB93-204063/REB

NORTH AMERICAN LAKE MANAGEMENT SOCIETY, WASHINGTON, DC.
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
(EPA/440/4-90/007)
PB93-203982/REB

NORTH CAROLINA UNIV. AT CHAPEL HILL. CENTER FOR ENVIRONMENTAL MEDICINE AND LUNG BIOLOGY.
Breakage and Binding of DNA by Reaction Products of Hypochlorous Acid with Aniline, 1-Napthylamine, or 1-Naphthol.
(EPA/600/J-93/118)
PB93-181063/REB

OAK RIDGE NATIONAL LAB., TN.
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
(EPA/600/J-93/130)
PB93-181188/REB

OAK RIDGE NATIONAL LAB., TN. BIOLOGY DIV.
Frequency and Nature of Specific-Locus Mutations Induced in Female Mice by Radiations and Chemicals: A Review.
(EPA/600/J-93/177, OHEA-R-480)
PB93-194447/REB

Bleomycin: Female-Specific Dominant Lethal Effects in Mice.
(EPA/600/J-93/180, OHEA-R-483)
PB93-194470/REB

OFFICE OF RADIATION PROGRAMS, WASHINGTON, DC.
EPA/520/1-87/012-1
Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1. Background Information Document.
PB93-200673/REB

OLD DOMINION UNIV., NORFOLK, VA. DEPT. OF CHEMISTRY AND BIOCHEMISTRY.
Reactions of Potential Organic Water Contaminants with Aqueous Chlorine and Monochloramine.
(EPA/700/R-92/006)
PB93-175040/REB

OMNI ENVIRONMENTAL SERVICES, INC., BEAVERTON, OR.
Evaluation of Emissions from Masonry Heaters and Masonry Fireplaces in Homes.
(EPA/600/A-93/059)
PB93-173078/REB

OREGON STATE UNIV., CORVALLIS.
Design and Construction of Demonstration/Research Wetlands for Treatment of Dairy Farm Wastewater.
(EPA/600/R-93/105)
PB93-202836/REB

OREGON STATE UNIV., CORVALLIS. COLL. OF VETERINARY MEDICINE.
Glucocorticoid Effects on Natural and Humoral Immunity in Mallards.
(EPA/600/J-93/205)
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OREGON STATE UNIV., CORVALLIS. DEPT. OF CIVIL ENGINEERING.
Equilibrium Analysis of Carbon Pools and Fluxes of Forest Biomes in the Former Soviet Union.
(EPA/600/J-93/151)
PB93-191484/REB

OREGON STATE UNIV., NEWPORT. HATFIELD MARINE SCIENCE CENTER.
Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene.
(EPA/600/J-93/140, ERLN-N126)
PB93-185874/REB

PACIFIC ENVIRONMENTAL SERVICES, INC., HERNDON, VA.
Air/Superfund National Technical Guidance Study Series. Air Emissions from Area Sources: Estimating Soil and Soil-Gas Sample Number Requirements.
(EPA/451/R-93/002)
PB93-173995/REB

PECHAN (E.H.) AND ASSOCIATES, INC., DURHAM, NC.
Feasibility of Including Fugitive PM-10 Emissions Estimates in the EPA Emissions Trends Report.
(EPA/450/4-91/005B)
PB93-169084/REB

PECHAN (E.H.) AND ASSOCIATES, INC., SPRINGFIELD, VA.
Guidance for Growth Factors, Projections, and Control Strategies for the 15 Percent Rate-of-Progress Plans.
(EPA/452/R-93/002)
PB93-186476/REB
Guidance on the Relationship between the 15 Percent Rate-of-Progress Plans and Other Provisions of the Clean Air Act.
(EPA/452/R-93/007)
PB93-200525/REB

PEI ASSOCIATES, INC., ARLINGTON, TX.
Guideline for Graphic Arts Calculations.
(EPA/340/1-88/004)
PB93-199370/REB

PEI ASSOCIATES, INC., CINCINNATI, OH.
Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
(EPA/340/1-86/005A)
PB93-199297/REB

POLICY PLANNING AND EVALUATION, INC., VIENNA, VA.
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry. Phase 2.
(EPA/440/2-85/030)
PB93-167781/REB

PRC ENVIRONMENTAL MANAGEMENT, INC., MCLEAN, VA.
Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils.
(EPA/540/AR-92/010)
PB93-172948/REB

RADIAN CORP., AUSTIN, TX.
DCN-91-293-052-03
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
PB92-228592/REB
RCN-293-052-06-03
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
PB92-228592/REB
Air/Superfund National Technical Guidance Study Series. Volume 1. Overview of Air Pathway Assessments for Superfund Sites (Revised).
(EPA/450/1-89/001A)
PB93-173987/REB
Air/Superfund National Technical Guidance Study Series. Models for Estimating Air Emission Rates from Superfund Remedial Actions.
(EPA/451/R-93/001)
PB93-186807/REB
Air/Superfund National Technical Guidance Study Series. Volume 4. Guidance for Ambient Air Monitoring at Superfund Sites (Revised).
(EPA/451/R-93/007)
PB93-199214/REB
Air/Superfund National Technical Guidance Study Series: Evaluation of Short-Term Air Action Levels for Superfund Sites.
(EPA/451/R-93/009)
PB93-200913/REB

RADIAN CORP., MCLEAN, VA.
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
(EPA/800/R-93/001A)
PB93-202612/REB
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
(EPA/800/R-93/001B)
PB93-202620/REB

RADIAN CORP., RESEARCH TRIANGLE PARK, NC.
RAD-87-231-020-35-07
Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds.
(EPA/450/3-87/020)
PB93-199354/REB
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III. Validation Study at Fossil Fuel Plant.
(EPA/600/A-93/076)
PB93-180891/REB
Using Method 301 to Validate Sampling and Analytical Methods for Selected CAAA Compounds.
(EPA/600/A-93/106)
PB93-191419/REB

RCG/HAGLER, BAILLY AND CO., INC., BOULDER, CO.
Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance.
PB93-154748/REB
Economic Benefits of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
(EPA/821/R-93/001)
PB93-168797/REB
Regulatory Impact Analysis of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
(EPA/821/R-93/002)
PB93-174613/REB

RESEARCH TRIANGLE INST., RESEARCH TRIANGLE PARK, NC.
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil.
(EPA/600/A-93/064)
PB93-173128/REB
ENU Mutagenesis in the Mouse Electrophoretic Specific-Locus Test. 2. Mutational Studies of Mature Oocytes.
(EPA/600/J-93/178, OHEA-R-481)
PB93-194454/REB
Guide to the Asbestos NESHAP as Revised November 1990.
(EPA/340/1-90/015)
PB93-199362/REB

RESOURCES FOR THE FUTURE, INC., WASHINGTON, DC. CENTER FOR RISK MANAGEMENT.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB

RHODE ISLAND UNIV., NARRAGANSETT. GRADUATE SCHOOL OF OCEANOGRAPHY.
Physical and Chemical Parameters of Sediment Extraction and Fractionation That Influence Toxicity, as Evaluated by Microtox (Trade Name).
(EPA/600/J-93/141, ERLN-1447)
PB93-185882/REB

ROBERT S. KERR ENVIRONMENTAL RESEARCH LAB., ADA, OK.
EPA/600/A-93/072
Laboratory Studies on the Stability and Transport of Inorganic Colloids Through Natural Aquifer Material (Chapter 49).
PB93-175537/REB
EPA/600/A-93/073
Performance and Cost Evaluation of Bioremediation Techniques for Fuel Spills.
PB93-175545/REB

ROCHE INST. OF MOLECULAR BIOLOGY, NUTLEY, NJ. DEPT. OF CELL AND DEVELOPMENTAL BIOLOGY.
Gene Expression during Oogenesis in Mice.
(EPA/600/J-93/170, OHEA-R-473)
PB93-194389/REB

SAINT LOUIS UNIV., MO. SCHOOL OF MEDICINE.
Carbon Monoxide Exposure of Subjects with Documented Cardiac Arrhythmias.
(HEI/RR-92/52)
PB93-179943/REB

SCHILLINGER, SALERNI AND BOYD, INC., ALBANY, NY.
Town of Edinburg Landfill Reclamation Demonstration Project.
(NYSERDA-92/04)
PB93-198976/REB

SCIENCE APPLICATIONS INTERNATIONAL CORP., DURHAM, NC.
Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers.
(EPA/600/R-93/063)
PB93-181592/REB

SCIENCE APPLICATIONS INTERNATIONAL CORP., FALLS CHURCH, VA.
Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
PB93-154730/REB
Petitions to Delist Hazardous Wastes: A Guidance Manual. Second Edition.
(EPA/530/R-93/007)
PB93-169365/REB

SCIENCE APPLICATIONS INTERNATIONAL CORP., MCLEAN, VA.
Evaluation of Laboratory Tests to Determine the Effectiveness of Chemical Surface Washing Agents.
(EPA/600/A-93/114)
PB93-194215/REB

SCIENCE APPLICATIONS INTERNATIONAL CORP., NARRAGANSETT, RI.
Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
(EPA/600/J-93/136, ERLN-1374)
PB93-185833/REB

SCIENCE APPLICATIONS INTERNATIONAL CORP., RESTON, VA.
Contingency Analysis Modeling for Superfund Sites and Other Sources.
(EPA/454/R-93/001)
PB93-169126/REB

SIERRA RESEARCH, INC., SACRAMENTO, CA.
SR93-03-02
Evaluation of Methodologies to Estimate Nonroad Mobile Source Usage.
(EPA/420/R-93/003)
PB93-180875/REB

SIGMA RESEARCH CORP., CONCORD, MA.
User's Manual for the Plume Visibility Model PLUVUE II (Revised).
(EPA/454/B-92/008)
PB93-188233/REB

SOUTHERN CALIFORNIA COASTAL WATER RESEARCH PROJECT AUTHORITY, LONG BEACH.
Status and Applications of Echinoid ('Phylum echinodermata') Toxicity Test Methods.
(EPA/600/J-93/135, ERLN-X188)
PB93-185825/REB

SOUTHERN RESEARCH INST., BIRMINGHAM, AL.
Alternate Performance Standard Project: Interpreting the Post-Construction Test.
(EPA/600/A-93/071)
PB93-175529/REB

STATE UNIV. OF NEW YORK AT ALBANY. COLL. OF ENVIRONMENTAL SCIENCE AND FORESTRY.
Lignin Degradation and Lignin Peroxidase Production in Cultures of 'Phanerochaete chrysosporium' Immobilized on Porous Ceramic Supports.
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PB93-199529/REB

STATE UNIV. OF NEW YORK COLL. OF ENVIRONMENTAL SCIENCE AND FORESTRY, SYRACUSE.
Comparison of Systematic and Random Sampling for Estimating the Accuracy of Maps Generated from Remotely Sensed Data.
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Role of Fungal Ligninolytic Enzymes in Pollutant Degradation.
(EPA/600/A-93/115)
PB93-194223/REB

STATE UNIV. OF NEW YORK COLL. OF ENVIRONMENTAL SCIENCE AND FORESTRY, SYRACUSE. DEPT. OF CHEMISTRY.
Ring Fission of Anthracene by a Eukaryota.
(EPA/600/J-93/191)
PB93-199503/REB

SWEDISH ENVIRONMENTAL PROTECTION AGENCY, SOLNA.
SNV-4007
Lichen sensitivity and air pollution - a review of literature data.
DE93778468/REB
SNV-4076
Release of PCB and mercury from fibre sediments.
DE93778469/REB
SNV-4077
Trace elements in agricultural soils. Fluxes, balances and background values.
DE93778470/REB

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DE93778471/REB

SNV-4079
Heavy metal concentrations in agricultural soils critical to microorganisms.
DE93778472/REB

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Air pollutants in urban areas. A bibliography 1985-1991.
DE93769990/REB

SNV-4099
Long-term forest fertilization experiments in Finland and Sweden - their use for vitality and nutrient balance studies.
DE93778473/REB

SNV-4111
Freshwater environmental monitoring in Sweden. Proposals from a working group.
DE93778474/REB

SNV-4120
Aatgaerder mot klimatfoeraendringar. (Measures against climatic change).
DE93778475/REB

SNV-4146
Recovery of CFCs from refrigeration equipment. Current processes.
DE93778476/REB

SYRACUSE RESEARCH CORP., NY.

Evaluation of the Potential Carcinogenicity of Acetamide, N-Fluoren-2-yl (53-96-3).
(EPA/600/8-91/057, OHEA-C-073-001)
PB93-181626/REB

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PB93-180974/REB

DELLARCO, V. L.
Editorial Introduction (to Female Germ Cells: Biology and Genetic Risk).
PB93-194371/REB
Quantification of Germ-Cell Risk Associated with the Induction of Heritable Translocations.
PB93-199677/REB

DELLINGER, B.
Thermal Degradation Characteristics of Environmentally Sensitive Pesticide Products.
PB93-201127/REB

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Distribution of Cardiac Output during Diurnal Changes of Activity in Rats.
PB93-180982/REB

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Incineration of Hazardous Waste: A Critical Review Update.
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Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
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Physical Properties of Fluorinated Propane and Butane Derivatives as Alternative Refrigerants.
PB93-173102/REB

DEVEREUX, R.
Genus- and Group-Specific Hybridization Probes for Determinative and Environmental Studies of Sulfate-Reducing Bacteria.
PB93-168987/REB

DEVLIN, R. B.
Human Upper Respiratory Tract Responses to Inhaled Pollutants with Emphasis on Nasal Lavage.
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Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone.
PB93-181055/REB

DEWEES, W. G.
Emissions from Sludge Incinerators with Venturi and Tray Scrubbers and Wet Electrostatic Precipitators: Metals, Chromium and Nickel Compounds, and Organics.
PB93-175487/REB
What to Do Before You 'Nuke' Your Multiple Hearth Furnace: Practical Tips and Techniques for Improving Operation, Reducing Emissions and Meeting the Regulations.
PB93-175479/REB

DEWITT, T. H.
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB
Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
PB93-196020/REB
Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene.
PB93-185874/REB

DEXTER, S. C.
On-Board Corrosion Analysis of a Recovered Nuclear Waste Container.
PB93-202927/REB

DIETZ, J. D.
Atmospheric Releases of Hexavalent Chromium from Hard Chromium Plating Operations.
PB93-175503/REB

DILIBERTO, J. J.
Comparative Ability of Various PCBs, PCDFs, and TCDD to Induce Cytochrome P450 1A1 and 1A2 Activity Following 4 Weeks of Treatment (Short Communication).
PB93-175685/REB

DIXON, A.
Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance.
PB93-154748/REB

DIXON, R. K.
Expanding Global Forest Management: An 'Easy First' Proposal.
PB93-199669/REB

DIZON, V. V.
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
PB93-175651/REB

DOERFLER, D. L.
Acute Effects of Ozone on Heart Rate and Body Temperature in the Unanesthetized, Unrestrained Rat Maintained at Different Ambient Temperatures.
PB93-175586/REB
Near-Lifetime Exposure of the Rat to a Simulated Urban Profile of Nitrogen Dioxide: Pulmonary Function Evaluation.
PB93-175693/REB

DOERGER, J. U.
Determining Beryllium in Drinking Water by Graphite Furnace Atomic Absorption Spectroscopy.
PB93-185924/REB

DONG, Y.
Coprocessing of Fossil Fuels and Biomass for CO2 Emission Reduction in the Transportation Sector.
PB93-194165/REB

DOSANI, M.
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB

DOUGLAS, N. S.
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB

DOWD, S. M.
Acute Effects of Ozone on Heart Rate and Body Temperature in the Unanesthetized, Unrestrained Rat Maintained at Different Ambient Temperatures.
PB93-175586/REB

DRESSMAN, R. C.
Determination of Nine Haloacetic Acids in Finished Drinking Water.
PB93-204121/REB

DUES, N. R.
Determining Beryllium in Drinking Water by Graphite Furnace Atomic Absorption Spectroscopy.
PB93-185924/REB

DUFNER, K.
Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers.
PB93-181592/REB

DULLA, R. G.
Evaluation of Methodologies to Estimate Nonroad Mobile Source Usage.
PB93-180875/REB

DYER, R. S.
Acute Effects of Ethanol on Pattern Reversal and Flash-Evoked Potentials in Rats and the Relationship to Body Temperature.
PB93-175701/REB

DYESS, T. M.
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
PB93-196194/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
PB93-196202/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
PB93-196210/REB

EATON, R. W.
Bacterial Metabolism of Naphthalene: Construction and Use of Recombinant Bacteria to Study Ring Cleavage of 1,2-Dihydroxynaphthalene and Subsequent Reactions.
PB93-168938/REB

ECKERT, E. G.
Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
PB93-185783/REB

EDER, B. K.
Spatiotemporal Variability of Non-Urban Ozone Concentrations Over the Eastern United States and Its Potential Replication by Satellite Data.
PB93-191328/REB

EDGERTON, E. S.
Dry Deposition Flux Calculations for the National Dry Deposition Network.
PB93-178242/REB

EDWARDS, R.
Regional Nonpoint Source Program Summary.
PB93-169134/REB

EGGINK, R.
Recommended Foundation Barrier Construction Standard of the Florida Radon Research Program.
PB93-199388/REB

EKLUND, B.
Air/Superfund National Technical Guidance Study Series. Models for Estimating Air Emission Rates from Superfund Remedial Actions.
PB93-186807/REB
Air/Superfund National Technical Guidance Study Series. Volume 1. Overview of Air Pathway Assessments for Superfund Sites (Revised).
PB93-173987/REB

ELDER, J. F.
Extreme Clonal Diversity and Divergence in Populations of a Selfing Hermaphroditic Fish.
PB93-169019/REB

ELERT, M.
Release of PCB and mercury from fibre sediments.
DE93778469/REB

ELLEFSON, R.
Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10.
PB93-175776/REB

ELLIS, J.
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'.
PB93-169035/REB

ELNAWAWY, O. A.
Quality Assurance and Quality Control in the Development and Application of Ground-Water Models.
PB93-178226/REB

ENGLE, V. D.
Evaluation of Sampling Strategies to Characterize Dissolved Oxygen Conditions in Northern Gulf of Mexico Estuaries.
PB93-169050/REB

ENGLUND, E.
Geostatistical Environmental Assessment Software: User's Guide. GEO-EAS 1.2.1.
PB93-163236/REB

ENSOR, D. S.
Air Filter Particle-Size Efficiency Testing for Diameters Greater Than 1 mu m.
PB93-180909/REB

EPNER, E.
Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds.
PB93-199354/REB

ERICKSON, R. J.
Interim Report on Data and Methods for Assessment of 2,3,7,8-Tetrachlorodibenzo-p-dioxin Risks to Aquatic Life and Associated Wildlife.
PB93-202828/REB

