



# GREIF'S

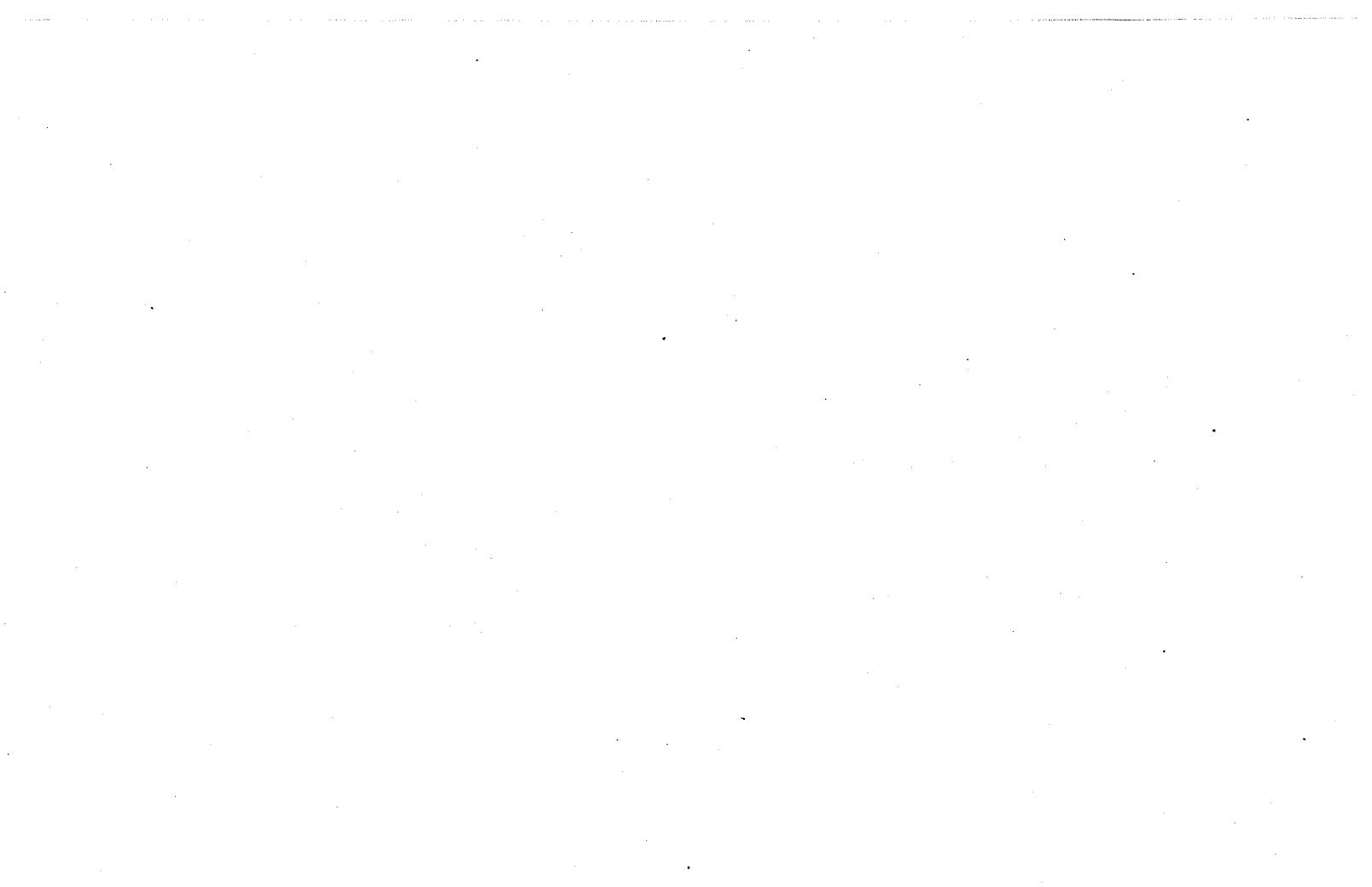
## HAZARDOUS

## WASTE

## PACKAGING

## HANDBOOK

GREIF HAZ-MAT PACKAGING HOTLINE:  
1-800-GBC-2290 • 1-800-422-2290



## HAZARDOUS WASTE CONTAINER PROGRAM

Why? Today, in the United States, the public and its government are implementing programs to clean the environment of its past mistakes and to avoid future pollution of this planet.

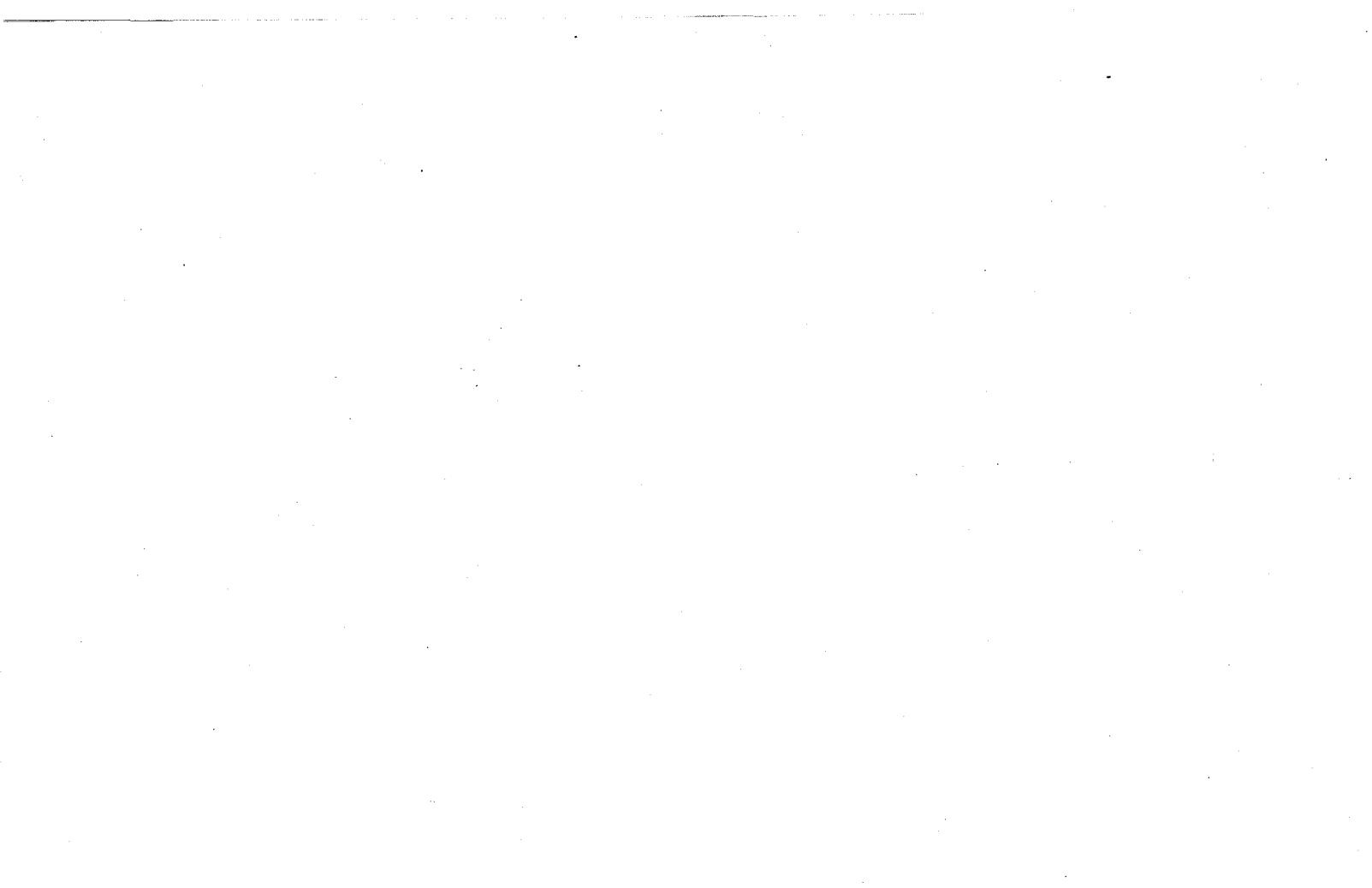
In doing so they have created one of the largest industries in our history. This industry will have a great demand for specialty containers.

We, at GREIF BROS., hold a unique position in this future market place. Our wide diversity in packaging of steel, fibre and plastics, and our ability to combine these products together should list us as "number one" in the field of packaging hazardous waste materials.

The opportunities are unlimited. They need to be approached with new thinking of our products and how best to adapt them to this fast growing industry. We have taken the first steps with our development of the SF "Combo" Packaging, I, II, III and our steel "combo packing IV" (See copies attached). This is only the beginning. The government is constantly updating and changing its approach to the problems of hazardous materials.

One thing we do know. This is a long range program. Laws are being considered on the government calendar into the year 2000. All one needs to do is pick up a newspaper, either local, state or national and articles will be found addressing the problems of pollution. Be it called Super Fund, Water Pollution Board, EPA, RCRA, the League of Woman Voters, the Sierra Club or interested parties, all are involved in the endeavor to clean up our environment correctly.

The packaging for this new unique industry can be developed by GREIF BROS. by working with our existing customers who are expected to meet the new laws laid down by government. A co-operation between our customers who are generators of hazardous waste, the waste disposal companies, and state, federal and local agencies along with GREIF'S own knowledgeable personnel will together be able to satisfy the U.S.A.'s environmental needs.



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Hazardous Waste Packaging  
& Special Products  
Greif Bros. Corporation

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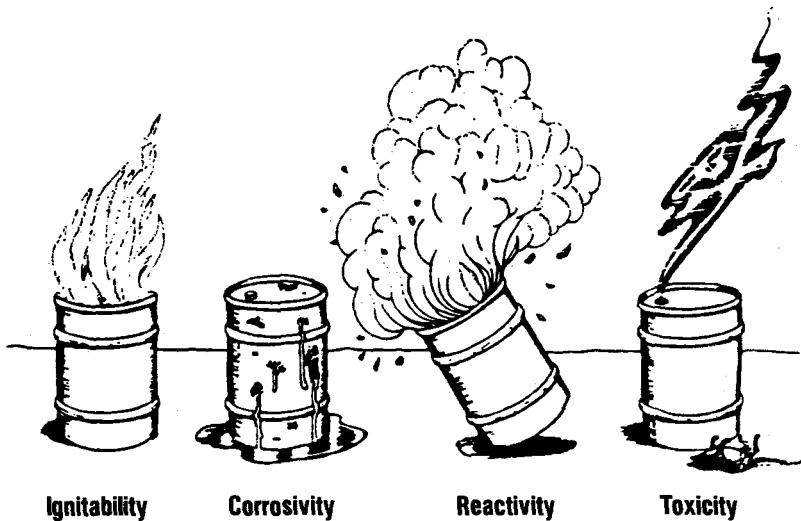
The full-line supplier of bulk packaging for industry

start and plastic containers

• For dry and liquid specialty products including many hazardous and low hazardous materials.

