



Missouri Department of Natural Resources
Hazardous Waste Program

Hazardous Waste Management

Handbook for Small-Quantity Generators

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Introduction

The primary purpose of this reference manual is to help small-quantity generators of hazardous wastes comply with federal and state laws pertaining to proper hazardous waste management procedures. The manual is specifically designed for business firms and institutions that produce between 220 and 2,200 pounds of hazardous waste monthly, or that accumulate such amounts. Companies producing in excess of 2,200 monthly may find this manual useful but not entirely applicable to their needs. Hazardous waste regulations often are complex and difficult to interpret. A six-step compliance procedure has been chosen for the manual. These steps include:

1. Identification of hazardous waste.
2. Registration of waste streams.
3. Storing and labeling hazardous waste.
4. Safety requirements.
5. Transportation, management and disposal of hazardous waste.
6. Payment of fees and taxes and penalties or violations.

In the appendices, definitions are available to help better understand technical terms used in waste management. A listing of the U.S. Environmental Protection Agency's Regional Offices and a check list is also available to assist in compliance with the regulations.

The Missouri Department of Natural Resources' Hazardous Waste Program is responsible for the development of this manual. More information is available on the Web at www.dnr.mo.gov/env/hwp. All questions or comments regarding the material should be directed to:

Missouri Department of Natural Resources
Hazardous Waste Program
Compliance and Enforcement Section
P.O. Box 176
Jefferson City, MO 65102-0176

Telephone inquiries may be made through the department's toll-free number at 800-361-4827 or the Hazardous Waste Program at 573-751-3176. You may also e-mail the department's Hazardous Waste Program at hazwaste@dnr.mo.gov.

To contact the EPA, you may access their Web site at www.epa.gov/region7/contact.htm.

Federal Legislation

In the United States, the accumulation of wastes began to be recognized as an important environmental problem in the 1960s. Historically, municipal solid waste from residential, industrial and institutional sources had been dumped in open gullies, ditches, ravines, gravel pits, wetlands and along shorelines without regard to environmental or health hazards. Smoldering, open dumps were becoming common rural sights.

Responding to public pressure to do something, the U.S. Congress passed the Solid Waste Disposal Act in 1965. This vanguard legislation established the first framework for solid waste management nationwide.

Administered by the U.S. Public Health Service, the program's first effort was to close open dumps and do basic research on waste management. By 1970, Solid Waste Disposal Act had been amended to reorient the program to promote resource recovery as an alternative to land disposal.

Small grants were made available to various states promoting special waste management programs, additional studies and experimental high-tech resource recovery endeavors. The program was also transferred to the newly created U.S. Environmental Protection Agency.

In 1973 and 1975, the Solid Waste Disposal Act was reauthorized, but by 1976 it was clear that additional legislation and more effective enforcement of proper waste disposal practices were needed. Industrial wastes were mounting significantly. Of primary concern was the proliferation and dumping of toxic chemicals. Leaky, hazardous, abandoned chemical dumps were becoming one of the nation's hottest environmental issues.

Tragic examples of inadequate disposal of hazardous waste were becoming common place. Publicized incidents created new household words like Love Canal and Valley of the Drums.

Congress responded by amending Solid Waste Disposal Act, creating a far more encompassing law, the Resource Conservation and Recovery Act of 1976.

The Resource Conservation and Recovery Act of 1976 established a regulatory system for tracking and controlling hazardous waste from “cradle to grave.” It placed requirements on the handling, transportation and disposal of waste materials that could be harmful to human health and the environment. Since its creation, numerous amendments have been enacted to meet changing health and environmental concerns.

The amending of the act in November 1984, resulted in stronger requirements for proper management of selected waste materials commonly known as hazardous wastes. Prior to 1984, the Resource Conservation and Recovery Act regulated only those municipal, industrial and institutional sources that generated 2,200 pounds or more of hazardous waste in a calendar month. The new amendment lowered the exclusion limit. Now, all commercial enterprises or institutions, private or public, generating as little as 220 pounds of hazardous wastes monthly, are subject to the rules and regulations administered by the EPA.

Federal regulations may be viewed at federal epository libraries. It may be purchased from the U.S. Government Bookstore, the U.S. Government Printing Office or Bureau of National Affairs. Federal regulations are also available online at www.gpoaccess.gov/cfr/index.html.

Missouri Legislation

Missouri, like most states, found itself facing an environmental crisis in the 1950s and 60’s. The Missouri Legislature began its attack on improper waste management practices as early as 1955 by establishing rules pertaining to the treatment of solid waste. In the fall of 1977, the Missouri Hazardous Waste Management Law was passed. It created a seven-member commission to develop rules and regulations aimed at controlling the state’s potentially hazardous waste. Enforcement rules were officially adopted by the commission in 1979. In 1985, Missouri was designated a Resource Conservation and Recovery Act authorized state by the EPA. This action gives Missouri the authority to be the lead in the state in lieu of the EPA. Additional subsequent amendments have strengthened the law.

Missouri generators of hazardous waste who produce 220 pounds or more per month, or who accumulate such an amount through storage, have been liable under the regulatory statutes of the Missouri Hazardous Waste Management Law since 1980.

For selected very toxic or acute hazardous wastes, the regulated quantity is as small as 2.2 pounds per calendar month.

Those generators who produce greater than 220 pounds but less than 2200 pounds of hazardous waste per month or accumulate within that range are classified as Small Quantity Generators.

Continued public concern and legislative activity are bringing about more vigorous enforcement by regulatory agencies. Many small business firms in the private sector, as well as public and private institutions, are finding themselves confronted with the problems of how to properly manage hazardous waste.

Copies of the Revised Statutes of Missouri are available through the Reviser of Statutes at 573-526-1288, or at www.moga.mo.gov.

Copies of the Missouri Code of State Regulations are available through the Missouri Secretary of State at 573-751-4015, or at www.sos.mo.gov/adrules/csr/csr.asp.

Hazardous Waste Generator Categories

The Federal Government and Missouri identify three categories of hazardous waste generators based upon the quantity of hazardous waste generated per month:

- **Conditionally Exempt Small Quantity Generators:** generate less than 220 pounds (100 kilograms) of hazardous waste and less than 2.2 pounds of acutely hazardous waste per month
- **Small Quantity Generators:** generate between 220 pounds (100 kilograms) and 2,200 pounds (1000 kilograms) of hazardous waste, and less than 2.2 pounds (1 kilograms) of an acutely hazardous waste per month, or accumulate either amount at any one time.
- **Large Quantity Generators:** generate more than 2,200 pounds (10,000 kilograms) of hazardous waste or greater than 2.2 pounds of acutely hazardous waste per month.

Each category of generator must comply with the hazardous waste regulations specific to that category. This handbook is intended primarily for businesses that generate a small quantity of hazardous waste (between 220 and 2,200 pounds).

STEP I



Identifying Your Waste

- Compliance Process Chart
- Identifying Your Waste
- Characteristic Hazardous Waste Definitions
- Table I —Toxic Hazardous Waste
- Hazardous Waste Listings
 - F List
 - P List
 - K List
 - U List

| The Compliance Process | Steps to follow by Generators of: | |
|--|-----------------------------------|---------------------------------------|
| | Regulated Quantity of Waste | Less Than Regulated Quantity of Waste |
| Step 1 - Identify Your Wastes The law requires that you evaluate your waste to determine if it meets the definition of being hazardous. | X | X |
| Step 2 - Register Your Wastes If you have a hazardous waste and generate or accumulate the regulated quantity, you must complete hazardous waste generator registration forms and submit them to the Missouri Department of Natural Resources. | X | |
| Step 3 - Storing and Labeling Wastes Hazardous waste must be stored in approved containers and labeled properly. | X | |
| Step 4 - Safety Requirements Regulated generators are required to meet several safety standards. | X | |
| Step 5 - Transportation, Management and Disposal Most generators of waste use the services of companies specializing in the transportation and management of waste materials. All generators must follow certain guidelines whether or not their waste is hazardous. | X | X |
| Step 6 - Payment of Registration and Generator Fees, Summary Report, Penalties and Interest The law provides for the collection of fees from those generating and disposing of hazardous wastes. There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law. | X | |

Identifying Your Waste

This chapter is a general overview and guidelines to help the small quantity generator identify its hazardous waste. The Missouri Hazardous Waste Management Law requires each generator to determine whether each of its waste streams is hazardous.

Any material a facility produces other than products used for its intended purpose, gaseous emissions and materials listed in 40 CFR 261.4(a) are considered to be solid wastes. After a facility determines it generates a solid waste, and it is not excluded from the definitions of solid or hazardous waste, it must determine if the waste is hazardous.

Wastes are considered hazardous if they meet one or both of the following criteria:

- The name of the substance is included on any of the hazardous waste lists found in the regulations.
- The waste exhibits any one, or a combination of the following four characteristics:
 - **Toxic** – A waste is toxic if when tested using the Toxicity Characteristic Leaching Procedure, the extract from the representative sample of the waste contains any of the contaminants included in the EPA D-Listed Hazardous Waste Table at concentrations equal to or greater than the listed Regulatory Level.
 - **Reactive** – A waste is reactive if the waste is normally unstable, reacts violently with water, has explosive potential or is capable of releasing poisonous gases.
 - **Ignitable** – A waste is ignitable if the waste material is a liquid that has a flash point of less than 140° F, or a solid that catches fire easily and burns so rapidly that it creates a serious health hazard.
 - **Corrosive** – A waste is corrosive if the waste material is a liquid that has a pH value less than or equal to 2.0 or greater than or equal to 12.5.

If unable to identify the waste materials using these methods, seek assistance from your chemical supplier. Your supplier will be able to provide a Material Safety Data Sheet. This will help to determine if any of the materials used in your process contain hazardous materials. Your regional or national trade association or the department may also be able to provide guidance.

In some cases, it may be necessary to submit a representative sample of your waste to a reputable environmental laboratory for testing. Even if a waste is a listed waste, the facility must still determine if the waste demonstrates a hazardous characteristic. Determination may be made through knowledge of the generation process or by testing.

Periodic evaluations of waste materials should be performed. Retain all records of any results obtained. You are required to reevaluate your waste streams when a change in raw materials or a change in your facility's process occurs. If your waste streams are determined to not be hazardous, do not discard your records. The information may be needed at a future date to verify the results.

Environmental Testing Laboratories - The process of identifying hazardous waste characteristics may require the services of a knowledgeable laboratory. The Missouri Department of Natural Resources has not established a certification program for laboratories. Therefore, the department makes no endorsement of the credibility or reliability of any laboratory. To contact an environmental lab in your area check the yellow pages in your local phone book. Be certain that the lab you choose uses EPA-approved techniques for analyzing your waste materials.

Hazardous Waste Mixtures - In general, mixing a hazardous waste with a non-hazardous waste will result in the entire volume being regulated as a hazardous waste. This includes mixing liquids with liquids and mixing solids with liquids. It is a good management practice to keep hazardous and non-hazardous waste separated while in storage.

Characteristic Hazardous Waste Definitions

Ignitable Wastes – D001 - 40 CFR 261.21

The ignitability characteristic identifies wastes that can readily catch fire and sustain combustion. Most ignitable wastes are liquid in physical form. EPA uses one of two flash point tests (see 40 CFR 261.21) as a method to determine whether a liquid is combustible enough to deserve regulation as hazardous. A liquid is considered an ignitable hazardous waste if it exhibits a flash point less than 60°C (140°F).

Some wastes in solid or non-liquid physical form can also readily catch fire and sustain combustion. Non-liquid waste is considered ignitable if it can spontaneously catch fire or catch fire through friction or absorption of moisture under normal handling conditions. Some compressed gasses and substances meeting the Department of Transportation definition of oxidizer are classified as ignitable wastes. Ignitable wastes carry the waste code D001 and are among the most common hazardous waste.

Corrosive Wastes – D002 - 40 CFR 261.22

The corrosivity characteristic identifies wastes are either strong acids, alkalines or are liquids with capabilities to corroding steel and other materials.

Corrosive wastes that are strong acids or alkalines can readily corrode or dissolve flesh, metal or other materials. To be classified as corrosive the waste must have a pH less than or equal to 2 or greater than or equal to 12.5 as determined by a pH meter or other approved method (see 40 CFR 261.22).

Corrosive wastes that can corrode steel at a rate of 6.35 mm (0.25 inch) per year are also classified as corrosive wastes.

Physically solid, non-liquid, wastes are not evaluated for corrosivity. Corrosive wastes carry the waste code D002, and they are also some of the most common hazardous wastes.

Reactivity – D003 - 40 CFR 261.23

The reactivity characteristic identifies wastes that readily explode or undergo violent reactions. Reactive hazardous wastes are relatively uncommon and are defined largely by criteria from the EPA. Waste handlers are required to use their best judgment in determining if a waste is sufficiently reactive to be regulated.

Criteria of reactive wastes include:

- It can explode or violently react when exposed to water or under normal handling conditions.
- It can create toxic fumes or gasses when exposed to water or under normal handling conditions.
- It meets the criteria for classification as an explosive under Department of Transportation regulations (see 49CFR §§ 173.51, 173.53 and 173.88).
- It generates toxic levels of sulfide or cyanide gas when exposed to a pH range of 2 through 12.5.

Reactive wastes carry the hazardous waste code D003.

Toxicity – D004 to D043 - 40 CFR 261.24

The toxicity characteristic identifies wastes likely to leach dangerous concentrations of toxic chemicals and constituents. To predict whether any particular waste is likely to leach chemicals or elements into the groundwater at dangerous levels, EPA designed a lab procedure to replicate the leaching process. The lab procedure is known as the Toxicity Characteristic Leaching Procedure.

The Toxicity Characteristic Leaching Procedure method must be used to create a leachate similar to the leachate generated by a landfill containing the tested waste. Once created, it must be determined whether it contains any of the toxic chemicals or elements in amounts above the specified regulatory levels in Table I. Toxic wastes carry the hazardous waste code that corresponds to the toxic contaminant causing it to be hazardous. These waste codes are found in Table I.