ERNST, T. L.
Statistical Evaluation of the EMAP-Wetlands Classification.
PB93-199446/REB

ETHRIDGE, B. J.
Research and Information Needs Related to Nonpoint Source Pollution and Wetlands in the Watershed: An EPA Perspective.
PB93-168862/REB

EVANS, R. G.
Missouri Chlordane Exposure Study: A Report on Persons Who Consumed Chlordane-Contaminated Fish.
PB93-148252/REB

FAIRBROTHER, A.
Glucocorticoid Effects on Natural and Humoral Immunity in Mallards.
PB93-199644/REB

FALKOWSKI, P. G.
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB
Physiological Limitations on Phytoplankton Productivity in the Ocean.
PB93-204923/REB

FAN, C. Y.
Screening Methodology for Assessing Leaking UST Sites and Clean Up Technologies.
PB93-199404/REB

FARLOW, J.
Evaluation of Three Oil Spill Laboratory Dispersant Effectiveness Tests.
PB93-191377/REB

FENNER, K.
Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
PB93-154730/REB

FERNANDO, T.
Effects of Culture Parameters on DDT (1,1,1-Trichloro-2,2-BIS(4-Chlorophenyl)Ethane) Biodegradation by 'Phanerochaete chrysosporium'.
PB93-191567/REB

FERRARO, S. P.
Comparison of Methods for Collecting Interstitial Water for Trace Organic Compounds and Metals Analyses.
PB93-199552/REB
Taxonomic Level Sufficient for Assessing a Moderate Impact on Macrobenthic Communities in Puget Sound, Washington, USA.
PB93-185858/REB
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects.
PB93-173714/REB

FIELD, M. S.
Program to Analyze Aquifer Test Data and Check for Validity with the Jacob Method.
PB93-181154/REB

FIELD, R.
Reclamation of Urban Stormwater.
PB93-185791/REB
Storm and Combined Sewer Overflow: An Overview of EPA's Research Program.
PB93-185957/REB

FISHBEIN, B.
Slowing the Waste Behemoth: Source Reduction is Overshadowed by Recycling's Success.
PB93-194546/REB

FISHER, W. S.
Infection Intensity of 'Perkinsus marinus' Disease in 'Crassostrea virginica' (Gmelin, 1791) from the Gulf of Mexico Maintained under Different Laboratory Conditions.
PB93-168912/REB
Occurrence of Agglutinins in the Pallial Cavity Mucus of Oysters.
PB93-169043/REB

FITZPATRICK, M. J.
Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10.
PB93-175776/REB

FIX, M.
Glucocorticoid Effects on Natural and Humoral Immunity in Mallards.
PB93-199644/REB

FLEER, A. W.
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB

FLEMING, F.
Regional Nonpoint Source Program Summary.
PB93-169134/REB

FLORENCE, L. Z.
Parameters Affecting the Measurement of Hydraulic Conductivity for Solidified/Stabilized Wastes.
PB93-199396/REB

FOGELSON, L.
Relationship between Serum Cholinesterase Activity and the Change in Body Temperature and Motor Activity in the Rat: A Dose-Response Study of Diisopropyl Fluorophosphate.
PB93-175644/REB

FOLMAR, L. C.
Annual Cycle of Blood Chemistry Parameters in Striped Mullet ('Mugil cephalus' L.) and Pinfish ('Lagodon rhomboides' L.) from the Gulf of Mexico.
PB93-168953/REB
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB
Effects of Chemical Contaminants on Blood Chemistry of Teleost Fish: A Bibliography and Synopsis of Selected Effects.
PB93-168961/REB

FOLSOM, B. A.
Biomass Combustion in Gas-Turbine-Based Systems.
PB93-185742/REB

FORTUNE, C.
Evaluation of Portable Gas Chromatographs.
PB93-168813/REB

FORTUNE, C. R.
Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
PB93-168821/REB

FOSTER, S. C.
Development and Validation of a Source Test Method for 2,4-Toluene Diisocyanate.
PB93-204055/REB

FOURNIE, J. W.
Importance of Fish Diseases: An Overview.
PB93-204113/REB
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'.
PB93-169035/REB

FOWLE, J. R.
EPA Priorities for Biologic Markers Research in Environmental Health.
PB93-181113/REB

FOWLES, J. R.
Glucocorticoid Effects on Natural and Humoral Immunity in Mallards.
PB93-199644/REB

FOX, D. L.
Methodology to Apportion Ambient Air Measurements to Investigate Potential Effects on Air Quality Near Waste Incinerators.
PB93-191393/REB

FRANCIS, C. W.
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
PB93-181188/REB

FRANK, N. H.
Procedures for Estimating Probability of Nonattainment of a PM10 NAAQS Using Total Suspended Particulate or Inhalable Particulate Data (Draft).
PB93-200640/REB

FRANSON, S. E.
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
PB93-181618/REB

FRASER, W. R.
Does Prey Preference Affect Habitat Choice in Antarctic Seabirds.
PB93-191476/REB

FREBIS, C. P.
Statistical Procedures for Corrosion Studies.
PB93-199412/REB

FREYBERG, R. W.
Visual Inspection and AHERA Clearance at Asbestos Abatement Sites.
PB93-180966/REB

FRITHSEN, J. B.
Design of a Basinwide Monitoring Program for the Tampa Bay Estuary.
PB93-194694/REB

FULTS, K.
Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns.
PB93-175743/REB

GAGE, C. L.
Simulation of Nonazeotropic Refrigerant Mixtures for Use in a Dual-Circuit Refrigerator/Freezer with Countercurrent Heat Exchangers.
PB93-173664/REB

GAI, W. Z.
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
PB93-199511/REB
Ring Fission of Anthracene by a Eukaryota.
PB93-199503/REB

GALLO, J. M.
Physiological Pharmacokinetic Modeling of Inhaled Trichloroethylene in Rats.
PB93-180990/REB

GALLUP, J.
Guidance Manual for POTW Pretreatment Program Development.
PB93-186112/REB

GAMROTH, M. J.
Design and Construction of Demonstration/Research Wetlands for Treatment of Dairy Farm Wastewater.
PB93-202836/REB

GANS, M.
Developmental Anomalies Derived from Exposure of Zygotes and First-Cleavage Embryos to Mutagens.
PB93-194496/REB

GAO, D.
Relationships between Ozone Precursor Levels and Response to Emissions Reductions: Analysis of Regional Oxidant Model Results for the Northeastern United States.
PB93-186294/REB

GARDNER, G. R.
Field and Laboratory Studies of Chemical Contamination and Environmentally Related Diseases in Fish and Molluscs of New England.
PB93-199438/REB

GARRISON, P. J.
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB

GAULDEN, M. E.
Maternal Age Effect: The Enigma of Down Syndrome and Other Trisomic Conditions.
PB93-194421/REB

GAUTHIER, J. D.
Infection Intensity of 'Perkinsus marinus' Disease in 'Crassostrea virginica' (Gmelin, 1791) from the Gulf of Mexico Maintained under Different Laboratory Conditions.
PB93-168912/REB

GAY, B. W.
Measurement of Biogenic Emissions from Corn.
PB93-180883/REB

GAY, C. A.
Impacts of Climate Change on Rice Yield: A Comparison of Four Model Performances.
PB93-191526/REB

GAZETAS, E.
Recommended Foundation Barrier Construction Standard of the Florida Radon Research Program.
PB93-199388/REB

GEIDER, R. J.
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB
Physiological Limitations on Phytoplankton Productivity in the Ocean.
PB93-204923/REB

GENEROSO, W. M.
Bleomycin: Female-Specific Dominant Lethal Effects in Mice.
PB93-194470/REB
Contemporary Issues in Toxicology: A New Frontier in Understanding the Mechanisms of Developmental Abnormalities.
PB93-199628/REB
Developmental Anomalies Derived from Exposure of Zygotes and First-Cleavage Embryos to Mutagens.
PB93-194496/REB

GENTER, M. B.
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB

GENTHNER, F. J.
Fate of 'Bacillus sphaericus' 2362 Spores in Nontarget Invertebrates.
PB93-168995/REB
Use of a Novel Plasmid to Monitor the Fate of a Genetically Engineered 'Pseudomonas putida' Strain.
PB93-169001/REB

GEORGE, S. E.
Competition Potentials of Environmentally Applied Bacteria with Human Fecal Microbiota.
PB93-181147/REB

GERBER, D. R.
Visual Inspection and AHERA Clearance at Asbestos Abatement Sites.
PB93-180966/REB

GIBSON, J.
Annual Cycle of Blood Chemistry Parameters in Striped Mullet ('Mugil cephalus' L.) and Pinfish ('Lagodon rhomboides' L.) from the Gulf of Mexico.
PB93-168953/REB
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB

GILLMAN, M.
Conjugal Gene Transfer to Aquatic Bacteria Detected by the Generation of a New Phenotype.
PB93-169068/REB

GLASER, J. A.
Bioremediation Treatability Trials Using Nutrient Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191336/REB
Nutrient Movement through Beach Media: Problems and Field Results Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191344/REB

GOODMAN, B.
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
PB93-154722/REB

GOODRICH, J. A.
Effect of the Distribution System on Drinking-Water Quality.
PB93-173722/REB

GORDON, C. J.
Relationship between Serum Cholinesterase Activity and the Change in Body Temperature and Motor Activity in the Rat: A Dose-Response Study of Diisopropyl Fluorophosphate.
PB93-175644/REB
Twenty-Four Hour Rhythms of Selected Ambient Temperature in Rat and Hamster.
PB93-175727/REB

GORDON, L. A.
Spatial Distribution of Sperm-Derived Chromatin in Zygotes Determined by Fluorescence In situ Hybridization.
PB93-194405/REB

GORDON, S. M.
Evaluation of Portable Multisorbent Air Samplers for Use with an Automated Multitube Analyzer.
PB93-172930/REB

GRACIE, J. W.
Evaluation of Mitigation for Acid Aluminum Leachate from a Highway Fill in Garrett County, Maryland.
PB93-180321/REB

GRAY, L. E.
Effects of Prenatal Administration of Azo Dyes on Testicular Development in the Mouse: A Structure Activity Profile of Dyes Derived from Bensidine, Dimethylbenzidine, or Dimethoxybenzidine.
PB93-175750/REB
Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring.
PB93-181071/REB

GREEN, B.
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
PB93-199511/REB
Ring Fission of Anthracene by a Eukaryota.
PB93-199503/REB

GREENE, R. M.
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB
Physiological Limitations on Phytoplankton Productivity in the Ocean.
PB93-204923/REB

GREENING, H.
Oligohaline Areas in Tampa Bay Tributaries: Spatial Extent and Species Lists.
PB93-191179/REB

GRIEST, W. H.
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
PB93-181188/REB

GRIEVES, C.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB

GRIFFIS, W. L.
Effects of Pentachlorophenol-Contaminated Food Organisms on Toxicity and Bioaccumulation in the Frog 'Xenopus laevis'.
PB93-191450/REB

GRIFFITH, W. C.
Role of Ozone in Tracheal Cell Transformation.
PB93-179935/REB

GROFFMAN, P. M.
Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin.
PB93-199586/REB

GROHSE, P. M.
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil.
PB93-173128/REB

GROME, T.
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB

GROSS, B. A.
LDCRS Flow from Double-Lined Landfills and Surface Impoundments.
PB93-179885/REB

GROTE, R. A.
Development of Source Testing, Analytical, and Mutagenicity Bioassay Procedures for Evaluating Emissions from Municipal and Hospital Waste Combustors.
PB93-173151/REB

GUARINO, L. A.
Sequence, Genomic Organization of the EcoRI-A Fragment of 'Autographa californica' Nuclear Polyhedrosis Virus, and Identification of a Viral-Encoded Protein Resembling the Outer Capsid Protein VP8 of Rotavirus.
PB93-168946/REB

GULBRANSEN, T. C.
Recalculation of Screening Level Concentrations for Nonpolar Organic Contaminants in Marine Sediments.
PB93-174464/REB

GUTKNECHT, W. F.
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil.
PB93-173128/REB

HADDEN, S. G.
Risk Communication About Chemicals in Your Community. Facilitator's Manual and Guide.
PB93-200541/REB

HAEBLER, R. J.
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB

HAGELE, J. C.
Continuous Monitoring of Total Hydrocarbon Emissions from Sludge Incinerators.
PB93-175495/REB

HAHN, J. P.
Spray Characteristics of Two Types of Fuel Injectors.
PB93-180859/REB

HAINES, J. R.
Bioremediation Treatability Trials Using Nutrient Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191336/REB
Nutrient Movement through Beach Media: Problems and Field Results Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191344/REB

HAIRSTON, A. J.
Information Management Guidelines for the Wetlands Research Program.
PB93-202844/REB

HAIST-GULDE, B.
Combined Use of Ion Exchange Resins and Granular Activated Carbon for the Control of Organic Matter and Disinfection By-Products.
PB93-185759/REB

HALL, M. S.
Atmospheric Releases of Hexavalent Chromium from Hard Chromium Plating Operations.
PB93-175503/REB

HAMADY, F. J.
Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report.
PB93-197929/REB
Spray Characteristics of Two Types of Fuel Injectors.
PB93-180859/REB

HAMEL, L. E.
Corona Destruction: An Innovative Control Technology for VOCs and Air Toxics.
PB93-173672/REB

HAMMEL, K. E.
Lignin Degradation and Lignin Peroxidase Production in Cultures of 'Phanerochaete chrysosporium' Immobilized on Porous Ceramic Supports.
PB93-199529/REB
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
PB93-199511/REB
Ring Fission of Anthracene by a Eukaryota.
PB93-199503/REB
Role of Fungal Ligninolytic Enzymes in Pollutant Degradation.
PB93-194223/REB

HANLEY, J. T.
Air Filter Particle-Size Efficiency Testing for Diameters Greater Than 1 mu m.
PB93-180909/REB

HANLON, D.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB

HANMER, R.
Guidance Manual for POTW Pretreatment Program Development.
PB93-186112/REB

HANNON, P.
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
PB93-163780/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB

HARDIN, C. M.
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
PB93-196194/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
PB93-196202/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
PB93-196210/REB

HARDY, J. T.
Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae).
PB93-199545/REB

HARETOS, C.
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB

HARKEMA, J. R.
Role of Ozone in Tracheal Cell Transformation.
PB93-179935/REB

HARRIS, B.
Chemical Characterization of Indoor Air of Homes from Communes in Xuan Wei, China, with High Lung Cancer Mortality Rate.
PB93-173680/REB

HARRIS, R. K.
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB

HARRIS, S.
Consensus Method for Determining Groundwaters under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA).
PB93-180818/REB

HARTIG, P. C.
Electrophoresis Gel Buffer Recirculator for under Twenty Dollars.
PB93-181014/REB

HASSEL, G. R.
Experimental Investigation of PIC Formation in CFC-12 Incineration.
PB93-191294/REB

HAUGLAND, R. A.
Microbial Degradation of Synthetic Chlorinated Compounds: Evolutionary Implications (Chapter 8).
PB93-204139/REB

HAYKAL-COATES, N.
Anomalous Phosphorylated Neurofilament Aggregations in Central and Peripheral Axons of Hens Treated with Tri-Ortho-Cresyl Phosphate (TOCP).
PB93-175735/REB

HEARD, C. S.
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos.
PB93-168920/REB

HEAVENRICH, R. M.
Light-Duty Automotive Technology and Fuel Economy Trends through 1993.
PB93-199255/REB

HEIRIGS, P.
Evaluation of Methodologies to Estimate Nonroad Mobile Source Usage.
PB93-180875/REB

HELLMAN, K. H.
Light-Duty Automotive Technology and Fuel Economy Trends through 1993.
PB93-199255/REB
Spray Characteristics of Two Types of Fuel Injectors.
PB93-180859/REB

HELMISAARI, H.
Long-term forest fertilization experiments in Finland and Sweden - their use for vitality and nutrient balance studies.
DE93778473/REB

HELMISAARI, H. S.
Long-term forest fertilization experiments in Finland and Sweden - their use for vitality and nutrient balance studies.
DE93778473/REB

HENDERSON, F. W.
Mite Antigen Concentrations in House Dust and the Occurrence of Wheezing in Children with Dust Mite Allergy.
PB93-180941/REB

HENDERSON, S.
Precollege Education: A Vital Component if Sustainable Agriculture is to Take Root.
PB93-168870/REB

HENDRICKS, M. S.
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
PB93-181188/REB

HENKE, D. C.
Interleukin-8 Expression in Normal Nasal Epithelium and Its Modulation by Infection with Respiratory Syncytial Virus and Cytokines Tumor Necrosis Factor, Interleukin-1, and Interleukin-6.
PB93-175677/REB

HENRY, M. M.
Mite Antigen Concentrations in House Dust and the Occurrence of Wheezing in Children with Dust Mite Allergy.
PB93-180941/REB

HENSCHEL, D. B.
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB

HEREDIA, D. J.
Embryonic Development in vitro Following Short-Duration Exposure to Heat.
PB93-194538/REB
Skeletal Development Following Heat Exposure in the Rat.
PB93-194520/REB

HERNDON, C.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
PB92-228592/REB

HEROT, F. C.
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB

HESSLING, J.
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB

HETZLER, B. E.
Acute Effects of Ethanol on Pattern Reversal and Flash-Evoked Potentials in Rats and the Relationship to Body Temperature.
PB93-175701/REB

HEYNER, S.
Gene Expression in Pre-Implantation Mammalian Embryos.
PB93-194397/REB

HICKEY, A. J.
Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns.
PB93-175743/REB

HIGHSMITH, V. R.
Assessing Potential Exposures from Routine Use of VOC-Contaminated Groundwater.
PB93-173060/REB

HILL, K.
Determination of Carboxylic Acids by Ion-Exclusion Chromatography with Non-Suppressed Conductivity and Optical Detectors.
PB93-181212/REB

HILL, R. T.
Isolation and Diversity of Actinomycetes in the Chesapeake Bay.
PB93-205060/REB

HILLGER, R. W.
Characteristics of Non-Petroleum Underground Storage Tanks.
PB93-185775/REB
Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
PB93-185783/REB

HINCHEE, R. E.
In-situ Bioventing: Two U.S. EPA and Air Force Sponsored Field Studies.
PB93-194231/REB

HINES, A. P.
Analysis of Protocol Gases: An On-Going Quality Assurance Audit.
PB93-168839/REB
EPA'S QA Program on the Suppliers of Protocol Gases.
PB93-194173/REB

HINTENLANG, D. E.
Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991.
PB93-172922/REB