■ Based on a standard medium size order  
manufactured  
■ First cost is to save you shipping, handling  
and transportation costs.

1481 *Shie*



## CHARACTERISTICS OF WASTE

A waste is hazardous if it exhibits any of these four characteristics: Ignitability, Corrosivity, Reactivity, Toxicity.

EPA regulations require that all waste generators evaluate their wastes to determine if any of the four hazardous characteristics are exhibited. Wastes exhibiting these characteristics are subject to EPA's Subtitle C hazardous waste regulation.

## LISTED WASTES

EPA has already determined that some specific wastes are hazardous. These wastes are now incorporated into lists published by EPA. The lists are organized into three categories:

**SOURCE-SPECIFIC WASTES.** This list includes wastes from specific industries such as petroleum refining and wood preserving. Sludges and wastewaters from treatment and production processes in these industries are examples of source-specific wastes.

**GENERIC WASTES.** This list identifies wastes from common manufacturing and industrial processes. Generic wastes include solvents that have been used in degreasing operations in any industry.

### **COMMERCIAL CHEMICAL PRODUCTS.**

This list includes specific commercial chemical products such as creosote and some pesticides.

All "listed" wastes are presumed to be hazardous regardless of their concentrations and must be handled according to EPA's Subtitle C hazardous waste regulations. However, if a company can demonstrate that its specific waste is not hazardous, the waste may be "delisted" and is then no longer subject to Subtitle C requirements. A delisted waste is still covered by Subtitle D solid waste management requirements.

### **EXPANDING DEFINITIONS**

Determining which wastes are hazardous is a dynamic process influenced by new concerns, research data, and test development. EPA is now adding certain types and classes of wastes to its hazardous waste lists and is deciding whether to identify additional hazardous characteristics.

According to EPA estimates, of the six billion tons of industrial, agricultural, commercial, and domestic wastes we generate annually, about 250 million tons are "hazardous" as defined by RCRA regulations.

A Waste is hazardous if it exhibits one or more of the following characteristics:

**IGNITABILITY.** Ignitable wastes can create fires under certain conditions. Examples include liquids, such as solvents that readily catch fire, and friction-sensitive substances. Ignitable waste as defined in Section 261.21 - A hazardous waste that exhibits the following characteristics:

As a liquid, has a flash point of less than 140 degrees Fahrenheit. As a solid, is capable of causing fire through friction, absorption of moisture, or can undergo spontaneous chemical change which can result in vigorous and persistent burning.

Or meets the criteria of an ignitable compressed gas or oxidizer as outlined in Part 173 in 49CFR.

**CORROSIVITY.** Corrosive wastes include those that are acidic and those that are capable of corroding metal (such as tanks, containers, drums, and barrels). Corrosive waste as defined in Section 261.22 - As an aqueous solution has a pH less than or equal to 2 or a pH equal to or greater than 12.5. As a liquid, it will corrode steel at a rate greater than 0.250 inches per year under stable or normal conditions as defined in Section 261.23.

**REACTIVITY.** Reactive wastes are unstable under normal conditions. They can create explosions and/or toxic fumes, gases and vapors when mixed with water. Reactive waste is any hazardous waste meeting the following criteria:

A material that is normally unstable, and undergoes violent chemical change without detonating...or can react violently with water to form potentially explosive mixtures with water or generate dangerous or possibly lethal gases under certain conditions. Or it is capable of detonation or explosive reaction under certain conditions. This would also include any explosives defined in Sections 173.5, 173.53, or 173.88 under DOT regulations in 49CFR.

**TOXICITY.** Toxic wastes are harmful or fatal when ingested or absorbed. When toxic wastes are disposed of on land, contaminated liquid may drain (leak) from the waste and pollute ground water. Toxicity is identified through a laboratory procedure called Extraction Procedure (EP) toxicity test. Toxic waste as defined in Section 261.24 - Any hazardous waste that exhibits the characteristics of Extraction Procedure Toxicity in concentration equal to or greater than the values shown in Table 1 in Section 261.24. Other hazardous waste exhibiting the characteristic of toxicity would be listed in Subpart D, and might also meet the characteristics of a Poison A or B.

The four classes of hazardous waste under EPA would relate to the twenty-two hazardous classes under DOT in the following manner:

When a hazardous waste exhibits the characteristics of ignitability... it may also meet the DOT definition of: Flammable Liquid, Combustible Liquid, under 140 degrees Fahrenheit... Flammable Solid... Flammable Compressed Gas and Oxidizer.

When a hazardous waste exhibits the characteristic of corrosivity, it may also meet the definition of a Corrosive Material under DOT.

When a hazardous waste exhibits the characteristics of reactivity, it may also meet the DOT classifications of Forbidden Explosive, Explosive, Explosive A, B, & C, and Organic Peroxide.

When a hazardous waste exhibits the characteristics of toxicity, it may also meet the DOT classifications of Poison Gas, Poison A & B, Irritating Materials and some ORM A, B, & C, and Radioactive Materials.

To be a hazardous waste, a waste must be a "solid waste" defined in RCRA as "garbage, refuse, or sludge, or any other waste material". According to RCRA, a solid waste can be a solid, a semi-solid, a liquid, or a contained gas, and it must meet these criteria: "because of its quantity, concentration, or physical, chemical, or infectious characteristics, (it) may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitation reversible, illness; or pose a substantial present or potential hazard to human health and the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."

**Not included in RCRA hazardous waste regulations are:**

**Domestic sewage.**

**Irrigation waters or industrial discharges permitted under the Federal Water Pollution Control Act.**

**Certain nuclear material as defined by the Atomic Energy Act.**

**Household wastes, including toxic and hazardous wastes.**

**Certain mining wastes.**

**Agricultural wastes, excluding some pesticides.**

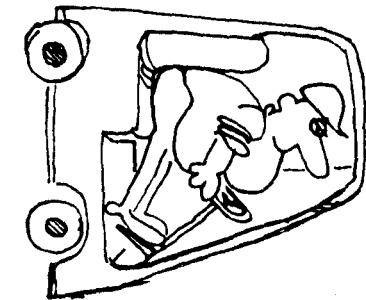
**Small quantity wastes (that is, wastes from businesses generating fewer than 220 pounds of hazardous waste per month).**

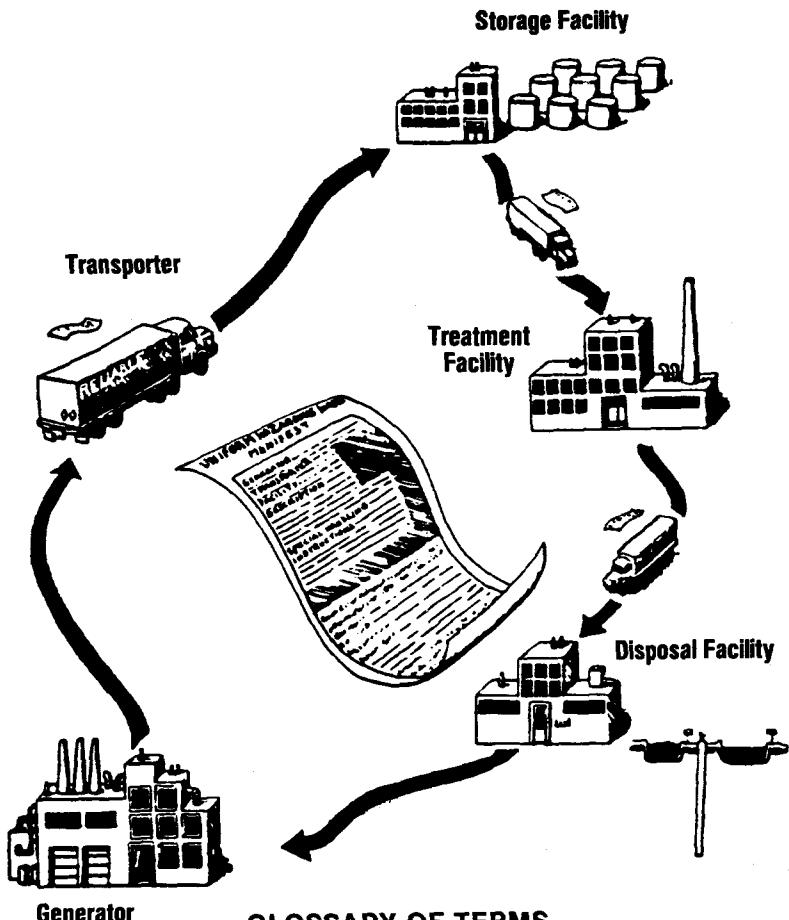
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**in the**

**right**

**direction**





**GLOSSARY OF TERMS  
AS APPLIED TO  
HAZARDOUS MATERIALS**

**B of E - BUREAU OF EXPLOSIVES** - The department of the Association of American Railroads that had responsibility for the regulation of the shipment of hazardous materials before the formation of the Federal Department of Transportation. The B of E republishes the DOT regulations as Tariff BOE 6000, the red book most of us use for reference.

**C - CELSIUS - CENTIGRADE** - The temperature scale used for scientific measurement in this country, and for all measurement of temperature internationally. Conversion to and from our more familiar Fahrenheit scale is as follows:

$$C = \frac{5}{9} \times (F - 32)$$

$$F = (C \times 9/5) + 32$$

**CARRIER** - A person engaged in the transportation of passengers or property by: (1) Land or water, as a common, contract or private carrier, or (2) Civil aircraft.

**CERCLA** - Comprehensive Environmental Response, Compensation, and Liability Act.

**CFR - CODE OF FEDERAL REGULATIONS** - A codification of the general and permanent rules published in the Federal Register. Three major sections are important to packagings.

CFR-21 Food and Drugs.

CFR-40 Environmental Protection Agency.

CFR-49 Department of Transportation.

**CLASS B EXPLOSIVES** - Those explosives that function by rapid combustion rather than detonation. Includes special fireworks, flash powders, some signal devices, some propellant explosives.

**COMBUSTIBLE LIQUID** - Generally, a liquid with a flash point from 100°F to 200°F, that does not meet other hazardous classes.

**CONSUMER COMMODITY** - A material that is packaged and distributed in a form intended or suitable for retail sales... for consumption by individuals.

**CORROSIVE MATERIAL** - A liquid or solid that causes visible destruction or irreversible alterations in human skin tissue at the point of contact, or in the case of leakage from its packaging, a material that has a severe corrosion rate on steel.

**CWA** - Clean Water Act.

**DOD** - Department of Defense.

**EPA** - Environmental Protection Agency.

**ETIOLOGIC AGENT** - A microorganism, or its toxin, which causes or may cause human disease.

**F - FAHRENHEIT**. See C - Celsius.

**FEDERAL REGISTER** - The daily publication of the federal government listing (among other things) all acts of regulation or changes to regulations made that day.

