



Volume 6, Number 1, Winter/Spring 1996

Table of Contents

- [Features](#)

- [State Issue a Record Number of Health Advisories](#)
- [Incineration Is Examined as a Method of Disposing of Hazardous Waste](#)
- [Getting the Message Across. Citizen Handbook on Superfund Sites](#)
- [An Old Danger in Need of New Public Education Efforts](#)
- [Onsite Wastewater...EPA Wants Your Input](#)
- [Envir-O-Phone](#)

- [Announcements](#)

- [Infants and Children Now Count](#)
- [ATSDR Recruitment Opportunities](#)

- [Courses](#)

- [The National Environmental Health Association Offers Risk Communication Workshops for Health Professionals](#)
- [The University of California Center for Occupational and Environmental Health Offers Continuing Education Courses in Fundamentals of Industrial Hygiene and Respiratory Protection](#)
- [The University of Utah Rocky Mountain Center for Occupational and Environmental Health Announces Courses in Environmental Health](#)

- [Calendar of Events](#)

- [April/May](#)

- [June](#)
-

[Link for Reader Feedback:](#)

The newsletter's guestbook and feedback form is still under construction, but meanwhile, you can send us a message via this link telling us who you are, to request additional information about newsletter articles, or to send comments.

Administration

David Satcher, MD, PhD
Administrator
Agency for Toxic Substances and Disease Registry

Barry L. Johnson, PhD
Assistant Administrator

Maureen Y. Lichtveld, MD, MPH Acting Director, Division of Health Education

Staff

Managing Editor
Teresa Ramsey

Assistant Editor
Susan Coatsworth

Staff Writers
Susan Coatsworth, Georgia Ann Moore

Layout and Graphics
Susan Coatsworth, Patrick Brady

[[Hazardous Substances & Public Health Homepage](#)]




[ATSDR Home Page](#)

Send comments or questions to atsdr-hsph@cdc.gov.

FEATURES

States Issue a Record Number of Health Advisories

Fish Contaminated with Mercury Is a Rising Health Concern

Forty-six states issued public health warnings in 1994 advising citizens to avoid or limit fish consumption because of chemical contamination in thousands of water bodies across the country - - a 20% increase from the previous year. Sixty percent of the health warnings against fish consumption are related to mercury contamination of the fish, reports the [US Environmental Protection Agency \(EPA\)](#). 

Forty percent of the nation's rivers, lakes, and streams are not suitable for fishing and swimming because of pollution this is an alarming health concern," said EPA's administrator Carol Browner. During 1994, large portions of the nation's coastal areas and all of the Great Lakes had fish advisories in effect. Most of the fish advisories applied to noncommercial fishing. Of the 46 states, 7 (Maine, Massachusetts, Michigan, Missouri, New Jersey, New York, and Florida) issued statewide advisories in 1994 against eating fish from state waters because of chemical pollutants such as [mercury](#), [PCBs \(polychlorinated biphenyls, a now-banned electrical insulator\)](#), the pesticide [chlordane](#), and the banned pesticide [DDT](#). In 1995 New Hampshire and Vermont issued similar statewide fish advisories.



Sixty percent of health warnings against fish consumption are related to mercury contamination

Fish advisories are recommendations to limit consumption of certain species of fish taken from waters where chemical contaminants are present. Each advisory is different; an advisory may recommend no consumption or limited consumption. Women who are pregnant or who are breastfeeding their infants are at greater risk from eating contaminated fish. Other groups are at risk because they consume large quantities of fish: Native Americans, some segments of the Asian-American community, and low-income individuals who rely on fishing to provide food for their families.

The largest sources of mercury contamination are air emissions from power plants that burn coal and incinerate wastes containing mercury or mercury-containing products and industrial facilities that use mercury in their processes. Once released into the atmosphere, mercury can be deposited in water directly or through runoff (eliminated waste products from manufacturing processes). Once in the water, the mercury can be converted by bacteria to a carbon-containing or organic form of mercury called methylmercury. Methylmercury is highly toxic and accumulates in fish flesh. Long-term exposure of humans to organic mercury can permanently damage the brain, kidneys, and developing fetuses. (Also see related article on the impact of inorganic mercury, "An Old Danger in Need of New Public Health Effort,").