HO, K. T. Y.
Bioassay-Directed Fractionation of Organic Contaminants in an Estuarine Sediment Using the New Mutagenic Bioassay, Mutatox (Trade Name).
PB93-194504/REB
Physical and Chemical Parameters of Sediment Extraction and Fractionation That Influence Toxicity, as Evaluated by Microtox (Trade Name).
PB93-185882/REB

HOCHBERG, R. J.
Design of a Basinwide Monitoring Program for the Tampa Bay Estuary.
PB93-194694/REB
Synthesis of Basic Life Histories of Tampa Bay Species.
PB93-196012/REB

HOCKMAN, E. L.
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB

HODSON, L. L.
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil.
PB93-173128/REB

HOEGLUND, L. O.
Release of PCB and mercury from fibre sediments.
DE93778469/REB

HOFFMEYER, D.
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
PB93-199321/REB

HOGSETT, W. E.
Potential Bias from Non-Continuous Monitoring of Ambient Ozone Concentrations for Characterizing Hourly and Daily 7- and 12-Hour Average Concentrations.
PB93-191534/REB

HOHEISEL, C.
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
PB93-163780/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB

HOLDEN, K. L.
DNA Isolation from Small Tissue Samples Using Salt and Spermine.
PB93-181048/REB

HOLLAND, A. F.
Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
PB93-185833/REB

HOLLETT, B. A.
Asbestos Release during Building Demolition Activities.
PB93-199537/REB

HONG, T.
Sequence, Genomic Organization of the EcoRI-A Fragment of 'Autographa californica' Nuclear Polyhedrosis Virus, and Identification of a Viral-Encoded Protein Resembling the Outer Capsid Protein VP8 of Rotavirus.
PB93-168946/REB

HOOPER, A. B.
Oxidation of Nitrapyrin to 6-Chloropicolinic Acid by the Ammonia-Oxidizing Bacterium 'Nitrosomonas europaea'.
PB93-169076/REB

HOUSE, D. E.
Differential Hepatotoxicity and Cytochrome P450 Responses of Fischer-344 Rats to the Three Isomers of Dichlorobenzene.
PB93-175719/REB

HOUSTON, C. A.
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB

HOWLE, R.
Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds.
PB93-199354/REB

HSUAN, Y. G.
Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
PB93-196616/REB

HU, H. L.
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
PB93-199636/REB

HUDSON, S.
Greening of World Trade: A Report to EPA from the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology.
PB93-176980/REB

HUGHES, L. E.
Information Management Guidelines for the Wetlands Research Program.
PB93-202844/REB

HULTENGREN, S.
Lichen sensitivity and air pollution - a review of literature data.
DE93778468/REB

HUMMEL, P.
Subtitle D Landfill Application Manual for the Multimedia Exposure Assessment Model (MULTIMED).
PB93-185536/REB

HUNT, C. D.
Transport of Low-Level Radioactive Soil at Deep-Ocean Disposal Site.
PB93-199487/REB

HUTCHINS, S.
Performance and Cost Evaluation of Bioremediation Techniques for Fuel Spills.
PB93-175545/REB

HWANG, S.
Physical Properties of Fluorinated Propane and Butane Derivatives as Alternative Refrigerants.
PB93-173102/REB

INGHAM, E. R.
Soil Biology and Ecology.
PB93-199453/REB

INSAROV, G. E.
Lichen sensitivity and air pollution - a review of literature data.
DE93778468/REB

INSAROVA, I. D.
Lichen sensitivity and air pollution - a review of literature data.
DE93778468/REB

IVERY, A. M.
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
PB93-174027/REB

JACKSON, M.
Near Real-Time GC Analysis of Volatile Organic Compounds Using an On-Line Micro-Trap.
PB93-204063/REB

JACKSON, M. A.
Genetic Toxicology of Putative Nongenotoxic Carcinogens.
PB93-175636/REB

JACKSON, M. D.
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III. Validation Study at Fossil Fuel Plant.
PB93-180891/REB
Using Method 301 to Validate Sampling and Analytical Methods for Selected CAAA Compounds.
PB93-191419/REB

JAMES, R. R.
Bacillus thuringiensis var. kurstaki Affects a Beneficial Insect, the Cinnabar Moth (Lepidoptera: Arctidae).
PB93-199651/REB

JANICKI, A. J.
Compendium of Current Monitoring Programs in Tampa Bay and Its Watershed.
PB93-191666/REB

JAWORSKI, N. A.
Application of the Ecotone Concept in Defining Nutrient Management Requirements for the Upper Potomac River Basin.
PB93-199560/REB
Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin.
PB93-199586/REB

JEEVAN, A.
Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
PB93-175651/REB

JENSEN, K. F.
Anomalous Phosphorylated Neurofilament Aggregations in Central and Peripheral Axons of Hens Treated with Tri-Ortho-Cresyl Phosphate (TOCP).
PB93-175735/REB

JEZZI, J. J.
Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
PB93-185783/REB

JOHNSON, B.
Empirical Model of Vehicle Emissions.
PB93-199602/REB

JOHNSON, L. D.
Air Emissions Testing.
PB93-180933/REB

JOHNSON, M.
Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae.
PB93-185841/REB

JOHNSON, M. G.
Conservation Tillage Impacts on National Soil and Atmospheric Carbon Levels.
PB93-191500/REB

JONES, A.
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB

JOYNER, P.
Physical Properties of Fluorinated Propane and Butane Derivatives as Alternative Refrigerants.
PB93-173102/REB

JUINIO, M. A. R.
Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae.
PB93-185841/REB

JUNG, D.
Simulation of Nonazeotropic Refrigerant Mixtures for Use in a Dual-Circuit Refrigerator/Freezer with Countercurrent Heat Exchangers.
PB93-173664/REB

JUREK, M. A.
Biodegradation of Pentachlorophenol by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191559/REB

KAISER, G. D.
Contingency Analysis Modeling for Superfund Sites and Other Sources.
PB93-169126/REB

KAMPBELL, D. H.
Performance and Cost Evaluation of Bioremediation Techniques for Fuel Spills.
PB93-175545/REB

KANE, M. D.
Genus- and Group-Specific Hybridization Probes for Determinative and Environmental Studies of Sulfate-Reducing Bacteria.
PB93-168987/REB

KAPLAN, M. F.
Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
PB93-173979/REB

KARLSSON, J.
Aatgaerder mot klimatfoeraendringar. (Measures against climatic change).
DE93778475/REB

KARNS, S. A.
Development of Sampling and Analytical Methods for the Measurement of Nitrous Oxide from Fossil Fuel Combustion Sources.
PB93-194330/REB

KARRIE, J.
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
PB93-163780/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB

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Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB

KATZ, I.
Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns.
PB93-175743/REB

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Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring.
PB93-181071/REB

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Watershed Nitrogen and Phosphorus Balance: The Upper Potomac River Basin.
PB93-199586/REB

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Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada.
PB93-191401/REB

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Importance of Fish Diseases: An Overview.
PB93-204113/REB
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'.
PB93-169035/REB

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Glucocorticoid Effects on Natural and Humoral Immunity in Mallards.
PB93-199644/REB

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Conservation Tillage Impacts on National Soil and Atmospheric Carbon Levels.
PB93-191500/REB

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Methodologies for Estimating Air Emissions from Three Non-Traditional Source Categories: Oil Spills, Petroleum Vessel Loading and Unloading, and Cooling Towers.
PB93-181592/REB

KIELTY, P.
Summary of Factors Affecting Compliance by Ferrous Foundaries. Volume 1. Text.
PB93-199347/REB

KILEY, K. P.
Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries and Chincoteague Bay, 1991.
PB93-191120/REB

KILGROE, J. D.
Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans: Removal from Flue Gas and Distribution in Ash/Residue of a Refuse-Derived Fuel Combustor.
PB93-173169/REB

KILLAM, K. A.
Synthesis of Basic Life Histories of Tampa Bay Species.
PB93-196012/REB

KIMMEL, C. A.
Contemporary Issues in Toxicology: A New Frontier in Understanding the Mechanisms of Developmental Abnormalities.
PB93-199628/REB
Embryonic Development in vitro Following Short-Duration Exposure to Heat.
PB93-194538/REB
Skeletal Development Following Heat Exposure in the Rat.
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PB93-194538/REB
Skeletal Development Following Heat Exposure in the Rat.
PB93-194520/REB

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Gene Expression during Oogenesis in Mice.
PB93-194389/REB

KIRCHGESSNER, D. A.
Biomass Combustion in Gas-Turbine-Based Systems.
PB93-185742/REB

KIZIER, G. J.
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB

KIZIOR, G. J.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
PB92-228568/REB

KLEE, A. J.
New Approaches to Estimation of Solid-Waste Quantity and Composition.
PB93-185908/REB

KLEE, H.
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB

KLEIN-SZANTO, A. J. P.
Effects of Formaldehyde on Xenotransplanted Human Respiratory Epithelium.
PB93-179950/REB

KNAUER, D. R.
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB

KNOLL, J. E.
Development and Validation of a Source Test Method for 2,4-Toluene Diisocyanate.
PB93-204055/REB
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III. Validation Study at Fossil Fuel Plant.
PB93-180891/REB

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Continuous Monitoring of Total Hydrocarbon Emissions from Sludge Incinerators.
PB93-175495/REB

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Combined Use of Ion Exchange Resins and Granular Activated Carbon for the Control of Organic Matter and Disinfection By-Products.
PB93-185759/REB

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Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
PB93-196616/REB

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Forest Sector Carbon Budget of the United States: Carbon Pools and Flux under Alternative Policy Options.
PB93-196996/REB

KOLBER, Z.
Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae.
PB93-204931/REB

KOLCHUGINA, T. P.
Equilibrium Analysis of Carbon Pools and Fluxes of Forest Biomes in the Former Soviet Union.
PB93-191484/REB

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Visual Inspection and AHERA Clearance at Asbestos Abatement Sites.
PB93-180966/REB

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Breakage and Binding of DNA by Reaction Products of Hypochlorous Acid with Aniline, 1-Napthylamine, or 1-Naphthol.
PB93-181063/REB
Human Upper Respiratory Tract Responses to Inhaled Pollutants with Emphasis on Nasal Lavage.
PB93-181089/REB
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PB93-175677/REB

Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone.
PB93-181055/REB

KOU, J.
Method for Quantifying the Prediction Uncertainties Associated with Water Quality Models.
PB93-205094/REB

KOUTRAKIS, P.
Indoor Concentration Modeling of Aerosol Strong Acidity.
PB93-204071/REB

KOZUMBO, W. J.
Breakage and Binding of DNA by Reaction Products of Hypochlorous Acid with Aniline, 1-Napthylamine, or 1-Naphthol.
PB93-181063/REB

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Investigation of Contaminant Transport from the Saginaw Confined Disposal Facility.
PB93-199610/REB

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Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB

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Supernatants from Ultraviolet-Irradiated Keratinocytes Decrease the Resistance and Delayed-Type Hypersensitivity Response to 'Mycobacterium bovis' Bacillus Calmette-Guerin in Mice and Impair the Phagocytic Ability of Macrophages.
PB93-175651/REB

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Near Real-Time GC Analysis of Volatile Organic Compounds Using an On-Line Micro-Trap.
PB93-204063/REB

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Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
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Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene.
PB93-185874/REB
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
PB93-173706/REB

LANEGWIS, J.
Identifying Escherichia Species with Biochemical Test Kits and Standard Bacteriological Tests.
PB93-185932/REB

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Strategy Using Bioreactors and Specially Selected Microorganisms for Bioremediation of Groundwater Contaminated with Creosote and Pentachlorophenol.
PB93-205003/REB
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Anomalous Phosphorylated Neurofilament Aggregations in Central and Peripheral Axons of Hens Treated with Tri-Ortho-Cresyl Phosphate (TOCP).
PB93-175735/REB

LARSON, L. J.
Ambient Aquatic Life Water Quality Criteria for Antimony (III).
PB93-202778/REB

LASKEY, J.
Effect of Methoxychlor on Ovarian Steroidogenesis: Role in Early Pregnancy Loss.
PB93-181030/REB

LASKEY, J. W.
Steroidogenic Assessment Using Ovary Culture in Cycling Rats: Effects of Bis(2-Diethylhexyl) Phthalate on Ovarian Steroid Production.
PB93-181022/REB

LAU, C.
Repeated Maternal Separation in the Neonatal Rat: Cellular Mechanisms Contributing to Brain Growth Sparing.
PB93-181139/REB

LAUGHLIN, T. F.
Extreme Clonal Diversity and Divergence in Populations of a Selfing Hermaphroditic Fish.
PB93-169019/REB

LEDUC, S. K.
Spatiotemporal Variability of Non-Urban Ozone Concentrations Over the Eastern United States and Its Potential Replication by Satellite Data.
PB93-191328/REB

LEE, H.
Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae).
PB93-199545/REB

LEE, J. J.
Forest Sector Carbon Budget of the United States: Carbon Pools and Flux under Alternative Policy Options.
PB93-196996/REB

LEES, S.
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
PB93-163780/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB

LEFOHN, A. S.
Potential Bias from Non-Continuous Monitoring of Ambient Ozone Concentrations for Characterizing Hourly and Daily 7- and 12-Hour Average Concentrations.
PB93-191534/REB

LEIBOWITZ, N. C.
Statistical Evaluation of the EMAP-Wetlands Classification.
PB93-199446/REB

LEIKAUF, G. D.
Mechanisms of Aldehyde-Induced Bronchial Reactivity: Role of Airway Epithelium.
PB93-179927/REB

LEMIEUX, P. M.
Development of Source Testing, Analytical, and Mutagenicity Bioassay Procedures for Evaluating Emissions from Municipal and Hospital Waste Combustors.
PB93-173151/REB

LEWIS, F. M.
Emissions from Sludge Incinerators with Venturi and Tray Scrubbers and Wet Electrostatic Precipitators: Metals, Chromium and Nickel Compounds, and Organics.
PB93-175487/REB
What to Do Before You 'Nuke' Your Multiple Hearth Furnace: Practical Tips and Techniques for Improving Operation, Reducing Emissions and Meeting the Regulations.
PB93-175479/REB

LEWIS, S. E.
ENU Mutagenesis in the Mouse Electrophoretic Specific-Locus Test. 2. Mutational Studies of Mature Oocytes.
PB93-194454/REB

LIEBERT, C.
Conjugal Gene Transfer to Aquatic Bacteria Detected by the Generation of a New Phenotype.
PB93-169068/REB

LIEM, A. J.
Parameters Affecting the Measurement of Hydraulic Conductivity for Solidified/Stabilized Wastes.
PB93-199396/REB

LIGHTHART, B.
Bacillus thuringiensis var. kurstaki Affects a Beneficial Insect, the Cinnabar Moth (Lepidoptera: Arctidae).
PB93-199651/REB

LINDER, R. E.
Endpoints of Spermatotoxicity in the Rat After Short Duration Exposures to Fourteen Reproductive Toxicants.
PB93-175768/REB

LINDGREN, M.
Release of PCB and mercury from fibre sediments.
DE93778469/REB

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Assessing Potential Exposures from Routine Use of VOC-Contaminated Groundwater.
PB93-173060/REB
Mite Antigen Concentrations in House Dust and the Occurrence of Wheezing in Children with Dust Mite Allergy.
PB93-180941/REB

LIOY, P. J.
Source Apportionment of Air Pollution in China: Extending the Usefulness of Receptor Modeling by Combining Multivariate and Chemical Mass Balance Models.
PB93-185726/REB

LIPSCOMB, T. P.
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB

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Effects of Formaldehyde on Xenotransplanted Human Respiratory Epithelium.
PB93-179950/REB

LIVOLSI, J. A.
Accumulation of Polychlorinated Organic Contaminants from Sediment by Three Benthic Marine Species.
PB93-173698/REB

LLORENS, J.
Characterization of Disulfoton-Induced Behavioral and Neurochemical Effects Following Repeated Exposure.
PB93-175602/REB
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB

LOEVGREN, K.
Aatgaerder mot klimatfoeraendringar. (Measures against climatic change).
DE93778475/REB

LORD, A. E.
Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
PB93-196616/REB

LORES, E. M.
Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB

LOWANS, R. W.
Development of Source Testing, Analytical, and Mutagenicity Bioassay Procedures for Evaluating Emissions from Municipal and Hospital Waste Combustors.
PB93-173151/REB

LUK, K. K.
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil.
PB93-173128/REB

LUNDBERG, L. A.
What to Do Before You 'Nuke' Your Multiple Hearth Furnace: Practical Tips and Techniques for Improving Operation, Reducing Emissions and Meeting the Regulations.
PB93-175479/REB

LUTES, C. C.
Characterization of Emissions from the Simulated Open-Burning of Non-Metallic Automobile Shredder Residue.
PB93-172914/REB

LYTLE, D. A.
Corrosion Control Principles and Strategies for Reducing Lead and Copper in Drinking Water Systems.
PB93-199420/REB
Determining Beryllium in Drinking Water by Graphite Furnace Atomic Absorption Spectroscopy.
PB93-185924/REB
Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
PB93-194181/REB

MAC, M. J.
Investigation of Contaminant Transport from the Saginaw Confined Disposal Facility.
PB93-199610/REB

MACARTHUR, M. P.
Characteristics of Non-Petroleum Underground Storage Tanks.
PB93-185775/REB

MACPHAIL, R. C.
International Validation of a Neurobehavioral Screening Battery: The IPCS/WHO Collaborative Study.
PB93-175594/REB

MAHAFFEY, W. R.
On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB

MAIER, W. E.
Comparative Ability of Various PCBs, PCDFs, and TCDD to Induce Cytochrome P450 1A1 and 1A2 Activity Following 4 Weeks of Treatment (Short Communication).
PB93-175685/REB

MANNING, R. O.
Distribution of Cardiac Output during Diurnal Changes of Activity in Rats.
PB93-180982/REB

MARESCA, J. W.
Characteristics of Non-Petroleum Underground Storage Tanks.
PB93-185775/REB
Location of Leaks in Pressurized Petroleum Pipelines by Means of Passive-Acoustic Sensing Methods.
PB93-185783/REB

MARSHALL, R.
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PB93-181071/REB

MARTIN, G. B.
Biomass Combustion in Gas-Turbine-Based Systems.
PB93-185742/REB

MARTIN, J. C.
Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report.
PB93-197929/REB

MARTIN, J. L.
Investigation of Contaminant Transport from the Saginaw Confined Disposal Facility.
PB93-199610/REB

MARTIN, L. S.
Persistence of the Heat-Shock Response Over Time in a Common 'Mytilus' Mussel.
PB93-185866/REB

MARTINEZ, J.
Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds.
PB93-199354/REB