**FLAMMABLE LIQUID** - Generally, any liquid that has a flash point below 100° F.

**FLAMMABLE SOLID** - A solid material, other than explosive, which under normal transportation conditions is liable to cause fires through friction, retained heat from manufacturing, or which can be ignited readily. Included in this class are spontaneously combustible and water reactive materials.

**FLASH POINT** - The minimum temperature at which a material gives off flammable vapors which in contact with spark or flame will ignite.

**FREIGHT CONTAINER** - A reusable container having a volume of 64 cubic feet or more, designed and constructed to permit being lifted with its contents intact and intended primarily for the containment of packages (in unit form) during transportation.

**GROSS WEIGHT** - The weight of a packaging plus the weight of its contents.

**HAZARDOUS MATERIAL** - A substance which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated.

**HAZARDOUS SUBSTANCE** - A material that is identified in the Hazardous Materials Table by the letter 'E' in the first column, and packaged in a quantity which exceeds the "Reportable Quantity" also shown in the table.

**HAZARDOUS WASTE** - Any material that is subject to the Hazardous Waste Manifest requirements of the EPA.

**IATA** - International Air Transport Association.

**ICAO** - International Civil Aviation Organization.

**IMO** - International Maritime Organization.

**IRRITATING MATERIAL** - Any material which upon contact with fire or exposed to air gives off irritating fumes.

**LIMITED QUANTITY** - Generally, the maximum amount of a specific hazardous material which can be shipped without being subject to the packaging and labeling requirements.

**MARKING** - The descriptive name, instructions, cautions, weight or specification marks...to be placed upon outside containers of hazardous materials.

**MTB** - Materials Transportation Bureau, U.S. Department of Transportation.

**NET WEIGHT** - The weight of the contents only of a package.

**NMFC** - National Motor Freight Classification. These regulations govern the specifications of packagings shipped via trucks.

**NPT** - American standard pipe thread.

**NRC** - Non-reusable container. This may be reused only under certain conditions, as defined by the DOT.

**OSHA** - Occupational Safety and Health Act.

**ORM** - Other Regulated Material. Generally, low level hazards which must be shipped with proper labeling and marking requirements, but for which specific packaging requirements do not apply in Greif's manufacturing processes.

**OUTSIDE CONTAINER** The outermost enclosure used in transporting a hazardous material other than a freight container. See Freight Container.

**OVERPACK** - An enclosure to provide protection or convenience in handling of a package, or to consolidate two or more packages.

**OXIDIZER - OXIDIZING MATERIAL** - A substance that yields oxygen readily.

**PACKAGE - OUTSIDE PACKAGE** - A packaging plus its contents.

**PACKAGING** - The assembly of one or more containers and any other components necessary to assure compliance with the minimum packaging requirements of the DOT. This is what we at Greif make.

**POISON B** - Those substances, other than Poison A or Irritating Materials, which are known to be so toxic to man as to afford a hazard to health during transportation.

**PROPER SHIPPING NAME** - The name of a hazardous material, as shown in the Hazardous Materials Table.

**PSI** - Pounds per Square Inch.

**PSIA** - Pounds per Square Inch Absolute.

**PSIG** - Pounds per Square Inch Gauge (That is, above normal air pressure).

**RCRA** - Resources Conservation and Recovery Act.

**SARA** - The "Superfund Amendments and Reauthorization Act of 1986." Title III of SARA includes detailed provisions for community planning.

**SUPERFUND** - The trust fund established under CERCLA to provide money the OSC can use during a cleanup.

**STC** - Single Trip Container. A packaging manufactured and marked under DOT regulations for the shipment of hazardous materials that may not be refilled or reshipped except under the reconditioning provisions of the DOT. Also, under NMFC and UFC requirements, STC is used to indicate a non-DOT specification package used for dry or solid articles that may not be refilled following the initial shipment.

**TITLE III - The "Emergency Planning and Community Right-To-Know Act of 1986."** Specifies requirements for organizing the planning process at the State and local levels for specified extremely hazardous substances; minimum plan content; requirements for fixed facility owners and operators to inform officials about extremely hazardous substances present at the facilities; and mechanisms available to citizens.

**TOFC - Trailer On Flat Car.**

**UFC - Uniform Freight Classification.** These regulations govern the specifications for packagings used for shipments via railroads.

**CLEAN AIR ACT (EPA)** - Regulates the emission of hazardous air pollutants.

**CLEAN WATER ACT (EPA)** - Regulates the discharge of hazardous pollutants into the nation's surface waters.

**MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT (EPA)** - Regulates waste disposal at sea.

**OCCUPATIONAL SAFETY AND HEALTH ACT (U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)** - Regulates hazards in the workplace, including worker exposure to hazardous substances.

**RESOURCE CONSERVATION AND RECOVERY ACT (EPA)** - Regulates hazardous waste generation, storage, transportation, treatment, and disposal.

**SAFE DRINKING WATER ACT (EPA)** - Regulates production and disposal of nuclear waste.

**TOXIC SUBSTANCES CONTROL ACT (EPA)** - Regulates the manufacture, use and disposal of chemical substances.

**HAZARDOUS MATERIALS TRANSPORTATION ACT (U.S. DEPARTMENT OF TRANSPORTATION)** - Regulates the transportation of hazardous materials.

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (SUPERFUND) (EPA)** - Provides for the cleanup of inactive and abandoned hazardous waste sites.

**ATOMIC ENERGY ACT (NUCLEAR REGULATORY COMMISSION)** - Regulates nuclear energy production and nuclear waste disposal.

**SURFACE MINING CONTROL AND RECLAMATION ACT (U.S. DEPARTMENT OF THE INTERIOR)** - Regulates the environmental aspects of mining (particularly coal) and reclamation.

**BLENDABLES** - Liquid wastes that can be stored with other liquid wastes without causing reactions, polymerization, precipitation, etc.

**INCOMPATIBLE LIQUID WASTES** - Wastes that do polymerize, precipitate, etc. These wastes can be burned directly from a trailer using nitrogen pressure or if the waste stream is of sufficient volume, a dedicated tank can be used.

**DIRECT BURN LIQUID WASTES** - Wastes that are reactive, require steam, etc., that can only be incinerated directly from the trailer using nitrogen pressure.

**T-OX** - This is an aqueous waste which has virtually no heat value and cannot sustain a flame.

**DIRECT BURN KILN WASTES** - Wastes containing solids from 2% to 8% by weight which are incinerated in the kiln. This material is fed through a 3 inch sludge line to the kiln.

**LODDBY** - This is the liquid vortex burner that introduces the liquid wastes into the incinerator through an atomizing nozzle.

**PUMPABLE LIQUID** - Less than 200 Cp.

**PARTICLE SIZE** - Size of any suspended solids.

**KILN SOLIDS** - Wastes that are packaged in fibre drums and fed to the rotary kiln. Although this material does not have to be stabilized, there cannot be any free liquids in the container.

**OVERPACK** - Due to Department of Transportation regulations, some materials in fibre drums require a steel overpack in order to be transported.

**DOOR OPENING** - The fibre drums are dropped through the door opening to the kiln.



# WHERE

## TO GO FOR

## WHAT

**FOR MORE INFORMATION CALL OR WRITE GREIF BROS.  
HAZ-MAT PACKAGING HOTLINE:  
1-800-GBC-2290 • 1-800-422-2290**

Greif Bros. Corporation  
1821 University Avenue  
St. Paul, MN 55104

Greif Bros. Corporation  
140 Mountain Avenue  
Springfield, NJ 07081

**Solid and Hazardous Waste (RCRA) and Superfund**

Hotline (800) 424-9346  
(202) 382-3000

**Chemical Emergency Preparedness Program (including Community Right-To-Know, Title III Sections 311, 312, and 313) information on reporting hazardous substances for community planning purposes**

Hotline (800) 535-0202  
(202) 479-2449

**Toxic Substance Control Act (TSCA) Program**

Hotline (202) 554-1404

**Asbestos Technical Information and Referral (including bulk asbestos identification sampling, analysis, and regulation program)**

Hotline (202) 554-1404

**Safe Drinking Water (Public Water Supply Program, Safe Drinking Water Act, Policy, Technical, and Regulatory questions)**

Hotline (800) 426-4791  
(202) 382-5533

**National Pesticide Telecommunications Network (NPTN) for information concerning pesticides (spill handling, disposal, clean-up, and health effects)**

Hotline (800) 858-7378

**Interagency Assistance: National Response Center (for reporting spills and hazardous substance's releases)**

Hotline (800) 424-8802  
(202) 267-2675

**Office of Hazardous Materials Transportation Research and Special Programs Administration**

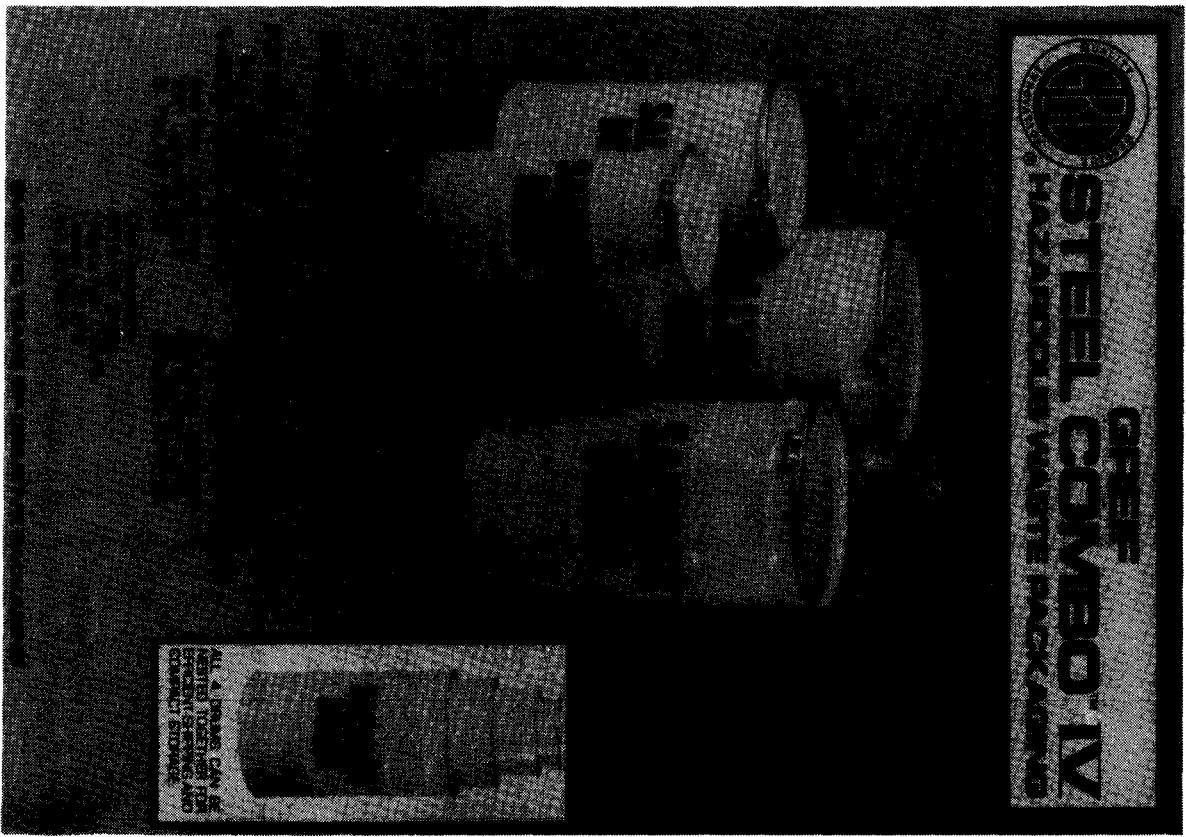
**U. S. Department of Transportation**

**400 7th Street S.W.  
Washington, D.C. 20590**

**Office of the Director  
Alan I. Robert, Director (202) 366-0656**

**Deputy Director  
Elaine Economides (202) 366-0656**

**Bureau of Explosives, Association of American Railroads 24-hour Emergency number (202) 639-2222**



Assistance for hazardous materials incidents involving railroads;  
often contacted through CHEMTREC.  
CHEMTREC (800) 424-9300

