

DISPOSING OF SMALL BATCHES
OF HAZARDOUS WASTES

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the Office of Solid Waste
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Contents Key



IDENTIFICATION

POTENTIALLY ↓ HAZARDOUS

DISPOSAL



**REUSE/
RECYCLE
?**

NO



BEST OPTION

**DISPOSAL IN
HAZARDOUS WASTE
MANAGEMENT
FACILITY
?**

NO



**IN-HOUSE
TREATMENT/
DISPOSAL
?**

NO



**DISPOSAL IN
MUNICIPAL
INCINERATORS
?**

NO



**DISPOSAL IN
SANITARY
LANDFILLS
?**

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Introduction

Mismanagement of industrial waste and indiscriminate disposal of certain business and commercial wastes and household items have already resulted in numerous documented cases of air contamination, land and water pollution, property damage, and injuries and death of humans and animals. Small batches of hazardous wastes are generated as discarded household items, (e.g., battery acid or small pesticide cans) as chemical wastes from small business and manufacturing establishments, and from commercial, university, and high school laboratories.

The objective of this guide is to assist the holders of small batches of wastes in determining if a waste contains hazardous components and, if so, how it should be handled and disposed of in order to protect the public health and the environment. The guide emphasizes information sources on waste handling and disposal and presents methods and options which are available to the waste holder for the disposal of small batches of hazardous wastes.

It also provides a step-by-step procedure on what to look for, who to ask, and what steps to take if you suspect you have hazardous waste or material that must be disposed of. It will enable you to answer the following crucial questions concerning the disposal of hazardous wastes:

- What are they?
- How do I identify them?
- How do I properly dispose of them?

Keep this guide on your reference shelf, and add to it information on disposal as you accumulate it. Space is provided in Tables A-1 and B-1 for notes, names, and phone numbers, as you identify specific contact points for your particular problems.

Identifying Hazardous Waste

Hazardous Wastes

A *hazardous waste* is a waste which poses a threat to life and property. It can contaminate the environment by virtue of being toxic, radioactive, explosive, or flammable, as well as nonbiodegradable and bio-accumulative. When a hazardous chemical used in the workplace or the lab is contaminated, or no longer useful, the material is a potential threat if disposal is not carried out properly.

The fundamental fact about these hazardous wastes is that they are a menace to human health and the environment. They can poison, burn, maim, blind, and kill people and other living organisms. They may snuff out life immediately when inhaled, swallowed, or brought in contact with the skin. They may wreak their havoc slowly over time, affecting the nervous system, causing cancers, or spawning birth defects. Some are nondegradable and persist in nature indefinitely. Some may accumulate in living things. Some may work their way into the food chain.

Hazardous wastes are found in a wide variety of solid, liquid, or gaseous forms. They may be packaged in small jars, bags, drums, cylinders, cans, and aerosol containers. **Table 1 provides a partial list of commonly encountered sources of hazardous waste.**

As yet, the U.S. Environmental Protection Agency (EPA) has not formally defined what is a hazardous waste although several Federal regulations deal with hazardous properties of chemicals, transportation of these chemicals, or certain commercial products which may contain hazardous components. Several States do maintain lists or criteria for hazardous wastes which makes those agencies an excellent source of information for determining what is hazardous.

All *pesticides* are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (FIFRA), and disposal must be in accordance with label directions or with regulations and procedures published pursuant to Section 19 of the Act. Published guidelines (40 CFR 165) provide for

the disposal of single containers of household pesticide products that are securely wrapped in several layers of paper in regular municipal solid waste disposal facilities.

Information Sources

Detailed information on the hazardous characteristics of laboratory chemicals and the most commonly used commercial and household products can be obtained from the manufacturers/suppliers, open literature, and by contacting appropriate governmental agencies.

Most chemicals used in the laboratories or products used in the household or in small commercial and business establishments carry warning labels as to the hazards involved if they contain hazardous substances or if they may be hazardous under certain conditions of use. Thus, if the original label still remains on the container, it should be read very carefully as a first step toward waste identification (and for safe handling and disposal). If the name of the manufacturer or distributor of a product is known, **the manufacturer or distributor can be contacted for information on hazardous characteristics of the product and on proper handling and disposal procedures.**

There are five reference manuals, available in many public libraries and in most chemical laboratories, which can be consulted on properties, uses, and hazardous characteristics of laboratory chemicals and many consumer products (Table 2). Generally, descriptions of the material's hazardous nature will be in terms of its toxicity, flammability, reactivity, explosiveness, or corrosive nature. The reference manuals noted describe the hazardous nature of the material in these terms, and some may give a relative rating of its danger. Some of these references also tell whether or not these materials are potentially carcinogenic (cancer-causing).

Local, State, and Federal agencies can also be contacted for assistance in the identification of hazardous material. A list and brief description of these agencies are presented in Appendices A, B, and C.