MARTONEN, T. B.
Comments on Recent Data for Particle Deposition in Human Nasal Passages.
PB93-181105/REB
Extrapolation Modeling of Aerosol Deposition in Human and Laboratory Rat Lungs.
PB93-181097/REB
Interspecies Modeling of Inhaled Particle Deposition Patterns.
PB93-181121/REB
Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns.
PB93-175743/REB

MASLEY, M.
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB

MASON, C.
Compliance Data System Quality Assurance Manual, June 1984.
PB93-199339/REB

MATHUR, R.
Regional Modeling Analysis of the Dependencies of Atmospheric Oxidants to Perturbations in NOx and Hydrocarbon Emissions.
PB93-180925/REB

MAY, W. E.
Two New Gas Standards Programs at the National Institute of Standards and Technology.
PB93-191427/REB

MCCALLUM, D.
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
PB93-200806/REB

MCCRILLIS, R. C.
Evaluation of Emissions from Masonry Heaters and Masonry Fireplaces in Homes.
PB93-173078/REB

MCCUTCHEON, S. C.
Nutrient Movement through Beach Media: Problems and Field Results Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191344/REB

MCDONNELL, W. F.
Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone.
PB93-181055/REB

MCDONOUGH, S. E.
Alternate Performance Standard Project: Interpreting the Post-Construction Test.
PB93-175529/REB

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Potential Bias from Non-Continuous Monitoring of Ambient Ozone Concentrations for Characterizing Hourly and Daily 7- and 12-Hour Average Concentrations.
PB93-191534/REB

MCGAUGHEY, J. F.
Development and Validation of a Source Test Method for 2,4-Toluene Diisocyanate.
PB93-204055/REB
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III. Validation Study at Fossil Fuel Plant.
PB93-180891/REB

MCKINNEY, R. A.
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects.
PB93-181162/REB

MCNEIL, C.
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
PB93-200806/REB

MEECH, M.
Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds.
PB93-199354/REB

MEEKS, S. A.
Measurement of Biogenic Emissions from Corn.
PB93-180883/REB

MEGANCK, R. A.
Expanding Global Forest Management: An 'Easy First' Proposal.
PB93-199669/REB

MERRILL, R. G.
Using Method 301 to Validate Sampling and Analytical Methods for Selected CAAA Compounds.
PB93-191419/REB

MERRIWEATHER, R.
Soil Sorption of Volatile and Semivolatile Organic Compounds in a Mixture.
PB93-181188/REB

MIDDAUGH, D. P.
Strategy Using Bioreactors and Specially Selected Microorganisms for Bioremediation of Groundwater Contaminated with Creosote and Pentachlorophenol.
PB93-205003/REB
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos.
PB93-168920/REB

MIDGETT, M. R.
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III. Validation Study at Fossil Fuel Plant.
PB93-180891/REB

MILESKI, G.
Biological Oxidations of Organic Compounds by Enzymes from a White Rot Fungus.
PB93-191369/REB

MILESKI, G. J.
Biodegradation of Pentachlorophenol by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191559/REB

MILFORD, J.
Relationships between Ozone Precursor Levels and Response to Emissions Reductions: Analysis of Regional Oxidant Model Results for the Northeastern United States.
PB93-186294/REB

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Ink and Cleaner Waste Reduction Evaluation for Flexographic Printers.
PB93-191286/REB

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Bacillus thuringiensis var. kurstaki Affects a Beneficial Insect, the Cinnabar Moth (Lepidoptera: Arctidae).
PB93-199651/REB

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Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada.
PB93-191401/REB

MILLER, M.
EPA'S QA Program on the Suppliers of Protocol Gases.
PB93-194173/REB
Evaluation of Portable Gas Chromatographs.
PB93-168813/REB

MILLER, R. N.
In-situ Bioventing: Two U.S. EPA and Air Force Sponsored Field Studies.
PB93-194231/REB

MILLETTE, J. R.
Methods for the Analysis of Carpet Samples for Asbestos.
PB93-194355/REB

MINEART, P.
MULTIMED: The Multimedia Exposure Assessment Model for Evaluating the Land Disposal of Wastes-Model Theory.
PB93-186252/REB

MITCHELL, W. J.
EPA'S QA Program on the Suppliers of Protocol Gases.
PB93-194173/REB
Two New Gas Standards Programs at the National Institute of Standards and Technology.
PB93-191427/REB

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Near Real-Time GC Analysis of Volatile Organic Compounds Using an On-Line Micro-Trap.
PB93-204063/REB

MOELLER, R. B.
Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB

MOEN, M. A.
Oxidative Degradation of Phenanthrene by the Ligninolytic Fungus 'Phanerochaete chrysosposium'.
PB93-199511/REB

MOLZ, F. J.
Development and Application of Borehole Flowmeters for Environmental Assessment.
PB93-185817/REB

MOMIKI, S.
Effects of Formaldehyde on Xenotransplanted Human Respiratory Epithelium.
PB93-179950/REB

MONOSSON, E.
Cytochrome P450E (P450IA) Induction and Inhibition in Winter Flounder by 3,3',4,4'-Tetrachlorobiphenyl: Comparison of Response in Fish from Georges Bank and Narragansett Bay.
PB93-199594/REB

MOODY, T.
Annual Cycle of Blood Chemistry Parameters in Striped Mullet ('Mugil cephalus' L.) and Pinfish ('Lagodon rhomboides' L.) from the Gulf of Mexico.
PB93-168953/REB
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB

MOORE, J. A.
Design and Construction of Demonstration/Research Wetlands for Treatment of Dairy Farm Wastewater.
PB93-202836/REB

MOORE, K. A.
Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
PB93-196665/REB

MORGAN, K. T.
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB

MORGAN, L.
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB

MOSCHANDREAS, D. J.
Evaluation of Portable Multisorbent Air Samplers for Use with an Automated Multitube Analyzer.
PB93-172930/REB

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International Validation of a Neurobehavioral Screening Battery: The IPCS/WHO Collaborative Study.
PB93-175594/REB

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Hydrocarbon Vapor Diffusion in Intact Core Sleeves.
PB93-181204/REB

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Strategy Using Bioreactors and Specially Selected Microorganisms for Bioremediation of Groundwater Contaminated with Creosote and Pentachlorophenol.
PB93-205003/REB
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos.
PB93-168920/REB

MUKERJEE, S.
Methodology to Apportion Ambient Air Measurements to Investigate Potential Effects on Air Quality Near Waste Incinerators.
PB93-191393/REB

MULLER, P. K.
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
PB93-199636/REB

MULLINS, J. A.
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
PB93-174027/REB

MUMFORD, J.
Chemical Characterization of Indoor Air of Homes from Communes in Xuan Wei, China, with High Lung Cancer Mortality Rate.
PB93-173680/REB

MUNDY, W. R.
Characterization of Disulfoton-Induced Behavioral and Neurochemical Effects Following Repeated Exposure.
PB93-175602/REB

MURALIDHARA, S.
Physiological Pharmacokinetic Modeling of Inhaled Trichloroethylene in Rats.
PB93-180990/REB

MURATA, K.
Summary of Workshop III: Evoked Potentials.
PB93-175610/REB

MURGUEYTIO, A. M.
Missouri Chlordane Exposure Study: A Report on Persons Who Consumed Chlordane-Contaminated Fish.
PB93-148252/REB

MURRELL, J. D.
Light-Duty Automotive Technology and Fuel Economy Trends through 1993.
PB93-199255/REB

NACCI, D.
Status and Applications of Echinoid ('Phylum echinodermata') Toxicity Test Methods.
PB93-185825/REB

NAKAGAWA, P. A.
Persistence of the Heat-Shock Response Over Time in a Common 'Mytilus' Mussel.
PB93-185866/REB

NATSCHKE, D.
Analysis of Atmospheric Deposition Samples from Easton, Pennsylvania.
PB93-181600/REB

NEBEKER, A. V.
Effects of Pentachlorophenol-Contaminated Food Organisms on Toxicity and Bioaccumulation in the Frog 'Xenopus laevis'.
PB93-191450/REB

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Recalculation of Screening Level Concentrations for Nonpolar Organic Contaminants in Marine Sediments.
PB93-174464/REB

NELSON, G. B.
DNA Isolation from Small Tissue Samples Using Salt and Spermine.
PB93-181048/REB

NELSON, G. M.
Competition Potentials of Environmentally Applied Bacteria with Human Fecal Microbiota.
PB93-181147/REB

NEUE, H. U.
Methane Emissions from Wetland Rice Areas of Asia.
PB93-191468/REB

NEWHALL, J. L.
Biomass Combustion in Gas-Turbine-Based Systems.
PB93-185742/REB

NG, A. S.
R-245ca: A Potential Far-Term Alternative for R-11.
PB93-173144/REB

NIKOLAIDIS, N. P.
Modeling the Hydrogeochemical Response of a Stream to Acid Deposition Using the Enhanced Trickle-Down Model.
PB93-199636/REB

NOLT, C.
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
PB93-154722/REB

NOWAK, J. F.
Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries and Chincoteague Bay, 1991.
PB93-191120/REB

NUNEZ, C. M.
Corona Destruction: An Innovative Control Technology for VOCs and Air Toxics.
PB93-173672/REB

O'CALLAGHAN, J. P.
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB

OESTERBERG, K.
Aatgaerder mot klimatfoeraendringar. (Measures against climatic change).
DE93778475/REB

OLEM, H.
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB

OLIVER, K.
Evaluation of Portable Gas Chromatographs.
PB93-168813/REB

OLIVER, K. D.
Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
PB93-168821/REB

OLSON, R. K.
Future Context of Sustainable Agriculture: Planning for Uncertainty.
PB93-191518/REB
Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings.
PB93-191492/REB
Research and Information Needs Related to Nonpoint Source Pollution and Wetlands in the Watershed: An EPA Perspective.
PB93-168862/REB

OPATKEN, E. J.
Bioremediation Treatability Trials Using Nutrient Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191336/REB

OPPELT, E. T.
Incineration of Hazardous Waste: A Critical Review Update.
PB93-185916/REB

ORTH, R. J.
Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
PB93-196665/REB
Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries and Chincoteague Bay, 1991.
PB93-191120/REB

OSSMAN, A. G.
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F.
PB93-191302/REB
Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 2. Appendices G-N.
PB93-191310/REB

OSTBY, J. S.
Effects of Prenatal Administration of Azo Dyes on Testicular Development in the Mouse: A Structure Activity Profile of Dyes Derived from Bensidine, Dimethylbenzidine, or Dimethoxybenzidine.
PB93-175750/REB
Gonadal Effects of Fetal Exposure to the Azo Dye Congo Red in Mice: Infertility in Female but Not Male Offspring.
PB93-181071/REB

OSTENDORF, D. W.
Aerobic Soil Microcosms for Long-Term Biodegradation of Hydrocarbon Vapors.
PB93-181196/REB
Hydrocarbon Vapor Diffusion in Intact Core Sleeves.
PB93-181204/REB

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Summary of Workshop III: Evoked Potentials.
PB93-175610/REB

OUYANG, Y.
VIRTUS, a Model of Virus Transport in Unsaturated Soils.
PB93-185890/REB

OZRETICH, R. J.
Influence of Organic Matter Quality on the Toxicity and Partitioning of Sediment-Associated Fluoranthene.
PB93-185874/REB
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
PB93-173706/REB

PACE, T. G.
Procedures for Estimating Probability of Nonattainment of a PM10 NAAQS Using Total Suspended Particulate or Inhalable Particulate Data (Draft).
PB93-200640/REB

PACENKA, J.
Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB

PARTEE, G.
Regional Nonpoint Source Program Summary.
PB93-169134/REB

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Persistence of the Heat-Shock Response Over Time in a Common 'Mytilus' Mussel.
PB93-185866/REB

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Humic Acid Effects on Uptake of Hexachlorobenzene and Hexachlorobiphenyl by Sheepshead Minnows in Static Sediment/Water Systems.
PB93-204980/REB

PAUL, J. F.
Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
PB93-185833/REB
Transport of Low-Level Radioactive Soil at Deep-Ocean Disposal Site.
PB93-199487/REB

PEELE, D. B.
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB

PEELER, J. W.
Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems.
PB93-199263/REB

PEREZ, R.
Time-Dependent Changes of Markers Associated with Inflammation in the Lungs of Humans Exposed to Ambient Levels of Ozone.
PB93-181055/REB

PERSILY, A. K.
Building and HVAC Characterization for Commercial Building Indoor Air Quality Investigations.
PB93-198844/REB

PETERSON, J. A.
Effects of Pentachlorophenol-Contaminated Food Organisms on Toxicity and Bioaccumulation in the Frog 'Xenopus laevis'.
PB93-191450/REB

PHELPS, D. K.
Contaminated Marine Sediments: Water Column and Interstitial Toxic Effects.
PB93-181162/REB

PITCHFORD, M.
Empirical Model of Vehicle Emissions.
PB93-199602/REB

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Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
PB93-168821/REB

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Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
PB93-194512/REB

PLEWA, M. J.
Ink and Cleaner Waste Reduction Evaluation for Flexographic Printers.
PB93-191286/REB

PODAR, M.
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB
Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
PB93-154730/REB

POINDEXTER, C. K.
Comparison of Methods for Collecting Interstitial Water for Trace Organic Compounds and Metals Analyses.
PB93-199552/REB

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Evaluation of Portable Multisorbent Air Samplers for Use with an Automated Multitube Analyzer.
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Economic Analysis of Effluent Guidelines: Mineral Mining and Processing Industry.
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Risk Communication About Chemicals in Your Community. Facilitator's Manual and Guide.
PB93-200541/REB PC **A05**/MF **A02**

EPA/230/B-93/001
Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
PB93-186245/REB PC **A09**/MF **A02**

EPA/340/1-80/020
Summary of Factors Affecting Compliance by Ferrous Foundaries. Volume 1. Text.
PB93-199347/REB PC **A05**/MF **A02**

EPA/340/1-84/011
Compliance Data System Quality Assurance Manual, June 1984.
PB93-199339/REB PC **A10**/MF **A03**

EPA/340/1-85/019
Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
PB93-199107/REB PC **A04**/MF **A01**

EPA/340/1-86/005A
Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
PB93-199297/REB PC **A08**/MF **A02**

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PB93-199123/REB PC **A06**/MF **A02**

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Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
PB93-174506/REB PC **A04**/MF **A01**

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PB93-186104/REB PC **A03**/MF **A01**

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Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
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PB93-173987/REB PC **A05**/MF **A01**

EPA/450/2-76/005-9
Aeros Manual Series. Volume 5. Aeros Manual of Codes. Update Number 9.
PB93-200798/REB PC **A10**/MF **A03**

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Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds.
PB93-199354/REB PC **A07**/MF **A02**

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PB93-193910/REB PC **A13**/MF **A03**

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PB93-200640/REB PC **A04**/MF **A01**

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PB93-169084/REB PC **A03**/MF **A01**

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PB93-173995/REB PC **A04**/MF **A01**

EPA/451/R-93/007
Air/Superfund National Technical Guidance Study Series. Volume 4. Guidance for Ambient Air Monitoring at Superfund Sites (Revised).
PB93-199214/REB PC **A08**/MF **A02**

EPA/451/R-93/009
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Alternative Control Techniques Document-NOx Emissions from Process Heaters.
PB93-186211/REB PC **A10**/MF **A03**

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User's Manual for the Plume Visibility Model PLUVUE II (Revised).
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Marine and Estuarine Protection: Programs and Activities.
PB93-179000/REB PC **A03**/MF **A01**

EPA/520/1-87/012-1
Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1. Background Information Document.
PB93-200673/REB PC **A99**/MF **A06**

EPA/520/1-91/019
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
PB93-199321/REB PC **A14**/MF **A03**

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PB93-159572/REB PC **A05**/MF **A01**

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RCRA Implementation Plan, FY 1993.
PB93-176956/REB PC **A05**/MF **A02**

EPA/530/R-93/007
Petitions to Delist Hazardous Wastes: A Guidance Manual. Second Edition.
PB93-169365/REB PC **A08**/MF **A02**

EPA/530/R-93/008
Proceedings of the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (7th). Held in Minneapolis, Minnesota on December 8-12, 1992.
PB93-170116/REB PC **A99**/MF **A06**

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Markets for Recovered Glass.
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PB93-194280/REB PC **A03**/MF **A01**

OHEA-C-073-086
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PB93-194298/REB PC **A03**/MF **A01**

OHEA-C-073-087
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PB93-194306/REB PC **A03**/MF **A01**

OHEA-C-073-088
Evaluation of the Potential Carcinogenicity of Dihydrosafrole (94-58-6).
PB93-185312/REB PC **A03**/MF **A01**

OHEA-C-073-089
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PB93-194314/REB PC **A03**/MF **A01**

OHEA-C-073-090
Evaluation of the Potential Carcinogenicity of Dimethyl Sulfate (77-78-1).
PB93-194322/REB PC **A03**/MF **A01**

OHEA-C-073-091
Evaluation of the Potential Carcinogenicity of Dimethylaminoazobenzene (60-11-7).
PB93-185338/REB PC **A03**/MF **A01**

OHEA-C-073-092
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PB93-185346/REB PC **A03**/MF **A01**

OHEA-C-073-093
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PB93-185353/REB PC **A03**/MF **A01**

OHEA-C-073-094
Evaluation of the Potential Carcinogenicity of Dimethylcarbamoyl Chlo.
PB93-185361/REB PC **A03**/MF **A01**

OHEA-C-073-095
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PB93-185379/REB PC **A03**/MF **A01**

OHEA-C-073-096
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PB93-185387/REB PC **A03**/MF **A01**

OHEA-C-073-097
Evaluation of the Potential Carcinogenicity of Dinitrotoluene (Mixture) (25321-14-6).
PB93-185395/REB PC **A03**/MF **A01**

OHEA-C-073-098
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PB93-185403/REB PC **A03**/MF **A01**

OHEA-C-073-099
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PB93-185411/REB PC **A03**/MF **A01**

OHEA-C-073-100
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PB93-185429/REB PC **A03**/MF **A01**

OHEA-C-073-101
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PB93-192326/REB PC **A03**/MF **A01**

OHEA-C-073-102
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PB93-192334/REB PC **A03**/MF **A01**

OHEA-C-073-103
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PB93-192342/REB PC **A03**/MF **A01**

OHEA-C-073-104
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PB93-192359/REB PC **A03**/MF **A01**

OHEA-C-073-105
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PB93-192367/REB PC **A03**/MF **A01**

OHEA-C-073-106
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PB93-192375/REB PC **A03**/MF **A01**

OHEA-C-073-107
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PB93-193589/REB PC **A03**/MF **A01**

OHEA-C-073-108
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PB93-193597/REB PC **A03**/MF **A01**

OHEA-C-073-109
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PB93-193605/REB PC **A03**/MF **A01**