24-hour emergency phone to the Chemical Transportation Emergency Center operated as a public service by the Chemical Manufacturers Association. Identification of unknown chemicals, advice on proper initial response methods and procedures for specific chemicals and situations, assistance in establishing contact with shippers/carriers/manufacturers/special product response teams such as CHLOREP or the Pesticide Safety Team Network as necessary and appropriate.

**DOT INFORMATION**

Regulations & Standards	(202) 366-4488
Exemptions	(202) 366-4535
Technical Department	(202) 366-4545

**EPA & DOT INFORMATION LINE**

Washington, D.C. (800) PLAN-FOR

Provides informational assistance pertaining to the federal regulations for transportation of hazardous materials, (CFR-49).

Texas Tech University Pesticide Hotline (800) 858-7378

The National Pesticide Telecommunications Network provides information on pesticide-related health/toxicity/minor cleanup to physicians, veterinarians, fire departments, government agency personnel and the general public.

E.P.A. Chemical Emergency Preparedness Program Hotline  
(800) 535-0202

For communities to call to obtain 140-page interim guidelines regarding "Acutely Toxic Chemicals" which cover Organizing A Community, Developing A Chemical Contingency Plan, Gathering Site-Specific Information; also provided is a list of 400-plus "Acutely Toxic Chemicals." Guideline document may be used to obtain Material Safety Data Sheets for such chemicals.

E.P.A. RCRA Hotline (800) 424-9346

To respond to any citizen's request for specific information, and to clear up confusion, regarding RCRA and "Superfund" regulations; also, to respond to requests for certain documents printed in the Federal Register for which this telephone number is given as a contact point. In addition, in response to policy questions from the regulated communities and state/local governments, personnel will attempt to seek out correct person to provide guidance.

E.P.A. Small Business Hotline

(800) 368-5888

To respond with advice and information to problems encountered by small-quantity generators of hazardous waste.

U.S. Coast Guard National Response Center

(800) 424-8802

(202) 426-2675

## **STATE HAZARDOUS WASTE AGENCIES**

### **ALABAMA**

Alabama Department of Environmental Management  
Land Division  
1751 Federal Drive  
Montgomery, AL 36130  
(205) 271-7730

### **ALASKA**

Department of Environmental Conservation  
Air and Solid Waste Management  
Pouch O  
Juneau, AK 99811  
(907) 789-3151

### **AMERICAN SOMOA**

Environmental Quality Commission  
Government of American Somoa  
Pago Pago, American Somoa 96799  
(684) 663-4116

### **ARIZONA**

Arizone Department of Health Services  
Office of Waste and Water Quality Management  
2005 North Central Avenue  
Phoenix, AZ 85004  
(602) 257-2211

### **ARKANSAS**

Department of Pollution Control and Ecology  
Solid and Hazardous Waste Division  
P.O. Box 9583  
Little Rock, AR 72219  
(501) 562-7444

### **CALIFORNIA**

Department of Health Services  
Toxic Substances Control Programs  
714 P Street  
Sacramento, CA 95814  
(916) 322-2867

State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 95801  
(916) 322-2867

California Waste Management Board  
1020 Ninth Street, Suite 300  
Sacramento, CA 95814

**COLORADO**

Colorado Department of Health  
Waste Management Division  
4210 E. 11th Avenue  
Denver, CO 80220  
(303) 320-8333 Ext. 4364

**COMMONWEALTH OF NORTHERN MARIANA ISLANDS**

Division of Environmental Quality Commonwealth of the  
Northern Mariana Islands  
Office of the Governor  
Saipan, Mariana Islands 96950  
(670) 234-6984

**CONNECTICUT**

Department of Environmental Protection Hazardous Material  
Management Unit  
State Office Building  
165 Capitol Avenue  
Hartford, CT 06106  
(203) 566-8843, 8844

Connecticut Resource Recovery Authority  
179 Annyn Street, Suite 603  
Professional Building  
Hartford, CT 06103  
(203) 549-6390

**DELAWARE**

Department of Natural Resources and Environmental Control  
Solid Waste Management Branch  
P.O. Box 1401  
Dover, DE 19903  
(302) 736-4781

**DISTRICT OF COLUMBIA**

Department of Consumer and Regulatory Affairs  
Pesticides and Hazardous Waste Materials Division  
5010 Overlook Avenue, S.W.  
Washington, DC 20032  
(202) 767-8414

**FLORIDA**

Department of Environmental Regulation  
Solid and Hazardous Waste Section  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32301  
(904) 488-0300

**GEORGIA**

Land Protection Branch  
Industrial and Hazardous Waste Management Program  
Floyd Tower East  
205 Butler Street, S.E.  
Atlanta, GA 30334  
(404) 656-2833 (800) 334-2373

**GUAM**

Guam Environmental Protection Agency  
P.O. Box 2999  
Agana, Guam 96910  
(671) 646-7579

**HAWAII**

Department of Health  
Environmental Health Division  
P.O. Box 3378  
Honolulu, HI 96801  
(808) 548-4383

**IDAHO**

Department of Health and Welfare  
Bureau of Hazardous Materials  
450 West State Street  
Boise, ID 83720  
(208) 334-5879

**ILLINOIS**

Environmental Protection Agency  
Division of Land Pollution Control  
2200 Churchill Road  
Springfield, IL 62706  
(217) 782-6761

**INDIANA**

Mr. Dave Berry—Dept. of Environmental Management  
Office of Solid and Hazardous Waste—Hazardous Waste Branch  
105 S. Meridian St. P.O. Box 6015  
Indianapolis, IN 46206-6015  
(317) 232-4535

**IOWA**

U.S. EPA Region VI  
Hazardous Materials Branch  
726 Minnesota Avenue  
Kansas City, KS 66101  
(913) 236-2888 Iowa RCRA Toll Free: (800) 223-0425

**KANSAS**

Department of Health and Environment  
Bureau of Waste Management  
Forbes Field, Building 321  
Topeka, KS 66620  
(913) 862-9360 Ext. 292

**KENTUCKY**

Cabinet for Natural Resources and Environmental Protection  
Department of Environmental Protection  
Division of Waste Management  
Ft. Boone Plaza, Building #2  
18 Reilly Road  
Frankfort, KY 40601  
(502) 564-6716

**LOUISIANA**

Office of Solid and Hazardous Waste  
Hazardous Waste Division  
Department of Environmental Quality  
P.O. Box 44307  
Baton Rouge, LA 70804  
(504) 342-1227

**MAINE**

Department of Environmental Protection Bureau of Oil and  
Hazardous Materials Control  
State House Station #17  
Augusta, ME 04333  
(207) 289-2651

**MARYLAND**

Maryland Waste Management Administration  
Office of Environmental Programs  
Department of Health and Mental Hygiene  
201 W. Preston Street  
Baltimore, MD 21201  
(301) 225-5709

**MASSACHUSETTS**

Department of Environmental Quality Engineering  
Division of Solid and Hazardous Waste  
One Winter Street  
Boston, MA 02108  
(617) 292-5589 (617) 292-5851

**MICHIGAN**

Environmental Protection Bureau  
Hazardous Waste Division  
Box 30028  
Lansing, MI 48909  
(517) 373-2730

**MINNESOTA**  
Pollution Control Agency  
Solid and Hazardous Waste Division  
1935 West County Road B-2  
Roseville, MN 55113  
(612) 296-7282

**MISSISSIPPI**  
Department of Natural Resources  
Division of Solid and Hazardous Waste Management  
P.O. Box 10385  
Jackson, MS 39209  
(601) 961-5062

**MISSOURI**  
Department of Natural Resources  
Waste Management Program  
117 East Dunklin Street  
P.O. Box 1368  
Jefferson, MO 65102  
(314) 751-3176 (800) 334-6946

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Box 5520  
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Division of Solid and Hazardous Waste Management  
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Columbus, OH 43215  
(614) 466-7220

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Oklahoma State Department of Health Waste Management Service  
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Oklahoma, City, OK 73152  
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Harrisburg, PA 17120  
(717) 787-6239

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Santurce, Puerto Rico 00910-1488  
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Division of Solid Waste Management  
701 Broadway  
Customs House  
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Bureau of Solid Waste Management  
1100 West 49th Street, T-601A  
Austin, TX 78756-3199

**Texas Water Commission**  
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1700 North Congress  
P.O. Box 13087, Capitol Station  
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P.O. Box 45500  
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Waste Management Division  
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Montpelier, VT 05602  
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St. Thomas, Virgin Islands 00801  
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Solid and Hazardous Waste Management Division  
Mail Stop PV-11  
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(206) 459-6322

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Solid and Hazardous Waste/Ground Water  
Branch  
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Charleston, WV 25305

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Bureau of Solid Waste Management  
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**WYOMING**

Department of Environmental Quality  
Solid Waste Management Program  
122 West 25th Street  
Herschler Building  
Cheyenne, WY 82002  
(307) 777-7752

U.S. Environmental Protection Agency  
Office of Solid Waste (WH-562)  
401 M Street, S.W.  
Washington, DC 20460

Association of State and Territorial Solid Waste Management  
Officials  
Suite 345  
Hall of the States  
444 North Capitol Street, N.W.  
Washington, DC 20001

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New Jersey, New York, Puerto Rico, Virgin Islands

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**EPA Region VI**  
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**EPA Region VII**  
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**EPA Region VIII**  
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999 18th Street  
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Seattle, WA 98101  
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Alaska, Idaho, Oregon, Washington

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Laura L. Smith, Supervisor, Publications Services Bureau of  
Explosives, Association of American Railroads  
1920 L Street, N.W.  
Washington, DC 20036  
(202) 835-9500

## LAB PACKS

There are cases where a generator needs to ship small containers of hazardous waste which may be shipped as "LAB PACKS." When a generator prepares a lab pack, inside DOT Specification Packagings are not required, simply because a generator may not lab pack in a greater quantity than a five-gallon inside packaging and DOT allows the inside packagings in lab packs to be glass containers up to one gallon and five-gallon plastic or metal non-specification containers.