Table I - Toxic Hazardous Wastes - 40 CFR 261.24

| EPA Waste No. | Constituent | CAS Number | Regulatory Level (mg/L) |
|---------------|-------------------------------|------------|-------------------------|
| D004 | Arsenic | 7440-38-2 | 5.0 |
| D005 | Barium | 7440-39-3 | 100.0 |
| D018 | Benzene | 71-43-20 | 0.5 |
| D006 | Cadmium | 7440-43-9 | 1.0 |
| D019 | Carbon Tetrachloride | 56-23-5 | 0.5 |
| D020 | Chlordane | 57-74-9 | .03 |
| D021 | Chlorobenzene | 108-90-7 | 100.0 |
| D022 | Chloroform | 67-66-3 | 6.0 |
| D007 | Chromium | 7440-47-3 | 5.0 |
| D023 | o-Cresol | 95-48-7 | 200.0 |
| D024 | m-Cresol | 108-39-4 | 200.0 |
| D025 | p-Cresol | 106-44-5 | 200.0 |
| D026 | Cresol | | 200.0 |
| D016 | 2,4-D | 94-75-7 | 10.0 |
| D027 | 1,4-Dichlorobenzene | 106-46-7 | 7.5 |
| D028 | 1,2-Dichloroethane | 107-06-2 | 0.5 |
| D029 | 1,1-Dichloroethylene | 75-35-4 | 0. |
| D030 | 2,4-Dinitrotoluene | 121-14-2 | 0.13 |
| D012 | Endrin | 72-20-8 | 0.02 |
| D031 | Heptachlor(and its hydroxide) | 76-44-8 | 0.008 |
| D032 | Hexachlorobenzene | 118-74-1 | 0.13 |
| D033 | Hexachloro-1,3-butadiene | 87-68-3 | 0.5 |
| D034 | Hexachloroethane | 67-72-1 | 3.0 |
| D008 | Lead | 7439-92-1 | 5.0 |
| D013 | Lindane | 58-89-9 | 0.4 |
| D009 | Mercury | 7439-97-6 | 0.2 |
| D014 | Methoxychlor | 72-43-5 | 10.0 |
| D035 | Methyl ethyl ketone | 78-93-3 | 200.0 |
| D036 | Nitrobenzene | 98-95-3 | 2.0 |
| D037 | Pentachlorophenol | 187-86-5 | 100.0 |
| D038 | Pyridine | 100-86-1 | 5.0 |
| D010 | Selenium | 7782-49-2 | 1.0 |
| D011 | Silver | 7440-22-4 | 5.0 |
| D039 | Tetrachloroethylene | 127-18-4 | 0.7 |
| D015 | Toxaphene | 8000-35-2 | 0.5 |
| D040 | Trichloroethylene | 79-01-6 | 0.5 |
| D041 | 2,4,5-Trichlorophenol | 195-95-4 | 400.0 |
| D042 | 2,4,6-Trichlorophenol | 188-06-2 | 2.0 |
| D017 | 2,4,5-TP (Silvex) | 93-72-1 | 1.0 |
| D043 | Vinyl chloride | 75-01-4 | 0.2 |

Hazardous Waste Listings

The following pages contain listings of hazardous waste reprinted from federal and state regulations. Regulated quantities are given for each waste list.

EPA 'F' Listed Hazardous Wastes - Hazardous Wastes from Non-Specific Sources

- F001** The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F002** The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F003** The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F004** The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F005** The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F006** Wastewater treatment sludges from electroplating operations except from the following processes:
1. Sulfuric acid anodizing of aluminum.
 2. Tin plating on carbon steel.
 3. Zinc plating (segregated basis) on carbon steel.
 4. Aluminum or zinc-aluminum plating on carbon steel.
 5. Cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel.
 6. Chemical etching and milling of aluminum.
- F007** Spent cyanide plating bath solutions from electroplating operations.
- F008** Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.
- F009** Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
- F010** Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.
- F011** Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.
- F012** Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.

- F019** Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.
- F020** Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)
- F021** Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediate used to produce its derivatives.
- F022** Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.
- F023** Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)
- F024** Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in §261.31 or §261.32.)
- F025** Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.
- F026** Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.
- F027** Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols, (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)
- F028** Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026 and F027.
- F032** Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.

NOTE: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The listing for plants that have previously used chlorophenolic formulation is administratively stayed whenever these waste are covered by the F034 or F035 listings. These stays will remain in effect until further administrative action is taken.

- F034** Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.

NOTE: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.

F035 Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.

NOTE: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.)

F037 Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and storm water units receiving dry weather flow. Sludge generated in storm water units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in §261.31 (b) (2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.

F038 Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge or float generated from the physical or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation units, tanks and impoundments, and all sludges generated in dissolved-air flotation units. Sludges generated in storm water units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment unit as defined in §261.31 (b) (2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048 and K051 wastes are not included in this listing.

F039 Leachate resulting from the treatment, storage, or disposal of wastes classified by more than one waste code under subpart D, or from a mixture of wastes classified under subparts C and D of this part. (Leachate resulting from the management of one or more of the following EPA Hazardous Wastes and no other hazardous wastes retains its hazardous waste codes: F020, F021, F022, F023, F026, F027 or F028.

EPA “P” Listed Hazardous Wastes - Acutely Toxic Wastes

| No. | Chem. Abs. No. | Substance |
|-------|----------------|--|
| P023 | 107-20-0 | Acetaldehyde, chloro- |
| P002 | 591-08-2 | Acetamide, N-(aminothioxomethyl)- |
| P057 | 640-19-7 | Acetamide, 2-fluoro- |
| P058 | 62-74-8 | Acetic acid, fluoro-, sodium salt |
| P002 | 591-08-2 | 1-Acetyl-2-thiourea |
| P003 | 107-02-8 | Acrolein |
| P070 | 116-06-3 | Aldicarb |
| P203 | 1646-88-4 | Aldicarb sulfone |
| P004 | 309-00-2 | Aldrin |
| P005 | 107-18-6 | Allyl alcohol |
| P006 | 20859-73-8 | Aluminum phosphide (R,T) |
| P007 | 2763-96-4 | 5-(Aminomethyl)-3-isoxazolol |
| P008 | 504-24-5 | 4-Aminopyridine |
| P009 | 131-74-8 | Ammonium pierate (R) |
| PI 19 | 7803-55-6 | Ammonium vandat |
| P099 | 506-61-6 | Argentate (1-), bis(cyano-C)-, potassium |
| P010 | 7778-39-4 | Arsenic acid HAsO |
| P012 | 1327-53-3 | Arsenic trioxide |
| P011 | 1303-28-2 | Arsenic oxide AsO |
| P011 | 1303-28-2 | Arsenic pentoxide |
| PO12 | 1327-53-3 | Arsenic oxide AsO |
| P038 | 692-42-2 | Arsine, diethyl- |
| P036 | 696-28-6 | Arsonous dichloride, phenyl- |
| P054 | 151-56-4 | Aziridine |
| P067 | 75-55-8 | Aziridine, 2-methyl- |