**Table 1. Commonly Encountered Hazardous Materials and Products
Found in Small Batches of Waste**

TYPICAL WASTE SOURCES	HAZARDOUS MATERIALS
<p>1. ACIDS</p> <ul style="list-style-type: none"> Pickling Liquor Battery Acid Acidic Chemical Cleaners Spent Acid Plating Operations Laboratory Glassware Acid Baths Glass Etching Solutions <p>2. ALKALIES</p> <ul style="list-style-type: none"> Miscellaneous Caustic Products Alkaline Battery Fluid Caustic Wastewater Cleaning Solutions Lye <p>3. ORGANICS (Mainly Non-Halogenated)</p> <ul style="list-style-type: none"> Capacitor Fluids Chemical Cleaners and Solvents Chemical Toilet Wastes Electrical Transformer Fluids Furniture and Wood Polishes Laboratory Chemicals Paint Removers Silver Cleaning Agents Shoe Polish <p>4. HALOGENATED ORGANICS</p> <ul style="list-style-type: none"> Cleaning Solvents Laboratory Chemicals Paint and Varnish Removers Dry Cleaning Solutions Capacitors and Transformers Containing PCB <p>5. INORGANICS</p> <ul style="list-style-type: none"> Catalysts Chemical Toilet Wastes Laboratory Chemical Wastes Paint Sludge Plating Solutions Fluorescent Lamps Germicidal and "Disinfectant" Solutions Paints Fluxes Aluminum Cleaning Agents 	<p>Chromic-sulfuric acid mixture, hydrobromic acid, hydrochloric acid, hydrofluoric acid, nitric acid, perchloric acid, sulfuric acid</p> <p>Ammonia, lime (calcium oxide), potassium hydroxide, sodium hydroxide, sodium silicate</p> <p>Aromatic compounds, organic amides, organic mercaptans, organonitriles, nitrobenzene, phosgene, thioureas</p> <p>Carbon tetrachloride, chloroform, methylene chloride, polychlorinated biphenyls (PCB)</p> <p>Ammonium fluoride, ammonium silicofluoride, antimony salts, arsenic salts, asbestos products and fibers, beryllium compounds, barium salts, borane compounds, cadmium salts, chromium salts, cyanide compounds, inorganic halides (potassium bromide, sodium iodide), lead compounds, mercury salts, selenium salts, sodium silicofluoride, vanadium compounds, zinc chloride</p>

**Table 1. Commonly Encountered Hazardous Materials and Products
Found in Small Batches of Waste (Continued)**

TYPICAL WASTE SOURCES	HAZARDOUS MATERIALS
<p>6. EXPLOSIVES</p> <ul style="list-style-type: none"> Illegal Explosive "Firecrackers" Laboratory Wastes Obsolete Explosives Track Torpedoes Blasting Caps Detonators Commercial Pyrotechnics for Private Use <p>7. PESTICIDES</p> <ul style="list-style-type: none"> Waste Pesticides House and Garden Discarded Pesticide Cans Waste Water from Cleaning of Pesticide Containers Containers and Pesticide Application Equipment <p>8. GASES</p> <ul style="list-style-type: none"> Welding Gases Laboratory Gas Cylinders Local Anesthetic "Aerosol" Cans Medical Oxygen Cylinders <p>9. BANNED PRODUCTS</p> <ul style="list-style-type: none"> Banned Pesticides Banned Hair Sprays Banned Aerosol Bathroom Cleaners Waste Lead-Base Paints 	<p>Ammonium nitrate, ammonium nitrate-fuel oil mixtures (ANFO), dynamite, mercury fulminate, nitroglycerin, 2,4,6-trinitrotoluene (TNT), water-gel explosives</p> <p>Chlorinated hydrocarbon pesticides, organophosphate pesticides, phosphorothioate pesticides, organic carbamates, organic thiocarbamates</p> <p>Acetylene, ammonia, carbon monoxide, chlorine, ethyl chloride, hydrogen, hydrogen sulfide, methyl chloride, nitrogen dioxide, oxygen, other gases under high pressure</p> <p>Aerosol products containing vinyl chloride as propellant, aldrin products, lead-based paints containing 0.5 percent lead or greater</p>

Table 2. Reference Manuals on Hazardous Properties of Laboratory Chemicals and Commercial/Industrial Products

REFERENCE	CONTENTS
<p>Gleason, Marion N., et al. <i>Clinical toxicology of commercial products; acute poisoning.</i> 3d ed. Baltimore, The Williams & Wilkins Co., 1969. various pagings.</p>	<p>Contains alphabetical compilation of 3,000 major chemical substances (ingredients) found in widely used commercial products, and gives toxicity information and a toxicity rating for each ingredient. In addition, the manual contains a trade name index for 17,000 products, identifies the manufacturers and lists the ingredients for each product and identifies the toxic components.</p>
<p>Stecher, P.G., et al. <i>The Merck index; an encyclopedia of chemicals and drugs.</i> 8th ed. Rahway, N.J., Merck & Co., Inc., 1968. 1713 p.</p>	<p>Describes 10,000 individual substances, provides data on their toxic effects on humans and test animals, and lists common uses for selected entries. In addition, the index lists poison control centers and first aid procedures. A cross-index of chemical names and formulas is also given.</p>
<p>Sax, N.I., et al. <i>Dangerous properties of industrial materials.</i> New York, Reinhold Publishing Corporation, 1957. 1467 p.</p>	<p>Lists 9,000 general chemicals and products; gives descriptions of physical properties and toxicity, explosion, fire, and radiation hazard ratings. For each chemical, pertinent data are provided on personal hygiene, ventilation, disaster control, shipping regulations, and storage/handling procedures.</p>
<p>Weast, R.C. <i>Handbook of chemistry and physics.</i> 56th ed. Cleveland, CRC Press, 1975-1976. various pagings.</p>	<p>Identifies physical and chemical properties of most organic and inorganic chemicals. The handbook gives toxicity of select chemicals, and general information on chemical hazards, fire precautions and first aid.</p>
<p>Christensen, H.E., Luginbyhl, T.T., and B.S. Carroll. <i>Registry of toxic effects of chemical substances; 1975 edition.</i> Washington, U.S. Government Printing Office, June 1975. 1296 p.</p>	<p>Identifies toxicity (to man, animals, and aquatic life) of most known organic and inorganic chemicals and identifies carcinogenic, teratogenic, and mutagenic nature, if any.</p>

Disposing of Hazardous Waste

Who To Ask?

To determine the proper option to use for a specific waste, contact the local agency, State agency, or Regional Office of the EPA. These agencies can help you find treatment methods, disposal facilities, correct safety and handling procedures, and recyclers or suppliers for returning the material. **Lists and a discussion of local, State, and Federal agencies which can be contacted for assistance in selecting appropriate disposal procedures are given in Appendices A, B, and C, respectively.**

Also, some pertinent reference materials on treatment and disposal are given in Table 3. These references identify treatment methods that have been used by universities and industrial trade organizations (e.g., Manufacturing Chemists Association). The treatment and disposal methods given in these references generally have not been evaluated by EPA for their effectiveness and should be carried out only by qualified personnel.