When a generator has samples or small containers of hazardous waste, the EPA regulations in 265.316 of CFR 40 allow the generator to package, mark and label according to the DOT lab pack regulations outlined in 173.12 of CFR 49.

Selecting and using the proper DOT Specification Packaging is primarily knowing where to find that information in CFR 49. It may take some digging into the regulations, but making sure that you have the right packaging will protect everyone coming into contact with the shipment of hazardous materials and waste in storage and transportation.

### 173.12 Exceptions for shipment of waste materials:

(a) General. Waste material meeting the hazard class definition of a flammable liquid, flammable solid, oxidizer, corrosive material, Poison B or OMR-A,B,C, and E are excepted from the specification packaging requirements of this subchapter if packaged in combination packagings in accordance with this section and transported for disposal or recovery by private or contract motor carrier by highway only. In addition, a generic proper shipping name from 172.101 may be used in place of specific chemical names, when two or more waste materials in the same hazard class are packaged in the same outside packaging, provided the waste materials are chemically compatible.

(b) Outside packagings. The outside packaging must be a DOT specification metal or fibre drum. It may also be a polyethylene drum capable of withstanding: (1) the vibration and compression tests specified in 178.19-7(c)(1) and (2) except the compression test value must be no less than 2400 pounds, and (2) a four-foot drop test as specified in 178.19-7(a)(1).

(c) Inside packagings. The inside packagings must be either glass packagings not exceeding 1-gallon rated capacity, or metal or plastic packagings not exceeding a rated capacity of 5 gallons.

(d) Additional packaging requirements. The following additional requirements are applicable:

(1) Each outside packaging may only contain one hazard class and the materials must be chemically compatible.

(2) Inside packagings of liquid must be surrounded by a compatible absorbent material capable of absorbing the total liquid contents; and

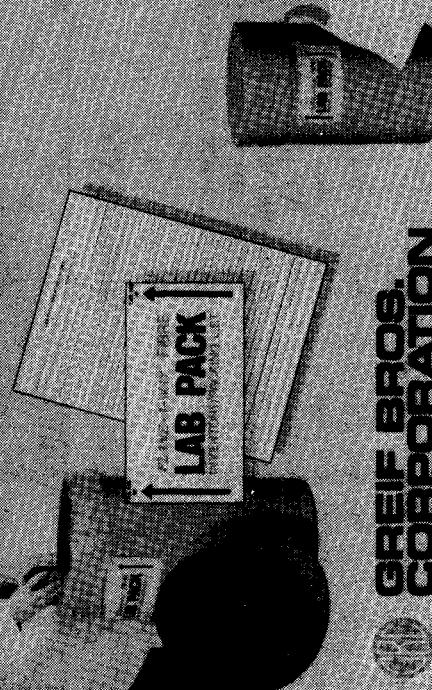
(3) Gross weight may not exceed 450 pounds or the rated capacity of the drum; whichever is less.

(e) Prohibited materials. The following materials are not authorized under the provisions of this section: acrolein; promine pentafluoride; bromine trifluoride; chloric acid, chlorine trifluoride, nitric acid, fuming; pyroforic liquids, and sulfuric acid, fuming.

# Greif's HAZ-MAT Fibre Lab Pack will save you time and money.

Greif's new Haze-A-Way™ Fibre Lab Pack has been designed with your specific needs in mind. The results are features and benefits that save time and money.

The Haze-A-Way's Fibre Lab Pack is an incinerable fibre drum with no metal components. This means less residue as a result of incineration, making our fibre drum one of the safest, most cost effective packages available. Call Greif today to see how the Haze-A-Way™ Lab Pack can save you time and money.



## Greif Corporation

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while maintaining  
drum contents. We apply  
the pouch right to the drum. This  
reduces the chance of  
the pouch coming loose  
during shipment.

It is the responsibility of the托运人 (shipper) to check with appropriate government agencies for packaging and transporting hazardous waste.



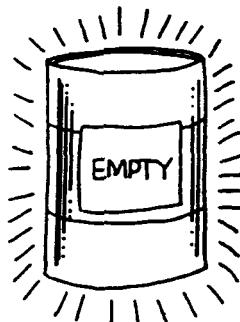
## D.O.T. SPECIFICATION PACKAGING

Greif has the production capabilities of developing D.O.T. specification 7A Packaging in accordance with 49 CFR 178.350. Bags, fibre drums, plastic drums and steel drums can all fall into the category of the above specifications. It is important to understand that the word PACKAGING is used in reference to the product inside the package and hence is a performance type package.

Radioactive contaminated material can be many different things such as clothing, powders, soil, tools, liquids or solids. Radioactive materials and their waste products are generated in every community such as your local hospital and medical facility. The need for containers in these areas will be growing every day as we meet the environmental needs.

Your customers and prospects who are the generators of radioactive waste are already familiar with the rules and regulations surrounding their packaging needs. With the regulations as they now stand, there is no reason we should not pursue this market area.

## EMPTY DRUMS



## HANDLING EMPTIES

1. The container has been triple rinsed in compliance with and meeting the standards of section 261.7. And disposed of in accordance with 265.315 of CFR 40.
2. The container or inner liner contains no more than 2.5 centimeters, one (1) inch or 3% residue of the original contents, again only if the residue is not listed as an acute hazardous waste in section 261.33(e).
3. If the container's inner liner has been removed and the container has no residue, and the empty is disposed of as required in section 265.315.

When a generator disposes of any rinsed containers, the EPA regulations for hazardous waste would not apply except that these now completely emptied containers, as outlined in section 265.315, could not be disposed of in landfills unless they are crushed, shredded or similarly reduced in volume.

When a container contains more than the following quantities of hazardous waste, or any amount of an acute hazardous waste listed in section 261.33(e) the generator would now be subject to complete compliance or at a minimum, be required to comply with section 251.5(g).

When any generator must discard or dispose of containers or inner liners which exceed these standards or contain any amount of an acute hazardous waste listed by name in section 261.33(e), the generator would be required to comply with the EPA hazardous regulations.

Generally, a person or company will get rid of empty or non-empty containers in one of four methods.

1. Return to the original shipper as a "deposit" container and therefore, not subject to the EPA regulations. But, you are still required to comply with the DOT regulations.
2. Re-use the containers for the same hazardous material or use it to dispose of hazardous waste.
3. Sell or give the containers to a scrap dealer or
4. Sell or give to a drum reconditioner.

The first two options pose no problem because in both cases the generator is following EPA guidelines. But when a generator will dispose of non-empty containers or inner liners still containing a hazardous waste residue in excess of the criteria outlined in section 261.7...then the generator must make sure the person or company carrying out the activity of scrapping or reconditioning the containers has the necessary authority under a state or federal permit or authorization and will properly handle, treat or dispose of the regulated hazardous waste residue remaining in the container. If a generator offered "non-empty" containers to a scrap dealer or a drum reconditioner and either of those companies or persons improperly disposed of the generator's hazardous waste, both the generator and the person improperly disposing of the waste would be in violation of the EPA Hazardous Waste Regulations and be subject to the fines and penalties outlined in the Resource, Conservation and Recovery Act.

If the shipper used an STC or Single-Trip-Container for a hazardous material, the container could be reused again for additional shipments when the packaging had been re-tested or reconditioned according to the regulations.

This however, does not apply to a hazardous waste. A generator may reuse an STC or Single-Trip-Container or NRC or Non-Reusable-Container for one shipment of a hazardous waste from the generator's plant to the Treatment, Storage and Disposal Facility, but only when the generator complies with the following conditions:

1. The STC or NRC specification packaging must be the same specification packaging required by the regulations in Part 173 of CFR 49.
2. Transportation is approved for the highway mode only.
3. Each hazardous waste container must be filled at least 24 hours prior to the time it will be loaded on a vehicle for transportation.
4. Each container must be examined for leaks or damage prior to the time it will be loaded.
5. The generator must load or supervise the loading of the containers.
6. And the transporter must unload or supervise the unloading of the drums at the final destination.

Unfortunately, if the transporter will take the generator's hazardous waste containers and unload them at a consolidation or transfer terminal, reuse of an STC or NRC is forbidden, unless the terminal where they are unloaded, consolidated and then reloaded when the transporter accumulates enough for a truck load lot, is under a RCRA Interim Status or Part B Permit for the storage of hazardous waste.

If the transporter does not have a RCRA permit for such storage prior to transporting the waste to the final TSD Facility, the generator must use new or reconditioned DOT Specification Packaging. The generator must determine that in advance of offering the hazardous waste for transportation and then determine whether new or reconditioned containers would be required. If the drums are reconditioned, the name or identifying number of the reconditioner and the date of reconditioning must be marked on the container within 10 inches of the top of the packaging.

One additional safety point on containers that still contain any amount of hazardous material or waste. Many times unauthorized personnel will remove "empty" or non-empty" containers from a facility for personal purposes such as building a barbecue or wood stove. If an employee or other person were injured as a result of those containers, the company would be subject to civil liability in the event of injury or worse.

It makes sense to mark each empty or non-empty container with a marking label that forbids unauthorized removal from the plant or storage area.

When "non-empty" containers still containing residues of hazardous waste or containers that are being used for the storage of hazardous waste are being stored on-site, the containers must be marked with the words HAZARDOUS WASTE...and if the generator is a regulated generator, the date of accumulation or the date the "non-empties" were declared a hazardous waste is to be marked on each container.

## RECONDITION DRUMS

**CFR 49 171.2 GENERAL REQUIREMENTS.** (a) No person may offer or accept a hazardous material for transportation in commerce unless that material is properly classed, described, packaged, marked, labeled, and in condition for shipment as required or authorized by this sub-chapter (including 171.12 and 176.11), or

(b) No person may transport a hazardous material in commerce unless that material is handled and transported in accordance with this subchapter, or as an exemption issued under Subchapter B of this chapter.

(c) No person may represent, mark, certify, sell, or offer a packaging or container as meeting the requirements of this subchapter or an exemption issued under Subchapter B of this chapter, governing its use in the transportation in commerce of a hazardous material, whether or not it is used or intended to be used for the transportation of a hazardous material, unless the packaging or container is manufactured, fabricated, marked, maintained, reconditioned, repaired, or retested, as appropriate, in accordance with this subchapter, an approval issued thereunder, or an exemption issued under Subchapter B of this chapter.