The general public can call state government agencies (in most cases, the state health department) for information about state fish advisories. EPA also offers the "National Listing of Fish Consumption Advisories" to the public free of charge on five computer (PC-based, 3.5-inch) diskettes. The database contains information on each body of water for which an advisory has been issued, including the type of advisory (such as restricted consumption bans), fish species, contaminating chemicals, population segments affected, issue dates, and state government agency contacts and phone numbers. The database may be used to generate maps for specific geographic locations to help monitor fish contamination.

For copies of the diskettes, request document number 823-C-95-001 from EPA's National Center for Environmental Publications and Information, 11029 Kenwood Road, Cincinnati, Ohio 45242; telephone (513) 489-8190.

Incineration Is Examined as a Method of Disposing of Hazardous Waste

"Incinerator" is a word most communities would rather not hear. But, where hazardous wastes are generated, the question becomes how to dispose of harmful substances such as [polychlorinated biphenyls \(PCBs\)](#) in ways that do not harm the public's health and the environment. Some scientists and public health officials believe incineration is a safe and effective way of disposing hazardous wastes. Regulatory officials, public health officials, legislators, industry, academe, and the general public are asking Is incineration the safest method available for disposing of hazardous substances?



Incinerators are being used to dispose of harmful substances such as polychlorinated biphenyls (PCBs).

Residents of Bloomington, Indiana, are familiar with this problem. They live near six hazardous waste sites that have PCB-contaminated soil, and incineration was the remedial technology suggested for the cleanup. Waste becomes a public health concern when improperly managed and disposed of. The residents of Bloomington had many health concerns and requested help from the Agency for Toxic Substances and Disease Registry (ATSDR) to address any potential public health implications of incinerating waste contaminated with PCBs.

PCBs are no longer manufactured, but human exposure still occurs. Because of their insulating and nonflammable properties, PCBs were used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. The manufacture of PCBs stopped in the United States in 1977 because of evidence that PCBs accumulate in the environment and may cause health hazards for humans.

Human studies to date show that skin irritation such as acne-like lesions and rashes have occurred in PCB-exposed workers. The US Department of Health and Human Services has determined that exposure to PCBs may cause liver cancer. Reproductive and developmental effects may also be related to exposure.

At Bloomington, ATSDR developed a multiphase project that had three purposes: (1) to conduct a comprehensive assessment of the impact on public health of the six PCB-contaminated hazardous waste sites; (2) to determine any potential public health implications of incinerating the PCB-contaminated waste; and (3) to identify and evaluate the pertinent public health considerations of technically feasible remedial strategies other than incineration aimed at the treatment and disposal of PCB-contaminated waste. These six sites are Bennett Stone Quarry, Lemon Lane Landfill, Neal's Dump, Neal's Landfill, Anderson Road Landfill, and Winston-Thomas Sewage Treatment Plant.

To accomplish these tasks, ATSDR chose 30 national experts on PCBs. The experts developed three panels to conduct a comprehensive review, evaluate the public health implications of incinerating PCB-contaminated waste, and to investigate other non-incineration remedial strategies for disposing of PCBs.

The panel members looked at numerous data on PCBs and the suggested health implications including cancer and reproductive and developmental problems associated with PCB exposure. They found assessing the potential human health effects of exposure to PCBs complex and challenging. Although considerable research has been done in this area, there is much that remains unknown or uncertain, and new research on the subject is needed to expand our knowledge about the toxicity of these chemicals.

In [1994 congressional testimony](#), ATSDR Assistant Administrator Barry L. Johnson, PhD, stated, "An accurate assessment of the public health implications of a waste disposal facility can only be meaningful if it is specific to

that facility, the environment, and community surrounding the facility. Although modeling and other risk assessment methodologies provide useful predictive data, this information should be supplemented with actual data from the facility in question, the surrounding environment, and, above all, the health data from potentially affected communities."

To date, there is no incinerator at the Bloomington sites. The project has been delayed and non-incinerator remedial methods are being studied.

Proceedings of the panel are now available from ATSDR. Proceedings of the Expert Panel Workshop To Evaluate the Public Health Implications for the Treatment and Disposal of Polychlorinated Biphenyls-Contaminated Waste provides the panels' suggestions and discusses such topics as research into carcinogenicity of PCBs, reproductive and developmental outcome related to PCB exposure, adverse health effects associated with non-dioxin-like PCBs (for example, estrogen-like and phenobarbital-like PCBs), chlorinated levels, waste feed types, chemical structures, and incineration and non-incineration remedial technologies associated with disposing of PCBs. To obtain a free copy contact ATSDR, Office of Policy and External Affairs, 1600 Clifton Road, NE, Mailstop E60, Atlanta, Georgia 30333; telephone (404) 639-0501; fax (404) 639-0522.