OHEA-C-073-110
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PB93-193613/REB PC **A03**/MF **A01**

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PB93-190478/REB PC **A03**/MF **A01**

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PB93-190486/REB PC **A03**/MF **A01**

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PB93-190494/REB PC **A03**/MF **A01**

OHEA-C-073-114
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PB93-190502/REB PC **A03**/MF **A01**

OHEA-C-073-115
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OHEA-C-073-116
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PB93-190528/REB PC **A03**/MF **A01**

OHEA-C-073-117
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PB93-190536/REB PC **A03**/MF **A01**

OHEA-C-073-118
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PB93-190544/REB PC **A03**/MF **A01**

OHEA-C-073-119
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PB93-190569/REB PC **A03**/MF **A01**

OHEA-C-073-120
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PB93-190577/REB PC **A03**/MF **A01**

OHEA-C-073-121
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PB93-196301/REB PC **A03**/MF **A01**

OHEA-C-073-128
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PB93-196319/REB PC **A03**/MF **A01**

OHEA-C-073-129
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PB93-196327/REB PC **A03**/MF **A01**

OHEA-C-073-130
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PB93-196335/REB PC **A03**/MF **A01**

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PB93-196350/REB PC **A03**/MF **A01**

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PB93-196368/REB PC **A03**/MF **A01**

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PB93-196376/REB PC **A03**/MF **A01**

OHEA-C-073-135
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PB93-196384/REB PC **A03**/MF **A01**

OHEA-C-073-136
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PB93-196392/REB PC **A03**/MF **A01**

OHEA-C-073-137
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PB93-196400/REB PC **A03**/MF **A01**

OHEA-C-073-145
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PB93-196418/REB PC **A03**/MF **A01**

OHEA-C-073-146
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PB93-196426/REB PC **A03**/MF **A01**

OHEA-C-073-147
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PB93-196434/REB PC **A03**/MF **A01**

OHEA-C-073-148
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PB93-196442/REB PC **A03**/MF **A01**

OHEA-C-073-149
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PB93-196459/REB PC **A03**/MF **A01**

OHEA-C-073-150
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PB93-196467/REB PC **A03**/MF **A01**

OHEA-C-073-151
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PB93-196475/REB PC **A03**/MF **A01**

OHEA-C-073-152
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PB93-196483/REB PC **A03**/MF **A01**

OHEA-C-073-153
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PB93-196491/REB PC **A03**/MF **A01**

OHEA-C-073-154
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PB93-196509/REB PC **A03**/MF **A01**

OHEA-C-073-155
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PB93-196517/REB PC **A03**/MF **A01**

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PB93-196525/REB PC **A03**/MF **A01**

OHEA-C-073-157
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PB93-196533/REB PC **A03**/MF **A01**

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PB93-185320/REB PC **A03**/MF **A01**

OHEA-C-073-159
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PB93-196541/REB PC **A03**/MF **A01**

OHEA-C-073-160
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PB93-196558/REB PC **A03**/MF **A01**

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PB93-196566/REB PC **A03**/MF **A01**

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PB93-196582/REB PC **A03**/MF **A01**

OHEA-C-073-171
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PB93-196590/REB PC **A03**/MF **A01**

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PB93-196608/REB PC **A03**/MF **A01**

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PB93-201291/REB PC **A03**/MF **A01**

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OHEA-C-073-177
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PB93-201259/REB PC **A03**/MF **A01**

OHEA-C-073-178
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PB93-201242/REB PC **A03**/MF **A01**

OHEA-C-073-179
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PB93-201234/REB PC **A03**/MF **A01**

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PB93-201226/REB PC **A03**/MF **A01**

OHEA-C-073-181
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PB93-201218/REB PC **A03**/MF **A01**

OHEA-C-073-182
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PB93-201200/REB PC **A03**/MF **A01**

OHEA-C-073-183
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PB93-201192/REB PC **A03**/MF **A01**

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PB93-202331/REB PC **A03**/MF **A01**

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PB93-204584/REB PC **A03**/MF **A01**

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OHEA-C-073-188
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PB93-202315/REB PC **A03**/MF **A01**

OHEA-C-073-189
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PB93-202307/REB PC **A03**/MF **A01**

OHEA-C-073-190
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PB93-202273/REB PC **A03**/MF **A01**

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PB93-202265/REB PC **A03**/MF **A01**

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PB93-202257/REB PC **A03**/MF **A01**

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PB93-181154/REB PC **A02**/MF **A01**

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PB93-167266/REB PC **A03**/MF **A01**

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PB93-194371/REB PC **A01**/MF **A01**

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PB93-194439/REB PC **A03**/MF **A01**

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PB93-194447/REB PC **A03**/MF **A01**

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PB93-194454/REB PC **A02**/MF **A01**

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Radiation- and Chemically-Induced Chromosome Aberrations in Mouse Oocytes: A Comparison with Effects in Males.
PB93-194462/REB PC **A02**/MF **A01**

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PB93-194470/REB PC **A03**/MF **A01**

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PB93-194488/REB PC **A03**/MF **A01**

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PB93-194496/REB PC **A03**/MF **A01**

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Skeletal Development Following Heat Exposure in the Rat.
PB93-194520/REB PC **A03**/MF **A01**

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PB93-194538/REB PC **A03**/MF **A01**

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PB93-199628/REB PC **A02**/MF **A01**

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On-Board Corrosion Analysis of a Recovered Nuclear Waste Container.
PB93-202927/REB PC **A03**/MF **A01**

OSWER DIRECTIVE-9420.00-08
RCRA Implementation Plan, FY 1993.
PB93-176956/REB PC **A05**/MF **A02**

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Overview of the Outyear Liability Model (OLM).
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OSWER-9200.5-702B
National Priorities List Sites: Alabama, 1992.
PB93-963201/REB
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OSWER-9200.5-703B
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PB93-963217/REB PC **A05**/MF **A01**

OSWER-9200.5-719B
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OSWER-9200.5-732B
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OSWER-9200.5-742B
National Priorities List Sites: Texas, 1992.
PB93-963242/REB PC **A06**/MF **A02**

OSWER-9200.5-743B
National Priorities List Sites: Utah, 1992.
PB93-963243/REB PC **A04**/MF **A01**

OSWER-9200.5-744B
National Priorities List Sites: Vermont, 1992.
PB93-963244/REB PC **A04**/MF **A01**

OSWER-9200.5-745B
National Priorities List Sites: Virginia, 1992.
PB93-963245/REB PC **A05**/MF **A01**

OSWER-9200.5-746B
National Priorities List Sites: Washington, 1992.
PB93-963246/REB PC **A08**/MF **A02**

OSWER-9200.5-747B
National Priorities List Sites: West Virginia, 1992.
PB93-963247/REB PC **A04**/MF **A01**

OSWER-9200.5-748B
National Priorities List Sites: Wisconsin, 1992.
PB93-963248/REB PC **A07**/MF **A02**

OSWER-9200.5-749B
National Priorities List Sites: Wyoming, 1992.
PB93-963249/REB PC **A03**/MF **A01**

OSWER-9200.5-750B
National Priorities List Sites: The United States Territories, 1992.
PB93-963203/REB PC **A04**/MF **A01**

OSWER-9200.5-751B
National Priorities List Sites: Puerto Rico and Virgin Islands, 1992.
PB93-963238/REB PC **A04**/MF **A01**

OSWER-9202.1-02I-VOL-1-NO-2
Smart Moves in Superfund - Regional Pilots and Initiatives. Volume 1, Number 2, September 1992.
PB93-963283/REB PC **A01**/MF **A01**

OSWER-9202.1-02I-VOL-1-NO-3
Smart Moves in Superfund - Revitalization One Year Later. Volume 1, Number 3, January 1993.
PB93-963284/REB PC **A01**/MF **A01**

OSWER-9202.1-02I-VOL-2-NO-1
Response Action Contractor Final Indemnification Guidelines. Volume 2, Number 1, March 1993.
PB93-963290/REB PC **A01**/MF **A01**

OSWER-9202.1-04
Identification of a Senior Superfund Official for Addressing Special NPL Site-Related Issues.
PB93-963279/REB PC **A01**/MF **A01**

OSWER-9202.1-05
Required Contracts Management Training for Regional Superfund Personnel.
PB93-963258/REB PC **A01**/MF **A01**

OSWER-9202.1-06
Initiatives to Streamline the Alternative Remedial Contracting Strategy (ARCS) Contracts' Award Fee Process.
PB93-963275/REB PC **A03**/MF **A01**

OSWER-9202.1-09
Guidance on Program Management Activities under ARCS.
PB93-963280/REB PC **A03**/MF **A01**

OSWER-9202.1-11
Superfund: EPA/ICMA Superfund Revitalization Conference. Held in Chicago, Illinois on November 12-13, 1992.
PB93-963274/REB PC **A04**/MF **A01**

OSWER-9203.1-06
Guidance on Setting Priorities for NPL Candidate Sites.
PB93-963333/REB PC **A02**/MF **A01**

OSWER-9203.1-07I-VOL-1-NO-1
HSED SACM Report. Volume 1, Number 1, January 1993.
PB93-963289/REB PC **A01**/MF **A01**

OSWER-9203.1-08
Further Direction on Implementing the Superfund Accelerated Cleanup Model (SACM).
PB93-963291/REB PC **A02**/MF **A01**

OSWER-9240.0-02B
Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites (Supplemental Guidance on OSWER Directive 9240.0-2A).
PB93-963502/REB PC **A03**/MF **A01**

OSWER-9240.0-25
Reassignment of CLP Transportation Functions.
PB93-963501/REB PC **A01**/MF **A01**

OSWER-9242.2-08FS
Superfund Response Action Contracts.
PB93-963292/REB PC **A01**/MF **A01**

OSWER-9242.3-09
Use of Time and Materials and Cost Reimbursement Subcontracts for Remedial Actions under the Alternative Remedial Contracting Strategy Contracts.
PB93-963282/REB PC **A02**/MF **A01**

OSWER-9242.6-13
Performance Tracking under ARCS Contracts.
PB93-963276/REB PC **A01**/MF **A01**

OSWER-9285.0-01A
OSWER Integrated Health and Safety Standard Operating Practices.
PB93-963401/REB PC **A01**/MF **A01**

OSWER-9285.4-06
ATSDR Health Consultations under CERCLA.
PB93-963334/REB PC **A01**/MF **A01**

OSWER-9320.1-11
Discussions with the Public Concerning NPL Listings.
PB93-963338/REB PC **A03**/MF **A01**

OSWER-9320.2-05
Amendment to Historical Definitions of NPL Deletion Start and Completion Dates.
PB93-963278/REB PC **A01**/MF **A01**

OSWER-9345.0-07
Standard Document for Remedial Site Assessment Decisions.
PB93-963268/REB PC **A01**/MF **A01**

OSWER-9355.0-24A
SARA '200' Remedial Action Starts Requirement.
PB93-963324/REB PC **A01**/MF **A01**

OSWER-9355.3-17
Compendium of ROD Language for FY 1993 Focus Areas.
PB93-963328/REB PC **A04**/MF **A01**

OSWER-9355.7-03
Permits and Permit 'Equivalency' Processes for CERCLA On-Site Response Actions.
PB93-963325/REB PC **A02**/MF **A01**

OSWER-9360.0-10
Expedited Response Actions.
PB93-963410/REB PC **A02**/MF **A01**

OSWER-9360.2-04A
Clarification of Delegation to Approve Consistency Exemptions at NPL Sites.
PB93-963281/REB PC **A01**/MF **A01**

OSWER-9360.7-11
Questions and Answers on Release Notification Requirements and Reportable Quantity Adjustments.
PB93-963411/REB PC **A03**/MF **A01**

OSWER-9360.8-06FS
Facility Response Plans.
PB93-963408/REB PC **A01**/MF **A01**

OSWER-9375.7-01
Ensuring the Adequacy of Cost Share Provisions in Superfund State Contracts.
PB93-963336/REB PC **A03**/MF **A01**

PB92-228519/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Executive Summary (Revised May 1992).
PB92-228519/REB PC **A03**/MF **A01**

PB92-228535/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Yorktown Refinery Project Workplan.
PB92-228535/REB PC **A08**/MF **A02**

PB92-228543/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Pollution Prevention Workshop.
PB92-228543/REB PC **A12/MF A03**

PB92-228550/REB
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown Refinery. Refinery Release Inventory.
PB92-228550/REB PC **A12/MF A03**

PB92-228568/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Solid Waste Data.
PB92-228568/REB PC **A05/MF A01**

PB92-228576/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Groundwater and Soil Data.
PB92-228576/REB PC **A12/MF A03**

PB92-228584/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Surface Water Data.
PB92-228584/REB PC **A08/MF A02**

PB92-228592/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Measurements of Hydrocarbon Emissions and Ambient Air Concentrations at the Amoco Yorktown Refinery. Air Quality Data. Volume 1.
PB92-228592/REB PC **A12/MF A03**

PB92-228618/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Project Peer Review. Report of the Peer Review Committee of the Amoco/EPA Pollution Prevention Project at the Yorktown, Virginia Refinery.
PB92-228618/REB PC **A10/MF A03**

PB92-228634/REB
Amoco/Environmental Protection Agency Pollution Prevention Project, Yorktown, Virginia. Ecological Impacts of the Yorktown Refinery on the York River Estuarine Environment.
PB92-228634/REB PC **A05/MF A01**

PB92-228642/REB
Amoco-U.S. Environmental Protection Agency, Pollution Prevention Project, Yorktown, Virginia: Public Perceptions. Report of Observations, Thoughtleader Interviews and Focus Groups Yorktown Refinery Public Perception Study.
PB92-228642/REB PC **A99/MF A06**

PB93-110575/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 1.
PB93-110575/REB PC **A99/MF A06**

PB93-110583/REB
Technical Support Document for Land Application of Sewage Sludge. Volume 2.
PB93-110583/REB PC **A99/MF E11**

PB93-110591/REB
Technical Support Document for the Surface Disposal of Sewage Sludge.
PB93-110591/REB PC **A15/MF A03**

PB93-110617/REB
Technical Support for the Incineration of Sewage Sludge.
PB93-110617/REB PC **A11/MF A03**

PB93-148252/REB
Missouri Chlordane Exposure Study: A Report on Persons Who Consumed Chlordane-Contaminated Fish.
PB93-148252/REB PC **A08/MF A02**

PB93-154680/REB
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Human Health (February 1993 Draft).
PB93-154680/REB PC **A09/MF A03**

PB93-154698/REB
Great Lakes Water Quality Initiative Technical Support Document for Human Health Criteria and Values (January 1993 Draft).
PB93-154698/REB PC **A05/MF A01**

PB93-154722/REB
Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife (PROPOSED): DDT, Mercury 2,3,7,8-TCDD and PCBs.
PB93-154722/REB PC **A04/MF A01**

PB93-154730/REB
Assessment of Compliance Costs Resulting from Implementation of the Proposed Great Lakes Water Quality Guidance.
PB93-154730/REB PC **A10/MF A03**

PB93-154748/REB
Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance.
PB93-154748/REB PC **A09/MF A02**

PB93-155166/REB
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Inventory Synonym and Preferred Name File, January 1993, Documentation.
PB93-155166/REB PC **A03/MF A01**

PB93-159572/REB
Inside the Hotline: A Compilation of 1992 Monthly Hotline Reports.
PB93-159572/REB PC **A05/MF A01**

PB93-163236/REB
Geostatistical Environmental Assessment Software: User's Guide. GEO-EAS 1.2.1.
PB93-163236/REB PC **A07/MF A02**

PB93-163251/REB
ASSESS User's Guide.
PB93-163251/REB PC **A03/MF A01**

PB93-163285/REB
Geophysics Advisor Expert System, Version 2.0.
PB93-163285/REB PC **A03/MF A01**

PB93-163715/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. National Summary.
PB93-163715/REB PC **A10/MF A03**

PB93-163723/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).
PB93-163723/REB PC **A08/MF A02**

PB93-163731/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 2 (New York, New Jersey).
PB93-163731/REB PC **A08/MF A02**

PB93-163749/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 3 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia).
PB93-163749/REB PC **A06/MF A02**

PB93-163756/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Volumes 1 and 2.
PB93-163756/REB PC **A99/MF E11**

PB93-163764/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin).
PB93-163764/REB PC **A21/MF A04**

PB93-163772/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas).
PB93-163772/REB PC **A07/MF A02**

PB93-163780/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 7 (Iowa, Kansas, Missouri, Nebraska).
PB93-163780/REB PC **A20/MF A04**

PB93-163798/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming).
PB93-163798/REB PC **A06/MF A02**

PB93-163806/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 9 (Arizona, California, Hawaii, Nevada).
PB93-163806/REB PC **A24/MF A04**

PB93-163814/REB
Pesticides in Ground Water Database: A Compilation of Monitoring Studies, 1971-1991. Region 10 (Alaska, Idaho, Oregon, Washington).
PB93-163814/REB PC **A05/MF A01**

PB93-164515/REB
Proposed Water Quality Guidance for the Great Lakes System.
PB93-164515/REB PC **A14/MF A03**

PB93-164523/REB
Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines. Federal Certification Test Results for 1993 Model Year.
PB93-164523/REB PC **A15/MF A03**

PB93-164531/REB
Test Car List, 1993. Passenger Cars.
PB93-164531/REB PC **A05/MF A02**

PB93-167096/REB
General Public Notification for Public Water Systems.
PB93-167096/REB PC **A05/MF A01**

PB93-167187/REB
Photochemical Conversion of Solar Energy in the Environment.
PB93-167187/REB PC **A03/MF A01**

PB93-167286/REB
Developing Improved Strategies to Determine Male Reproductive Risk from Environmental Toxins.
PB93-167286/REB PC **A03/MF A01**

PB93-167492/REB
Air Quality Criteria for Carbon Monoxide.
PB93-167492/REB PC **A99/MF A06**

PB93-167732/REB
Economic Analysis of Proposed Effluent Guidelines: Soap and Detergent Industry, August 1973.
PB93-167732/REB PC **A07/MF A02**

PB93-167740/REB
Economic Analysis of Interim Final Effluent Guidelines for the Gum and Wood Chemicals Industry. Group 2.
PB93-167740/REB PC **A04/MF A01**

PB93-167757/REB
Economic Analysis of Pretreatment Standards: The Secondary Copper and Aluminum Subcategories of the Nonferrous Metals Manufacturing Point Source Category.
PB93-167757/REB PC **A07/MF A02**

PB93-167765/REB
Economic Analysis of Effluent Guidelines: Mineral Mining and Processing Industry.
PB93-167765/REB PC **A14/MF A03**