(d) The representations, markings, and certifications subject to the prohibitions of paragraph (c) of this section include:

(1) Specification identifications that include the letters "DOT" or "UN";

(2) Exemption, approval, and registration numbers that include the letters "DOT"; and

(3) test dates displayed in association with specification, registration, approval, or exemption markings indicating compliance with a test or retest requirement of this subchapter, an approval issued thereunder, or an exemption issued under Subchapter B of this chapter.

**173.28 REUSE OF PACKAGINGS (CONTAINERS).** (a) Containers used more than once (refilled and reshipped after having been previously emptied) must be in such condition, including closure devices and cushioning materials, that they comply in all respects with the prescribed requirements for those containers. Repairs must be made in an efficient manner in accordance with requirements for materials and construction as prescribed in Parts 178 and 179 of this subchapter for new containers, or as otherwise prescribed. Parts that are weak, broken, or otherwise deteriorated must be replaced.

(m) Specifications 17C, 17E, and 17H steel drums (§178.115, §178.116, §178.118 of this subchapter) from which contents have been removed, may be reused as prescribed in this part as packagings for shipment of flammable liquids, flammable solids, organic peroxides, oxidizers, poisons covered by §173.370, radioactive materials, and corrosive liquids covered by §173.249 and §173.249a, only if the following requirements, in addition to the other requirements of this section, are complied with prior to each reuse:

(m)(1) Each drum must be thoroughly cleaned to remove all residues and foreign matter, inspected for deterioration or defects, and returned to its original shape and contour. All closure devices and parts must be removed (if removable), inspected for defects, and replaced as necessary. Each open head cover gasket must be replaced. Any drum which shows evidence of deterioration (e.g., visible pitting; creases; significant reduction in parent metal thickness from rust, corrosion, or cleaning processes; metal fatigue; or other material defects) or which cannot be returned to its original shape and contour does not qualify for reuse.

(m)(2) The entire surface of each closed-head drum (and after December 31, 1971, each open-head drum, except for its removable head and adjacent chime area) must be tested for leakage by constant internal air pressure. The leakage test must be conducted by submersion under water, by completely covering the surface with soap suds or oil, or by some other method that will be equally sensitive. The air pressure must be maintained for a period of time sufficient to permit a complete inspection for leaks. The minimum air pressure for the test must be as follows:

Specification No.	Capacity	Min. test pressure p.s.i.
17C .....	All .....	15
17E.....	Over 12 gallons....	7
	12 gallons or less ..	5
17H .....	Over 12 gallons....	7
	12 gallons or less ..	5

If leaking, the drum does not qualify for reuse.

(m)(3) Marking:

(m)(3)(i) All previous test markings, commodity identification markings, and labels must be removed.

(m)(3)(ii) The outside of each drum qualifying for reuse under this section must be marked on the body within 10 inches of the top head with the following information: "Tested" (or "Inspected" as appropriate), the month and year of the test (or inspection, if an open-head drum) and the DOT registration number of the reconditioner. For example:

TESTED 2/70  
DOT R1001

The registration number required for this marking must be obtained from the Office of Hazardous Materials Transportation, Department of Transportation, Washington, D.C. 20590.

(m)(3)(iii) Markings must be in at least 1/4-inch figures and letters on a contrasting background.

(m)(3)(iv) The printed marking of the month and year of test is not required if each is clearly indicated by other means, such as perforations on a decal.

(n) A packaging marked as STC or NRC according to the specification requirements of Part 178 of this subchapter may be reused for the shipment of any corrosive solid, ORM-A, ORM-B, ORM-C, ORM-E, or any material not required by this subchapter to be shipped in a DOT specification packaging. Paragraph (m) of this section does not apply to these materials.

(o) Any drum meeting one specification which has been altered to meet another specification must be capable of meeting the new specification in all respects.

(1) Each drum so altered must be inspected, tested, and marked in accordance with paragraph (m) of this section. In addition, the drum must:

- (i) Bear the specification markings required by the specification under which it was originally manufactured, and

- (ii) Bear both the old and the new specification identification in conjunction with the markings required by paragraph (m) of this section with the specification to which the drum is converted shown last, e.g., "17E/17H". For example:

17E/17H  
TESTED 2/70  
DOT R1001

(p) A packaging marked NRC or STC according to the specification requirements of Part 178 of this subchapter may be reused for the shipment of hazardous waste to designated facilities subject to the following conditions:

(1) Except as authorized by this paragraph, the waste must be packaged in accordance with this part and offered for transportation in accordance with the requirements of this subchapter.

(2) Transportation is performed by highway only.

(3) A package is not offered for transportation less than 24 hours after it is finally closed for transportation, and each package is inspected for leakage immediately prior to being offered for transportation.

(4) Each package is loaded by the shipper and unloaded by the consignee, unless the motor carrier is a private or contract carrier.

(5) The packaging may be used only once under this paragraph and may not be used again for shipment of hazardous materials except in accordance with paragraph (m) or (n) of this section.

# Improper hazardous waste handling and disposal is dangerous—and illegal.



Experience has taught us that hazardous wastes can be more dangerous than anyone ever realized. Fortunately, we *know* how to **minimize those risks**.

---

**Hazardous waste regulations** are designed to make sure we use our knowledge and that we really do everything in our power to handle hazardous waste safely. The penalties for not following the regulations are very strong—jail terms, fines, not to mention damaging publicity.

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**IT IS THE RESPONSIBILITY OF THE GENERATOR OF HAZARDOUS WASTE TO CHECK WITH APPROPRIATE GOVERNMENT AGENCIES FOR PACKAGING AND TRANSPORTING OF HAZARDOUS WASTE.**

# SHET ISOLATOR® SECONDARY CONTAINMENT SYSTEM

## EFFICIENCY AND EFFECTIVENESS COMBINED

### STOKE OF SHUT-OFF OF HARMFUL MATERIALS



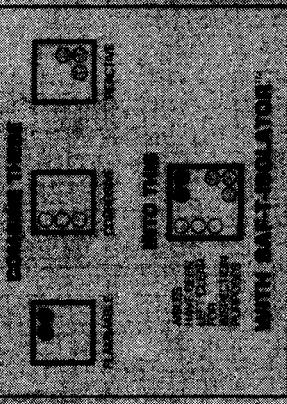
USE SHET ISOLATOR® TO ISOLATE TOXIC, REACTIVE OR CORROSIVE MATERIALS USE LESS SPACE WHILE PREVENTING ESCAPE INTO THE ENVIRONMENT.

SH. 30 588.177 (3) "A storage container holding a dangerous or reactive material must be isolated from other material storage tanks, piles, open tanks, or other receptacles. Dangerous or reactive materials must be separated from other dangerous or reactive materials or from non-hazardous materials by a dike, berm, wall or other device."

SH. 30 588.177 (4) "A storage container holding a dangerous or reactive material must be isolated from other material storage tanks, piles, open tanks, or other receptacles. Dangerous or reactive materials must be separated from other dangerous or reactive materials or from non-hazardous materials by a dike, berm, wall or other device."

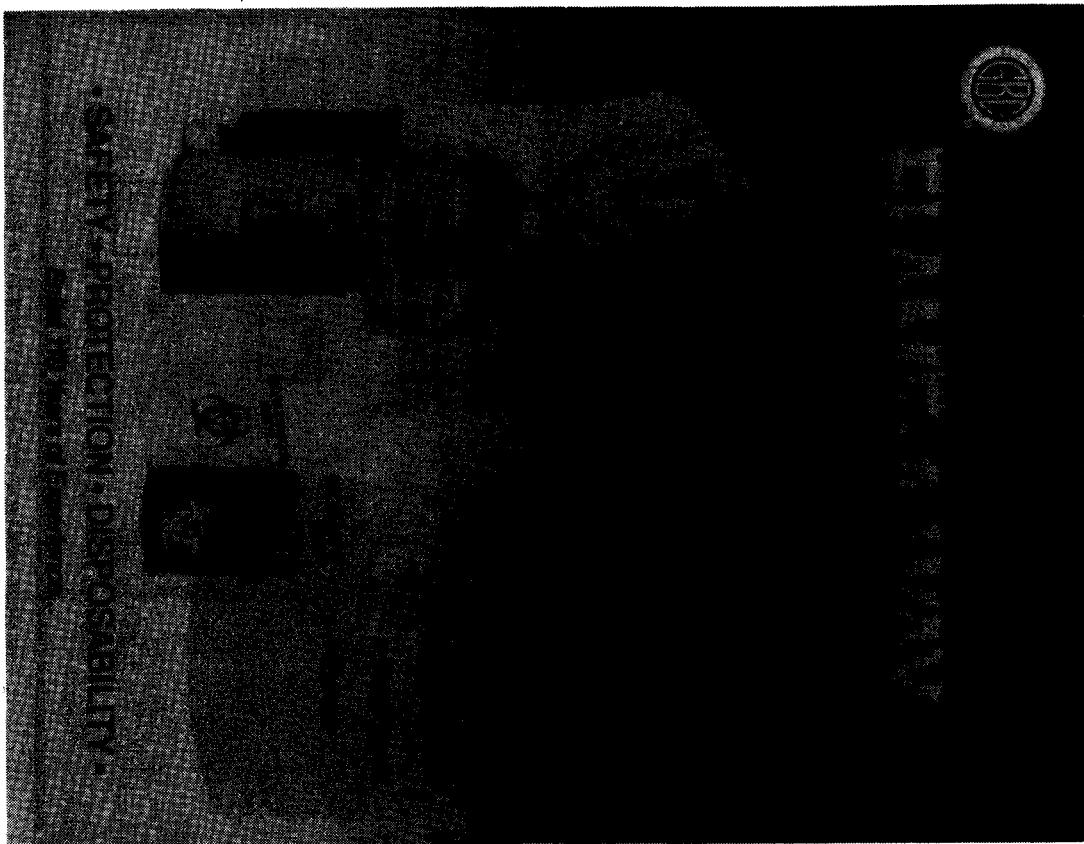
SH. 30 588.177 (5) "A storage container holding a dangerous or reactive material must be isolated from other material storage tanks, piles, open tanks, or other receptacles. Dangerous or reactive materials must be separated from other dangerous or reactive materials or from non-hazardous materials by a dike, berm, wall or other device."

SH. 30 588.177 (6) "A storage container holding a dangerous or reactive material must be isolated from other material storage tanks, piles, open tanks, or other receptacles. Dangerous or reactive materials must be separated from other dangerous or reactive materials or from non-hazardous materials by a dike, berm, wall or other device."



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# MEDICAL WASTE TRACKING ACT OF 1988

PUBLIC LAW 100-582—NOV. 1, 1988

## Public Law 100-582 100th Congress

### An Act

Nov. 1, 1988  
(H.R. 3515)

Medical Waste  
Tracking Act of  
1988.  
42 USC 6901  
note.  
Public health  
and safety.  
State and local  
governments.

To amend the Solid Waste Disposal Act to require the Administrator of the Environmental Protection Agency to promulgate regulations on the management of infectious waste.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

#### SECTION 1. SHORT TITLE

This Act may be cited as the "Medical Waste Tracking Act of 1988".