[\[Table of Contents\]](#)

From the states. . .

Getting the Message Across: Citizen Handbook on Superfund Sites

Julia M. Winter, MS, and Lu Grimm, MA

"The Superfund process involves a number of steps, requiring careful analysis of data from organic and inorganic samples, extensive networking with parties involved, and sequential steps leading to removal and remediation at the affected site, thus ensuring environmental and public health safety."

Most public health professionals in the business of Superfund understand the meaning behind this sentence, but what about the general public? Government publications can be too technical for the average citizen. Julia Winter, a community relations and health education specialist for the Florida Department of Health and Rehabilitative Services (FDHRS), decided to make materials developed by Florida's ATSDR Superfund program less technical. In 1994, she proposed to develop a comprehensive, easily understandable information packet about the Superfund process. Other ATSDR cooperative agreement states enthusiastically endorsed the idea and agreed to become part of the pilot project. She recruited the assistance of Lu Grimm, research and training specialist, FDHRS, and together the two developed the Citizen Handbook on Superfund Sites.

The handbook provides a basic overview of the Superfund process, with particular attention paid to the concerns commonly expressed by citizens in affected communities. Included are nine topics, each approximately one double-sided page in length. Each topic was reviewed by citizens and pilot tested on a national level. During development, experts in the field were consulted to ensure technical accuracy. The final product contains sections on public health assessments, toxicology of hazardous waste sites, technical assistance grants, site cleanup, public involvement, worker safety at sites, the Superfund program, exposure pathways, self-protection, and a glossary. Winter is currently developing an additional section on health consultations. The overall reading level is approximately eighth-grade, and the handbook will soon be available in Spanish. The handbook is now available on disk in an 8 x 5 inch format for general distribution and an 8 x 11 inch format for library distribution throughout Florida. From its inception, the handbook was designed to be easily modified for use by other states. Site-specific information and local resource telephone numbers can be added to make the handbook tailor-made for a particular area.

Plans are being made to modify the handbook for use by school-aged children. Children are especially susceptible to adverse health effects from exposure to toxic substances. This fact, along with children's typical interest in the environment, makes them an ideal target audience.

The Citizen Handbook on Superfund Sites is available free on disk in either in a PageMaker 5.0 or Word Perfect 6.1 format. The PageMaker format is camera-ready. Both the 8 x 5 inch or 8 x 11 inch formats are available. Hard copies of the original version are also available. For more information, contact Julia Winter, MS, Florida Department of Health and Rehabilitative Services, Office of Environmental Toxicology, 1317 Winewood Boulevard, Tallahassee, Florida 32399-0700; telephone (904) 488-3385; E-mail jwinter@freenet.fsu.edu; or CDC Wonder. For more information about the children's version, contact Michele Perry at (904) 488-3385.

[\[Table of Contents\]](#)

An Old Danger in Need of New Public Education Efforts

It's dazzling...it's slick...it's mercury and it's deadly

Five adolescent boys playing near an abandoned van in Belle Glade, Florida, found five pint-sized mayonnaise jars full of a silver substance. During the next 25 days, they played with the substance [mercury](#) outdoors, inside homes, in school buses, classrooms, cafeterias, canals, and a sugar cane field. They brought the jars to their high school and shared their find with fellow students. The students threw it at each other, dribbled it into a fish tank, poured it into a canal, dipped their jewelry in it, put it in their mouths to see if their teeth would turn silver, and sold it to other children.

One 14-year-old said, "You ever seen Terminator II? Where the bad guy melts into the ground? That's just what it's like."

A parent notified police and fire authorities about the mercury. Fifty homes were evacuated while the impact on residents' health and the environment was assessed. Unsafe mercury vapor levels were detected in 17 residences, forcing evacuation of 86 people. The local high school was closed for four days. Many students at two schools were exposed to mercury and more than 400 people were tested for mercury exposure. Of those tested, 54 were determined to be mildly to moderately poisoned, even though they exhibited no symptoms. Blood and urine levels dropped once persons were removed from exposure sources; however, 5 months later several persons still had elevated mercury in their blood or urine. They are retested periodically to assure that levels do not persist.