PB93-167773/REB
Economic Impact Analysis of Proposed Effluent Limitations and Standards for the Plastics Molding and Forming Industry.
PB93-167773/REB PC **A05/MF A01**

PB93-167781/REB
Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Smelting and Refining Industry. Phase 2.
PB93-167781/REB PC **A09/MF A03**

PB93-168797/REB
Economic Benefits of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
PB93-168797/REB PC **A08/MF A02**

PB93-168805/REB
Estimation of the Cost of Using Chemical Protective Clothing.
PB93-168805/REB PC **A03/MF A01**

PB93-168813/REB
Evaluation of Portable Gas Chromatographs.
PB93-168813/REB PC **A03/MF A01**

PB93-168821/REB
Measurement of Volatile Organic Compounds during Start-Up of Bioremediation of French Limited Superfund Site in Crosby Texas Using Wind Dependent Whole-Air Sampling.
PB93-168821/REB PC **A03/MF A01**

PB93-168839/REB
Analysis of Protocol Gases: An On-Going Quality Assurance Audit.
PB93-168839/REB PC **A02/MF A01**

PB93-168847/REB
Effects of Kraft Mill Effluent on the Sexuality of Fishes: An Environmental Early Warning.
PB93-168847/REB PC **A03/MF A01**

PB93-168862/REB
Research and Information Needs Related to Nonpoint Source Pollution and Wetlands in the Watershed: An EPA Perspective.
PB93-168862/REB PC **A02/MF A01**

PB93-168870/REB
Precollege Education: A Vital Component if Sustainable Agriculture is to Take Root.
PB93-168870/REB PC **A03/MF A01**

PB93-168904/REB
EPA Bibliography on Surface Contamination.
PB93-168904/REB PC **A02/MF A01**

PB93-168912/REB
Infection Intensity of 'Perkinsus marinus' Disease in 'Crassostrea virginica' (Gmelin, 1791) from the Gulf of Mexico Maintained under Different Laboratory Conditions.
PB93-168912/REB PC **A02/MF A01**

PB93-168920/REB
Toxicological Assessment of Biodegraded Pentachlorophenol: Microtox (Trade Name) and Fish Embryos.
PB93-168920/REB PC **A02/MF A01**

PB93-168938/REB
Bacterial Metabolism of Naphthalene: Construction and Use of Recombinant Bacteria to Study Ring Cleavage of 1,2-Dihydroxynaphthalene and Subsequent Reactions.
PB93-168938/REB PC **A03**

PB93-168946/REB
Sequence, Genomic Organization of the EcoRI-A Fragment of 'Autographa californica' Nuclear Polyhedrosis Virus, and Identification of a Viral-Encoded Protein Resembling the Outer Capsid Protein VP8 of Rotavirus.
PB93-168946/REB PC **A02**

PB93-168953/REB
Annual Cycle of Blood Chemistry Parameters in Striped Mullet ('Mugil cephalus' L.) and Pinfish ('Lagodon rhomboides' L.) from the Gulf of Mexico.
PB93-168953/REB PC **A03/MF A01**

PB93-168961/REB
Effects of Chemical Contaminants on Blood Chemistry of Teleost Fish: A Bibliography and Synopsis of Selected Effects.
PB93-168961/REB PC **A03/MF A01**

PB93-168979/REB
Effect of Short-Term Exposure to Three Chemicals on the Blood Chemistry of the Pinfish 'Lagodon rhomboides'.
PB93-168979/REB PC **A02/MF A01**

PB93-168987/REB
Genus- and Group-Specific Hybridization Probes for Determinative and Environmental Studies of Sulfate-Reducing Bacteria.
PB93-168987/REB PC **A02/MF A01**

PB93-168995/REB
Fate of 'Bacillus sphaericus' 2362 Spores in Nontarget Invertebrates.
PB93-168995/REB PC **A02/MF A01**

PB93-169001/REB
Use of a Novel Plasmid to Monitor the Fate of a Genetically Engineered 'Pseudomonas putida' Strain.
PB93-169001/REB PC **A02/MF A01**

PB93-169019/REB
Extreme Clonal Diversity and Divergence in Populations of a Selfing Hermaphroditic Fish.
PB93-169019/REB PC **A02/MF A01**

PB93-169027/REB
Selection of a 'Pseudomonas cepacia' Strain Constitutive for the Degradation of Trichloroethylene.
PB93-169027/REB PC **A02**/MF **A01**

PB93-169035/REB
Systemic Hexamitid (Protozoa: Diplomonadida) Infection in Seawater Pen-Reared Chinook Salmon 'Oncorhynchus tshawytscha'.
PB93-169035/REB PC **A03**/MF **A01**

PB93-169043/REB
Occurrence of Agglutinins in the Pallial Cavity Mucus of Oysters.
PB93-169043/REB PC **A03**/MF **A01**

PB93-169050/REB
Evaluation of Sampling Strategies to Characterize Dissolved Oxygen Conditions in Northern Gulf of Mexico Estuaries.
PB93-169050/REB PC **A03**/MF **A01**

PB93-169068/REB
Conjugal Gene Transfer to Aquatic Bacteria Detected by the Generation of a New Phenotype.
PB93-169068/REB PC **A02**/MF **A01**

PB93-169076/REB
Oxidation of Nitrapyrin to 6-Chloropicolinic Acid by the Ammonia-Oxidizing Bacterium 'Nitrosomonas europaea'.
PB93-169076/REB PC **A02**/MF **A01**

PB93-169084/REB
Feasibility of Including Fugitive PM-10 Emissions Estimates in the EPA Emissions Trends Report.
PB93-169084/REB PC **A03**/MF **A01**

PB93-169100/REB
Reregistration Eligibility Document (RED): Oxalic Acid.
PB93-169100/REB PC **A06**/MF **A02**

PB93-169126/REB
Contingency Analysis Modeling for Superfund Sites and Other Sources.
PB93-169126/REB PC **A13**/MF **A03**

PB93-169134/REB
Regional Nonpoint Source Program Summary.
PB93-169134/REB PC **A14**/MF **A03**

PB93-169340/REB
Fuel Economy Guide, 1993. 3-Number.
PB93-169340/REB PC **A04**/MF **A01**

PB93-169357/REB
Fuel Economy Guide, 1993. 6 Number.
PB93-169357/REB PC **A04**/MF **A01**

PB93-169365/REB
Petitions to Delist Hazardous Wastes: A Guidance Manual. Second Edition.
PB93-169365/REB PC **A08**/MF **A02**

PB93-169845/REB
Markets for Recovered Glass.
PB93-169845/REB PC **A03**/MF **A01**

PB93-170116/REB
Proceedings of the National United States Environmental Protection Agency Conference on Household Hazardous Waste Management (7th). Held in Minneapolis, Minnesota on December 8-12, 1992.
PB93-170116/REB PC **A99**/MF **A06**

PB93-170132/REB
Markets for Recovered Aluminum.
PB93-170132/REB PC **A03**/MF **A01**

PB93-172914/REB
Characterization of Emissions from the Simulated Open-Burning of Non-Metallic Automobile Shredder Residue.
PB93-172914/REB PC **A05**/MF **A01**

PB93-172922/REB
Proceedings of the Indoor Radon Modeling Workshop, Florida Radon Research Program. Held in Tampa, Florida on April 16-17, 1991.
PB93-172922/REB PC **A09**/MF **A02**

PB93-172930/REB
Evaluation of Portable Multisorbent Air Samplers for Use with an Automated Multitube Analyzer.
PB93-172930/REB PC **A05**/MF **A01**

PB93-172948/REB
Applications Analysis Report: Silicate Technology Corporation's Solidification/Stabilization Technology for Organic and Inorganic Contaminants in Soils.
PB93-172948/REB PC **A07**/MF **A02**

PB93-173060/REB
Assessing Potential Exposures from Routine Use of VOC-Contaminated Groundwater.
PB93-173060/REB PC **A02**/MF **A01**

PB93-173078/REB
Evaluation of Emissions from Masonry Heaters and Masonry Fireplaces in Homes.
PB93-173078/REB PC **A03**/MF **A01**

PB93-173094/REB
Technological Options for Acid Rain Control.
PB93-173094/REB PC **A03**/MF **A01**

PB93-173102/REB
Physical Properties of Fluorinated Propane and Butane Derivatives as Alternative Refrigerants.
PB93-173102/REB PC **A03**/MF **A01**

PB93-173110/REB
Using a Neural Network to Estimate Solvent Consumption.
PB93-173110/REB PC **A02**/MF **A01**

PB93-173128/REB
Development of a Field Test Method for the Determination of Lead in Paint and Paint-Contaminated Dust and Soil.
PB93-173128/REB PC **A03**/MF **A01**

PB93-173136/REB
Agricultural Pesticide Emissions Associated with Common Crops in the United States.
PB93-173136/REB PC **A03**/MF **A01**

PB93-173144/REB
R-245ca: A Potential Far-Term Alternative for R-11.
PB93-173144/REB PC **A02**/MF **A01**

PB93-173151/REB
Development of Source Testing, Analytical, and Mutagenicity Bioassay Procedures for Evaluating Emissions from Municipal and Hospital Waste Combustors.
PB93-173151/REB PC **A02**/MF **A01**

PB93-173169/REB
Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans: Removal from Flue Gas and Distribution in Ash/Residue of a Refuse-Derived Fuel Combustor.
PB93-173169/REB PC **A02**/MF **A01**

PB93-173177/REB
Indoor Radon Reduction in Crawl-Space Houses: A Review of Alternative Approaches.
PB93-173177/REB PC **A03**/MF **A01**

PB93-173664/REB
Simulation of Nonazeotropic Refrigerant Mixtures for Use in a Dual-Circuit Refrigerator/Freezer with Countercurrent Heat Exchangers.
PB93-173664/REB PC **A02**/MF **A01**

PB93-173672/REB
Corona Destruction: An Innovative Control Technology for VOCs and Air Toxics.
PB93-173672/REB PC **A02**/MF **A01**

PB93-173680/REB
Chemical Characterization of Indoor Air of Homes from Communes in Xuan Wei, China, with High Lung Cancer Mortality Rate.
PB93-173680/REB PC **A03**/MF **A01**

PB93-173698/REB
Accumulation of Polychlorinated Organic Contaminants from Sediment by Three Benthic Marine Species.
PB93-173698/REB PC **A02**/MF **A01**

PB93-173706/REB
Vertical Profiles of Toxicity, Organic Carbon, and Chemical Contaminants in Sediment Cores from the Palos Verdes Shelf and Santa Monica Bay, California.
PB93-173706/REB PC **A03**/MF **A01**

PB93-173714/REB
Temporal Changes in the Benthos along a Pollution Gradient: Discriminating the Effects of Natural Phenomena from Sewage-Industrial Wastewater Effects.
PB93-173714/REB PC **A03**/MF **A01**

PB93-173722/REB
Effect of the Distribution System on Drinking-Water Quality.
PB93-173722/REB PC **A03**/MF **A01**

PB93-173730/REB
Pollution Prevention for Cleaner Air: EPA's Air and Energy Engineering Research Laboratory.
PB93-173730/REB PC **A03**/MF **A01**

PB93-173920/REB
Sustainable Agriculture and the Environment in the Humid Tropics.
PB93-173920/REB PC **A99**/MF **A06**

PB93-173953/REB
RED Facts: Oxalic Acid.
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Commercial Marine Vessel Contributions to Emission Inventories.
PB93-173961/REB PC **A07**/MF **A02**

PB93-173979/REB
Economic Impact Analysis of Final Effluent Limitations Guidelines and Standards of Performance for the Offshore Oil and Gas Industry.
PB93-173979/REB PC **A22**/MF **A04**

PB93-173987/REB
Air/Superfund National Technical Guidance Study Series. Volume 1. Overview of Air Pathway Assessments for Superfund Sites (Revised).
PB93-173987/REB PC **A05**/MF **A01**

PB93-173995/REB
Air/Superfund National Technical Guidance Study Series. Air Emissions from Area Sources: Estimating Soil and Soil-Gas Sample Number Requirements.
PB93-173995/REB PC **A04**/MF **A01**

PB93-174027/REB
PRZM-2, A Model for Predicting Pesticide Fate in the Crop Root and Unsaturated Soil Zones: User's Manual for Release 2.0.
PB93-174027/REB PC **A17**/MF **A04**

PB93-174332/REB
Methodology to Estimate Nonroad Equipment Populations by Nonattainment Areas.
PB93-174332/REB PC **A05**/MF **A01**

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PB93-174472/REB
Regulatory Applications of Sediment Criteria.
PB93-174472/REB PC **A03**/MF **A01**

PB93-174506/REB
Summary of the 1987 Carver-Greenfield Sludge Drying Technology Workshop: Problems and Solutions. Held in Los Angeles, California on March 10-11, 1987.
PB93-174506/REB PC **A04**/MF **A01**

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Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 50,001 to 100,000 Persons.
PB93-174514/REB PC **A04**/MF **A01**

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Lead and Copper Monitoring Guidance for Water Systems Serving 101 to 500 Persons.
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PB93-174530/REB PC **A03**/MF **A01**

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Lead and Copper Monitoring Guidance for Water Systems Serving 3,301 to 10,000 Persons.
PB93-174548/REB PC **A03**/MF **A01**

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Monitoring Requirements for Lead and Copper Rules: Water Systems Serving 10,001 to 50,000 Persons.
PB93-174555/REB PC **A04**/MF **A01**

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Monitoring Requirements for Lead and Copper Rules: Water Systems Serving > 100,000 Persons.
PB93-174563/REB PC **A04**/MF **A01**

PB93-174613/REB
Regulatory Impact Analysis of Final Effluent Limitations Guidelines and Standards for the Offshore Oil and Gas Industry.
PB93-174613/REB PC **A06**/MF **A02**

PB93-174753/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991.
PB93-174753/REB PC **E99**/MF **E99**

PB93-174761/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 1.
PB93-174761/REB PC **A24**/MF **A04**

PB93-174779/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 1. Part 2.
PB93-174779/REB PC **A25**/MF **A06**

PB93-174787/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 1.
PB93-174787/REB PC **A99**/MF **A06**

PB93-174795/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 2. Part 2.
PB93-174795/REB PC **A99**/MF **A06**

PB93-174803/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 1.
PB93-174803/REB PC **A99**/MF **A06**

PB93-174811/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 3. Part 2.
PB93-174811/REB PC **A99**/MF **A06**

PB93-174829/REB
Solar World Congress: Proceedings of the Biennial Congress of the International Solar Energy Society. Held in Denver, Colorado on August 19-23, 1991. Volume 4.
PB93-174829/REB PC **A13**/MF **A03**

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Reactions of Potential Organic Water Contaminants with Aqueous Chlorine and Monochloramine.
PB93-175040/REB PC **A04**/MF **A01**

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What to Do Before You 'Nuke' Your Multiple Hearth Furnace: Practical Tips and Techniques for Improving Operation, Reducing Emissions and Meeting the Regulations.
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PB93-175495/REB PC **A03**/MF **A01**

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PB93-175503/REB PC **A03**/MF **A01**

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Simulation of Performance of Chlorine-Free Fluorinated Ethers and Fluorinated Hydrocarbons to Replace CFC-11 and CFC-114 in Chillers.
PB93-175511/REB PC **A03**/MF **A01**

PB93-175529/REB
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PB93-175552/REB
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PB93-175552/REB PC **A03**/MF **A01**

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Characterizing Material Sources and Sinks: Current Approaches (Part 2. Chemical and Physical Characterization).
PB93-175560/REB PC **A03**/MF **A01**

PB93-175578/REB
Modeling Indoor Concentrations and Exposures.
PB93-175578/REB PC **A03**/MF **A01**

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Acute Effects of Ozone on Heart Rate and Body Temperature in the Unanesthetized, Unrestrained Rat Maintained at Different Ambient Temperatures.
PB93-175586/REB PC **A03**/MF **A01**

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International Validation of a Neurobehavioral Screening Battery: The IPCS/WHO Collaborative Study.
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PB93-175602/REB
Characterization of Disulfoton-Induced Behavioral and Neurochemical Effects Following Repeated Exposure.
PB93-175602/REB PC **A02**/MF **A01**

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Summary of Workshop III: Evoked Potentials.
PB93-175610/REB PC **A01**/MF **A01**

PB93-175628/REB
Importance of Experimenter-Blind Procedure in Neurotoxicology (Mini-Review).
PB93-175628/REB PC **A02**/MF **A01**

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Genetic Toxicology of Putative Nongenotoxic Carcinogens.
PB93-175636/REB PC **A03**/MF **A01**

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Relationship between Serum Cholinesterase Activity and the Change in Body Temperature and Motor Activity in the Rat: A Dose-Response Study of Diisopropyl Fluorophosphate.
PB93-175644/REB PC **A02**/MF **A01**

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PB93-175651/REB PC **A03**/MF **A01**

PB93-175669/REB
Olfactory Toxicity of Beta,Beta'-Iminodipropionitrile in the Rat.
PB93-175669/REB PC **A02**/MF **A01**

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PB93-175677/REB PC **A02**/MF **A01**

PB93-175685/REB
Comparative Ability of Various PCBs, PCDFs, and TCDD to Induce Cytochrome P450 1A1 and 1A2 Activity Following 4 Weeks of Treatment (Short Communication).
PB93-175685/REB PC **A02**/MF **A01**

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Near-Lifetime Exposure of the Rat to a Simulated Urban Profile of Nitrogen Dioxide: Pulmonary Function Evaluation.
PB93-175693/REB PC **A02**/MF **A01**

PB93-175701/REB
Acute Effects of Ethanol on Pattern Reversal and Flash-Evoked Potentials in Rats and the Relationship to Body Temperature.
PB93-175701/REB PC **A03**/MF **A01**

PB93-175719/REB
Differential Hepatotoxicity and Cytochrome P450 Responses of Fischer-344 Rats to the Three Isomers of Dichlorobenzene.
PB93-175719/REB PC **A02**/MF **A01**

PB93-175727/REB
Twenty-Four Hour Rhythms of Selected Ambient Temperature in Rat and Hamster.
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PB93-175735/REB
Anomalous Phosphorylated Neurofilament Aggregations in Central and Peripheral Axons of Hens Treated with Tri-Ortho-Cresyl Phosphate (TOCP).
PB93-175735/REB PC **A02**/MF **A01**

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Use of Analytically Defined Estimates of Aerosol Respirable Fraction to Predict Lung Deposition Patterns.
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PB93-175750/REB PC **A02**/MF **A01**

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Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM-10.
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PB93-175784/REB
Evaluation of Environmental Marketing Terms in the United States.
PB93-175784/REB PC **A10**/MF **A03**

PB93-176956/REB
RCRA Implementation Plan, FY 1993.
PB93-176956/REB PC **A05**/MF **A02**