Table 3. Selected List of Pertinent Publications on Treatment and Disposal of Small Batches of Hazardous Wastes

REFERENCE	CONTENTS
<i>Laboratory waste disposal manual.</i> Washington, Manufacturing Chemists Association, May 1970. 176 p.	The manual stresses safe procedures for on-site waste disposal from small laboratories, especially those in small communities not possessing sophisticated equipment. Gives detailed waste disposal procedures for 25 classes of chemicals (covering 1,121 individual chemicals) in common use in laboratories and related facilities. Also provides several recommended methods for the recovery of certain spilled chemicals. Data on physical properties and hazardous properties of the chemicals are also provided.
<i>How to dispose of hazardous household wastes.</i> Sacramento, California State Water Resources Control Board. (In preparation.)	Lists 10 types of hazardous wastes most commonly found around the home, and gives a brief description of the options available for the disposal of these materials including direct disposal to the land, use of municipal sewage treatment systems, use of special collection pits at gasoline stations, etc. The booklet also provides hints for handling hazardous wastes.
Steere, Norman V., ed. <i>CRC handbook of laboratory safety.</i> Cleveland, The Chemical Rubber Co., [1971]. 854 p.	Gives procedures for the disposal of hazardous wastes and presents chemical, biological, radiation, fire, and other hazards associated with several thousand chemicals. The handbook also contains general laboratory safety procedures.
Shih, C.C., and D.F. Dal Porto (TRW Systems and Energy). <i>Handbook for pesticide disposal by common chemical methods.</i> Washington, U.S. Environmental Protection Agency. (In preparation.)	Contains step-by-step chemical degradation/detoxification and disposal procedures for 20 major pesticides which are representative of the several hundred pesticides currently in use. The handbook also contains an extensive review of the pertinent literature on various reported chemical methods for the degradation and/or detoxification of the selected pesticides.
Lawless, E.W., T.L. Ferguson, and A.F. Meiners (Midwest Research Institute). <i>Guidelines for the disposal of small quantities of unused pesticides.</i> Publication No. EPA 670/2-75-057. Washington, U.S. Government Printing Office, June 1975. 331 p. (Also distributed by National Technical Information Service, Springfield, Va., as PB-244 557.)	Provides 14 detailed methods for the treatment and disposal of 550 pesticides and discusses treatment of small spills of pesticides and methods for the disposal of empty pesticide containers. The manual contains reference charts of pesticide properties pertinent to disposal, and a cross index of chemical names, common names, and trade names. The manual is intended to be used by regulatory authorities in advising the layman on the disposal of pesticide wastes.

Selecting the Proper Disposal Option

Disposal Options

Depending on the nature of the waste, the specific location where the waste is generated, and the applicable local ordinances and State regulations on waste disposal, small batches of hazardous wastes can be disposed of in a number of ways including, in order of preference:

- Recycling or returning to supplier
- Transporting to a hazardous waste management facility
- Using available laboratory equipment for treatment/disposal
- Disposing of material in appropriate municipal incinerators with permission of local and State agencies (only if the previous three options are not available)
- Disposing of material in "appropriate" landfills with permission of local and State agencies (and only as a last resort)

Reuse/Recycle

The first disposal option selected should be to return the material either to the supplier or manufacturer or to the approved chemical trader, broker, or reclaimer who can reuse or recycle the waste for some useful end product. Local, State, or Federal authorities may be helpful in locating such facilities in your area. Lists of local laboratory supply houses can be found in the "yellow pages" of the telephone directory or in certain publications such as the **American Chemical Society Publication, 1975-76 LABGUIDE**.

Disposal in Hazardous Waste Management Facilities

Throughout the United States there are over 100 centralized facilities for processing and/or disposal of hazardous wastes. Although a large number of these facilities are owned and operated by private waste disposal service companies, there are also some which are operated by municipalities and county agencies (e.g., County Department of Public Works in several California counties). Some facilities, especially those operated by public agencies, handle a variety of wastes including small batches of hazardous material. At these facilities a certain area within the disposal site is set aside for handling hazardous wastes. A number of waste disposal companies also provide waste hauling service to their customers. Others which do not provide hauling service usually request

their regular major clients to use only the services of registered waste haulers to bring wastes to the disposal site. Unlike most regular refuse disposal sites which are open 8 to 10 hrs. a day, 5 or 6 days per week, some hazardous waste disposal sites have a very restricted business-hour schedule, with a few accepting wastes only by prior appointment. Nearly all facilities require the waste generators to provide some data on the general characteristics of their wastes and their hazardous constituents. Such data are needed to assure safe waste handling and disposal.

In areas where hazardous waste disposal facilities are readily accessible, small batches of hazardous wastes should definitely be taken to such sites for disposal. These sites, which are generally operated by professionals with training and expertise in waste management, utilize disposal methods which assure minimum environmental damage. These facilities also operate under permits from one or more governmental agencies and are regularly inspected by the regulatory agencies to assure compliance with the conditions of their permits and all applicable regulations.

The best source available to locate these facilities is the State agency responsible for hazardous waste management (see Appendix B). Also, EPA has published a list of such facilities (EPA/530/SW-146) called "**Hazardous Waste Management Facilities in the United States**" which is available through EPA, Office of Solid Waste Management Programs.

"In-House" Treatment/Disposal

After it has been determined that the recycle/reuse disposal option is not available and that the services of a commercial hazardous waste disposal facility are also unavailable, the generator of a small batch of hazardous waste may investigate "in-house" treatment possibilities for "on-premises" or "off-site" disposal. Under appropriate conditions, and if regulations permit, small batches of certain hazardous wastes can be disposed of "on-premises" after the waste is rendered harmless or less hazardous (e.g., detoxified, neutralized, or encapsulated in cement) by proper treatment. In some cases the treated waste may be suitable for disposal in sanitary landfills or municipal incinerators. **Certain acutely hazardous wastes (e.g., explosives) should not be handled**

“in-house” and should be referred to appropriate local or State agencies for disposal. (Local, State, and Federal agencies which are concerned with hazardous waste management and which can provide guidance, advice, and assistance on handling and disposal of hazardous wastes are listed in Appendices A, B, and C.)