Homes and classrooms were cleaned by spreading powdered sulfur on floors and vacuuming surfaces using particulate arresting filters. Contaminated items, such as carpeting, linoleum, clothing, bedding, furniture, and appliances, were removed from homes and disposed of. Families were displaced from their homes during the cleanup, and it was 5 months before all the homes were declared safe.

By the end of this ordeal, Belle Glade, Florida, had a full-scale toxic emergency accompanied by a \$795,457 bill.

During the past few years, members of the Agency for Toxic Substances and Disease Registry (ATSDR) Emergency Response Section have documented and responded to calls from all over the United States concerning incidents of mercury exposure, particularly of children.

Children and adolescents aren't the only ones discovering and handling this dangerous substance. Similar stories involving college students and adults in recent years illustrate that many people are still unaware of mercury's dangers and that renewed education efforts are needed.

Mercury is a naturally occurring element that appears as a silvery liquid. It is slippery and tends to break up into beads. It volatilizes easily into the air as odorless, colorless vapors that are highly toxic and can be deadly.

Exposure to mercury can damage the brain, kidneys, and developing fetuses. The nervous system is very sensitive to mercury's toxic effects, especially when mercury vapors are inhaled.

Mercury is used in a variety of household, laboratory, and industrial items, including batteries, thermostats, fluorescent light bulbs, light switches, barometers, glass thermometers, and some blood pressure machines.

Recent cases of mercury exposure have had these similarities:

- In all cases, children were unaware of the dangers of playing with mercury.
- In some cases, children who had played with mercury required hospitalization.
- Attempts were made by residents to clean up the mercury spills. Some used a vacuum, which increased toxic mercury vapors in the air and ruined the appliance.
- In some cases, adults gave children metallic mercury to play with.
- In other cases, mercury was stored where children had access to it.
- Cleanup of the mercury was costly and, in some cases, required temporary relocation of exposed people.

In most cases, mercury exposure can be prevented by educating the public about proper handling and storage of mercury. The following prevention strategies are recommended:

- Educate schoolchildren about mercury. Educational materials on mercury specifically developed for schoolchildren and incorporated into science classes would result in an increased awareness of the element and its potential hazards.
- Replace mercury-containing gauges and other instruments with those that do not contain mercury. School science labs should be encouraged to obtain mercury-free instruments and gauges when available.
- Educate adults about the hazards of mercury. Adults who work with mercury should be educated about the toxic effects of mercury.
- Mercury should never be taken home from the workplace.
- Take an inventory of household, school, and industry items that contain mercury. Make others aware of these items and how to properly handle and store them.
- Protect mercury-containing instruments so they do not break and release mercury.
- Know what to do in the event of a mercury spill. Proper cleanup and disposal of mercury needs to be done by trained individuals. If a spill occurs or mercury is discovered in the environment, call the local poison control center; fire department; or a local, state, or federal health or environmental agency.

Information about mercury can be found in most libraries. The following are specific mercury information resources:

- ATSDR Mercury Fact Sheet. Call (404) 639-6312 to request a free copy. ATSDR Public Health Statement: Mercury. Call (404) 639-6204 to request a free copy.
- ATSDR Toxicological Profile on Mercury (TP-93/10). Call (404) 639-6304 for more information on how to get a copy.
- ATSDR Case Studies in Environmental Medicine: Mercury Toxicity. Call (404) 639-6204 to request a free copy.

[\[Table of Contents\]](#)

Onsite Wastewater...EPA Wants Your Input

The National Environmental Health Association (NEHA), among other organizations, has been asked to participate in the revision of the US Environmental Protection Agency's Onsite Wastewater Treatment and Disposal Systems Design Manual (the last update was published in 1980). This is your opportunity to let your voice be heard, and your help and expertise is needed. If you would like to provide input into this process, please forward any comments or suggestions to Paul Chase, RS, NEHA's technical section chair for onsite wastewater

management at DuPage County Health Department, 111 North County Farm Road, Wheaton, Illinois 60187; telephone (708) 682-7979, ext. 7396; fax (708) 462-9463.

[\[Table of Contents\]](#)

Envir-O-Phone

Is there an all-natural solution for cleaning windows? What is the environmental impact of putting pesticides on lawns? How many animal species have become extinct in the past decade? People with environmental questions like these used to have to spend the afternoon at the library to get answers. Today, they can just call (800) 320-APIE (Public Information on the Environment), a national nonprofit organization that offers assistance and clear, practical answers to individuals and businesses with environmental questions and concerns. The American PIE hotline is answered by staff members, 8:30 am to 5 pm EST. For more information, write the group at 124 High Street, PO Box 340, South Glastonbury, Connecticut 06073 or E-mail: APIE800@aol.com.