| No. | Chem.Abs. No. | Substance |
|------|---------------|---|
| P013 | 542-62-1 | Barium cyanide |
| P024 | 106-47-8 | Benzenamine, 4-chloro- |
| P077 | 100-01-6 | Benzenamine, 4-nitro- |
| P028 | 100-44-7 | Benzene, (chloromethyl)- |
| P042 | 51-43-4 | 1, 2-Benzenediol, 4-[1-hydroxy-2-(methylamino) ethyl]-, (R) |
| P046 | 122-09-8 | Benzeneethanamine, alpha, alpha-dimethyl- |
| P014 | 108-98-5 | Benzenethiol |
| P127 | 1563-66-2 | 7-Benxofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate |
| P188 | 57-64-7 | Benzoic acid, 2-hydroxy-, compd. With (3a <i>S</i> - <i>cis</i>)-1,2,3,3a,8, 8a-hexahydro-1, 3a,9-trimethylpyrrolo[2,3- <i>b</i>]indol-5-yl methylcarbamate ester (1:1) |
| P001 | 81-81-22 | H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3 percent |
| P028 | 100-44-7 | Benzyl chloride |
| P015 | 7440-41-7 | Beryllium |
| P017 | 598-31-2 | Bromoacetone |
| P018 | 357-57-3 | Brucine |
| P045 | 39196-18-4 | 2-Butanone, 3, 3-dimethyl-1-(methylthio)-, O-[methylamino]carbonyl]oxime |
| P021 | 592-01-8 | Calcium cyanide |
| P021 | 592-01-8 | Calcium cyanide Ca(CN) ₂ |
| P189 | 55285-14-8 | Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2, 2-dimethyl-7-benxofuranyl ester |
| P191 | 644-64-4 | Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester |
| P192 | 119-38-0 | Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H-pyrazol-5-yl ester |
| P190 | 1129-41-5 | Carbamic acid, methyl-, 3methylphenyl ester |
| P127 | 1563-66-2 | Carbofuran |
| P022 | 75-15-0 | Carbon disulfide |
| P095 | 75-44-5 | Carbon dichloride |
| P189 | 55285-14-8 | Carbosulfan |
| P023 | 107-20-0 | Chloroacetaldehyde |
| P024 | 106-47-8 | p-Chloroaniline |
| P026 | 5344-82-1 | 1(o-Chlorophenyl) thiourea |
| P027 | 542-76-7 | 3 Chloropropionitrile |
| P029 | 544-92-3 | Copper cyanide |
| P029 | 544-92-3 | Copper cyanide Cu(CN) |
| P202 | 64-00-6 | m-Cumenyl methylcarbamate |
| P030 | | Cyanides (soluble cyanide salts), not otherwise specified |
| P031 | 460-19-5 | Cyanogen |
| P033 | 506-77-4 | Cyanogen chloride |
| P033 | 506-77-4 | Cyanogen chloride (CN)Cl |
| P034 | 131-89-5 | 2-Cyclohexyl-4, 6-dinitrophenol |
| P016 | 542-88-1 | Dichloromethyl ether |
| P036 | 696-28-6 | Dichlorophenylarsine |
| P037 | 60-57-1 | Dieldrin |
| P038 | 692-42-2 | Diethylarsine |
| P041 | 311-45-5 | Diethyl-p-nitrophenyl phosphate |
| P040 | 297-97-2 | O, O-Diethyl O-pyrazinyl phosphorothioate |
| P043 | 55-91-4 | Diisopropylfluorophosphate (DFP) |
| P004 | 309-00-2 | 1, 4, 5, 8-Dimethanonaphthalene, 1, 2, 3, 4, 10, 10-hexa- chloro-1, 4, 4a, 5, 8, 8a, - hexahydro (1alpha, 4alpha, 4abeta, 5alpha, 8alpha)-, 8abeta)- |
| P060 | 465-73-6 | 1, 4, 5, 8-Dimethanonaphthalene, 1, 2, 3, 4, 10,10-hexa- chloro-, 1, 4, 4a, 5, 8, 8a - hexahydro-, (1alpha, 4alpha, 4abeta, 5beta, 8 beta, 8abeta |
| P037 | 60-57-1 | 2,7:3, 6-Dimethanonaphth [2, 3- <i>b</i>] oxirene, 3, 4, 5, 6, 9, 9-hexachloro-1a, 2, 2a, 3, 6, 6a, 7, 7a-octahydro-, (1alpha, 2beta, 2alpha, 3beta, 6beta, 6alpha, 7beta, 7alpha)- |
| P051 | 72-20-8 | 2, 7:3, 6-Dimethanonaphth [2, 3- <i>b</i>]oxirene, 3, 4, 5, 6, 9, 9-hexachloro- 1a, 2, 2a, 3, 6, 6a, 7, 7a-octahydro-, (1alpha, 2 beta, 2abeta, 3alpha, 6alpha, 6abeta, 7beta, 7alpha)-, & metabolites |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|--|
| P044 | 60-51-5 | Dimethoate |
| P046 | 122-09-8 | alpha, alpha-Dimethylphenethylamine |
| PI91 | 644-64-4 | Dimetilan |
| P047 | 534-52-1 | 4, 6-Dinitro-o-cresol, and salts |
| P048 | 51-28-5 | 2, 4-Dinitrophenol |
| P020 | 88-85-7 | Dinoseb |
| P085 | 152-16-9 | Diphosphoramidate, octamethyl- |
| PI11 | 107-49-3 | Diphosphoric acid, tetraethyl ester |
| P039 | 298-04-4 | Disulfoton |
| P049 | 541-53-7 | Dithiobiuret |
| PI85 | 26419-73-8 | 1,3-Dithiolane-2-carboxaldehyd, 2,4-dimethyl-, O- [(methylamino)-carbonyl]oxime |
| P050 | 115-29-7 | Endosulfan |
| P088 | 145-73-3 | Endothall |
| P051 | 72-20-8 | Endrin |
| P051 | 72-20-8 | Endrin, & metabolites |
| P042 | 51-43-4 | Epinephrine |
| P031 | 460-19-5 | Ethanedinitrile |
| PI94 | 23135-22-0 | Ethanimidothioc acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester |
| P066 | 16752-77-5 | Ethanimidothioc acid, N-[[[(methylamino) carbonyl] oxy]- methyl ester |
| PI01 | 107-12-0 | Ethyl cyanide |
| P054 | 151-56-4 | Ethyleneimine |
| P097 | 52-85-7 | Famphu |
| P056 | 7782-41-4 | Fluorine |
| P057 | 640-19-7 | Fluoroacetamide |
| P058 | 62-74-8 | Fluoroacetic acid, sodium salt |
| PI98 | 23422-53-9 | Formetanate hydrochloride |
| PI97 | 17702-53-9 | Formparanate |
| P065 | 628-86-4 | Fulminic acid, mercury (2+) salt (R,T) |
| P059 | 76-44-8 | Heptachlor |
| P062 | 757-58-4 | Hexaethyl tetraphosphate |
| PI16 | 79-19-6 | Hydrazinecarbothioamide |
| P068 | 60-34-4 | Hydrazine, methyl- |
| P063 | 74-90-8 | Hydrocyanic acid |
| P063 | 74-90-8 | Hydrogen cyanide |
| P096 | 7803-51-2 | Hydrogen phosphide |
| P060 | 465-73-6 | Isodrin |
| PI92 | 119-38-0 | Isolan |
| P202 | 64-00-6 | 3-Isopropylphenyl N-methylcarbamate |
| P007 | 2763-96-4 | 3(2H)-Isoxazolone, 5-(aminomethyl)- |
| PI96 | 15339-36-3 | Manganese, bis(dimethylcarbamo-dithioato-S,S2)-, |
| PI96 | 15339-36-3 | Manganese dimethyldithiocarbamate |
| P092 | 62-38-4 | Mercury, (acetato-O) phenyl- |
| P065 | 628-86-4 | Mercury fulminate (R,T) |
| P082 | 62-75-9 | Methanamine, N-methyl-N-nitroso- |
| P064 | 624-83-9 | Methane, isocyanato- |
| P016 | 542-88-1 | Methane, oxybis [chloro- |
| PI12 | 509-14-8 | Methane, tetranitro- (R) |
| PI18 | 75-70-7 | Methanethiol, trichloro- |
| PI98 | 23422-53-9 | Methanimidamide, N,N-dimethyl-N2-[3-[[[(methylamino)-carbonyl]oxy] phenyl]-, monohydrochloride |
| PI97 | 17702-57-7 | Methanimidamide, N,N-dimethyl-N2-[2-methyl-4-[[[(methylamino)-carbonyl] oxy]phenyl]- |
| P050 | 115-29-7 | 6, 9-Methano-2, 4, 3-benzodioxathiepin, 6, 7, 8, 9, 10, 10-hexachloro-1, 5, 5a, 6, 9, 9a-hexahydro-, 3-oxide |
| P059 | 76-44-8 | 4, 7-Methano-1H-indene, 1, 4, 5, 6, 7, 8, 8-heptachloro-3a, 4, 7, 7a-tetrahydro- |
| PI99 | 2032-65-7 | Methiocarb |
| P066 | 16752-77-5 | Methomyl |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|--|
| P068 | 60-34-4 | Methyl hydrazine |
| P064 | 624-83-9 | Methyl isocyanate |
| P069 | 75-86-5 | 2-Methylactonitrile |
| P071 | 298-00-0 | Methyl parathion |
| PI90 | 1129-41-5 | Metolcarb |
| PI28 | 315-8-4 | Mexacarbate |
| P072 | 86-88-4 | alpha-Naphthylthiourea |
| P073 | 13463-39-3 | Nickel carbonyl |
| P073 | 13463-39-3 | Nickel carbonyl Ni(CO) ₄ , (T-4)- |
| P074 | 557-19-7 | Nickel cyanide |
| P074 | 557-19-7 | Nickel cyanide Ni(CN) ₂ |
| P075 | 54-11-5 | Nicotine, and salts |
| P076 | 10102-43-9 | Nitric oxide |
| P077 | 100-01-6 | p-Nitroaniline |
| P078 | 10102-44-0 | Nitrogen dioxide |
| P076 | 10102-43-9 | Nitrogen oxide NO |
| P078 | 10102-44-0 | Nitrogen oxide NO ₂ |
| P081 | 55-63-0 | Nitroglycerine (R) |
| P082 | 62-75-9 | N-Nitrosodimethylamine |
| P084 | 4549-40-0 | N-Nitrosomethylvinylamine |
| P085 | 152-16-9 | Octamethylpyrophosphoramidate |
| P087 | 20816-12-0 | Osmium oxide OsO ₄ , (T-4)- |
| P087 | 20816-12-0 | Osmium tetroxide |
| P088 | 145-73-3 | 7-Oxabicyclo[2.2.1] heptane-2, 3-dicarboxylic acid |
| PI94 | 23135-22-0 | Oxamyl |
| P089 | 56-38-2 | Parathion |
| P034 | 131-89-5 | Phenol, 2-cyclohexyl-4, 6-dinitro- |
| P048 | 51-28-5 | Phenol, 2, 4-dinitro- |
| P047 | 534-52-1 | Phenol, 2-methyl-4, 6-dinitro-, and salts |
| P020 | 88-85-7 | Phenol, 2-(1-methylpropyl)-4, 6-dinitro- |
| P009 | 131-74-8 | Phenol, 2, 4, 6-trinitro-, ammonium salt (R) |
| PI28 | 315-18-4 | Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester) |
| PI99 | 2032-65-7 | Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate (ester) |
| P202 | 64-00-6 | Phenol,3-(1-methylethyl)-, methyl carbamate |
| P201 | 2631-37-0 | Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate |
| P092 | 62-38-4 | Phenylmercury acetate |
| P093 | 103-85-5 | Phenylthiourea |
| P094 | 298-02-2 | Phorate |
| P095 | 75-44-5 | Phosgene |
| P096 | 7803-51-2 | Phosphine |
| P041 | 311-45-5 | Phosphoric acid, diethyl 4-nitrophenyl ester |
| P039 | 298-04-4 | Phosphorodithioic acid, O, O-diethyl S-[2-(ethylthio)ethyl] ester |
| P094 | 298-02-2 | Phosphorodithioic acid, O, O-diethyl S-[(ethylthio)methyl] ester |
| P044 | 60-51-5 | Phosphorodithioic acid, O, O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester |
| P043 | 55-91-4 | Phosphorofluoridic acid, bis (1-methylethyl) ester |
| P089 | 56-38-2 | Phosphorothioic acid, O, O-diethyl O-(4-nitrophenyl) ester |
| P040 | 297-97-2 | Phosphorothioic acid, O, O-diethyl O-pyrazinyl ester |
| P097 | 52-85-7 | Phosphorothioic acid, O-[4-(dimethylamino) sulfonyl]phenyl]O, O-dimethyl ester |
| P071 | 298-00-0 | Phosphorothioic acid, O, O, -dimethyl O-(4-nitrophenyl)ester |
| P204 | 57-47-6 | Physostigmine |
| PI88 | 57-64-7 | Physostigmine salicylate |
| PI10 | 78-00-2 | Plumbane, tetraethyl- |
| P098 | 51-50-8 | Potassium cyanide |
| P098 | 151-50-8 | Potassium cyanide K(CN) |
| P099 | 06-61-6 | Potassium silver cyanide |
| P201 | 2631-37-0 | Promecarb |
| P070 | 116-06-3 | Propanal, 2-methyl-2-(methylthio)-O-(methylamino)carbonyl]oxime |
| P203 | 1646-88-4 | Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-(methylamino)carbonyl] oxime |
| PI01 | 107-12-0 | Propanenitrile |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|--|
| P027 | 542-76-7 | Propanenitrile, 3-chloro- |
| P069 | 75-86-5 | Propanenitrile, 2-hydroxy-2-methyl- |
| P081 | 55-63-0 | 1, 2, 3-Propanetriol, trinitrate (R) |
| P017 | 598-31-2 | 2-Propanone, 1-bromo- |
| PI02 | 107-19-7 | Propargyl alcohol |
| P003 | 107-02-8 | 2-Propenal |
| P005 | 107-18-5 | 2-Propen-1-ol |
| P067 | 75-55-8 | 1, 2-Propylenimine |
| PI02 | 107-19-7 | 2-Propyn-1-ol |
| P008 | 504-24-5 | 4-Pyridinamine |
| P075 | 54-11-5 | Pyridine, 3-(1-methyl-2-pyrrolidinyl), (S)-, and salts |
| P204 | 57-47-6 | Pyrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8- trimethyl-, methylcarbamate (ester), (3aS-cis)- |
| PI14 | 12039-52-0 | Selenious acid, dithallium (1+) salt |
| PI03 | 630-10-4 | Selenourea |
| PI04 | 506-64-9 | Silver cyanide |
| PI04 | 506-64-9 | Silver cyanide Ag (CN) |
| PI05 | 26628-22-8 | Sodium azide |
| PI06 | 143-33-9 | Sodium cyanide |
| PI06 | 143-33-9 | Sodium cyanide Na (CN) |
| PI07 | 1314-96-1 | Strontium sulfide SrS |
| PI08 | 57-24-9 | Strychnidin-10-one, and salts |
| P018 | 357-57-3 | Strychnidin-10-one, 2, 3-dimethoxy- |
| PI08 | 57-24-9S | Strychnine, and salts |
| PI15 | 7446-18-6 | Sulfuric acid, dithallium (1+) salt |
| PI09 | 3689-24-5 | Tetraethyldithiopyrophosphate |
| PI10 | 78-00-2 | Tetraethyl lead |
| PI11 | 107-49-3 | Tetraethyl pyrophosphate |
| PI12 | 509-14-8 | Tetranitromethane (R) |
| P062 | 757-58-4 | Tetraphosphoric acid, hexaethyl ester |
| PI13 | 1314-32-5 | Thallic oxide |
| PI13 | 1314-32-5 | Thallium oxide T1203 |
| PI14 | 12039-52-0 | Thallium (I) selenite |
| PI15 | 7446-18-6 | Thallium (I) sulfate |
| PI09 | 3689-24-5 | Thiodiphosphoric acid, tetraethyl ester |
| P045 | 39196-18-4 | Thiofanox |
| P049 | 541-53-7 | Thioimidodicarbonic diamide [(H2N)C(S)]2NH |
| P014 | 108-98-5 | Thiophenol |
| PI16 | 79-19-6 | Thiosemicarbazide |
| P026 | 5344-82-1 | Thiourea, (2-chlorophenyl)- |
| P072 | 86-88-4 | Thiourea, 1-naphthalenyl- |
| P093 | 103-85-5 | Thiourea, phenyl- |
| PI85 | 26419-73-8 | Tirpate |
| PI23 | 8001-35-2 | Toxaphene |
| PI18 | 75-70-7 | Trichloromethanethiol |
| PI19 | 7803-55-6 | Vanadic acid, ammonium salt |
| PI20 | 1314-62-1 | Vanadium oxide V205 |
| PI20 | 1314-62-1 | Vanadium pentoxide |
| P084 | 4549-40-0 | Vinylamine, N-methyl-N-nitroso- |
| P001 | 81-81-2 | Warfarin, and salts, when present at concentrations greater than 0.3 percent |
| P205 | 137-30-4 | Zinc, bis(dimethylcarbamodithioato-S,S2)- |
| PI21 | 557-21-1 | Zinc cyanide |
| PI21 | 557-21-1 | Zinc cyanide Zn(CN)3 |
| PI22 | 1314-84-7 | Zinc phosphide Zn2P2, when present at concentrations greater than 10 percent (R,T) |
| P205 | 137-30-4 | Zoram |

EPA “K” Listed Hazardous Wastes - Hazardous Wastes from Specific Sources

Wood Preservation

K001 Bottom sediment sludge from treatment of wastewaters from wood preserving processes that use creosote or pentachlorophenol.

Inorganic Pigments

K002 Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003 Wastewater treatment sludge from the production of molybdate orange pigments.
K004 Wastewater treatment sludge from the production of zinc yellow pigments.
K005 Wastewater treatment sludge from the production of chrome green pigments.
K006 Wastewater treatment sludge from production of chrome oxide green pigments (anhydrous and hydrated).
K007 Wastewater treatment sludge from the production of iron blue pigments.
K008 Oven residue from the production of chrome oxide green pigments.

Organic Chemicals

K009 Distillation bottoms from the production of acetaldehyde from ethylene.
K010 Distillation side cuts from the production of acetaldehyde from ethylene.
K011 Bottom stream from the wastewater stripper in the production of acrylonitrile.
K013 Bottom stream from the acetonitrile column in the production of acrylonitrile.
K014 Bottoms from the acetonitrile purification column in the production of acrylonitrile.
K015 Still bottoms from the distillation of benzyl chloride.
K016 Heavy ends or distillation residues from the production of carbon tetrachloride.
K017 Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.
K018 Heavy ends from the fractionation column in ethyl chloride production.

K019 Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.
K020 Heavy ends from the distillation of chloride in vinyl chloride monomer production.
K021 Aqueous spent antimony catalyst waste from fluoromethanes production.
K022 Distillation bottom tars from the production of phenol/acetone from cumene.
K023 Distillation light ends from the production of phthalic anhydride from naphthalene.
K024 Distillation bottoms from the production of phthalic anhydride from naphthalene.
K025 Distillation bottoms from the production of nitrobenzene by the nitration of benzene.
K026 Stripping still tails from the production of methy ethyl pyridines.
K027 Centrifuge and distillation residues from toluene diisocyanate production.
K028 Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.
K029 Waste from the product steam stripper in the production of 1,1,1-trichloroethane.
K030 Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.
K083 Distillation bottoms from aniline production.
K085 Distillation or fractionation column bottoms from the production of chlorobenzenes.
K093 Distillation light ends from the production of phthalic anhydride from ortho-xylene.
K094 Distillation bottoms from the production of phthalic anhydride from ortho-xylene.
K095 Distillation bottoms from the production of 1,1,1-trichloroethane.
K096 Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.
K103 Process residues from aniline extraction from the production of aniline.
K104 Combined wastewater streams generated from nitrobenzene/aniline production.
K105 Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.
K107 Column bottoms from product separation from the production of 1,1-dimethyl-hydrazine (UDMH) from carboxylic acid hydrazines.
K108 Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K109 Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K110 Condensed column overheads from intermediate separation from the production of 1,1 dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K111 Product washwaters from the production of dinitrotoluene via nitration of toluene.
K112 Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.
K113 Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.