Hazardous Waste Disposal in Municipal Incinerators

Small batches of certain combustible hazardous wastes can be incinerated in municipal incinerators if it is determined that the disposal will not result in: (a) explosion or emission of products which can be damaging to the equipment or injurious to operating personnel, and (b) generation of pollutants which cannot be adequately controlled by the existing emission control equipment and procedures. Municipal solid waste incinerators generally are not appropriate for incineration of pesticides other than casual household containers. For regulations concerning destruction of hazardous wastes in municipal incinerators, the local or State agency responsible for operation or regulation of the incineration facility should be contacted. In general, information on waste quantities and characteristics would be required in order to determine whether a hazardous waste can be safely handled in a

municipal incinerator. *For all hazardous waste disposal in municipal incinerators, obtain approval from the local agency responsible for solid or hazardous waste disposal.*

Hazardous Waste Disposal in Sanitary Landfills

Specific regulations on disposal of hazardous wastes to sanitary landfills vary from locality to locality and from State to State. As examples, some States, such as Illinois, allow disposal of small amounts of hazardous chemical wastes in certain sanitary landfills, whereas other States, such as Florida, prohibit any land disposal of hazardous wastes unless they have been “detoxified” first prior to disposal. Generally single containers of household pesticides can be wrapped in several layers of paper and discarded in the regular municipal solid waste collection system. Local and State agencies responsible for the operation or regulation of a sanitary landfill should be contacted for regulations on waste disposal before any hazardous waste is taken to the sanitary landfill for disposal. *For all hazardous waste disposal in landfills, obtain approval from the local agency responsible for solid or hazardous waste disposal.*

Contacting Government Agencies

An excellent source of information on hazardous waste identification and disposal is public officials or agencies that deal with these problems on a daily basis. A list of local agencies which can be contacted for assistance is given in Appendix A. A list of State Solid Waste Agencies that answer questions on identification and disposal of small batches of hazardous wastes is found in Appendix B. *Generally, one should contact the local or appropriate State agency before disposing of a material or waste that might be considered hazardous.* The State or local agency can aid

in determining if a material or waste is toxic (or carcinogenic), corrosive, flammable, explosive, or presents a danger to the general public by improper disposal.

EPA’s ten Regional Offices can also provide information on hazardous waste identification and disposal. The Regional Office telephone contacts are found in Appendix C. Other Federal agency responsibilities for related areas are listed in Appendix C.

APPENDIX A – LOCAL AGENCIES

Local agencies which may be contacted for information on hazardous waste identification, handling, and disposal are listed in Table A-1. The agency names are generic titles and in many cases the actual names may differ from those shown. For example, the Sanitation Department might be named Sanitation Bureau, Public Works Department, or Sewer Department. The local telephone directory should be consulted for the exact title, telephone numbers and addresses of the

various agencies. Similarly, from the standpoint of providing advice and assistance on hazardous waste handling and disposal, the exact responsibility of each agency varies from locality to locality. Most of the local agencies, however, can provide direction as to the exact person/agency which should be contacted in connection with a specific inquiry. Use the space provided in Table A-1 to list the names and telephone numbers of your local agencies and officials.

Table A-1. Local Agencies Which Can Be Contacted for Advice and Assistance in Connection with Hazardous Waste Handling and Disposal

AGENCY	GENERAL TYPES OF ADVICE AND ASSISTANCE	LOCAL AGENCIES AND OFFICIALS
County or City Health Department	Information on toxicity and other hazardous characteristics of chemicals; referral to appropriate poison control centers, etc.	_____ _____ _____
County or City Department of Environmental Protection	Information on the locations and operation of hazardous waste management facilities; regulations on waste discharges to land, air and receiving waters.	_____ _____ _____
County or City Fire Department	Information and assistance on handling and disposal of waste explosives and flammable chemicals, spill cleanup.	_____ _____ _____
County or City Police Department	Information and assistance on handling and disposal of explosives.	_____ _____ _____
County or City Sanitation Department	Regulations on waste discharges to sanitary sewers, types of wastes accepted in local landfills or incineration systems.	_____ _____ _____
Local College or University Environmental, Civil, or Chemical Engineering Departments	General information on waste handling, disposal procedures, and regulations.	_____ _____ _____
Land Grant College or University, Agricultural Extension Service (including county offices)	Information on disposal of pesticides and their containers, regulatory aspects.	_____ _____ _____
Highway Department, or Department of Transportation	Labeling containers, marking for shipment, safe transportation.	_____ _____ _____
Landfill Operator	Landfill disposal regulations, types of wastes accepted, schedule of landfill operation.	_____ _____ _____

APPENDIX B – STATE AGENCIES

It is only in the past decade that many States have established specific agencies with responsibilities for the development of hazardous waste management programs and establishment and enforcement of regulations on treatment and disposal of hazardous wastes. While in some States hazardous waste management activities are consolidated in one or two State agencies, in other States these activities are divided among several agencies which usually coordinate their individual programs.

In many States, hazardous waste management activities are a part of the overall State program which is administered by the division or agency responsible for solid waste management. A list and the addresses of the State Solid Waste Management and related agencies are given in Table B-1. These agencies can be contacted for information on handling, treatment, and disposal of hazardous wastes and on applicable State regulations.

Even though some of the agencies listed may not have direct responsibility for hazardous waste management, they can nevertheless direct inquiries on hazardous waste regulations, handling, and disposal to other appropriate agencies within the State organizational structure. Also, the Department of Agriculture may regulate the disposal of pesticides and their containers in some States. Use the space provided at the end of Table B-1 to list names and telephone numbers of organizations and officials within your State agency.