PB93-176980/REB
Greening of World Trade: A Report to EPA from the Trade and Environment Committee of the National Advisory Council for Environmental Policy and Technology.
PB93-176980/REB PC **A11**/MF **A03**

PB93-177178/REB
Site Enforcement Tracking System (SETS): PRP Listing by Site for Region 4.
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PB93-178234/REB
Determination of the Strong Acidity of Atmospheric Fine-Particles (< 2.5 mum) Using Annular Denuder Technology. Standard Method, Enhanced Method.
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Dry Deposition Flux Calculations for the National Dry Deposition Network.
PB93-178242/REB PC **A05**/MF **A02**

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On-Site Engineering Report of the Slurry-Phase Biological Reactor for Pilot-Scale Testing on Contaminated Soil.
PB93-178259/REB PC **A09**/MF **A02**

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Marine and Estuarine Protection: Programs and Activities.
PB93-179000/REB PC **A03**/MF **A01**

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Mechanisms of Aldehyde-Induced Bronchial Reactivity: Role of Airway Epithelium.
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Effects of Formaldehyde on Xenotransplanted Human Respiratory Epithelium.
PB93-179950/REB PC **A03**/MF **A01**

PB93-180321/REB
Evaluation of Mitigation for Acid Aluminum Leachate from a Highway Fill in Garrett County, Maryland.
PB93-180321/REB PC **A04**/MF **A01**

PB93-180818/REB
Consensus Method for Determining Groundwaters under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA).
PB93-180818/REB PC **A04**/MF **A01**

PB93-180826/REB
Alternative Control Technology Document: Carbon Reactivation Processes.
PB93-180826/REB PC **A06**/MF **A02**

PB93-180834/REB
Institutional Solutions to Drinking Water Problems: Maine Case Studies.
PB93-180834/REB PC **A03**/MF **A01**

PB93-180842/REB
Restructuring Manual: A Training Manual for State Drinking Water Personnel as They Meet the Challenges of the 1986 Safe Drinking Water Act Amendments.
PB93-180842/REB PC **A04**/MF **A01**

PB93-180859/REB
Spray Characteristics of Two Types of Fuel Injectors.
PB93-180859/REB PC **A03**/MF **A01**

PB93-180867/REB
National Public Water System Supervision Program, FY 1992 Compliance Report.
PB93-180867/REB PC **A04**/MF **A01**

PB93-180875/REB
Evaluation of Methodologies to Estimate Nonroad Mobile Source Usage.
PB93-180875/REB PC **A06**/MF **A02**

PB93-180883/REB
Measurement of Biogenic Emissions from Corn.
PB93-180883/REB PC **A02**/MF **A01**

PB93-180891/REB
Evaluation of VOST and SemiVOST Methods for Halogenated Compounds in the Clean Air Act Amendments Title III, Validation Study at Fossil Fuel Plant.
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Air Filter Particle-Size Efficiency Testing for Diameters Greater Than 1 mu m.
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Sorption and Reemission of Formaldehyde by Gypsum Wallboard.
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PB93-180941/REB PC **A02**/MF **A01**

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PB93-180974/REB PC **A03**/MF **A01**

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Human Upper Respiratory Tract Responses to Inhaled Pollutants with Emphasis on Nasal Lavage.
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PB93-181113/REB PC **A02**/MF **A01**

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PB93-181139/REB PC **A03**/MF **A01**

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PB93-181154/REB PC **A02**/MF **A01**

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Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 1.
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Commencement Bay Nearshore/Tideflats Feasibility Study. Volume 2. Appendices.
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Commencement Bay Nearshore/Tideflats Feasibility Study. Development of Sediment Cleanup Goals.
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PB93-181618/REB
Environmental Monitoring and Assessment Program: EMAP-Arid Colorado Plateau Pilot Study, 1992. Implementation Plan.
PB93-181618/REB PC **A08**/MF **A02**

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Evaluation of the Potential Carcinogenicity of Acetamide, N-Fluoren-2-yl (53-96-3).
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Evaluation of the Potential Carcinogenicity of Aldrin (309-00-2).
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PB93-181659/REB
Evaluation of the Potential Carcinogenicity of Amitrole (61-82-5).
PB93-181659/REB PC **A03**/MF **A01**

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Evaluation of the Potential Carcinogenicity of Arsenic and Inorganic Arsenic Compounds.
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PB93-182913/REB
Methods for the Determination of Chemical Substances in Marine and Estuarine Environmental Samples.
PB93-182913/REB PC **A05**/MF **A01**

PB93-183002/REB
Federal Register, Volume 58, No. 72. Part 2. Environmental Protection Agency, 40 CFR Parts 122 et al. Water Quality Guidance for the Great Lakes System and Correction; Proposed Rules.
PB93-183002/REB PC **A11**/MF **A03**

PB93-184455/REB
Video Teleconference on Emergency Planning for Potable Water Suppliers. Held on October 30-31, 1985.
PB93-184455/REB PC **A10**/MF **A03**

PB93-184620/REB
Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants.
PB93-184620/REB PC **A03**/MF **A01**

PB93-184844/REB
TSCA Confidential Business Information Security Manual.
PB93-184844/REB PC **A07**/MF **A02**

PB93-184851/REB
Evaluation of the Potential Carcinogenicity of Cacodylic Acid (75-60-5).
PB93-184851/REB PC **A03**/MF **A01**

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Learning Guide for State/Local Drinking Water Agreements.
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Field-Deployable Monitors for Volatile Organic Compounds in Air. (Essential Capabilities of a Portable Gas Chromatograph).
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Statistical Problems Arising from Environmental Issues.
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Multiple Metals Stack Emission Measurement Methodology for Stationary Sources, Current Status.
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Combined Use of Ion Exchange Resins and Granular Activated Carbon for the Control of Organic Matter and Disinfection By-Products.
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Estuarine Component of the US E.P.A.'s Environmental Monitoring and Assessment Program.
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Changes in Nucleic Acids over the Molt Cycle in Relation to Food Availability and Temperature in 'Homarus americanus' Postlarvae.
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Taxonomic Level Sufficient for Assessing a Moderate Impact on Macrobenthic Communities in Puget Sound, Washington, USA.
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Persistence of the Heat-Shock Response Over Time in a Common 'Mytilus' Mussel.
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VIRTUS, a Model of Virus Transport in Unsaturated Soils.
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Incineration of Hazardous Waste: A Critical Review Update.
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Determining Beryllium in Drinking Water by Graphite Furnace Atomic Absorption Spectroscopy.
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Identifying Escherichia Species with Biochemical Test Kits and Standard Bacteriological Tests.
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Storm and Combined Sewer Overflow: An Overview of EPA's Research Program.
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Re-Evaluation of the Economic Impact Analysis of Effluent Limitations Guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers Industry Using Revised Compliance Costs. (Revised January 1992).
PB93-186104/REB PC **A03**/MF **A01**

PB93-186112/REB
Guidance Manual for POTW Pretreatment Program Development.
PB93-186112/REB PC **A14**/MF **A03**

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Office of Water Environmental and Program Information Systems Compendium, FY 1992.
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PB93-186211/REB
Alternative Control Techniques Document-NOx Emissions from Process Heaters.
PB93-186211/REB PC **A10**/MF **A03**

PB93-186245/REB
Guide to Federal Water Quality Programs and Information: A Guide with Computer Software Developed by the Interagency Work Group on Water Quality.
PB93-186245/REB PC **A09**/MF **A02**

PB93-186252/REB
MULTIMED: The Multimedia Exposure Assessment Model for Evaluating the Land Disposal of Wastes-Model Theory.
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Irrigated Wetlands of the Colorado Plateau: Information Synthesis and Habitat Evaluation Method.
PB93-186260/REB PC **A05**/MF **A02**

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Sampling and Assessment Issues in Using Fish as Indicators of Ecological Condition in Lakes: A Workshop Report. (3rd Draft Report).
PB93-186278/REB PC **A03**/MF **A01**

PB93-186294/REB
Relationships between Ozone Precursor Levels and Response to Emissions Reductions: Analysis of Regional Oxidant Model Results for the Northeastern United States.
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Protecting Visibility in National Parks and Wilderness Areas.
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Guidance for Growth Factors, Projections, and Control Strategies for the 15 Percent Rate-of-Progress Plans.
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Guidance on Enforcement of the Requirements of the Surface Water Treatment Rule.
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Surface Water Treatment Rule. Implementation Manual (Including Appendix D).
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Total Coliform Rule: Implementation Manual (Including Appendix D).
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Air/Superfund National Technical Guidance Study Series. Models for Estimating Air Emission Rates from Superfund Remedial Actions.
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User's Manual for the Plume Visibility Model PLUVUE II (Revised).
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Nonroad Mobile Source Sales and Attrition Study: Identification and Evaluation of Available Data Sources.
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PB93-190478/REB PC **A03**/MF **A01**

PB93-190486/REB
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PB93-190486/REB PC **A03**/MF **A01**

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PB93-190494/REB PC **A03**/MF **A01**

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PB93-190502/REB PC **A03**/MF **A01**

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PB93-190569/REB PC **A03**/MF **A01**

PB93-190577/REB
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PB93-190577/REB PC **A03**/MF **A01**

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Dynamic River Basin Water Quality Model.
PB93-190890/REB PC **A05**/MF **A01**

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Tribal Water Utility Management.
PB93-190908/REB PC **A09**/MF **A02**

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Urban Runoff Management Information/Education Products. Version 1.
PB93-190932/REB PC **A09**/MF **A03**

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Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries and Chincoteague Bay, 1991.
PB93-191120/REB PC **A13**/MF **A03**

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Oligohaline Areas in Tampa Bay Tributaries: Spatial Extent and Species Lists.
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Review of Tampa Bay Information for Interim Nutrient Budgets and Historical Loadings of Bay Segments.
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Database of Benthic Sampling Locations in Tampa Bay.
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Distribution of Selected Fish Species in Tampa Bay.
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PB93-191237/REB
Framework for Characterization. (Revised Final Report March 1992).
PB93-191237/REB PC **A04**/MF **A01**

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Ink and Cleaner Waste Reduction Evaluation for Flexographic Printers.
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Experimental Investigation of PIC Formation in CFC-12 Incineration.
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Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 1. Technical Report and Appendices A-F.
PB93-191302/REB PC **A13**/MF **A03**

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Kress Indirect Dry Cooling System, Bethlehem Steel's Coke Plant Demonstration at Sparrows Point, Maryland. Volume 2. Appendices G-N.
PB93-191310/REB PC **A15**/MF **A03**

PB93-191328/REB
Spatiotemporal Variability of Non-Urban Ozone Concentrations Over the Eastern United States and Its Potential Replication by Satellite Data.
PB93-191328/REB PC **A03**/MF **A01**

PB93-191336/REB
Bioremediation Treatability Trials Using Nutrient Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191336/REB PC **A03**/MF **A01**

PB93-191344/REB
Nutrient Movement through Beach Media: Problems and Field Results Application to Enhance Cleanup of Oil Contaminated Shoreline.
PB93-191344/REB PC **A03**/MF **A01**

PB93-191351/REB
Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191351/REB PC **A02**/MF **A01**

PB93-191369/REB
Biological Oxidations of Organic Compounds by Enzymes from a White Rot Fungus.
PB93-191369/REB PC **A02**/MF **A01**

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Evaluation of Three Oil Spill Laboratory Dispersant Effectiveness Tests.
PB93-191377/REB PC **A02**/MF **A01**

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Discussion: Response to Internal Reviews of My Paper, 1993 Census Bureau Annual Research Conference.
PB93-191385/REB PC **A02**/MF **A01**

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Methodology to Apportion Ambient Air Measurements to Investigate Potential Effects on Air Quality Near Waste Incinerators.
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PB93-191401/REB
Source Apportionment of Fine and Coarse Particles in Southern Ontario, Canada.
PB93-191401/REB PC **A03**/MF **A01**

PB93-191419/REB
Using Method 301 to Validate Sampling and Analytical Methods for Selected CAAA Compounds.
PB93-191419/REB PC **A03**/MF **A01**

PB93-191427/REB
Two New Gas Standards Programs at the National Institute of Standards and Technology.
PB93-191427/REB PC **A02**/MF **A01**

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Comparison of Systematic and Random Sampling for Estimating the Accuracy of Maps Generated from Remotely Sensed Data.
PB93-191443/REB PC **A02**/MF **A01**

PB93-191450/REB
Effects of Pentachlorophenol-Contaminated Food Organisms on Toxicity and Bioaccumulation in the Frog 'Xenopus laevis'.
PB93-191450/REB PC **A02**/MF **A01**

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Methane Emissions from Wetland Rice Areas of Asia.
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Integrating Sustainable Agriculture, Ecology, and Environmental Policy. Conference Proceedings.
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Potential Bias from Non-Continuous Monitoring of Ambient Ozone Concentrations for Characterizing Hourly and Daily 7- and 12-Hour Average Concentrations.
PB93-191534/REB PC **A02**/MF **A01**

PB93-191542/REB
Biodegradation of 2,4,5-Trichlorophenoxyacetic Acid in Liquid Culture and in Soil by the White Rot Fungus 'Phanerochaete chrysosporium'.
PB93-191542/REB PC **A02**/MF **A01**

PB93-191559/REB
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PB93-191559/REB PC **A02**/MF **A01**

PB93-191567/REB
Effects of Culture Parameters on DDT (1,1,1-Trichloro-2,2-BIS(4-Chlorophenyl)Ethane) Biodegradation by 'Phanerochaete chrysosporium'.
PB93-191567/REB PC **A03**/MF **A01**

PB93-191575/REB
Oxidation of Persistent Environmental Pollutants by a White Rot Fungus.
PB93-191575/REB PC **A02**/MF **A01**

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Biodegradation of Environmental Pollutants by the White Rot Fungus 'Phanerochaete chrysosporium': Involvement of the Lignin Degrading System.
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PB93-191617/REB PC **A02**/MF **A01**

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PB93-192342/REB PC **A03**/MF **A01**

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PB93-193589/REB PC **A03**/MF **A01**

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PB93-193597/REB PC **A03**/MF **A01**

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PB93-193605/REB PC **A03**/MF **A01**

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PB93-193613/REB PC **A03**/MF **A01**

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Pesticide Reregistration Rejection Rate Analysis Residue Chemistry. Follow-up Guidance for Generating Storage Stability Data; Submission of Raw Data; Maximum Theoretical Concentration Factors; Flowchart Diagrams.
PB93-193696/REB PC **A04**/MF **A01**

PB93-193704/REB
Online Guided Tour of the Cleanup Information Bulletin Board System. (CLU-IN: Cleanup Information Bulletin Board).
PB93-193704/REB PC **A03**/MF **A01**

PB93-193738/REB
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Atmospheric Deposition of Critical Issue Forum. Held in Annapolis, Maryland on November 5, 1992.
PB93-193738/REB PC **A03**/MF **A01**

PB93-193746/REB
Fact Sheet: National Primary Drinking Water Regulations for Lead and Copper.
PB93-193746/REB PC **A03**/MF **A01**

PB93-193753/REB
Estuary Program Primer. National Estuary Program.
PB93-193753/REB PC **A06**/MF **A02**

PB93-193761/REB
Baseline Point Source Load Inventory, 1985. 1991 Reevaluation Report No. 2.
PB93-193761/REB PC **A03**/MF **A01**

PB93-193787/REB
Phase II Fact Sheet: National Primary Drinking Water Regulations for 38 Inorganic and Synthetic Organic Chemicals.
PB93-193787/REB PC **A03**/MF **A01**

PB93-193795/REB
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance.
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Glass Markets Information System: Application Records.
PB93-193902/REB PC **A21**/MF **A04**

PB93-193910/REB
VOC/HAP Emissions from Marine Vessel Loading Operations. Technical Support Document for Proposed Standards.
PB93-193910/REB PC **A13**/MF **A03**

PB93-194017/REB
Proceedings of the Chesapeake Bay Program Toxics Subcommittee Sponsored Chesapeake Bay Contaminated Sediments Critical Issue Forum. Held in Annapolis, Maryland on December 10, 1992.
PB93-194017/REB PC **A03**/MF **A01**

PB93-194033/REB
Drinking Water Regulations under the Safe Drinking Water Act.
PB93-194033/REB PC **A03**/MF **A01**

PB93-194041/REB
Pesticide Reregistration Rejection Rate Analysis Residue Chemistry/Environmental Fate Follow Up Guidance for Conducting Rotational Crop Studies.
PB93-194041/REB PC **A03**/MF **A01**

PB93-194058/REB
Radionuclides in Drinking Water. National Primary Drinking Water Regulations for Radionuclides. Proposed Rules.
PB93-194058/REB PC **A03**/MF **A01**

PB93-194066/REB
Issues and Approaches to Improving Transportation Modeling for Air Quality Analysis.
PB93-194066/REB PC **A05**/MF **A02**

PB93-194140/REB
Toxic Chemical Release Inventory Reporting Form R and Instructions. Revised 1992 Version. Section 313 of the Emergency Planning and Community Right-to-Know Act.
PB93-194140/REB PC **A06**/MF **A02**

PB93-194157/REB
Assessment of Sediment Toxicity to Marine Benthos. (Chapter 9).
PB93-194157/REB PC **A03**/MF **A01**

PB93-194165/REB
Coprocessing of Fossil Fuels and Biomass for CO2 Emission Reduction in the Transportation Sector.
PB93-194165/REB PC **A02**/MF **A01**

PB93-194173/REB
EPA'S QA Program on the Suppliers of Protocol Gases.
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Metal Corrosion Coupon Contamination, Corrosion Study Design, and Interpretation Problems.
PB93-194181/REB PC **A03**/MF **A01**

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EPA's Life Cycle Methodology: Guidelines for Use in Development of Packaging.
PB93-194199/REB PC **A03**/MF **A01**

PB93-194207/REB
Life Cycle Analysis (Video Conference Paper).
PB93-194207/REB PC **A02**/MF **A01**

PB93-194215/REB
Evaluation of Laboratory Tests to Determine the Effectiveness of Chemical Surface Washing Agents.
PB93-194215/REB PC **A02**/MF **A01**

PB93-194223/REB
Role of Fungal Ligninolytic Enzymes in Pollutant Degradation.
PB93-194223/REB PC **A03**/MF **A01**

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In-situ Bioventing: Two U.S. EPA and Air Force Sponsored Field Studies.
PB93-194231/REB PC **A03**/MF **A01**

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PB93-194249/REB PC **A03**/MF **A01**

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PB93-194256/REB PC **A03**/MF **A01**

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PB93-194264/REB PC **A03**/MF **A01**

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PB93-194272/REB PC **A03**/MF **A01**