- K114 Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.
- K115 Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.
- K116 Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.
- K117 Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.
- K118 Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.
- K136 Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.
- K149 Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixture of these functional groups. (This waste does not include still bottoms from the distillation of benzylchloride.)
- K150 Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.
- K151 Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.
- K156 Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)
- K157 Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)
- K158 Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)
- K159 Organics from the treatment of thiocarbamate wastes.
- K161 Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.)
- K174 Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: 1. They are disposed of in a subtitle C or non-hazardous landfill licensed or permitted by the state or federal government. 2. They are not otherwise placed on the land prior to final disposal. 3. The generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill.
- K175 Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.

Inorganic Chemicals

- K071 Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.
- K073 Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.
- K106 Wastewater treatment sludge from the mercury cell process in chlorine production.
- K176 Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide).
- K177 Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g. antimony metal or crude antimony oxide).
- K178 Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process.

Pesticides

- K031 By-product salts generated in the production of MSMA and cacodylic acid.
- K032 Wastewater treatment sludge from the production of chlordane.
- K033 Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.
- K034 Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.

- K035 Wastewater treatment sludges generated in the production of creosote.
- K036 Still bottoms from toluene reclamation distillation in the production of disulfoton.
- K037 Wastewater treatment sludges from the production of disulfoton.
- K038 Wastewater from the washing and stripping of phorate production.
- K039 Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.
- K040 Wastewater treatment sludge from the production of phorate.
- K041 Wastewater treatment sludge from the production of toxaphene.
- K042 Heavy ends or (T) distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.
- K043 2,6-Dichlorophenol waste (T) from the production of 2,4-D.
- K097 Vacuum stripper discharge (T) from the chlordane chlorinator in the production of chlordane.
- K098 Untreated process wastewater from the production of toxaphene.
- K099 Untreated wastewater from (T) the production of 2,4-D.
- K123 Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.
- K124 Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.
- K125 Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.
- K126 Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.
- K131 Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.
- K132 Spent absorbent and wastewater separator solids from the production of methyl bromide.

Explosives

- K044 Wastewater treatment sludges from the manufacturing and processing of explosives.
- K045 Spent carbon from the treatment of wastewater containing explosives.
- K046 Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds
- K047 Pink/red water from TNT operations.

Petroleum Refining

- K048 Dissolved air flotation (DAF) float from the petroleum refining industry.
- K049 Slop oil emulsion solids from the petroleum refining industry.
- K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry.
- K051 API separator sludge from the petroleum refining industry.
- K052 Tank bottoms (leaded) from the petroleum refining industry.
- K169 Crude oil storage tank (T) sediment from petroleum refining operations.
- K170 Clarified slurry oil tank sediment or in-line filter/separation solids from petroleum refining operations.
- K171 Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).
- K172 Spent hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).

Iron and Steel

- K061 Emission control dust/sludge from the primary production of steel in electric furnaces.
- K062 Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).
- K088 Spent potliners from primary aluminum reduction.
- K069 Emission control dust/ sludge from secondary lead smelting.
- K100 Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
- Primary copper
- Primary lead
- Primary zinc
- Primary aluminum
- Ferroalloys
- Secondary lead

NOTE: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, they will publish a notice of the action in the Federal Register.)

Veterinary Pharmaceuticals

- K084 Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
- K101 Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
- K102 Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.

Ink Formulation

- K086 Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.

Coking

- K060 Ammonia still lime sludge from coking operations. |
- K087 Decanter tank tar sludge from coking operations.
- K141 Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).
- K142 Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.
- K143 Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters and wash oil recovery units from the recovery of coke by-products produced from coal.
- K144 Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.
- K145 Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.
- K147 Tar storage tank residues from coal tar refining.
- K148 Residues from coal tar distillation, including but not limited to, still bottoms.

EPA "U" Listed Hazardous Wastes

Discarded Commercial Chemical Products, Off-Specification Species, Container Residues and Spills Thereof (U-List)

| No. | Chem.Abs. No. | Substance |
|------|---------------|---|
| U394 | 30558-43-1 | A2213 |
| U001 | 75-07-0 | Acetaldehyde (I) |
| U034 | 75-87-6 | Acetaldehyde, trichloro- |
| U187 | 62-44-2 | Acetamide, N-[4-ethoxyphenyl]- |
| U005 | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- |
| U240 | 1194-75-7 | Acetic acid, (2,4-dichlorophenoxy)-, salts and esters |
| U112 | 141-78-6 | Acetic acid ethyl ester (I) |
| U144 | 301-04-2 | Acetic acid, lead(2+) salt |
| U214 | 563-68-8 | Acetic acid, thallium (I+) salt see |
| F027 | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- |
| U002 | 67-64-1 | Acetone (I) |
| U003 | 75-05-8 | Acetonitrile (I,T) |
| U004 | 98-86-2 | Acetophenone |
| U005 | 53-96-3 | 2-Acetylaminofluorene |
| U006 | 75-36-5 | Acetyl chloride (C,R,T) |
| U007 | 79-06-1 | Acrylamide |
| U008 | 79-10-7 | Acrylic acid (I) |
| U009 | 107-13-1 | Acrylonitrile |
| U011 | 61-82-5 | Amitrole |
| U012 | 62-53-3 | aniline (I,T) |
| U136 | 75-60-5 | Arsinic acid, dimethyl- |
| U014 | 492-80-8 | Auramine |
| U015 | 115-02-6 | Azaserine |

| No. | Chem.Abs. No. | Substance |
|------|---------------|---|
| U010 | 50-07-7 | Azirino[2',3':3,4]pyrrolo[1,2-a] indole-4,7-dione, 6-amino-8-[[aminocarbonyloxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1a5-(1aalpha,8beta,8aalpha,6balpha)]- |
| U280 | 101-27-9 | Barban |
| U278 | 22781-23-3 | Bendiocarb |
| U364 | 22961-82-6 | Bendiocrb phenol |
| U271 | 17804-35-2 | Benomyl |
| U157 | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| U016 | 225-51-4 | Benz[c]acridine |
| U017 | 98-87-3 | Benzal chloride |
| U192 | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- |
| U018 | 56-55-3 | Benz[a]anthracene] |
| U094 | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |
| U012 | 62-53-3 | Benzenamine (I,T) |
| U014 | 492-80-8 | Benzenamine, 4,4'carbonimidoylbis[N,N-dimethyl- |
| O049 | 3165-93-3 | Benzenamine, 4-chloro-2-methyl-, hydrochloride |
| U093 | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| U328 | 95-53-4 | Benzenamine, 2-methyl- |
| U353 | 106-49-0 | Benzenamine, 4-methyl- |
| U158 | 101-14-4 | Benzenamine, 4,4'-methylenebis[2-chloro- |
| U222 | 636-21-5 | Benzenamine, 2-methyl-, hydrochloride |
| U181 | 99-55-8 | Benzenamine, 2-methyl-5-nitro |
| U019 | 71-43-2 | Benzene (I,T) |
| U038 | 510-15-6 | Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)- alpha-hydroxy-, thyl ester |
| U030 | 101-55-3 | Benzene, 1-bromo-4-phenoxy- |
| U035 | 305-03-3 | Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]- |
| U037 | 108-90-7 | Benzene, chloro- |
| U221 | 25376-45-8 | Benzenediamine, ar-methyl- |
| U028 | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester |
| U069 | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutylester |
| U088 | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethylester |
| U102 | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethylester |
| U107 | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctylester |
| U070 | 95-50-1 | Benzene, 1,2-dichloro- |
| U071 | 541-73-1 | Benzene, 1,3-dichloro- |
| U072 | 106-46-7 | Benzene, 1,4-dichloro- |
| U060 | 72-54-8 | Benzene, 1,1'-(2,2-dichloroethylidene)bis [4-chloro- |
| U017 | 98-87-3 | Benzene, (dichloromethyl) |
| U223 | 26471-62-5 | Benzene, 1,3-diisocyanatomethyl-(R,T) |
| U239 | 1330-20-7 | Benzene dimethyl-(I,T) |
| U201 | 108-46-3 | 1,3-Benzenediol |
| U127 | 118-74-1 | Benzene, hexachloro- |
| U056 | 110-82-7 | Benzene, hexahydro-(I) |
| U220 | 108-88-3 | Benzene, methyl- |
| U105 | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- |
| U106 | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- |
| U055 | 98-82-8 | Benzene, (1-methylethyl)- (I) |
| U169 | 98-95-3 | Benzene, nitro- |
| U183 | 608-93-5 | Benzene, pentachloro- |
| U185 | 82-68-8 | Benzene, pentachloronitro |
| U020 | 98-09-9 | Benzenesulfonic acid chloride (C,R) |
| U020 | 98-09-9 | Benzenesulfonyl chloride (C,R) |
| U207 | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| U061 | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene) bis[4-chloro- |
| U247 | 72-43-5 | Benzene, 1,1'-(2,2,2-trichloroethylidene) bis[4-methoxy- |
| U023 | 98-07-7 | Benzene, (trichloromethyl)- |
| U234 | 99-35-4 | Benzene, 1,3,5-trinitro- |
| U021 | 92-87-5 | Benzidine |
| U202 | 1281-07-2 | 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts |
| U278 | 22781-23-3 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate |

| No. | Chem.Abs. No. | Substance |
|------|---------------|--|
| U364 | 22961-82-6 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl- |
| U203 | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| U141 | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| U367 | 1563-38-8 | 1-Benzofuranol, 2,3-dihydro-2,2-dimethyl- |
| U090 | 94-58-6 | 1,3-Benzodioxole, 5-propyl- |
| U064 | 189-55-9 | Benzo[<i>rst</i>]pentaphene |
| U248 | 1181-81-2 | 2H-1-Benzopyran- 2-one, 4-hydroxy- 3-(3-oxo-1-phenyl-butyl)-, and salts, when present at concentrations of 0.3 percent or less |
| U022 | 50-32-8 | Benzo[<i>a</i>]pyrene |
| U197 | 106-51-4 | p-Benzoquinone |
| U023 | 98-07-7 | Benzotrichloride (C,R,T) |
| U085 | 1464-53-5 | 2,2'-Bioxirane |
| U021 | 92-87-5 | [1,1'-Biphenyl]- 4,4'-diamine |
| U073 | 91-94-1 | [1,1'-Biphenyl]- 4,4'-diamine, 3,3'-dichloro- |
| U091 | 119-90-4 | [1,1'-Biphenyl]- 4,4'-diamine, 3,3'-dimethoxy- |
| U095 | 119-93-7 | [1,1'-Biphenyl]- 4,4'-diamine, 3,3'-dimethyl- |
| U225 | 75-25-2 | Bromoform |
| U030 | 101-55-3 | 4-Bromophenyl phenyl ether |
| U128 | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexa chloro- |
| U172 | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| U031 | 71-36-3 | 1-Butanol (l) |
| U159 | 78-93-3 | 2-Butanone (l,T) |
| U160 | 1338-23-4 | 2-Butanone, peroxide (R,T) |
| U053 | 4170-30-3 | 2-Butenal |
| U074 | 764-41-0 | 2-Butene, 1,4-dichloro- (l,T) |
| U143 | 303-34-4 | 2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy- 2-(1-methoxyethyl)-3-ethyl-1-oxobutoxy]]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7 (2S*, 3R*),7alpha]]- |
| U031 | 71-36-3 | n-Butyl alcohol (l) |
| U136 | 75-60-5 | Cacodylic acid |
| U032 | 13765-19-0 | Calcium chromate |
| U372 | 10605-21-7 | Carbamic acid, 1H-benzimidazol-2-yl, methyl ester |
| U271 | 17804-35-2 | Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester |
| U280 | 101-27-9 | Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butyryl ester |
| U238 | 51-79-6 | Carbamic acid, ethyl ester |
| U178 | 615-53-2 | Carbamic acid, methylnitroso-, ethyl ester |
| U373 | 122-42-9 | Carbamic acid, phenyl-, 1-methylethyl ester |
| U409 | 23564-05-8 | Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester |
| U097 | 79-44-7 | Carbamic chloride, dimethyl- |
| U389 | 2303-17-5 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester |
| U387 | 52888-80-9 | Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester |
| U114 | 11111-54-6 | Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters |
| U062 | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester |
| U279 | 63-25-2 | Carbaryl |
| U372 | 10605-21-7 | Carbendazim |
| U367 | 1563-38-8 | Carbofuran phenol |
| U215 | 6533-73-9 | Carbonic acid, dithallium (1+) salt |
| U033 | 353-50-4 | Carbonic difluoride |
| U156 | 79-22-1 | Carbonochloridic acid, methyl ester (l,T) |
| U033 | 353-5-4 | Carbonoxyfluoride (R,T) |
| U211 | 56-23-5 | Carbon tetrachloride |
| U034 | 75-87-6 | Chloral |
| U035 | 305-03-3 | Chlorambucil |
| U036 | 57-74-9 | Chlordane, alpha & gamma isomers |
| U026 | 494-03-1 | Chlornaphazin |
| U037 | 108-90-7 | Chlorobenzene |
| U038 | 510-15-6 | Chlorobenzilate |
| U039 | 59-50-7 | p-Chloro-m-cresol |
| U042 | 110-75-8 | 2-Chloroethyl vinyl ether |
| U044 | 67-66-3 | Chloroform |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|--|
| U046 | 107-30-2 | Chloromethyl methyl ether |
| U047 | 91-58-7 | beta-Chloronaphthalene |
| U048 | 95-57-8 | o-Chlorophenol |
| U049 | 3165-93-3 | 4-Chloro-o-toluidine, hydrochloride |
| U032 | 13765-19-0 | Chromic acid H ₂ CrO ₆ , calcium salt |
| U050 | 218-01-9 | Chrysene |
| U051 | | Crescote |
| U052 | 1319-77-3 | Cresol (Cresylic acid) |
| U053 | 4170-3-3 | Crotonaldehyde |
| U055 | 98-82-8 | Cumene (I) " |
| U246 | 506-68-3 | Cyanogen bromide (CN)Br |
| U197 | 106-51-4 | 2,5-Cyclohexadiene-1,4-dione |
| U056 | 110-82-7 | Cyclohexane (I) |
| U129 | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta) |
| U057 | 108-94-1 | Cyclohexanone (I) |
| U130 | 77-37-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| U058 | 50-18-0 | Cyclophosphamide |
| U240 | 1194-75-7 | 2,4-D, salt and esters |
| U059 | 20830-81-3 | Daunomycin |
| U060 | 72-54-8 | DDD |
| U061 | 50-29-3 | DDT |
| U062 | 2303-16-4 | Diallate] |
| U063 | 53-70-3 | Dibenz[a,h]anthracene |
| U064 | 189-55-9 | Dibenzo [a,i]pyrene |
| U066 | 96-12-8 | 1,2-Dibromo-3-chloropropane |
| U069 | 84-74-2 | Dibutyl phthalate |
| U070 | 95-50-1 | o-Dichlorobenzene] |
| U071 | 541-73-1 | m-Dichlorobenzene |
| U072 | 106-46-7 | p-Dichlorobenzene |
| U073 | 91-94-1 | 3,3'-Dichlorobenzidine |
| U074 | 764-41-0 | 1,4-Dichloro-2-butene (I,T) |
| U075 | 75-71-8 | Dichlorodifluoromethane |
| U078 | 75-35-4 | 1,1-Dichloroethylene |
| U079 | 156-60-5 | 1,2-Dichloroethylene |
| U025 | 111-44-4 | Dichloroethyl ether |
| U027 | 108-60-1 | Dichloroisopropyl ether |
| U024 | 111-91-1 | Dichloromethoxy ethane |
| U081 | 120-83-2 | 2,4-Dichlorophenol |
| U082 | 87-65-0 | 2,6-Dichlorophenol |
| U084 | 542-75-6 | 1,3-Dichloropropene |
| U085 | 1464-53-5 | 1,2:3,4-Diepoxybutane (I,T) |
| U108 | 123-91-1 | 1,4-Diethyleneoxide |
| U028 | 117-81-7 | Diethylhexylphthalate |
| U395 | 5952-26-1 | Diethylene glycol, dicarbamate |
| U086 | 1615-80-1 | N,N'-Diethylhydrazine |
| U087 | 3288-58-2 | O,O-Diethyl S-methyl dithiophosphate |
| U088 | 84-66-2 | Diethyl phthalate |
| U089 | 56-53-1 | Diethylstilbesterol |
| U090 | 94-58-6 | Dihydrosafrole |
| U091 | 119-90-4 | 3,3'-Dimethoxybenzidine |
| U092 | 124-40-3 | Dimethylamine (I) |
| U093 | 60-11-7 | p-Dimethylaminoazobenzene |
| U094 | 57-97-6 | 7,12-Dimethylbenz[a]anthracene |
| U095 | 119-93-7 | 3,3'-Dimethylbenzidine |
| U096 | 80-15-9 | alpha,AlphaDimethylbenzylhydroperoxide (R) |
| U097 | 79-44-7 | Dimethylcarbonyl chloride |
| U098 | 57-14-7 | 1,1-Dimethylhydrazine |
| U099 | 540-73-8 | 1,2-Dimethylhydrazine |
| U101 | 105-67-9 | 2,4-Dimethylphenol |
| U102 | 131-11-3 | Dimethyl phthalate |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|--|
| U103 | 77-78-1 | Dimethyl sulfate |
| U105 | 121-14-2 | 2,4-Dinitrotoluene |
| U106 | 606-20-2 | 2,6-Dinitrotoluene |
| U107 | 117-84-0 | Di-n-octyl phthalate |
| U108 | 123-91-1 | 1,4-Dioxane |
| U109 | 122-66-7 | 1,2-Diphenylhydrazine |
| U110 | 142-84-7 | Dipropylamine (l) |
| U111 | 621-64-7 | Di-n-propylnitrosamine |
| U041 | 106-89-8 | Epichlorohydrin |
| U001 | 75-07-0 | Ethanal (l) |
| U404 | 121-44-8 | Ethanamine, N,N- diethyl- |
| U174 | 55-18-5 | Ethanamine, N-ethyl-N-nitroso- |
| U155 | 91-80-5 | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl) |
| U067 | 106-93-4 | Ethane, 1,2-dibromo- |
| U076 | 75-34-3 | Ethane, 1,1-dichloro- |
| U077 | 107-06-2 | Ethane, 1,2-dichloro- |
| U131 | 67-72-1 | Ethane, hexachloro- |
| U024 | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- |
| U117 | 60-29-7 | Ethane, 1,1'-oxybis-(l) |
| U025 | 111-44-4 | Ethane, 1,1'-oxybis[2-chloro- |
| U184 | 76-01-7 | Ethane, pentachloro- |
| U208 | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| U209 | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| U218 | 62-55-5 | Ethanethicamide |
| U226 | 71-56-6 | Ethane, 1,1,1-trichloro- |
| U227 | 79-00-5 | Ethane, 1,1,2-trichloro- |
| U410 | 59669-26-0 | Ethanimidothioic acid, N,N2-[thiobis[(methylimino)carbonyloxy]] bis-, dimethyl ester |
| U394 | 30558-43-1 | Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester |
| U359 | 110-80-5 | Ethanol, 2-ethoxy- |
| U173 | 1116-54-7 | Ethanol, 2,2'-(nitrosoimino)bis- |
| U004 | 98-86-2 | Ethanone, 1-phenyl- |
| U043 | 75-01-4 | Ethene, chloro- |
| U042 | 110-75-8 | Ethene, (2-chloroethoxy) |
| U078 | 75-35-4 | Ethene, 1,1-dichloro- |
| U079 | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| U210 | 127-18-4 | Ethene, tetrachloro- |
| U228 | 79-01-6 | Ethene, trichloro- |
| U112 | 141-78-6 | Ethyl acetate (l) |
| U113 | 140-88-5 | Ethyl acrylate (l) |
| U238 | 51-79-6 | Ethyl carbamate (urethane) |
| U117 | 60-29-7 | Ethyl ether (l) |
| U114 | 11111-54-6 | Ethylenebisdithiocarbamic acid, salts and esters |
| U067 | 106-93-4 | Ethylene dibromide |
| U077 | 107-06-2 | Ethylene dichloride |
| U359 | 110-80-5 | Ethylene glycol monoethyl ether |
| U115 | 75-21-8 | Ethylene oxide (l,T) |
| U116 | 96-45-7 | Ethylenethiourea |
| U076 | 75-34-3 | Ethylidene dichloride |
| U118 | 97-63-2 | Ethyl methacrylate |
| U119 | 62-50-0 | Ethyl methanesulfonate |
| U120 | 206-44-0 | Fluoranthene |
| U122 | 50-00-0 | Formaldehyde |
| U123 | 64-18-6 | Formic acid (C,T) |
| U124 | 110-00-8 | Furan (l) |
| U125 | 98-01-1 | 2-Furancarboxald ehyde (l) |
| U147 | 108-31-6 | 2,5-Furandione |
| U213 | 109-99-9 | Furan, tetrahydro-(l) |
| U125 | 98-01-1 | Furfural (l) |
| U124 | 110-00-9 | Furfuran (l) |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|---|
| U206 | 18883-66-4 | Glucopyranose, 2-deoxy-2-(e-methyl-3-nitrosoureido)-, D- |
| U206 | 18883-66-4 | D-Glucose, 2-deoxy-2 [[[(methylnitroscamino)carbonyl] amino]- |
| U126 | 765-34-4 | Glycidylaldehyde |
| U163 | 70-25-7 | Guanidine, N-methyl-N'nitro-N-nitroso- |
| U127 | 118-74-1 | Hexachlorobenzene |
| U128 | 87-68-3 | Hexachlorobutadiene |
| U130 | 77-47-4 | Hexachlorocyclopentadiene |
| U131 | 67-72-1 | Hexachloroethane |
| U132 | 70-30-4 | Hexachlorophene |
| U243 | 1888-71-7 | Hexachloropropene |
| U133 | 302-01-2 | Hydrazine (R,T) |
| U086 | 1615-80-1 | Hydrazine, 1,2-diethyl- |
| U098 | 57-14-7 | Hydrazine, 1,1-dimethyl- |
| U099 | 540-73-8 | Hydrazine, 1,2-dimethyl- |
| U109 | 122-66-7 | Hydrazine, 1,2-diphenyl- |
| U134 | 7664-39-3 | Hydrofluoric acid (C,T) |
| U134 | 7664-39-3 | Hydrogen fluoride (C,T) |
| U135 | 7783-06-4 | Hydrogen sulfide |
| U135 | 7783-06-4 | Hydrogen sulfide H2S |
| U096 | 80-15-9 | Hydroperoxide, 1-methyl-1-phenylethyl-(R) |
| U116 | 96-45-7 | 2-Imidazolidinethione |
| U137 | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| U190 | 85-44-9 | 1,3-Isobenzofurandione |
| U140 | 78-83-1 | Isobutyl alcohol (I,T) |
| U141 | 120-58-1 | Isosafrole |
| U142 | 143-50-0 | Kepone |
| U143 | 303-34-4 | Lasiocarpine |
| U144 | 301-04-2 | Lead acetate |
| U146 | 1335-32-6 | Lead, bis(acetato-O)tetrahydroxytri- |
| U145 | 7446-27-7 | Lead phosphate |
| U146 | 1335-32-6 | Lead subacetate |
| U129 | 58-89-9 | Lindane |
| U163 | 70-25-7 | MNNG |
| U147 | 108-31-6 | Maleic anhydride |
| U148 | 23-33-1 | Maleic hydrazide |
| U149 | 109-77-3 | Malononitrile |
| U150 | 148-82-3 | Melphalan |
| U151 | 7439-97-6 | Mercury |
| U152 | 126-98-7 | Methacrylonitrile (I, T) |
| U092 | 124-40-3 | Methanamine, N-Methyl-(I) |
| U029 | 74-83-9 | Methane, bromo- |
| U045 | 74-87-3 | Methane, chloro- (I, T) |
| U046 | 107-30-2 | Methane, chloromethoxy- |
| U068 | 74-95-3 | Methane, dibromo- |
| U080 | 75-09-2 | Methane, dichloro- |
| U075 | 75-71-8 | Methane, dichlorodifluoro |
| U138 | 74-88-4 | Methane, iodo- |
| U119 | 62-50-0 | Methanesulfonic acid, ethyl ester |
| U211 | 56-23-5 | Methane, tetrachloro- |
| U153 | 74-93-1 | Methanethiol (I, T) |
| U225 | 75-25-2 | Methane, tribromo- |
| U044 | 67-66-3 | Methane, trichloro- |
| U121 | 75-69-4 | Methane, trichlorofluoro- |
| U036 | 57-74-9 | 4,7-Methano-1H-1 ndene, 1,2,4,5,6,7,8,8- octachloro- ,3,3a,4,7,7a-hexahydro- |
| U154 | 67-56-1 | Methanol (I) |
| U155 | 91-80-5 | Methapyrilene |
| U142 | 143-50-0 | 1,3,4-Metheno-2H -cyclobuta [cd]pantalen-2-one, 1, 1a,3,3a,4,5,5,5a,5b,6- decachlorooctahydro- |
| U247 | 72-43-5 | Methoxychlor |
| U154 | 67-56-1 | Methyl alcohol (I) |
| U029 | 74-83-9 | Methyl bromide |