[\[Table of Contents\]](#)

ANNOUNCEMENTS

Infants and Children Now Count:

EPA Announces First-Ever Policy on Evaluating Environmental Health Risks to Children

Exposures to toxic substances can affect children's growth and development, and many harmful substances can be more easily absorbed by children's immature body tissues, causing severe illness. [The US Environmental Protection Agency \(EPA\)](#) is implementing a new policy that for the first time takes into account health risks to infants and children from exposure to environmental hazards in the air, land, food, and water. This new policy will ensure that risks to infants and children are considered "consistently and explicitly" as part of all risk assessments, risk characterizations, and environmental and public health standards that are established for the nation.



EPA Administrator Carol Browner announces policy to include children in risk assessment

"This policy will help us do even more to protect the health of our infants and children," said Carol Browner, EPA's administrator. "Our new policy directly responds to the National Academy of Sciences' reminder that children aren't just little adults when it comes to environmental hazards. This action will help provide the extra protection they need, where they need it in our nation's standards for protecting public health and the environment."

Accounting for children's health risks is a common practice in medicine, but until now it has not been widely applied in assessing risks from environmental hazards. Children breathe more rapidly than adults and can inhale more of an air pollutant per pound of body weight than adults. In other cases, children's behavior can create more exposure to environmental pollutants. For example, children eat more fresh produce and drink more tap water, milk, and juice per unit of body weight than most adults, creating more potential for exposure to contaminants and pesticides.

Children's health is a priority in this country and this new policy is an extension of the commitment and dedication from groups such as the Children's Environmental Health Network, who worked hard to establish this policy.

Browner said, "We expect that this policy will encourage new, much-needed research to provide the child-specific data needed to thoroughly evaluate the health risks children and infants face from pollution in our air, land, water, and food. In the long run, healthier children mean healthier adults a great benefit for the nation."

[\[Table of Contents\]](#)

Position Vacancies

The Agency for Toxic Substances and Disease Registry (ATSDR) is part of the US Public Health Service and is located in Atlanta, Georgia.

The Agency's mission is to prevent exposure to hazardous substances from waste sites, unplanned releases, and other sources of pollution present in the environment.

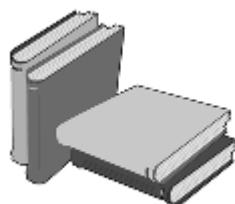
ATSDR offers employees a unique opportunity to affect environmental health issues qualified MD MS/PhD-level candidates are preferred.

The Agency is currently recruiting to fill the following position vacancies: Medical Officers, Health Education Specialist, Epidemiologist, Environmental Health Scientist, Environmental Protection Specialist, Biostatistician/Statistician, Behavioral Scientist, Toxicologist, Public Health Nurse.

Send Resume or CV to CDC/ATSDR, Human Resources Management Office, Attention: Jeannie McCleary (Gen), 4770 Buford Highway, Mailstop K15, Atlanta, Georgia 30341-3724.

ATSDR is an Equal Opportunity Employer and provides a smoke-free environment.

[\[Table of Contents\]](#)



COURSES

The National Environmental Health Association Offers Risk Communication Workshops for Health Professionals

Risk Communication Workshop for Health Professionals, June 5, 1996, Columbus, Ohio; and June 28, 1996, Chicago, Illinois. This 1 day workshop provides a framework of principles and approaches for communicating health risk information to diverse audiences. There is a nominal fee.

For more information contact Larry Marcum, NEHA, 720 South Colorado Boulevard, Suite 970, South Tower, Denver, Colorado 80222; telephone (303) 756-9090 ext. 303; fax (303) 691-9490.

[\[Table of Contents\]](#)

The University of California Center for Occupational and Environmental Health Offers Continuing Education Courses in Fundamentals of Industrial Hygiene and Respiratory Protection

Fundamentals of Industrial Hygiene, two offerings: June 3-7, 1996 and November 11-16, 1996. This 5-day course is an introduction to the basic concepts of industrial hygiene. Recognizing, evaluating, and controlling occupational health hazards are discussed. This course is for individuals who have just begun to assume direct working or management responsibility in this area. Cost: \$850.