An overview of the State activities in solid waste management in 1974 can be found in EPA Publication EPA/530/SW-158 (June 1975) which can be obtained from the EPA Office of Solid Waste Management Programs (OSWMP). The Implementation Branch of the OSWMP Hazardous Waste Management Division (Tel. 202-755-9190) can also provide information on State hazardous waste management programs.

Table B-1. State Solid Waste Management Agencies, Their Addresses and Telephone Numbers

<p>ALABAMA</p> <p>Director Division of Solid Waste and Vector Control State Department of Public Health State Office Building Montgomery, Alabama 36104 (205) 832-6728</p>	<p>ARIZONA</p> <p>Division of Sanitation Environmental Health Services Arizona State Department of Health 1740 W. Adams Street Phoenix, Arizona 85017 (602) 271-4641</p>
<p>ALASKA</p> <p>Solid Waste Program Coordinator Department of Environmental Conservation State of Alaska Pouch 0 Juneau, Alaska 99801 (907) 586-6721</p>	<p>ARKANSAS</p> <p>Chief Division of Solid Waste Arkansas Department of Pollution Control and Ecology P.O. Box 9583 8001 National Drive Little Rock, Arkansas 72209 (501) 371-1701</p>
<p>AMERICAN SAMOA</p> <p>Department of Public Works Government of American Samoa Pago Pago, American Samoa Overseas Operator (Commercial Call)</p>	<p>CALIFORNIA</p> <p>Chief, Hazardous Waste Management Program Vector Control Bureau State Department of Public Health 744 P Street Sacramento, California 95814 (916) 322-2337</p>

**Table B-1. State Solid Waste Management Agencies, Their Addresses
and Telephone Numbers**

COLORADO	GUAM
State Department of Health 4210 East Eleventh Avenue Denver, Colorado 80220 (303) 388-6111 Ext. 323	Administrator, Guam, EPA P.O. Box 2999 Agana, Guam 96910 Overseas Operator (Commercial Call) 749-2486
CONNECTICUT	HAWAII
Solid Waste Management Programs Department of Environmental Protection State of Connecticut State Office Building, Room 248 Hartford, Connecticut 06115 (203) 566-3672	Director, State Department of Health P.O. Box 3378 Honolulu, Hawaii 96801 (808) 548-2811 Ext. 521
DELAWARE	IDAHO
Chief, Solid Waste Section Delaware Department of Natural Resources and Environmental Control Edward Tatnall Building Dover, Delaware 19901 (302) 678-4781	Chief, Solid Waste Management Section Environmental Services Division Idaho Department of Environmental and Community Services State House Boise, Idaho 83720 (208) 384-2390
DISTRICT OF COLUMBIA	ILLINOIS
Director, Solid Waste Administration Department of Environmental Sciences 415 12th Street, N.W., Room 307 Washington, D.C. 20004 (202) 629-4581	Division of Land Pollution Control Illinois Environmental Protection Agency 2200 Churchill Drive Springfield, Illinois 62706 (217) 782-6760
FLORIDA	INDIANA
Executive Director Department of Pollution Control 2562 Executive Center Circle, East Montgomery Building Tallahassee, Florida 32301 (904) 488-1345	Chief, Solid Waste Section Division of Sanitary Engineering Indiana State Board of Health 1330 West Michigan Street Indianapolis, Indiana 46207 (317) 633-4393
GEORGIA	IOWA
Director, Solid Waste Section Environmental Protection Division Department of Natural Resources 270 Washington Street, S.W. Atlanta, Georgia 30334 (404) 656-2833	Director, Land Quality Division Department of Environmental Quality 3920 Delaware Avenue P.O. Box 3326 Des Moines, Iowa 50319 (515) 265-8134

**Table B-1. State Solid Waste Management Agencies, Their Addresses
and Telephone Numbers (Continued)**

KANSAS

Chief, Solid Waste Section
Kansas Department of Health and
Environment
Topeka, Kansas 66620
(913) 296-3821

KENTUCKY

Director, Division of Solid Waste
State Department for Natural Resources
and Environmental Protection
275 East Main Street
Frankfort, Kentucky 40601
(502) 564-6716

LOUISIANA

Louisiana Health and Social Rehabilitation
Services Administration
State Office Building
P.O. Box 60630
New Orleans, Louisiana 70160
(504) 527-5123

MAINE

Chief, Division of Solid Waste Management
Department of Environmental Protection
State House
Augusta, Maine 04330
(207) 289-2963

MARYLAND

Acting Chief
Division of Solid Waste
Maryland State Department of Health
and Mental Hygiene
201 West Preston Street
Baltimore, Maryland 21201
(301) 383-2770/1/2

MASSACHUSETTS

Director, Bureau of Solid Waste Disposal
Massachusetts Department of Public Works
100 Nashua Street
Boston, Massachusetts 02114
(617) 727-4293

MICHIGAN

Chief, Solid Waste Management Division
Environmental Protection Branch
Department of Natural Resources
3500 Logan Street
Lansing, Michigan 48914
(517) 373-6620

MINNESOTA

Director
Minnesota Pollution Control Agency
Division of Solid Waste
1935 West County Road, B-2
Roseville, Minnesota 55113
(612) 296-7315

MISSISSIPPI

Director
Division of Solid Waste Management
and Vector Control
Mississippi State Board of Health
P.O. Box 1700
Jackson, Mississippi 39205
(601) 354-6616

MISSOURI

Director, Solid Waste Management Bureau
Department of Natural Resources
2511 Industrial Drive
P.O. Box 570
Jefferson City, Missouri 65101
(314) 751-2815

NOTE: Address all mail to:
P.O. Box 1368
State Office Building
Jefferson City, Missouri 65101

MONTANA

Chief, Solid Waste Management Bureau
Montana State Department of Health
and Environmental Sciences
1424 9th Avenue
Helena, Montana 59601
(406) 449-2821

NEBRASKA

Chief, Division of Solid Waste
Department of Environmental Control
State House Station, Box 94653
Lincoln, Nebraska 68509
(402) 471-2186