| No. | Chem.Abs. No. | Substance |
|----------|---------------|---|
| U186 | 504-60-9 | 1-Methylbutadiene (I) |
| U045 | 74-87-3 | Methyl chloride (I,T) |
| U156 | 79-22-1 | Methyl chlorocarbonate (I,T) |
| U226 | 71-55-6 | Methyl chloroform |
| U157 | 56-49-5 | 3-Methylcholanthrene |
| U158 | 101-14-4 | 4,4'-Methylenebis(2-chloroaniline |
| U068 | 74-95-3 | Methylene bromide |
| U080 | 75-09-2 | Methylene chloride |
| U159 | 78-93-3 | Methyl ethyl ketone (MEK) (I,T) |
| U160 | 1338-23-4 | Methyl ethyl ketone peroxide (R,T) |
| U138 | 74-88-4 | Methyl iodide |
| U161 | 108-10-1 | Methyl isobutyl ketone (I) |
| U162 | 80-62-6 | Methyl methacrylate (I,T) |
| U161 | 108-10-1 | 4-Methyl-2-pentanone (I) |
| U164 | 56-04-2 | Methylthiouracil |
| U010 | 50-07-7 | Mitomycin C |
| U059 | 20830-81-3 | 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl) oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- |
| U167 | 134-32-7 | 1-Naphthalenamine |
| U168 | 91-59-8 | 2-Naphthalenamine |
| U026 | 494-03-1 | Naphthalenamine, N,N'-bis(2-(chloroethyl)- |
| U165 | 91-20-3 | Naphthalene |
| U047 | 91-58-7 | Naphthalene, 2-chloro- |
| U166 | 130-15-4 | 1,4-Naphthalenedione |
| U236 | 72-57-1 | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-II)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt |
| U279 | 63-25-2 | 1-Naphthalenol, methylcarbamate |
| U166 | 130-15-4 | 1,4-Naphthoquinone |
| U167 | 134-32-7 | alpha-Naphthylamine |
| U168 | 91-59-8 | beta-Naphthylamine |
| U217 | 10102-45-1 | Nitric acid, thallium(I+) salt |
| U169 | 98-95-3 | Nitrobenzene (I,T) |
| U170 | 100-02-7 | p-Nitrophenol |
| U171 | 79-46-9 | 2-Nitropropane (I,T) |
| U172 | 924-16-3 | N-Nitrosodi-n-butylamine |
| U173 | 1116-54-7 | N-Nitrosodiethanolamine |
| U174 | 55-18-5 | N-Nitrosodiethylamine |
| U176 | 759-73-9 | N-Nitroso-N-ethylurea |
| U177 | 684-93-5 | N-Nitroso-N-methylurea |
| U178 | 615-53-2 | N-Nitroso-N-methylurethane |
| U179 | 100-75-4 | N-Nitrosopiperidine |
| U180 | 930-55-2 | N-Nitrosopyrrolidine |
| U181 | 99-55-8 | 5-Nitro-o-toluidine |
| U193 | 1120-71-4 | 1,2-Oxathiolane, 2,2-dioxide |
| U58 | 50-18-0 | 2H-1,3,2-Oxazaphosphorin-2-amine, N,N bis (2-chloroethyl)tetrahydro-, 2-oxide |
| U115 | 75-21-8 | Oxirane (I,T) |
| U126 | 765-34-4 | Oxiranecarboxyaldehyde |
| U041 | 106-89-8 | Oxirane, (chloromethyl)- |
| U182 | 123-63-7 | Paraldehyde |
| U183 | 608-93-5 | Pentachlorobenzene |
| U184 | 76-01-7 | Pentachlorocethane |
| U185 | 82-68-8 | Pentachloronitrobenzene (PCNB) |
| See F027 | 87-86-5 | Pentachlorophenol |
| U161 | 108-10-1 | Pentanol, 4-methyl- |
| U186 | 504-60-9 | 1,3-Pentadiene (I) |
| U187 | 62-44-2 | Phenacetin |
| U188 | 108-95-2 | Phenol |
| U048 | 95-57-8 | Phenol, 2-chloro- |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|---|
| U039 | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| U081 | 120-83-2 | Phenol, 2,4-dichloro- |
| U082 | 87-65-0 | Phenol, 2,6-dichloro- |
| U089 | 56-53-1 | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E) - |
| U101 | 105-67-9 | Phenol, 2,4-dimethyl- |
| U052 | 1319-77-3 | Phenol, methyl- |
| U132 | 70-30-4 | Phenol, 2,2'-methylenebis[3,4,6-trichloro- |
| U411 | 114-26-1 | Phenol, 2-(methylethoxy)-, methylcarbamate |
| U170 | 100-02-7 | Phenol, 4-nitro- |
| See F027 | 87-86-5 | Phenol, pentachloro- |
| See F027 | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- |
| See F027 | 95-95-4 | Phenol, 2,4,5-trichloro- |
| See F027 | 88-06-2 | Phenol, 2,4,6-trichloro- |
| U150 | 148-82-3 | L-Phenylalanine, 4 - [bis (2-chloroethyl)amino]- |
| U145 | 7446-27-7 | Phosphoric acid, lead(2+) salt (2:3) |
| U087 | 3288-58-2 | Phosphorodithiolic acid, O,O-diethyl S-methyl ester |
| U189 | 1314-80-3 | Phosphorus sulfide (R) |
| U190 | 85-44-9 | Phthalic anhydride |
| U191 | 109-06-8 | 2-Picoline |
| U179 | 100-75-4 | Piperidine, 1-nitroso- |
| U192 | 23950-58-5 | Pronamide |
| U194 | 107-10-8 | 1-Propanamine (I,T) |
| U111 | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| U110 | 142-84-7 | 1-Propanamine, N-propyl-(I) |
| U066 | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |
| U083 | 78-87-5 | Propane, 1,2-dichloro- |
| U149 | 109-77-3 | Propanedinitrile |
| U171 | 79-46-9 | Propane, 2-nitro-(I,T) |
| U027 | 108-60-1 | Propane, 2,2'-oxybis [2-chloro- |
| U193 | 1120-71-4 | 1,3-Propane sultone |
| See F027 | 93-72-1 | Propanoic acid, 2 - (2,4,5-trichlorophenoxy) - |
| U235 | 126-72-7 | 1-Propanol, 2,3-dibromo-, phosphate (3:1) |
| U140 | 78-83-1 | 1-Propanol, 2-methyl - (I,T) |
| U002 | 67-64-1 | 2-Propanone (I) |
| U007 | 79-06-1 | 2-Propenamide |
| U084 | 542-75-6 | 1-Propene, 1,3-dichloro- |
| U243 | 1888-71-7 | 1-Propene, 1,1,2,3,3,3-hexachloro- |
| U009 | 107-13-1 | 2-Propenenitrile |
| U152 | 126-98-7 | 2-Propenenitrile, 2-methyl- (I,T) |
| U008 | 79-10-7 | 2-Propenoic acid (I) |
| U113 | 140-88-5 | 2-Propenoic acid, ethyl ester (I) |
| U118 | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |
| U162 | 80-62-6 | 2-Propenoic acid, 2-methyl-, methylester (I,T) |
| U373 | 122-42-9 | Propham |
| U411 | 114-26-1 | Propoxur |
| U387 | 52888-80-9 | Prosulfocarb |
| U194 | 107-10-8 | n-Propylamine (I,T) |
| U083 | 78-87-5 | Propylene dichloride |
| U148 | 123-33-1 | 3,6-Pyridazinedione, 1,2-dihydro- |
| U196 | 110-86-1 | Pyridine |
| U191 | 109-06-8 | Pyridine, 2-methyl- |
| U237 | 66-75-1 | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]- |
| U164 | 56-04-2 | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- |
| U180 | 930-55-2 | Pyrrolidine, 1-nitroso- |
| U200 | 50-55-5 | Reserpine |
| U201 | 108-46-3 | Resorcinol |
| U202 | 1181-07-2 | Saccharin, & salts |
| U203 | 94-59-7 | Safrole |
| U204 | 7783-00-8 | Selenious acid |
| U204 | 7783-00-8 | Selenium dioxide |
| U205 | 7468-56-4 | Selenium sulfide |

| No. | Chem.Abs. No. | Substance |
|------------|----------------------|--|
| U205 | 7488-56-4 | Selenium sulfide SeS ₂ (R,T) |
| U015 | 115-02-6 | L-Serine, diazoacetate (ester) |
| See F027 | 93-72-1 | Silvex (2,4,5-TP) |
| U206 | 18883-66-4 | Streptozotocin roethyl)amino]- |
| U103 | 77-78-1 | Sulfuric acid, dimethyl ester |
| U189 | 1314-80-3 | Sulfur phosphide (R) |
| See F027 | 93-76-5 | 2,4,5-T |
| U207 | 95-94-3 | 1,2,4,5-Tetrachlorobenzene |
| U208 | 630-20-6 | 1,1,1,2-Tetrachloroethane |
| U209 | 79-34-5 | 1,1,2,2-Tetrachloroethane |
| U210 | 127-18-4 | Tetrachloroethylene |
| See F027 | 58-90-2 | 2,3,4,6-Tetrachlorophenol |
| U213 | 109-99-9 | Tetrahydrofuran (I) |
| U214 | 563-68-8 | Thallium(I) acetate |
| U215 | 6533-73-9 | Thallium(I) carbonate |
| U216 | 7791-12-0 | Thallium(I) chloride |
| U216 | 7791-12-0 | Thallium chloride TlCl |
| U217 | 10102-45-1 | Thallium(I) nitrate |
| U218 | 62-55-5 | Thioacetamide |
| U410 | 59669-26-0 | Thiodicarb |
| U153 | 74-93-1 | Thiomethanol (I,T) |
| U244 | 137-26-8 | Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl- |
| U409 | 23564-05-8 | Thiophanate-methyl |
| U219 | 62-56-6 | Thiourea |
| U244 | 137-26-8 | Thiram |
| U220 | 108-88-3 | Toluene |
| U221 | 25376-45-8 | Toluenediamine |
| U223 | 26471-62-5 | Toluene diisocyanate (R,T) |
| U328 | 95-53-4 | o-Toluidine |
| U353 | 106-49-0 | p-Toluidine |
| U222 | 636-21-5 | o-Toluidine hydrochloride |
| U389 | 2303-17-5 | Triallate |
| U011 | 61-82-5 | 1H-1,2,4-Triazol-3-amine |
| U227 | 79-00-5 | 1,1,2-Trichloroethane |
| U228 | 79-01-6 | Trichloroethylene |
| U121 | 75-69-4 | Trichloromonofluoromethane |
| See F027 | 95-95-4 | 2,4,5-Trichlorophenol |
| See F027 | 88-06-2 | 2,4,6-Trichlorophenol |
| U404 | 121-44-8 | Triethylamine |
| U234 | 99-35-4 | 1,3,5-Trinitrobenzene (R,T) |
| U182 | 123-63-7 | 1,3,5-Trioxane, 2,4,6-trimethyl- |
| U235 | 126-72-7 | Tris(2,3-dibromopropyl) phosphate |
| U236 | 72-57-1 | Trypan blue |
| U237 | 66-75-1 | Uracil mustard |
| U176 | 759-73-9 | Urea, N-ethyl-N-nitroso- |
| U177 | 684-93-5 | Urea, N-methyl-N-nitroso- |
| U043 | 75-01-4 | Vinyl chloride |
| U248 | 1181-81-2 | Warfarin, & salts, when present at concentrations of 0.3% or less U239 |
| | 1330-20-7 | Xylene (I) |
| U200 | 50-55-5 | Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, 3 beta, 16beta, 17alpha, 18beta, 20 alpha)- |
| U249 | 1314-84-7 | Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less- |



STEP 2

Registering Your Waste

- Compliance Process Chart
- Registering Your Waste
- Requirements for Resource Recovery Facilities

| The Compliance Process | Steps to follow by Generators of: | |
|--|-----------------------------------|---------------------------------------|
| | Regulated Quantity of Waste | Less Than Regulated Quantity of Waste |
| Step 1 - Identify Your Wastes The law requires that you evaluate your waste to determine if it meets the definition of being hazardous. | X | X |
| Step 2 - Register Your Wastes If you have a hazardous waste and generate or accumulate the regulated quantity, you must complete hazardous waste generator registration forms and submit them to the Missouri Department of Natural Resources. | X | |
| Step 3 - Storing and Labeling Wastes Hazardous waste must be stored in approved containers and labeled properly. | X | |
| Step 4 - Safety Requirements Regulated generators are required to meet several safety standards. | X | |
| Step 5 - Transportation, Management and Disposal Most generators of waste use the services of companies specializing in the transportation and management of waste materials. All generators must follow certain guidelines whether or not their waste is hazardous. | X | X |
| Step 6 - Payment of Registration and Generator Fees, Summary Report, Penalties and Interest The law provides for the collection of fees from those generating and disposing of hazardous wastes. There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law. | X | |

There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law.

Registering Your Waste

10 CSR 25-5.262

The generation of waste creates a waste stream. Business operations producing more than one kind of waste may generate more than one waste stream. Each waste stream that is different in character must be identified.

Any waste stream in a regulated quantity must be registered with the Department of Natural Resources. A regulated quantity of hazardous waste is any waste stream or combination of two or more waste streams generating 220 pounds or more within a calendar month, or accumulated at any one time.

Any one waste, or combination of wastes from the K-List, F-List, U-List, D-List or characteristic waste group (Ignitable, Corrosive or Reactive) totaling 220 pounds or more, generated in the time period specified, is a regulated quantity and triggers the requirement for registration with the department.

In a similar manner, any one waste or combination of wastes from the P-List totaling 2.2 pounds or more, and generated in the time period specified, also requires registration with the department.

Waste generation totals are registered on a per-site basis. If your operation is conducted at more than one location within the city, county or state, each individual site producing a regulated quantity of hazardous waste will require a separate registration with the department. A business having more than one source of hazardous waste generation may be considered an individual site only if all generation occurs on a single, or contiguous, property.

All small quantity and large quantity generators of hazardous waste must register with the Missouri Department of Natural Resources by completing and filing a Notification of Regulated Waste Activity form. Conditionally exempt generators of hazardous waste (those facilities generating less than 220 pounds of hazardous waste per month or accumulating less than 220 pounds of hazardous waste at any one time) may choose to register also but are not required to do so. A \$100 registration fee to the department is required at the time of initial registration. If a particular site has already been issued identification numbers at some time in the past but the registration has been inactive, or if the registration is being transferred to another business or individual, then an updated

registration form is required to make the re-activation or transfer. A \$100 registration fee may also be required depending on the specific circumstances of the re-activation or transfer. Registered generators are also required to file an updated registration form if any of the information previously filed with the department changes.

To register your business as a hazardous waste generator, you must complete and send the Notification of Hazardous Waste Activity form. This form is available on the department's Web site at www.dnr.mo.gov/moeforms/forms/norwaRegPISetup.do. After completing the form, retain a copy for your records and submit the original with a check to:

Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176

After reviewing the form, the department will issue two numbers to identify your company:

1. Missouri Generator Identification Number.
2. Federal (EPA) Generator Identification Number.

These numbers will be used as a continuing part of your hazardous waste management system and are unique to the identity of your facility site. They will be used during routine correspondence with the department and when preparing manifests and manifest summary reports, which are discussed elsewhere in this manual.

Tonnage Fee

Businesses generating regulated quantities of hazardous waste are assessed a tonnage fee based on the amount of waste generated or shipped off-site for treatment, storage or disposal. This fee is \$5 per ton, with a minimum of \$150 and a maximum of \$52,000 annually per site. There are no exemptions from this fee. The fee is outlined in section 260.380.1.(10) of the Missouri statutes.

Land Disposal Fee

Businesses that dispose of their hazardous waste into or on the land will also be charged \$25 per ton on all waste disposed of in this manner. This fee is outlined in section 260.475.1 of the Missouri statutes and is not charged unless there is more than 10 tons or more during a given reporting year.