Respiratory Protection Program, August 5-9, 1996. This comprehensive 5-day course emphasizes the OSHA requirements for respiratory protection programs and is intended for those who have general supervisory responsibilities for establishing and maintaining viable and cost-effective respiratory protection programs. Cost: \$900

. For more information about these and other available courses, contact the Center for Occupational and Environmental Health (COEH), Continuing Education Program, UC Berkeley Richmond Field Station, 1301 South 46th Street, Building 102, Richmond, California 94804; telephone (510) 231-5645; fax (510) 231-5648.

[\[Table of Contents\]](#)

The University of Utah Rocky Mountain Center for Occupational and Environmental Health Announces Courses in Environmental Health

Second Colloquium on Particulate Air Pollution and Human Health, May 1-3, 1996. This 3-day program includes discussions of safety concentrations of PM10 and PM2.5; knowledge gaps and research priorities of PM10 and PM2.5; occupational hazards associated with low concentrations of PM10 and PM2.5-type particles; and comparisons of sampling strategies and instruments. Participants will analyze manual material-handling tasks using computerized biomechanical and metabolic models developed at the University of Utah.

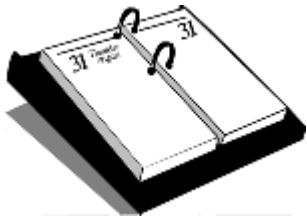
Industrial Toxicology and Applied Risk Analysis, June 10-12, 1996. This 4-day course is for health, safety, and environmental professionals who desire a basic understanding of toxicology principles and applications in industrial environments.

Air Sampling for Toxic Substances, June 25-28, 1996. This course consists of two independent parts. Both parts are 2 days long and are offered consecutively to allow participants to attend either or both sessions. Part I provides a general introduction to industrial hygiene air sampling. Part II provides thorough training in asbestos air sampling.

For more information about these and other available courses, contact the Rocky Mountain Center for Occupational and Environmental Health, University of Utah, Building 512, Salt Lake City, Utah 84112; telephone (801) 581-5710.

[\[Table of Contents\]](#)

CALENDAR OF EVENTS



April/May

April 23-25, 1996; Advances in Toxicology and Applications to Risk Assessment; Wright-Patterson Air Force Base, Ohio. Contact: Ms. Lois Doncaster, ManTech Environmental Technology, Inc., PO Box 31009, Dayton, Ohio 45437-0009; telephone (513) 255-5150, ext. 3140; fax (513) 258-2197.

April 26-May 3, 1996; 55th American Occupational Health Conference; San Antonio, Texas. Contact: Kay Coyne, 55 West Seegers Road, Arlington Heights, Illinois 60005-3919; telephone (708) 228-6850; fax (708) 228-1856.

April 29-May 3, 1996; California Environmental Health Association (CEHA) 45th Annual Education Symposium; Oakland, California. Contact: CEHA, 783 Rio Del Mar Boulevard #61, Aptos, California 95003; telephone (408) 684-2795; fax (408) 662-8487. **May 1-3, 1996**; Second Colloquium on Particulate Air Pollution and Health; Park City, Utah. Contact: University of Utah, Rocky Mountain Center for Occupational and Environmental Health, Building 512, Salt Lake City, Utah 84112; telephone (801) 581-5710; fax (801) 581-7224.

June

June 1-5, 1996; 96th Annual Medical Library Association Conference; Kansas City, Missouri. Contact: MLA, Suite 300, Six North Michigan Avenue, Chicago, Illinois 60602-4805; telephone (312) 419-9094; fax (312) 419-8950.

June 30- July 3, 1996; National Environmental Health Association Annual Conference; Chicago, Illinois, Contact: NEHA, 720 South Colorado Boulevard, Suite 970, South Tower, Denver, Colorado 80222; telephone (303) 756-9090; fax (303) 691-9490.

[\[Table of Contents\]](#)

[\[Hazardous Substances & Public Health Homepage\]](#)



[ATSDR Homepage](#)

Send comments or questions to atsdr-hsph@cdc.gov.

[ATSDR Home](#) | [Search](#) | [Index](#) | [Glossary](#) | [Contact Us](#)
[About ATSDR](#) | [News Archive](#) | [ToxFAQs](#) | [HazDat](#) | [Public Health Assessments](#)
[Privacy Policy](#) | [External Links Disclaimer](#) | [Accessibility](#)
[U.S. Department of Health and Human Services](#)