**Table B-1. State Solid Waste Management Agencies, Their Addresses
and Telephone Numbers (Continued)**

NEVADA

State Department of Health and Welfare
1209 Johnson Street
Carson City, Nevada 89701
(702) 885-4670

NEW HAMPSHIRE

Solid Waste Management
Food and Chemistry Services
Division of Public Health Services
Department of Health and Welfare
Hazen Drive
Concord, New Hampshire 03301
(603) 271-2747

NEW JERSEY

Acting Chief
Bureau of Solid Waste Management
Division of Environmental Protection
P.O. Box 1390
Trenton, New Jersey 08625
(609) 292-7645

NEW MEXICO

Chief, Environmental Improvement Agency
General Sanitation Division, Room 517
P.O. Box 2348, P.E.R.A. Building
Santa Fe, New Mexico 87501
(505) 827-2693

NEW YORK

Director, Division of Solid Waste Management
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, New York 12201
(518) 457-6603

NORTH CAROLINA

Branch Head
Solid Waste and Vector Control Branch
Department of Human Resources
Division of Health Services
P.O. Box 2091
Raleigh, North Carolina 27602
(919) 829-2178

NORTH DAKOTA

Assistant Director
Division of Water Supply and Pollution
Control -- State Capitol
State Department of Health
Bismarck, North Dakota 58501
(701) 224-2386

OHIO

Division of Waste Management and
Engineering
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216
(614) 466-7220

OKLAHOMA

Chief, Sanitation Service
State Department of Health
10th and Stonewall
Oklahoma City, Oklahoma 73105
(405) 271-5216

OREGON

Director, Solid Waste Management Division
Oregon State Department of Environmental
Quality
1234 S.W. Morrison Street
Portland, Oregon 97201
(503) 229-5696

PENNSYLVANIA

Director
Division of Solid Waste Management
Department of Environmental Resources
8th Floor Fulton Building
P.O. Box 2063
Harrisburg, Pennsylvania 17120
(717) 787-7381

PUERTO RICO

Environmental Quality Board
Office of the Governor
Box 11488
San Juan, Puerto Rico 00910
(809) 725-5140 Ext. 226

**Table B-1. State Solid Waste Management Agencies, Their Addresses
and Telephone Numbers (Continued)**

RHODE ISLAND

Chief, Division of Solid Waste Management
State Health Department
204 Health Building
Davis Street
Providence, Rhode Island 02908
(401) 277-2808

SOUTH CAROLINA

Director, Solid Waste Management Division
Department of Health and Environmental
Control
J. Marion Sims Building
2600 Bull Street
Columbia, South Carolina 29201
(803) 758-5681

SOUTH DAKOTA

Division of Solid Waste and Land
Management
South Dakota Department of
Environmental Protection
Office Building No. 2
Pierre, South Dakota 57501
(605) 224-3351

TENNESSEE

Director, Division of Sanitation and
Solid Waste Management
Bureau of Environmental Health Services
State Department of Public Health
Capitol Hill Building, Suite 320
Nashville, Tennessee 37219
(615) 741-3424

TEXAS

Industrial Waste and Agricultural Disposal
Division of General Operations
Texas Water Quality Board
P.O. Box 13246
Austin, Texas 78711
(512) 475-2651

TRUST TERRITORIES

Chief, Department of Health Services
Office of High Commission
Trust Territory of the Pacific Islands
Saipan, Marianas 96950
Overseas Operator (Commercial Call)

UTAH

Chief, General Sanitation Section
Utah State Division of Health
44 Medical Drive
Salt Lake City, Utah 84113
(801) 328-6163

VERMONT

Air and Solid Waste Programs
Protection Division
Agency of Environmental Conservation
P.O. Box 489
Montpelier, Vermont 05602
(802) 828-3395

VIRGIN ISLANDS

Assistant Director
Division of Utilities and Sanitation
Department of Public Works
Government of the Virgin Islands
Charlotte Amalie
St. Thomas, Virgin Islands 00801
(809) 774-7970

VIRGINIA

Director
Bureau of Solid Waste and Vector Control
Virginia State Department of Health
Room 209, 401-A Colley Avenue
Norfolk, Virginia 23507
(804) 627-4511

WASHINGTON

Division Chief
Solid Waste and Resource Recovery Division
Department of Ecology
Olympia, Washington 98501
(206) 753-6883

WEST VIRGINIA

Director, Solid Waste Program
State Department of Health
1800 Washington Street, E.
Charleston, West Virginia 25305
(304) 348-2987

Table B-1. State Solid Waste Management Agencies, Their Addresses
and Telephone Numbers (Continued)

WISCONSIN

Chief, Solid Waste Management Section
Division of Environmental Protection
Department of Natural Resources
Box 450
Madison, Wisconsin 53701
(608) 266-0158

WYOMING

Solid Waste Program Supervisor
Wyoming Department of Environmental Quality
State Office Building West
Cheyenne, Wyoming 82002
(307) 777-7391

STATE AGENCIES AND OFFICIALS

APPENDIX C – FEDERAL AGENCIES

The activities in hazardous waste management at the Federal level are concentrated in the EPA, Office of Solid Waste Management Programs (OSWMP). Within OSWMP, the Hazardous Waste Management Division (HWMD) is primarily involved in: (a) building a data base in the hazardous waste management area, particularly in connection with public health and environmental damage assessment, quantification of hazardous waste generation, and definition of applicable treatment and disposal technology; (b) development of guidelines and standards for hazardous waste management; and (c) program implementation involving assistance to States in development of hazardous waste management programs. HWMD has sponsored numerous studies on hazardous waste management and has an extensive data file on pertinent literature publications and documents.

The EPA has ten Regional Offices. Each Regional Office has a solid waste management representative to whom inquiries should be directed. Figure C-1 contains a map locating the regional offices and their coverage; Table C-1 lists addresses and telephone numbers for the Regional Solid Waste Management representatives, Air and Hazardous Materials Division, and the Regional Administrator.