Requirements for Resource Recovery Facilities

10 CSR 25-9.020

A resource recovery facility is any facility which reclaims or reuses a hazardous waste for materials, or transforms hazardous waste into new products which are not hazardous waste. A generator is an exempt resource recovery facility if they use, reuse, legitimately reclaim or recycle less than one thousand kilograms (2,200 pounds) of hazardous waste in a calendar month from on-site. Exempt resource recovery facilities are required to notify the department of their activities. This notification will include:

- The owner or operator's name
- Location of the facility
- Identification of the waste(s) recovered.
- Methods of recovery
- Approximate annual quantity of waste recovered.

These facilities are exempt from other sections of the regulations. The owner or operator of a facility that uses, reuses, legitimately recycles or reclaims hazardous waste and is not exempted by the rules shall apply for and operate in accordance with a resource recovery facility certification issued by the department. These facilities will be certified as either:

1. U- facilities that use, reuse, legitimately reclaim or recycle more than 1,000 kilograms (2,200 pounds) of hazardous waste in a calendar month.
2. R1 - owner/operators of mobile recycling processes that recycle hazardous wastes for reuse at the site of generation and doesn't involve the recycling of hazardous waste to be reused off-site of generation.
3. R2 - a facility which accepts hazardous waste from off-site for the purpose of recycling.

The Certified Resource Recovery Facility Application can be found on the department's Web site at www.dnr.mo.gov/forms/780-1163.pdf. Application instructions are available at www.dnr.mo.gov/pubs/pub2241.pdf.

After completing the form, retain a photo copy for your records and send the original with a check made out to Missouri Department of Natural Resources to:

Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176

The application fee is \$500 for a U certified facility and \$1,000 for an R1 and R2 certified facility.

STEP 3



Storing and Labeling

- Compliance Process Chart
- Storing and Labeling Hazardous Waste Containers
 - Labeling
 - Satellite Storage
 - Reuse of Containers
 - Tank Storage
 - Storage Time Limit
 - Storage of More Than 1,000 Kilograms

| The Compliance Process | Steps to follow by Generators of: | |
|--|-----------------------------------|---------------------------------------|
| | Regulated Quantity of Waste | Less Than Regulated Quantity of Waste |
| Step 1 - Identify Your Wastes The law requires that you evaluate your waste to determine if it meets the definition of being hazardous. | X | X |
| Step 2 - Register Your Wastes If you have a hazardous waste and generate or accumulate the regulated quantity, you must complete hazardous waste generator registration forms and submit them to the Missouri Department of Natural Resources. | X | |
| Step 3 - Storing and Labeling Wastes Hazardous waste must be stored in approved containers and labeled properly. | X | |
| Step 4 - Safety Requirements Regulated generators are required to meet several safety standards. | X | |
| Step 5 - Transportation, Management and Disposal Most generators of waste use the services of companies specializing in the transportation and management of waste materials. All generators must follow certain guidelines whether or not their waste is hazardous. | X | X |
| Step 6 - Payment of Registration and Generator Fees, Summary Report, Penalties and Interest The law provides for the collection of fees from those generating and disposing of hazardous wastes. There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law. | X | |

There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law.

Storing and Labeling Hazardous Waste Containers

40 CFR 262.34

The safe handling and storage of hazardous waste is important. Storage and labeling standards have been established by law. This section discusses the two basic types of storage used for hazardous waste, labeling requirements and storage time limits.

Hazardous Waste Storage

A container is defined as “any portable device in which a material is stored, transported, treated, disposed of or otherwise handled.” Containers are constructed of various materials and come in sizes ranging from a few gallons to the larger 55-gallon drums. During the entire time hazardous waste is accumulated and stored on site you must comply with the following rules:

1. All storage containers must meet U.S. Department of Transportation requirements.
2. The container must be compatible with the waste stored in it. Wastes that might react with each other should not be stored in the same container. A berm, dike, or other device must separate incompatible wastes stored in the same area.
3. Containers must be in good condition, undamaged and free of rust and leaks. Any container found to be leaking must be replaced immediately.
4. Any container holding hazardous waste must be kept closed at all times except when you are adding or removing waste. Closed can be defined that the container will not spill if it is tipped and will not allow the escape of flammable vapors.
5. You must inspect the storage area and all hazardous waste containers at least once each week, checking for signs of corrosion and leaking.
6. Ignitable or reactive wastes must be located at least 50 feet from property lines.
7. Adequate aisle space must be maintained between containers.
8. “No Smoking” signs must be conspicuously placed by ignitable or reactive wastes.

Labeling

Small quantity generators must comply with the following rules for marking and labeling during the entire time hazardous waste is accumulated and stored:

1. From the time the storage begins, the container must be labeled with:
“HAZARDOUS WASTE – Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency

Generator’s Name and Address

Manifest Document Number

The manifest document number does not have to be marked on the container until the container is prepared for shipment off site.

2. From the time waste accumulation and storage begins, each container label must show the accumulation starting date. This is the day, month and year that you placed the very first drop of waste inside the container.
3. From the time waste accumulation and storage begins, each container must be labeled with the appropriate U.S. Department of Transportation hazardous material warning label. Examples include “flammable liquid,” “corrosive” and “poison”. You will also need to check the Department of Transportation regulations at 49 CFR 172.101 (hazardous waste materials table) to determine the hazard class designated for the particular chemical substance(s) you are labeling.

To satisfy the labeling requirements, pre-printed labels may be purchased from numerous sources. Contact your transporter for information on the availability of these labels and placards. When recording information on these labels use waterproof ink.

Satellite Storage

The satellite storage provision, which has more lenient standards, permits a generator to accumulate and store up to 55 gallons of a hazardous waste (one quart only of an acutely hazardous wastes) in a single container at or near the point of initial generation. Under this regulation, while the waste is accumulating in satellite storage, the quantity of satellite waste is not considered in calculating the total amount of waste stored at the facility.

The following conditions must be met when accumulating hazardous waste at satellite sites:

1. The hazardous waste must be in a container that is in good condition, free of rust, damage and leaks.
2. Only compatible wastes may be stored in the same container.
3. The container must remain closed except when you are adding or removing waste. Closed can be defined that the container will not spill if it is tipped and will not allow the escape of flammable vapors.
4. The container must be marked with the words HAZARDOUS WASTE or other words that adequately describe the contents.
5. Containers must be marked with the accumulation starting date.
6. Within three days filling a container of 55 gallons or less of hazardous waste or one quart of an acutely hazardous waste, the waste must be transferred to the primary storage area. If the container(s) is transferred to the primary storage area, a new beginning accumulation date is marked on the container(s). If the container(s) is emptied into another container already in the primary storage area the beginning accumulation date on the satellite container is removed and a new date marked when the first hazardous waste is added to that container.
7. Regardless of how small the quantity may be, the satellite storage waste must be transferred to the primary hazardous waste storage area for your facility within one year of the starting accumulation date.

Reuse of Containers

A container may be reused for the storage and shipment of a hazardous waste if it meets the following criteria:

1. The container must be in its original good condition.
2. The container must be tested for leaks.
3. The container must have the proper hazard class labeling affixed.

Refer to the Department of Transportation regulations at 49 CFR 173.28 for specific information.

Tank Storage

A tank is defined as “a stationary device, designed to contain an accumulation of hazardous waste that is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.” The storage of hazardous waste in a tank by a small quantity generator is permissible if they comply with the following rules.

1. Hazardous wastes must not be placed in a tank if it could cause the tank or its inner liner to rupture, leak, corrode or otherwise fail.
2. Ignitable or reactive wastes may not be stored in a tank unless precautions have been taken that will prevent it from igniting or reacting. Buffer-zone requirements apply. (See 40 CFR 265.201)
3. All above ground storage tanks must have a secondary containment system such as a dike or trench to hold spillage in the event of a failure.
4. If waste is continuously fed into a tank, the tank or feeder line must be equipped with a device such as a shut-off valve or by-pass system capable of stopping the flow in the event of an emergency.
5. At least once each operating day, you must inspect the operating condition of the tank system to be certain that it is in good working order. Daily records are required to be maintained for all monitoring equipment.

6. If you use an open top tank, you must check on the level of waste in the tank at least once each operating day to ensure that a minimum of 2 feet is maintained between the level of waste in the tank and the tank top.
7. Covered or underground tanks that cannot be entered for inspection but that are used to store hazardous waste must be constructed with a leak detection system.

Storage Time Limits

Time limits have been established for the storage of hazardous waste. The storage time begins with the accumulation starting date, which is the day, month and year when the very first drop of waste is placed in the container. Hazardous waste may be stored in a container in the satellite accumulation area for a period of up to one year. Once accumulation of waste has begun in the hazardous waste storage area of the facility, a small quantity generator may store the waste up to the maximum of one of two time limits:

- A. Up to 180 days if the waste is shipped offsite to a facility 200 miles or less from your location.
- B. Up to 270 days if the waste is shipped offsite to a facility more than 200 miles away from your location.

Storage of More Than 1,000 Kilograms

If your business produces hazardous waste at the Small Quantity Generator level and stores 1,000 kilograms (2,200 pounds) or more of hazardous waste, then your business can keep its Small Quantity Generator status but would also need to meet some Large Quantity Generators requirements. These requirements include creating and maintaining a personnel-training program like those required for Large Quantity Generators, and preparing and maintaining a contingency plan.

Usually Small Quantity Generator businesses decide it is not cost-effective to store hazardous waste because of the additional standards. It is also important to remember that a Small Quantity Generator can not store more than 6,000 kilograms of hazardous waste, according to 40 CFR 262.34 (d)(1) without applying for a permit for hazardous waste storage.

Also, businesses that store over 1,000 kilograms of liquid hazardous waste, regardless of whether they are a Small Quantity Generator or a Large Quantity Generator, must provide a containment system.

The containment system must have an impervious base and be free of cracks and gaps. The base of the containment system must be either sloped or the hazardous waste containers must be elevated off the base so that they are protected from contact with accumulated liquids. The containment system must have a capacity equal to ten percent of the volume of all the liquid containerized hazardous waste, or ten percent of the largest container, whichever is greater. Finally, businesses must prevent liquids from entering the containment system, and remove liquids as necessary to prevent overflow of the collection system.

STEP 4

Safety Requirements

- Compliance Process Chart
- Safety Requirements|
- Spills

| The Compliance Process | Steps to follow by Generators of: | |
|--|-----------------------------------|---------------------------------------|
| | Regulated Quantity of Waste | Less Than Regulated Quantity of Waste |
| Step 1 - Identify Your Wastes The law requires that you evaluate your waste to determine if it meets the definition of being hazardous. | X | X |
| Step 2 - Register Your Wastes If you have a hazardous waste and generate or accumulate the regulated quantity, you must complete hazardous waste generator registration forms and submit them to the Missouri Department of Natural Resources. | X | |
| Step 3 - Storing and Labeling Wastes Hazardous waste must be stored in approved containers and labeled properly. | X | |
| Step 4 - Safety Requirements Regulated generators are required to meet several safety standards. | X | |
| Step 5 - Transportation, Management and Disposal Most generators of waste use the services of companies specializing in the transportation and management of waste materials. All generators must follow certain guidelines whether or not their waste is hazardous. | X | X |
| Step 6 - Payment of Registration and Generator Fees, Summary Report, Penalties and Interest The law provides for the collection of fees from those generating and disposing of hazardous wastes. There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law. | X | |

There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law.

Safety Requirements

40 CFR 262.34(d)(4)&(5)

Generators of regulated quantities of hazardous waste are required to meet safety standards as prescribed by Missouri and Federal Regulations. An emergency coordinator must be available at all times to respond to an emergency at your place of business. This individual is usually the owner or manager but also may be an appointed assistant. The emergency coordinator must be thoroughly familiar with the business and all emergency procedures.

Mandatory Safety Requirements

- The facility must be operated and maintained to minimize the possibility of an explosion, fire or accidental release of a hazardous waste. A clean and orderly work place is the best policy.
- Adequate water supply, fire extinguishers, hoses or other appropriate equipment must be available at all times. The equipment is to be regularly tested and maintained in good working order.
- Appropriate spill-control equipment, decontamination and safety equipment (fire blankets, respirators, self contained breathing apparatus, absorbents, shovels, etc) must be available, tested and maintained on site.
- If no direct alarm is available, the telephone number of the fire department and police must be posted by the phone.
- The emergency coordinator's name and phone number must be posted near the phone.
- All employees must be thoroughly familiar with the proper waste-handling and emergency procedures.
- The locations of all fire extinguishers and control equipment must be posted by the telephone.
- A working alarm system, intercom, telephone or other communication, alert or safety device must be convenient and available for all employees to use in the event of an emergency.
- Employees must be familiar with waste handling and emergency procedures.
- Arrangements with local emergency agencies must exist.

Spills

In the event of a fire, explosion or spill involving hazardous waste, the emergency coordinator must contact the EPA National Response Center at 800-424-8802 and the Missouri Emergency Response Center at 573-634-2436 if the spill endangers surface water, human health or the environment. If in doubt it is better to call, because serious penalties exist for failure to report emergencies.

STEP 5



Transportation, Management and Disposal of Hazardous Wastes

- Compliance Process Chart
- Management and Disposal Options
 - Recycling
 - Sanitary Sewer System
- Treatment, Storage and Disposal Facilities
- Transportation Requirements
- Hazardous Waste Manifest
- Requirement for Used Oil Generators
- Universal Wastes
 - Small Quantity Handlers

| The Compliance Process | Steps to follow by Generators of: | |
|--|-----------------------------------|---------------------------------------|
| | Regulated Quantity of Waste | Less Than Regulated Quantity of Waste |
| Step 1 - Identify Your Wastes The law requires that you evaluate your waste to determine if it meets the definition of being hazardous. | X | X |
| Step 2 - Register Your Wastes If you have a hazardous waste and generate or accumulate the regulated quantity, you must complete hazardous waste generator registration forms and submit them to the Missouri Department of Natural Resources. | X | |
| Step 3 - Storing and Labeling Wastes Hazardous waste must be stored in approved containers and labeled properly. | X | |
| Step 4 - Safety Requirements Regulated generators are required to meet several safety standards. | X | |
| Step 5 - Transportation, Management and Disposal Most generators of waste use the services of companies specializing in the transportation and management of waste materials. All generators must follow certain guidelines whether or not their waste is hazardous. | X | X |
| Step 6 - Payment of Registration and Generator Fees, Summary Report, Penalties and Interest The law provides for the collection of fees from those generating and disposing of hazardous wastes. There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law. | X | |

There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law.