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PB93-194280/REB PC **A03**/MF **A01**

PB93-194298/REB
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PB93-194298/REB PC **A03**/MF **A01**

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PB93-194306/REB PC **A03**/MF **A01**

PB93-194314/REB
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PB93-194314/REB PC **A03**/MF **A01**

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PB93-194322/REB PC **A03**/MF **A01**

PB93-194330/REB
Development of Sampling and Analytical Methods for the Measurement of Nitrous Oxide from Fossil Fuel Combustion Sources.
PB93-194330/REB PC **A07**/MF **A02**

PB93-194355/REB
Methods for the Analysis of Carpet Samples for Asbestos.
PB93-194355/REB PC **A02**/MF **A01**

PB93-194363/REB
Comparison of the Efficiency of Polycarbonate and Mixed Cellulose Ester Filters for Use in the Filtration of Water Samples.
PB93-194363/REB PC **A02**/MF **A01**

PB93-194371/REB
Editorial Introduction (to Female Germ Cells: Biology and Genetic Risk).
PB93-194371/REB PC **A01**/MF **A01**

PB93-194389/REB
Gene Expression during Oogenesis in Mice.
PB93-194389/REB PC **A03**/MF **A01**

PB93-194397/REB
Gene Expression in Pre-Implantation Mammalian Embryos.
PB93-194397/REB PC **A03**/MF **A01**

PB93-194405/REB
Spatial Distribution of Sperm-Derived Chromatin in Zygotes Determined by Fluorescence In situ Hybridization.
PB93-194405/REB PC **A03**/MF **A01**

PB93-194413/REB
Cytoplasmic Microtubular Dynamics and Chromatin Organization during Mammalian Oogenesis and Oocyte Maturation.
PB93-194413/REB PC **A03**/MF **A01**

PB93-194421/REB
Maternal Age Effect: The Enigma of Down Syndrome and Other Trisomic Conditions.
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PB93-194439/REB
Organization of the Ovarian Follicle and Events in the Biology: Oogenesis, Ovulation or Atresia.
PB93-194439/REB PC **A03**/MF **A01**

PB93-194447/REB
Frequency and Nature of Specific-Locus Mutations Induced in Female Mice by Radiations and Chemicals: A Review.
PB93-194447/REB PC **A03**/MF **A01**

PB93-194454/REB
ENU Mutagenesis in the Mouse Electrophoretic Specific-Locus Test. 2. Mutational Studies of Mature Oocytes.
PB93-194454/REB PC **A02**/MF **A01**

PB93-194462/REB
Radiation- and Chemically-Induced Chromosome Aberrations in Mouse Oocytes: A Comparison with Effects in Males.
PB93-194462/REB PC **A02**/MF **A01**

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Bleomycin: Female-Specific Dominant Lethal Effects in Mice.
PB93-194470/REB PC **A03**/MF **A01**

PB93-194488/REB
Mutational Risks in Females: Genomic Imprinting and Maternal Molecules.
PB93-194488/REB PC **A03**/MF **A01**

PB93-194496/REB
Developmental Anomalies Derived from Exposure of Zygotes and First-Cleavage Embryos to Mutagens.
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PB93-194504/REB
Bioassay-Directed Fractionation of Organic Contaminants in an Estuarine Sediment Using the New Mutagenic Bioassay, Mutatox (Trade Name).
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Histopathologic Lesions in Sea Otters Exposed to Crude Oil.
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Embryonic Development in vitro Following Short-Duration Exposure to Heat.
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Slowing the Waste Behemoth: Source Reduction is Overshadowed by Recycling's Success.
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Summary of Implementation and Demonstration Projects in Bays and Estuaries.
PB93-194637/REB PC **A07**/MF **A02**

PB93-194694/REB
Design of a Basinwide Monitoring Program for the Tampa Bay Estuary.
PB93-194694/REB PC **A05**/MF **A01**

PB93-196012/REB
Synthesis of Basic Life Histories of Tampa Bay Species.
PB93-196012/REB PC **A12**/MF **A03**

PB93-196020/REB
Development of a Chronic Sediment Toxicity Test for Marine Benthic Amphipods.
PB93-196020/REB PC **A11**/MF **A03**

PB93-196087/REB
Proceedings: 1991 SO2 Control Symposium. Held in Washington, DC. on December 3-6, 1991.
PB93-196087/REB PC **E99**/MF **E99**

PB93-196095/REB
Proceedings: 1991 SO2 Control Symposium. Volume 1. Opening Session and Sessions 1-3.
PB93-196095/REB PC **A19**/MF **A04**

PB93-196103/REB
Proceedings: 1991 SO2 Control Symposium. Volume 2. Sessions 4 and 5A.
PB93-196103/REB PC **A22**/MF **A04**

PB93-196111/REB
Proceedings: 1991 SO2 Control Symposium. Volume 3. Sessions 5B and 6.
PB93-196111/REB PC **A20**/MF **A04**

PB93-196129/REB
Proceedings: 1991 SO2 Control Symposium. Volume 4. Session 7.
PB93-196129/REB PC **A15**/MF **A03**

PB93-196137/REB
Proceedings: 1991 SO2 Control Symposium. Volume 5. Session 8.
PB93-196137/REB PC **A13**/MF **A03**

PB93-196186/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Held in Minneapolis, Minnesota on September 22-25, 1992.
PB93-196186/REB PC **E99**/MF **E99**

PB93-196194/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 1. Symposium Oral Papers Opening Session and Technical Sessions 1 through 6.
PB93-196194/REB PC **A24**/MF **A04**

PB93-196202/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 2. Symposium Oral Papers, Technical Sessions 7 through 12.
PB93-196202/REB PC **A24**/MF **A04**

PB93-196210/REB
Proceedings: The 1992 International Symposium on Radon and Radon Reduction Technology (4th). Volume 3. Symposium Poster Papers, Poster Sessions - All Sessions.
PB93-196210/REB PC **A25**/MF **A06**

PB93-196301/REB
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PB93-196301/REB PC **A03**/MF **A01**

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PB93-196319/REB PC **A03**/MF **A01**

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PB93-196327/REB PC **A03**/MF **A01**

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PB93-196343/REB PC **A03**/MF **A01**

PB93-196350/REB
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PB93-196350/REB PC **A03**/MF **A01**

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PB93-196368/REB PC **A03**/MF **A01**

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PB93-196376/REB PC **A03**/MF **A01**

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PB93-196384/REB PC **A03**/MF **A01**

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PB93-196392/REB PC **A03**/MF **A01**

PB93-196400/REB
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PB93-196400/REB PC **A03**/MF **A01**

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PB93-196418/REB PC **A03**/MF **A01**

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PB93-196434/REB PC **A03**/MF **A01**

PB93-196442/REB
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PB93-196442/REB PC **A03**/MF **A01**

PB93-196459/REB
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PB93-196459/REB PC **A03**/MF **A01**

PB93-196467/REB
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PB93-196467/REB PC **A03**/MF **A01**

PB93-196475/REB
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PB93-196475/REB PC **A03**/MF **A01**

PB93-196483/REB
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PB93-196483/REB PC **A03**/MF **A01**

PB93-196491/REB
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PB93-196491/REB PC **A03**/MF **A01**

PB93-196509/REB
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PB93-196509/REB PC **A03**/MF **A01**

PB93-196517/REB
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PB93-196517/REB PC **A03**/MF **A01**

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PB93-196525/REB PC **A03**/MF **A01**

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PB93-196533/REB PC **A03**/MF **A01**

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PB93-196541/REB PC **A03**/MF **A01**

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PB93-196566/REB PC **A03**/MF **A01**

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PB93-196574/REB PC **A03**/MF **A01**

PB93-196582/REB
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PB93-196582/REB PC **A03**/MF **A01**

PB93-196590/REB
Evaluation of the Potential Carcinogenicity of 1,2-Propylenimine (75-55-8).
PB93-196590/REB PC **A03**/MF **A01**

PB93-196608/REB
Evaluation of the Potential Carcinogenicity Saccharin (81-07-2).
PB93-196608/REB PC **A03**/MF **A01**

PB93-196616/REB
Stress Cracking Behavior of HDPE Geomembranes and Its Prevention.
PB93-196616/REB PC **A06**/MF **A02**

PB93-196624/REB
Directory of OAQPS Information Services, May 1993.
PB93-196624/REB PC **A03**/MF **A01**

PB93-196632/REB
Medium Systems That Failed to Conduct Required Initial Lead Tap Monitoring and Reporting.
PB93-196632/REB PC **A03**/MF **A01**

PB93-196665/REB
Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis.
PB93-196665/REB PC **A12**/MF **A03**

PB93-196988/REB
Sea Urchin ('Strongylocentrotus purpuratus') Fertilization Test Method.
PB93-196988/REB PC **A03**/MF **A01**

PB93-196996/REB
Forest Sector Carbon Budget of the United States: Carbon Pools and Flux under Alternative Policy Options.
PB93-196996/REB PC **A10**/MF **A03**

PB93-197887/REB
Glass Markets Information System; Application Summary Reports.
PB93-197887/REB PC **A05**/MF **A01**

PB93-197903/REB
Federal Test Procedure Review Project: Status Report.
PB93-197903/REB PC **A03**/MF **A01**

PB93-197929/REB
Conversion of Methanol-Fueled 16-Valve, 4-Cylinder Engine to Operation on Gaseous 2H2/CO Fuel - Final Report.
PB93-197929/REB PC **A03**/MF **A01**

PB93-198695/REB
Pesticide Fact Sheet Number 240: Dimethenamid. SAN 582H/Frontier (Trade Name) Herbicide.
PB93-198695/REB PC **A03**/MF **A01**

PB93-198703/REB
RED Facts: Iron Salts.
PB93-198703/REB PC **A02**/MF **A01**

PB93-198711/REB
Pesticide Fact Sheet: Arsenic Acid (H3AsO4).
PB93-198711/REB PC **A02**/MF **A01**

PB93-198844/REB
Building and HVAC Characterization for Commercial Building Indoor Air Quality Investigations.
PB93-198844/REB PC **A07**/MF **A02**

PB93-198950/REB
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 1.
PB93-198950/REB PC **A17**/MF **A04**

PB93-198968/REB
Wood Products in the Waste Stream: Characterization and Combustion Emissions. Volume 2, Appendices.
PB93-198968/REB PC **A07**/MF **A02**

PB93-198976/REB
Town of Edinburg Landfill Reclamation Demonstration Project.
PB93-198976/REB PC **A12**/MF **A03**

PB93-199107/REB
Guide to Effective Inspection Reports for Air Pollution Violations. Stationary Source Compliance Training Series.
PB93-199107/REB PC **A04**/MF **A01**

PB93-199115/REB
Reporting and Recordkeeping Requirements for Waste Disposal: A Field Guide.
PB93-199115/REB PC **A03**/MF **A01**

PB93-199123/REB
Benzene Equipment Leak Inspection Manual.
PB93-199123/REB PC **A06**/MF **A02**

PB93-199131/REB
Alternative Control Technology Document: Control of VOC Emissions from the Application of Agricultural Pesticides.
PB93-199131/REB PC **A12**/MF **A03**

PB93-199214/REB
Air/Superfund National Technical Guidance Study Series. Volume 4. Guidance for Ambient Air Monitoring at Superfund Sites (Revised).
PB93-199214/REB PC **A08**/MF **A02**

PB93-199230/REB
Control Technology Center FY92: A Summary of Program Accomplishments.
PB93-199230/REB PC **A03**/MF **A01**

PB93-199248/REB
Development of Residential Wood Consumption Estimation Models.
PB93-199248/REB PC **A04**/MF **A01**

PB93-199255/REB
Light-Duty Automotive Technology and Fuel Economy Trends through 1993.
PB93-199255/REB PC **A06**/MF **A02**

PB93-199263/REB
Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems.
PB93-199263/REB PC **A05**/MF **A01**

PB93-199297/REB
Standards of Performance for New Stationary Sources. Volume 1. Introduction, Summary and Standards: A Compilation as of December 31, 1985.
PB93-199297/REB PC **A08**/MF **A02**

PB93-199321/REB
Background Information Document to Support NESHAPS Rulemaking on Nuclear Power Reactors.
PB93-199321/REB PC **A14**/MF **A03**

PB93-199339/REB
Compliance Data System Quality Assurance Manual, June 1984.
PB93-199339/REB PC **A10**/MF **A03**

PB93-199347/REB
Summary of Factors Affecting Compliance by Ferrous Foundaries. Volume 1. Text.
PB93-199347/REB PC **A05**/MF **A02**

PB93-199354/REB
Summary of Continuous Emissions Data from Seven Source Categories Producing or Using Hazardous Organic Compounds.
PB93-199354/REB PC **A07**/MF **A02**

PB93-199362/REB
Guide to the Asbestos NESHAP as Revised November 1990.
PB93-199362/REB PC **A04**/MF **A01**

PB93-199370/REB
Guideline for Graphic Arts Calculations.
PB93-199370/REB PC **A05**/MF **A01**

PB93-199388/REB
Recommended Foundation Barrier Construction Standard of the Florida Radon Research Program.
PB93-199388/REB PC **A03**/MF **A01**

PB93-199396/REB
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PB93-199412/REB PC **A03**/MF **A01**

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PB93-199420/REB PC **A03**/MF **A01**

PB93-199438/REB
Field and Laboratory Studies of Chemical Contamination and Environmentally Related Diseases in Fish and Molluscs of New England.
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PB93-199446/REB PC **A03**/MF **A01**

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Chronic Effects of Ultraviolet-B Radiation on Growth and Cell Volume of 'Phaeodactylum tricornutum' (Bacillariophyceae).
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PB93-199560/REB PC **A03**/MF **A01**

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PB93-199651/REB
Bacillus thuringiensis var. kurstaki Affects a Beneficial Insect, the Cinnabar Moth (Lepidoptera: Arctidae).
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PB93-199669/REB PC **A02**/MF **A01**

PB93-199677/REB
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Structure and Performance of the Health Effects Institute.
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PB93-200517/REB
National List of Asbestos Landfills.
PB93-200517/REB PC **A10**/MF **A03**

PB93-200525/REB
Guidance on the Relationship between the 15 Percent Rate-of-Progress Plans and Other Provisions of the Clean Air Act.
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Risk Communication About Chemicals in Your Community. Facilitator's Manual and Guide.
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PB93-200640/REB
Procedures for Estimating Probability of Nonattainment of a PM10 NAAQS Using Total Suspended Particulate or Inhalable Particulate Data (Draft).
PB93-200640/REB PC **A04**/MF **A01**

PB93-200673/REB
Low-Level and NARM Radioactive Wastes. Draft Environmental Impact Statement for Proposed Rules. Volume 1, Background Information Document.
PB93-200673/REB PC **A99**/MF **A06**

PB93-200780/REB
Reregistration Eligibility Document (RED): Iron Salts.
PB93-200780/REB PC **A05**/MF **A02**

PB93-200798/REB
Aeros Manual Series. Volume 5. Aeros Manual of Codes. Update Number 9.
PB93-200798/REB PC **A10**/MF **A03**

PB93-200806/REB
Toxic and Hazardous Chemicals, Title III and Communities: An Outreach Manual for Community Groups.
PB93-200806/REB PC **A08**/MF **A02**

PB93-200814/REB
Pesticide Safety and Training Materials Catalog (Catalogo de Materiales Educativos y Proteccion Sobre Pesticidas).
PB93-200814/REB PC **A07**/MF **A02**

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PB93-200897/REB
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PB93-200897/REB PC **A10/MF A03**

PB93-200905/REB
Always a River: Supplemental Environmental Education Curriculum on the Ohio River and Water Grades K-12.
PB93-200905/REB PC **A14/MF A03**

PB93-200913/REB
Air/Superfund National Technical Guidance Study Series: Evaluation of Short-Term Air Action Levels for Superfund Sites.
PB93-200913/REB PC **A14/MF A03**

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PB93-202604/REB
Ambient Aquatic Life Water Quality Criteria for Silver.
PB93-202604/REB PC **A06/MF A02**

PB93-202612/REB
Clean Water and the American Economy. Proceedings: Surface Water. Volume 1. Held on October 19-21, 1992.
PB93-202612/REB PC **A14/MF A03**

PB93-202620/REB
Clean Water and the American Economy. Proceedings: Ground Water. Volume 2. Held on October 19-21, 1992.
PB93-202620/REB PC **A07/MF A02**

PB93-202745/REB
Guidance Manual for Control of Slug Loadings to POTWs.
PB93-202745/REB PC **A08/MF A02**

PB93-202752/REB
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PB93-202760/REB PC **A03/MF A01**

PB93-202778/REB
Ambient Aquatic Life Water Quality Criteria for Antimony (III).
PB93-202778/REB PC **A03/MF A01**

PB93-202802/REB
Drinking Water Training Resources Directory: A National Training Coalition Directory of Current Training Materials. First Edition.
PB93-202802/REB PC **A07/MF A02**

PB93-202828/REB
Interim Report on Data and Methods for Assessment of 2,3,7,8-Tetrachlorodibenzo-p-dioxin Risks to Aquatic Life and Associated Wildlife.
PB93-202828/REB PC **A08/MF A02**

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PB93-202935/REB PC **A04/MF A01**

PB93-203982/REB
Monitoring Lake and Reservoir Restoration: Technical Supplement to the Lake and Reservoir Restoration Guidance Manual.
PB93-203982/REB PC **A08/MF A02**

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PB93-204030/REB
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PB93-204154/REB
Mineralization of Recalcitrant Environmental Pollutants by a White Rot Fungus. Proceedings of the National Conference on Hazardous Wastes and Hazardous Materials. Held in Washington, DC. on March 16-18, 1987.
PB93-204154/REB PC **A02/MF A01**

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PB93-204162/REB PC **A03/MF A01**

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PB93-206787/REB PC **A01/MF A01**

PB93-504538/REB
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PB93-504538/REB CP **D05**

PB93-504546/REB
Emissions and Fuel Economy Results 1992 Car Models (for Microcomputers).
PB93-504546/REB CP **D02**

PB93-504553/REB
Emissions and Fuel Economy Results 1993 Car Models (for Microcomputers).
PB93-504553/REB CP **D02**

PB93-504595/REB
Toxic Substances Control Act (TSCA) Chemical Substances Inventory: Revised Synonym and Preferred Name File, January 1993.
PB93-504595/REB CP **T05**

PB93-504793/REB
Crosswalk/Air Toxic Emission Factor Data Base Management System (XATEF) Version 2.0 (for Microcomputers).
PB93-504793/REB CP **D02**

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PB93-504959/REB CP **D02**

PB93-504967/REB
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PB93-505238/REB
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PB93-505295/REB CP **D02**

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PB93-963100/REB
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