#### SEC. 2. TRACKING OF MEDICAL WASTE.

(a) AMENDMENT OF SOLID WASTE DISPOSAL ACT.—The Solid Waste Disposal Act is amended by adding the following new subtitle at the end:

#### "Subtitle J—Demonstration Medical Waste Tracking Program

42 USC 6992.

State listing.

Regulations.

#### SEC. 11001. SCOPE OF DEMONSTRATION PROGRAM FOR MEDICAL WASTE.

"(a) COVERED STATES.—The States within the demonstration program established under this subtitle for tracking medical wastes shall be New York, New Jersey, Connecticut, the States continuous to the Great Lakes and any State included in the program through the petition procedure described in subsection (c), except for any of such States in which the Governor notifies the Administrator under subsection (b) that such State shall not be covered by the program.

"(b) OPT OUT.—(1) If the Governor of any State covered under subsection (a) which is not contiguous to the Atlantic Ocean notifies the Administrator that such State elects not to participate in the demonstration program, the Administrator shall remove such State from the program.

"(2) If the Governor of any other State covered under subsection (a) notifies the Administrator that such State has implemented a medical waste tracking program that is no less stringent than the demonstration program under this subtitle and that such State elects not to participate in the demonstration program, the Administrator shall, if the Administrator determines that such State program is no less stringent than the demonstration program under this subtitle, remove such State from the demonstration program.

"(3) Notifications under paragraphs (1) or (2) shall be submitted to the Administrator no later than 30 days after the promulgation of regulations implementing the demonstration program under this subtitle.

"(c) PETITION IN.—The Governor of any State may petition the Administrator to be included in the demonstration program and the Administrator may, in his discretion, include any such State. Such petition may not be made later than 30 days after promulgation of regulations establishing the demonstration program under this sub-

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title, and the Administrator shall determine whether to include the State within 30 days after receipt of the State's petition.

“(d) EXPIRATION OF DEMONSTRATION PROGRAM.—The demonstration program shall expire on the date 24 months after the effective date of the regulations under this subtitle.

### “SEC. 11002. LISTING OF MEDICAL WASTES.

42 USC 6992a.

Regulations.

“(a) LIST.—Not later than 6 months after the enactment of this subtitle, the Administrator shall promulgate regulations listing the types of medical waste to be tracked under the demonstration program. Except as provided in subsection (b), such list shall include, but need not be limited to, each of the following types of solid waste:

“(1) Cultures and stocks of infectious agents and associated biologicals, including cultures from medical and pathological laboratories, cultures and stocks of infectious agents from research and industrial laboratories, wastes from the production of biologicals, discarded live and attenuated vaccines, and culture dishes and devices used to transfer, inoculate, and mix cultures.

“(2) Pathological wastes, including tissues, organs, and body parts that are removed during surgery or autopsy.

“(3) Waste human blood and products of blood, including serum, plasma, and other blood components.

“(4) Sharps that have been used in patient care or in medical, research, or industrial laboratories, including hypodermic needles, syringes, pasteur pipettes, broken glass, and scalpel blades.

“(5) Contaminated animal carcasses, body parts, and bedding of animals that were exposed to infectious agents during research, production of biologicals, or testing of pharmaceuticals.

“(6) Wastes from surgery or autopsy that were in contact with infectious agents, including soiled dressings, sponges, drapes, lavage tubes, drainage sets, underpads, and surgical gloves.

“(7) Laboratory wastes from medical, pathological, pharmaceutical, or other research, commercial, or industrial laboratories that were in contact with infectious agents, including slides and cover slips, disposable gloves, laboratory coats, and aprons.

“(8) Dialysis wastes that were in contact with the blood of patients undergoing hemodialysis, including contaminated disposable equipment and supplies such as tubing, filters, disposable sheets, towels, gloves, aprons, and laboratory coats.

“(9) Discarded medical equipment and parts that were in contact with infectious agents.

“(10) Biological waste and discarded materials contaminated with blood, excretion, exudates or secretion from human beings or animals who are isolated to protect others from communicable diseases.

“(11) Such other waste material that results from the administration of medical care to a patient by a health care provider and is found by the Administrator to pose a threat to human health or the environment.

“(b) EXCLUSIONS FROM LIST.—The Administrator may exclude from the list under this section any categories or items described in paragraphs (6) through (10) of subsection (a) which he determines do not pose a substantial present or potential hazard to human health

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or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

42 USC 6992b.

Regulations.

### "SEC. 11003. TRACKING OF MEDICAL WASTE.

"(a) DEMONSTRATION PROGRAM.—Not later than 6 months after the enactment of this subtitle, the Administrator shall promulgate regulations establishing a program for the tracking of the medical waste listed in section 11002 which is generated in a State subject to the demonstration program. The program shall (1) provide for tracking of the transportation of the waste from the generator to the disposal facility, except that waste that is incinerated need not be tracked after incineration, (2) include a system for providing the generator of the waste with assurance that the waste is received by the disposal facility, (3) use a uniform form for tracking in each of the demonstration States, and (4) include the following requirements:

"(A) A requirement for segregation of the waste at the point of generation where practicable.

"(B) A requirement for placement of the waste in containers that will protect waste handlers and the public from exposure.

"(C) A requirement for appropriate labeling of containers of the waste.

"(b) SMALL QUANTITIES.—In the program under subsection (a), the Administrator may establish an exemption for generators of small quantities of medical waste listed under section 11002, except that the Administrator may not exempt from the program any person who, or facility that, generates 50 pounds or more of such waste in any calendar month.

"(c) ON-SITE INCINERATORS.—Concurrently with the promulgation of regulations under subsection (a), the Administrator shall promulgate a recordkeeping and reporting requirement for any generator in a demonstration State of medical waste listed in section 11002 that (1) incinerates medical waste listed in section 11002 on site and (2) does not track such waste under the regulations promulgated under subsections (a). Such requirement shall require the generator to report to the Administrator on the volume and types of medical waste listed in section 11002 that the generator incinerated on site during the 6 months following the effective date of the requirements of this subsection.

"(d) TYPE OF MEDICAL WASTE AND TYPES OF GENERATORS.—For each of the requirements of this section, the regulations may vary for different types of medical waste and for different types of medical waste generators.

Records.

Reports.

### "SEC. 11004. INSPECTIONS.

"(a) REQUIREMENTS FOR ACCESS.—For purposes of developing or assisting in the development of any regulation or report under this subtitle or enforcing any provision of this subtitle, any person who generates, stores, treats, transports, disposes of, or otherwise handles or has handled medical waste shall, upon request of any officer, employee, or representative of the Environmental Protection Agency duly designated by the Administrator, furnish information relating to such waste, including any tracking forms required to be maintained under section 11003, conduct monitoring or testing, and permit such person at all reasonable times to have access to, and to copy, all records relating to such waste. For such purposes, such officers, employees, or representatives are authorized to—

42 USC 6992c.

Records.

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“(1) enter at reasonable times any establishment or other place where medical wastes are or have been generated, stored, treated, disposed of, or transported from;

“(2) conduct monitoring or testing; and

“(3) inspect and obtain samples from any person of any such wastes and samples of any containers or labeling for such wastes.

“(b) PROCEDURES.—Each inspection under this section shall be commenced and completed with reasonable promptness. If the officer, employee, or representative obtains any samples, prior to leaving the premises he shall give to the owner, operator, or agent in charge a receipt describing the sample obtained and, if requested, a portion of each such sample equal in volume or weight to the portion retained if giving such an equal portion is feasible. If any analysis is made of such samples, a copy of the results of such analysis shall be furnished promptly to the owner, operator, or agent in charge of the premises concerned.

“(c) AVAILABILITY TO PUBLIC.—The provisions of section 3007(b) of this Act shall apply to records, reports, and information obtained under this section in the same manner and to the same extent as such provisions apply to records, reports, and information obtained under section 3007.

### “SEC. 11005. ENFORCEMENT.

42 USC 6992d.

#### “(a) COMPLIANCE ORDERS.—

“(1) VIOLATIONS.—Whenever on the basis of any information the Administrator determines that any person has violated, or is in violation of, any requirement or prohibition in effect under this subtitle (including any requirement or prohibition in effect under regulations under this subtitle) (A) the Administrator may issue an order (i) assessing a civil penalty for any past or current violation, (ii) requiring compliance immediately or within a specified time period, or (iii) both, or (B) the Administrator may commence a civil action in the United States district court in the district in which the violation occurred for appropriate relief, including a temporary or permanent injunction. Any order issued pursuant to this subsection shall state with reasonable specificity the nature of the violation.

“(2) ORDERS ASSESSING PENALTIES.—Any penalty assessed in an order under this subsection shall not exceed \$25,000 per day of noncompliance for each violation of a requirement or prohibition in effect under this subtitle. In assessing such a penalty, the Administrator shall take into account the seriousness of the violation and any good faith efforts to comply with applicable requirements.

“(3) PUBLIC HEARING.—Any order issued under this subsection shall become final unless, not later than 30 days after issuance of the order, the persons named therein request a public hearing. Upon such request, the Administrator shall promptly conduct a public hearing. In connection with any proceeding under this section, the Administrator may issue subpoenas for the production of relevant papers, books, and documents, and may promulgate rules for discovery procedures.

“(4) VIOLATION OF COMPLIANCE ORDERS.—In the case of an order under this subsection requiring compliance with any requirement of or regulation under this subtitle, if a violator fails to take corrective action within the time specified in an

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order, the Administrator may assess a civil penalty of not more than \$25,000 for each day of continued noncompliance with the order.

**(b) CRIMINAL PENALTIES.—**Any person who—

“(1) knowingly violates the requirements of or regulations under this subtitle;

“(2) knowingly omits material information or makes any false material statement or representation in any label, record, report, or other document filed, maintained, or used for purposes of compliance with this subtitle or regulations thereunder; or

“(3) knowingly generates, stores, treats, transports, disposes of, or otherwise handles any medical waste (whether such activity took place before or takes place after the date of the enactment of this paragraph) and who knowingly destroys, alters, conceals, or fails to file any record, report, or other document required to be maintained or filed for purposes of compliance with this subtitle or regulations thereunder

shall, upon conviction, be subject to a fine of not more than \$50,000 for each day of violation, or imprisonment not to exceed 2 years (5 years in the case of a violation of paragraph (1)). If the conviction is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment under the respective paragraph shall be doubled with respect to both fine and imprisonment.

**(c) KNOWING ENDANGERMENT.—**Any person who knowingly violates any provision of subsection (b) who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall upon conviction be subject to a fine of not more than \$250,000 or imprisonment for not more than 15 years, or both. A defendant that is an organization shall, upon conviction under this subsection, be subject to a fine of not more than \$1,000,000. The terms of this paragraph shall be interpreted in accordance with the rules provided under section 3008(f) of this Act.