In addition to the Office of Solid Waste Management Programs, a number of other EPA offices have certain programs and responsibilities related to identification, handling, and regulation of hazardous substances. A listing of the most pertinent of these agencies is shown in Table C-2. Major Federal agencies other than the EPA, which are concerned with various environmental aspects of hazardous materials, are listed in Table C-3 along with a brief description of their responsibilities.

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGIONAL OFFICES**

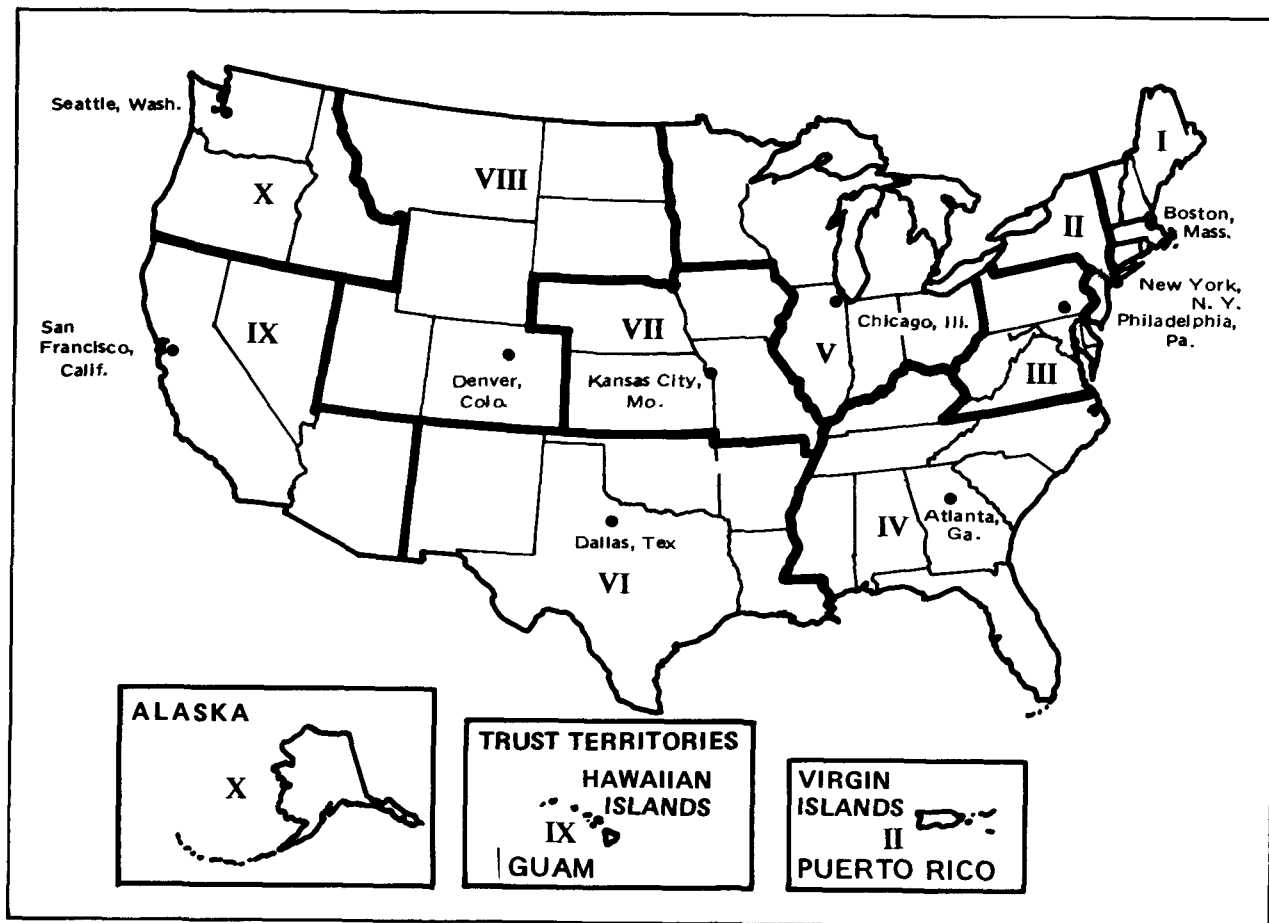


Figure C-1

Table C-1. Environmental Protection Agency Regional Offices

REGION	SWM REPRESENTATIVE	AIR & HAZARDOUS MATERIALS DIVISION	REGIONAL ADMINISTRATOR	ADDRESS
	ADDRESS AS: SOLID WASTE MANAGEMENT REP. EPA REGION NO. STREET CITY, STATE, ZIP	ADDRESS AS: DIRECTOR AIR & HAZARDOUS MATERIALS DIVISION EPA REGION NO. STREET CITY, STATE, ZIP	ADDRESS AS: REGIONAL ADMINISTRATOR EPA REGION NO. STREET CITY, STATE, ZIP	
I	(617) 223-5775	(617) 223-5775 or 223-5708	(617) 223-7210	John F. Kennedy Building Boston, Massachusetts 02203
II	(212) 264-0503/4/5	(212) 264-2301	(212) 264-2525	Federal Office Building 26 Federal Plaza New York, N.Y. 10007
III	(215) 597-8114	(215) 597-8131	(215) 597-9814	Curtis Building 6th and Walnut Street Philadelphia, Pennsylvania 19106
IV	(404) 526-3016	(404) 526-3454	(404) 526-5727	1421 Peachtree Street, N.E. Suite 300 Atlanta, Georgia 30309
V	(312) 353-6560	(312) 353-5248	(312) 353-5250	230 South Dearborn Street Chicago, Illinois 60604
VI	(214) 749-1121	(214) 749-1121	(214) 749-1062	1600 Patterson Street Dallas, Texas 75201
VII	(816) 374-3308	(816) 374-3307	(816) 374-5493	1735 Baltimore Avenue Kansas City, Missouri 64108
VIII	(303) 837-2221	(303) 837-2407/8	(303) 837-3895	1860 Lincoln Street Denver, Colorado 80203
IX	(415) 556-4606	(415) 556-0217	(415) 556-2320	100 California Street San Francisco, California 94111
X	(206) 442-1260	(206) 442-1236	(206) 442-1220	1200 6th Avenue Seattle, Washington 98101

Table C-2. EPA Offices Concerned with Environmental Aspects of Hazardous Materials

OFFICE	PERTINENT RESPONSIBILITIES
<p><i>Hazardous Waste Management Division</i> Office of Solid Waste Management Programs U.S. Environmental Protection Agency Waterside Mall, Room 2111 401 M. Street, S.W. Washington, D.C. 20460 (202) 755-9185</p>	<p>The office quantifies hazardous waste generation and defines applicable treatment and disposal technology, develops guidelines and standards; directs technical assistance to Regions, States, organizations and private individuals on treatment and disposal of hazardous wastes.</p>
<p><i>Division of Water and Hazardous Materials</i> Office of Water Program Operations U.S. Environmental Protection Agency Waterside Mall East, Room 1113C 401 M. Street, S.W. Washington, D.C. 20460 (202) 426-3971</p>	<p>The office provides information on the government's role in the safe handling of hazardous materials. It also establishes regulations for the prevention, control and clean up of oil and hazardous material discharges to water.</p>
<p><i>Pesticides Registration Division</i> Office of Pesticides Programs U.S. Environmental Protection Agency Waterside Mall East, Room E539A 401 M. Street, S.W. Washington, D.C. 20460 (202) 755-8036</p>	<p>Areas of interest include pesticide toxicology, pesticide residue tolerances, pesticide analytical standards, and pesticide chemical methodology. The office also answers letters of inquiry about the status of pesticide uses under the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act.</p>
<p>Office of Radiation Programs U.S. Environmental Protection Agency 401 M. Street, S.E., E. Tower, Room 611 Washington, D.C. 20460 (202) 755-4894</p>	<p>The office publishes <i>Radiation Data and Reports</i> (monthly). Other services are provided to Federal and State agencies, scientific organizations and industry.</p>
<p><i>Air Pollution Technical Information Center (APTIC)</i> Office of Air and Waste Management U.S. Environmental Protection Agency Research Triangle Park, North Carolina 27711 (919) 688-8146</p>	<p>APTIC collects basic data on the chemical, physical and biological effects of varying air quality, and other information on the prevention and control of air pollution. Citations, abstracts, and extracts from the literature file are provided. APTIC prepares state-of-the-art reviews and publishes <i>Air Pollution Abstracts</i>.</p>
<p>Office of Toxic Substances U.S. Environmental Protection Agency 401 M. Street, S.W. Washington, D.C. 20460</p>	<p>Areas of interest include toxic chemicals. The office collects basic data on such chemicals and also answers inquiries.</p>

Table C-3. Selected Federal Agencies (Other Than EPA) Concerned with Various Aspects of Hazardous Waste Management*

AGENCY	PERTINENT RESPONSIBILITIES
<p>Food and Drug Administration U.S. Department of Health, Education and Welfare 5401 Westbord Avenue Bethesda, Maryland 20016 (301) 496-7691</p>	<p>The FDA acts to recall consumer products which have been determined to be hazardous, and publishes recall reports on such products. This agency also investigates, sets standards, and enforces regulations on safety of food, drug, and cosmetic items. FDA has offices in most major cities.</p>
<p>Medical Library Bureau of Drugs, BD-45 Food and Drug Administration 5600 Fishers Lane Rockville, Maryland 20852 (301) 443-3182</p>	<p>Areas of interest include adverse effects of drugs, cosmetics, household chemicals, and feed and food additives; packaging and containers for above items; natural occurrence of food toxicants; contaminants of foods, drugs, and cosmetics. The library also has books, periodicals, microfilm, audio equipment, extensive card indices on toxicants and their adverse effects. The library also answers inquiries and provides references.</p>
<p>U.S. Consumer Product Safety Commission Washington, D.C. 20207 (800) 638-2666 (<i>toll free</i>) (800) 492-2937 (<i>Maryland residents only</i>)</p>	<p>This agency publishes periodic fact sheets which provide information on dangerous consumer products (exclusive of food, drug, and cosmetic items). It answers inquiries and compiles data on reported product hazards and product-related injuries.</p>
<p>Office of Hazardous Materials U.S. Department of Transportation 400 Sixth Street, S.W. Washington, D.C. 20590 (202) 426-0656</p>	<p>This office establishes regulations on the transportation of hazardous materials via public carriers and provides information and advice on regulations and procedures for safe handling, transportation, and clean up of spills of hazardous chemicals. The agency has 14 district offices across the country.</p>
<p>Mail Classification Division U.S. Postal Service Washington, D.C. 20260 (202) 961-7405</p>	<p>This office establishes standards for what can be sent through the mail and how it should be packaged.</p>
<p>Environmental Mutagen Information Center Environmental Information System Office Oak Ridge National Laboratory P.O. Box X Oak Ridge, Tennessee 37830 (615) 483-8611 Ext. 3-7998</p>	<p>Maintains a data base of chemical mutagenesis information. Evaluates and analyzes data and makes them available to researchers. Publishes state-of-the-art reviews, critical reviews, and a newsletter.</p>
<p>Division of Technical Services National Institute for Occupational Safety and Health U.S. Department of Health, Education, and Welfare 5600 Fishers Lane Rockville, Maryland 20852 (302) 443-2140</p>	<p>The division answers inquiries and provides consulting services on questions related to industrial safety, medicine, hygiene, toxicology, working conditions, and sanitation.</p>
<p>*Based in part on the information contained in the following reference which should be consulted for additional listings: Selected Information Resources on Hazardous Materials, National Referral Center, Science and Technology Division, Library of Congress, Washington, D.C.</p>	