**(d) CIVIL PENALTIES.—**Any person who violates any requirement of or regulation under this subtitle shall be liable to the United States for a civil penalty in an amount not to exceed \$25,000 for each such violation. Each day of such violation shall, for purposes of this section, constitute a separate violation.

**(e) CIVIL PENALTY POLICY.—**Civil penalties assessed by the United States or by the States under this subtitle shall be assessed in accordance with the Administrator's 'RCRA Civil Penalty Policy', as such policy may be amended from time to time.

42 USC 6992e.

Law Enforcement  
and Crime

### “SEC. 11006. FEDERAL FACILITIES.

**“(a) IN GENERAL.—**Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government in a demonstration State (1) having jurisdiction over any solid waste management facility or disposal site at which medical waste is disposed of or otherwise handled, or (2) engaged in any activity resulting, or which may result, in the disposal, management, or handling of medical waste shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural (including any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief), respecting control and abatement of medical waste disposal and management

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in the same manner, and to the same extent, as any person is subject to such requirements, including the payment of reasonable service charges. The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders, civil, criminal, and administrative penalties, and other sanctions, including injunctive relief, fines, and imprisonment. Neither the United States, nor any agent, employee, or officer thereof, shall be immune or exempt from any process or sanction of any State or Federal court with respect to the enforcement of any such order, penalty, or other sanction. For purposes of enforcing any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order, or civil, criminal, administrative penalty, or other sanction), against any such department, agency, or instrumentality, the United States hereby expressly waives any immunity otherwise applicable to the United States. The President may exempt any department, agency, or instrumentality in the executive branch from compliance with such a requirement if he determines it to be in the paramount interest of the United States to do so. No such exemption shall be granted due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation. Any exemption shall be for a period not in excess of one year, but additional exemptions may be granted for periods not to exceed one year upon the President's making a new determination. The President shall report each January to the Congress all exemptions from the requirements of this section granted during the preceding calendar year, together with his reason for granting each such exemption.

“(b) DEFINITION OF PERSON.—For purposes of this Act, the term ‘person’ shall be treated as including each department, agency, and instrumentality of the United States.

### “SEC. 11007. RELATIONSHIP TO STATE LAW.

President of U.S.  
Reports.

42 USC 6992f.

“(a) STATE INSPECTIONS AND ENFORCEMENT.—A State may conduct inspections under 11004 and take enforcement actions under section 11005 against any person, including any person who has imported medical waste into a State in violation of the requirements of, or regulations under, this subtitle, to the same extent as the Administrator. At the time a State initiates an enforcement action under section 11005 against any person, the State shall notify the Administrator in writing.

“(b) RETENTION OF STATE AUTHORITY.—Nothing in this subtitle shall—

“(1) preempt any State or local law; or  
“(2) except as provided in subsection (c), otherwise affect any State or local law or the authority of any State or local government to adopt or enforce any State or local law.

“(c) STATE FORMS.—Any State or local law which requires submission of a tracking form from any person subject to this subtitle shall require that the form be identical in content and format to the form required under section 11003, except that a State may require the submission of other tracking information which is supplemental to the information required on the form required under section 11003 through additional sheets or such other means as the State deems appropriate.

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42 USC 6992g.

## "SEC. 11008. REPORT TO CONGRESS.

"(a) FINAL REPORT.—Not later than 3 months after the expiration of the demonstration program, the Administrator shall report to Congress on the following topics:

"(1) The types, number, and size of generators of medical waste (including small quantity generators) in the United States, the types and amounts of medical waste generated, and the on-site and off-site methods currently used to handle, store, transport, treat, and dispose of the medical waste, including the extent to which such waste is disposed of in sewer systems.

"(2) The present or potential threat to human health and the environment posed by medical waste or the incineration thereof.

"(3) The present and potential costs (A) to local economies, persons, and the environment from the improper handling, storage, transportation, treatment or disposal of medical waste and (B) to generators, transporters, and treatment, storage, and disposal facilities from regulations establishing requirements for tracking, handling, storage, transportation, treatment, and disposal of medical waste.

"(4)(A) The success of the demonstration program established under this subtitle in tracking medical waste,

"(B) changes in incineration and storage practices attributable to the demonstration program, and

"(C) other available and potentially available methods for tracking medical waste and their advantages and disadvantages, including the advantages and disadvantages of extending tracking requirements to (i) rural areas and (ii) small quantity generators.

"(5) Available and potentially available methods for handling, storing, transporting, and disposing of medical waste and their advantages and disadvantages.

"(6) Available and potentially available methods for treating medical waste, including the methods of incineration, sterilization, chemical treatment, and grinding, and their advantages, including their ability to render medical waste noninfectious or less infectious, and unrecognizable and otherwise protect human health and the environment, and disadvantages.

"(7) Factors affecting the effectiveness of the treatment methods identified in subsection (a)(5), including quality control and quality assurance procedures, maintenance procedures, and operator training.

"(8) Existing State and local controls on the handling, storage, transportation, treatment, and disposal of medical waste, including the enforcement and regulatory supervision thereof.

"(9) The appropriateness of using any existing State requirements or the requirements contained in subtitle C as nationwide requirements to monitor and control medical waste.

"(10) The appropriateness of the penalties provided in section 11006 for insuring compliance with the requirements of this subtitle, including a review of the level of penalties imposed under this subtitle.

"(11)(A) The effect of excluding households and small quantity generators from any regulations governing the handling, storage, transportation, treatment, and disposal of medical waste, and

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“(B) potential guidelines for the handling, storage, treatment, and disposal of medical waste by households and small quantity generators.

“(12) Available and potentially available methods for the reuse or reduction of the volume of medical waste generated.

“(b) INTERIM REPORTS.—The Administrator shall submit two interim reports to Congress on the topics listed in subsection (a). The interim reports shall contain the information on the topics available to the Administrator at the time of submission. One interim report shall be due 9 months after enactment of this subtitle and one shall be due 12 months after the effective date of regulations under this subtitle.

“(c) CONSULTATION.—In preparing the reports under this section, the Administrator shall consult with appropriate State and local agencies.

### “SEC. 11009. HEALTH IMPACTS REPORT.

42 USC 6992h.

“Within 24 months after the enactment of this section, the Administrator of the Agency for Toxic Substances and Disease Registry shall prepare for Congress a report on the health effects of medical waste, including each of the following—

“(1) A description of the potential for infection or injury from the segregation, handling, storage, treatment, or disposal of medical wastes.

“(2) An estimate of the number of people injured or infected annually by sharps, and the nature and seriousness of those injuries or infections.

“(3) An estimate of the number of people infected annually by other means related to waste segregation, handling, storage, treatment, or disposal, and the nature and seriousness of those infections.

“(4) For diseases possibly spread by medical waste, including Acquired Immune Deficiency Syndrome and hepatitis B, an estimate of what percentage of the total number of cases nationally may be traceable to medical wastes.

### “SEC. 11010. GENERAL PROVISIONS.

42 USC 6992i.

“(a) CONSULTATION.—(1) In promulgating regulations under this subtitle, the Administrator shall consult with the affected States and may consult with other interested parties.

“(2) The Administrator shall also consult with the International Joint Commission to determine how to monitor the disposal of medical waste emanating from Canada.

Canada.

“(b) PUBLIC COMMENT.—In the case of the regulations required by this subtitle to be promulgated within 9 months after the enactment of this subtitle, the Administrator may promulgate such regulations in interim final form without prior opportunity for public comment, but the Administrator shall provide an opportunity for public comment on the interim final rule. The promulgation of such regulations shall not be subject to the Paperwork Reduction Act of 1980.

“(c) RELATIONSHIP TO SUBTITLE C.—Nothing in this subtitle shall affect the authority of the Administrator to regulate medical waste including medical waste listed under section 11002, under subtitle C of this Act.

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42 USC 6992j.

## **"SEC. 11011. EFFECTIVE DATE.**

"The regulations promulgated under this subtitle shall take effect within 90 days after promulgation, except that, at the time of promulgation, the Administrator may provide for a shorter period prior to the effective date if he finds the regulated community does not need 90 days to come into compliance.

42 USC 6992k.

## **"SEC. 11012. AUTHORIZATION OF APPROPRIATIONS.**

"There are authorized to be appropriated to the Administrator such sums as may be necessary for each of the fiscal years 1989 through 1991 for purposes of carrying out activities under this subtitle.".

(b) **TABLE OF CONTENTS.**—The table of contents for the Solid Waste Disposal Act is amended by inserting the following after the items relating to subtitle I:

### **"Subtitle J—Demonstration Medical Waste Tracking Program**

"Sec. 11001. Scope of demonstration program for medical waste.  
"Sec. 11002. Listing of medical wastes.  
"Sec. 11003. Tracking of medical waste.  
"Sec. 11004. Inspections.  
"Sec. 11005. Enforcement.  
"Sec. 11006. Federal facilities.  
"Sec. 11007. Relationship to State law.  
"Sec. 11008. Report to Congress.  
"Sec. 11009. Health impact report.  
"Sec. 11010. General provisions.  
"Sec. 11011. Effective date.  
"Sec. 11012. Authorization of appropriations.".

## **SEC. 3. DEFINITION.**

Section 1004 of the Solid Waste Disposal Act (42 U.S.C. 6903) is amended by adding the following at the end thereof:

"(40) Except as otherwise provided in this paragraph, the term 'medical waste' means any solid waste which is generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. Such term does not include any hazardous waste identified or listed under subtitle C or any household waste as defined in regulations under subtitle C.".

## **SEC. 4. EPA LAW ENFORCEMENT POWERS.**

(a) **CONFERRAL OF LAW ENFORCEMENT POWERS.**—Chapter 203 of title 18, United States Code, is amended by adding at the end the following:

### **"§3063. Powers of Environmental Protection Agency**

"(a) Upon designation by the administrator of the Environmental Protection Agency, any law enforcement officer of the Environmental Protection Agency with responsibility for the investigation of criminal violations of a law administered by the Environmental Protection Agency, may—

- "(1) carry firearms;
- "(2) execute and serve any warrant or other processes issued under the authority of the United States; and
- "(3) make arrests without warrant for—
  - "(A) any offense against the United States committed in such officer's presence; or

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“(B) any felony offense against the United States if such officer has probable cause to believe that the person to be arrested has committed or is committing that felony offense.

“(b) The powers granted under subsection (a) of this section shall be exercised in accordance with guidelines approved by the Attorney General.”.

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of chapter 203 of title 18, United States Code, is amended by adding at the end the following:

“3063. Powers of Environmental Protection Agency.”.

Approved November 1, 1988.

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### LEGISLATIVE HISTORY—H.R. 3515:

#### CONGRESSIONAL RECORD, Vol. 134 (1988):

Oct. 4, 6, considered and passed House.

Oct. 7, considered and passed Senate, amended.

Oct. 12, House concurred in Senate amendments.

#### WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 24 (1988)

Nov. 1, Presidential statement.