Transportation, Management and Disposal of Hazardous Waste

Some types of waste may be managed properly and legally at your business. Other types require specialized handling and shipment to businesses that specialize in storage, recycling, treatment and disposal technologies. It is the responsibility of the small-quantity hazardous waste generator to decide which method of management is the best for the facility in terms of future liability, potential adverse environmental impact and cost.

This section covers waste-management options available to small-quantity generators, options such as recycling, sanitary sewer systems and disposal facilities. Transportation requirements and use of the hazardous-waste manifest also are found in this section.

Management and Disposal Options

Recycling

If your process cannot be made non-hazardous, waste recycling (reuse of materials) may be an acceptable method of management. This recycling process sometimes can be accomplished at your business location through the use of a resource recovery unit. Refer to the “Requirements for Resource Recovery Facilities” in Step 2 — Registering Your Waste.

Sanitary Sewer System

If your business is located in an area serviced by a public sanitary sewer system, you may be able to legally discharge your hazardous waste into it.

Before attempting any discharge of a hazardous waste into a sanitary sewer system, you must obtain permission from the local public sewer district. Because of their chemical characteristics, many wastes are capable of destroying the biological activity of a wastewater-treatment process. Do not discharge hazardous waste into a storm-water sewer, septic tank, aerated septic tank, or other similar device. To do so is a serious violation of state and federal law and may result in substantial penalties being assessed against your business.

Treatment, Storage and Disposal Facilities

In the event that you cannot recycle or discharge your regulated quantities of hazardous waste, it will be necessary to use a company that can manage your waste for you. Thirteen commercial facilities can be found in the state of Missouri (See list at the end of this section). You may contact one of these facilities to help you in handling, managing, transporting and disposing of your hazardous waste. Brokering facilities are also available throughout the state.

The facility you choose must be properly licensed by the Missouri Department of Natural Resources and the U.S. Environmental Protection Agency. For facilities outside of the state, you should contact the appropriate out-of-state environmental agency.

These facilities are restricted in the kinds and amounts of wastes they can legally accept. Be certain that the facility you choose is allowed to accept your particular waste.

For non-regulated amounts of hazardous waste (Conditionally Exempt Generators of Hazardous Waste), the generator may transport their own hazardous waste without using a manifest or licensed hazardous waste transporter. You will need to follow U.S. Department of Transportation requirements for the wastes being shipped. The waste must be transported to a facility that is permitted or certified to accept your specific hazardous waste.

Transportation Requirements for Hazardous Waste

Hazardous waste from a small or large quantity generator must be transported by a waste hauler who has a valid EPA identification number and a Missouri hazardous-waste transporter license. To locate a licensed transporter, check your local yellow pages of area phone books or refer to the the list of licensed hazardous waste transporters located on the Missouri Department of Natural Resources’ Hazardous Waste Program website at: www.dnr.mo.gov/env/hwp/enf/translist.htm. For information on how to obtain a hazardous waste transporter license contact the Missouri Department of Transportation, Motor Carrier Services Unit.

Hazardous Waste Manifests

Before offering hazardous waste for transportation, the generator must prepare a shipping document known as a “ Uniform Hazardous Waste Manifest.” This document is similar to a bill of lading and is one of the essential pieces of paperwork used in a hazardous waste management system.

The manifest accompanies the shipment of hazardous waste to the designated treatment, storage and disposal facility. During this time, three individuals will sign the document. Those signing include:

- The generator’s authorized representative.
- The transporter (multiple transporters must use the Continuation Form and each transporter must sign the documentation)
- An authorized representative of the designated facility.

These signatures provide written proof of the waste’s mode of travel and destination.

It is the designated facility’s responsibility to ensure the original copy of the manifest is submitted to the department. The generator must retain an additional copy of each manifest in the files at the generating site. The generator must retain those records for a minimum of three years. The generator must receive a copy of the original manifest from the designated facility within 35 days of the date the waste was accepted by the initial transporter. If the generator does not receive the copy of the manifest within the timeframe, the generator must file a Hazardous Waste Generator’s Exception Report. The generator must file the report with the department within 45 days of the date of the original shipment. An example of the manifest and exception report can be found at the end of this section.

Manifests are available for sale by vendors designated by the U.S. Environmental Protection Agency.

For questions related to manifests, please contact the Missouri Department of Natural Resources’ Hazardous Waste Program at 573-522-5665 or visit the department’s Web site at www.dnr.mo.gov/env/hwp/enf/manifests.htm.

Requirements for Used Oil Generators

10 CSR 25-11.279

By definition used oil includes, but is not limited to, petroleum-derived and synthetic oils which have been spilled into the environment or used for lubrication or as a cutting oil, heat transfer, hydraulic power or insulation in dielectric transformers.

The improper disposal of used oil causes needless damage to groundwater and surface water. It also wastes a valuable renewable resource making us more dependent on imported oil. The proper handling of used oil prevents pollution and promotes reuse of this valuable resource. In Missouri, used oil is not considered a hazardous waste and generators are not required to register with the state. However, they are required to manage their used oil in a responsible manner.

Criteria for used oil generators include:

- Used oil is managed properly and not disposed of into the environment.
- Used oil storage containers are kept in good condition.
- Used oil storage containers are not leaking.
- Storage containers and above ground tanks are labeled or clearly marked “Used Oil.”
- Fill pipes to transfer used oil into underground storage tanks are labeled or clearly marked “Used Oil.”
- Storage containers that are exposed to rainfall are kept closed.
- All spills or leaks of used oil are properly cleaned up.
- Mixtures of used oil and hazardous wastes are properly managed.

Generators of used oil are allowed to self-transport up to 55 gallons of used oil to approved collection centers or to aggregation points owned by the same generator, so long as they use their own vehicle or an employee’s vehicle.

Generators of used oil may burn their own used oil, as well as used oil received from household do-it-yourselfers and exempt farmers, in used oil-fired space heaters which have a design capacity of not more than 0.5 million BTU per hour and are vented to the ambient air. You may not accept used oil from other generators for burning or take your used oil to other generators for burning. For more information about proper management of used oil, visit the department's Web site at www.dnr.mo.gov/env/hwp/enf/usedoil.htm.

Universal Wastes

Universal wastes are hazardous wastes, but may be managed under less-stringent requirements if certain criteria are met. Universal wastes in Missouri include:

- Batteries, such as nickel-cadmium batteries, mercury, silver or lithium "button" batteries and small, sealed lead-acid batteries found in electronic equipment, mobile telephones, portable computers and emergency backup lighting. Lead acid batteries may also be managed as a Universal Waste.
- Thermostats, mercury switches and mercury containing thermometers and manometers found in homes and commercial, industrial, agricultural and community buildings.
- Mercury containing lamps including fluorescent, high-pressure sodium, mercury vapor, metal halide and high intensity discharge lamps.
- Pesticides that have been recalled or banned from use, are obsolete, have become damaged or are no longer needed due to changes in cropping patterns or other factors.

The universal waste rule is a set of federal environmental regulations adopted with modifications by Missouri. The effective date of the rule in Missouri was Jan. 31, 1999. The rule can be found in Chapter 16 of the Missouri Hazardous Waste Management Regulations, which references portions of 40 CFR Part 273. This rule identifies all universal wastes in Missouri and states how they can be handled in a lawful manner. In general the Universal Waste Rule is less stringent than existing hazardous waste regulations.

Small quantity handlers of universal wastes would generate or accumulate less than 1,000 pounds. Small quantity handlers generating only universal wastes that they manage under this rule do not need to register or obtain an EPA identification number or keep records of universal wastes received or shipped.

Small Quantity Handlers:

- Must not dispose of a universal waste into the environment.
- Must not dilute or treat a universal waste or break or crush mercury containing lamps without a Missouri Resource Recovery Certification or permit.
- Must follow the waste management requirements stated in the rule for the particular waste(s) being managed.
- Must prevent releases to the environment.
- Must label waste as a "universal waste" as described in the rule.
- Must train employees on proper handling and emergency procedures.
- Must respond to spills and manage the spill residue as hazardous waste.
- May accumulate universal waste on-site for up to one year.
- May accumulate universal wastes for more than one year for the sole purpose of facilitating proper recovery and disposal.
- May accept universal wastes from off site and keep them for up to one year (excluding pesticides).
- May self-transport the universal waste to an authorized destination facility or Missouri Certified Resource Recovery Facility (for pesticides, to a Missouri Pesticide Collection Program).

If self-transporting, the handler is required to meet universal waste transporter requirements in the rule.

In Missouri, this rule does not apply to any business that generates and accumulates less than 100 kilograms (220 pounds) of hazardous wastes per month or at any one time. However, these small businesses are encouraged to participate voluntarily by using handlers and collection centers that legitimately recycle/dispose their universal wastes.

STEP 6



Fees, Summary Report and Penalties and Interest

- Compliance Process Chart.
- Hazardous Waste Fees, Summary Report and Penalties and Interest.
- Generator's Hazardous Waste Summary Report Form.
- Penalties (Civil and Criminal).
- Generator's Hazardous Waste Summary Report - Part I
- Generator's Hazardous Waste Summary Report - Part II

| The Compliance Process | Steps to follow by Generators of: | |
|--|-----------------------------------|---------------------------------------|
| | Regulated Quantity of Waste | Less Than Regulated Quantity of Waste |
| Step 1 - Identify Your Wastes The law requires that you evaluate your waste to determine if it meets the definition of being hazardous. | X | X |
| Step 2 - Register Your Wastes If you have a hazardous waste and generate or accumulate the regulated quantity, you must complete hazardous waste generator registration forms and submit them to the Missouri Department of Natural Resources. | X | |
| Step 3 - Storing and Labeling Wastes Hazardous waste must be stored in approved containers and labeled properly. | X | |
| Step 4 - Safety Requirements Regulated generators are required to meet several safety standards. | X | |
| Step 5 - Transportation, Management and Disposal Most generators of waste use the services of companies specializing in the transportation and management of waste materials. All generators must follow certain guidelines whether or not their waste is hazardous. | X | X |
| Step 6 - Payment of Registration and Generator Fees, Summary Report, Penalties and Interest The law provides for the collection of fees from those generating and disposing of hazardous wastes. There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law. | X | |

There are also penalties for non-compliance with the Missouri Hazardous Waste Management Law.

Hazardous Waste Fees, Summary Report and Penalties and Interests

As a generator of hazardous waste, you are required by law to pay certain fees—each year based on the amount of hazardous waste you generate. These fees are deposited to the Hazardous Waste Fund and used to help insure compliance with requirements for proper handling of hazardous waste as well as clean up of sites already contaminated.

All generators pay the In-State Tonnage Fee of \$5 per ton fee on their hazardous waste. There is a \$150 minimum fee and a \$52,000 maximum annually.

If your waste is disposed of into or on the land, there is also a Land Disposal Fee of \$25 per ton. However, this fee is not charged unless you land dispose of 10 tons or more.

Generator's Hazardous Waste Summary Report Form

You will be billed for the appropriate fees by the first of December of each year based upon the amount of hazardous waste generated during the previous state fiscal year (July 1 to June 30). Payment is due before January 1 of the next calendar year. In order to be properly assessed, you must complete and submit to the department the Generator's Hazardous Waste Summary Report Form. Small quantity generators need to submit these forms annually, not quarterly. If at any time the facility generates or stores enough waste to be classified as a large quantity generator, they must file a Notification of Regulated Waste Activity form indicating the change and begin filing the Summary Report Form quarterly. For small quantity generators these reports must be submitted within 45 days of the end of the fiscal year. The Generator's Hazardous Waste Summary Report, Parts I & II and their instructions can be found at the end of this section. It is recommended that you keep this copy of the form as a master and photocopy them as needed for your facility.

This report may also be completed and filed electronically. The electronic form and instructions can be accessed on the Web at: www.dnr.mo.gov/env/hwp/downloads/hwfacgen-reports.htm.

Late Fees, Penalties and Interests

Failure to pay the assessed fees in a timely manner will result in a 15 percent late fee required by law. Late or untimely payment of any assessed Land Disposal Fee will result in an interest rate of 10 percent per annum also being charged.

In Missouri, both civil and criminal penalties may be imposed for violations of the Missouri laws and regulations regarding hazardous waste. See Section 260.425 RSMo for a more complete explanation of the following.

- Civil penalties may range from \$40 to \$10,000 per violation.
- Multi-day civil penalties may range from \$16 to \$2,000 per day that the violation was in existence.
- Criminal penalties range between \$2,500 and \$25,000 for each day of violation or up to one-year confinement in a county jail.

Successive criminal convictions provide for a penalty between \$5,000 and \$50,000 for each day of violation or up to 10 years imprisonment.

Appendices



Appendix A – Hazardous Waste Definitions

Appendix B – State Environmental Departments

Appendix C – EPA Regional Offices

Appendix D – Checklist for Compliance with
Regulations

Appendix A – Hazardous Waste Definitions

Accumulation Start Date - The day, month and year that the first drop of waste is placed in storage.

CFR - Code of Federal Regulations.

CSR - Missouri Code of State Regulations.

Container - Any easily and readily movable enclosure constructed of manmade materials that may be used for hazardous waste storage, treatment, transport, or disposal.

DNR (the department) - Missouri Department of Natural Resources

EPA - United States Environmental Protection Agency

Flashpoint - The minimum temperature at which a liquid or solid gives off sufficient vapor to form an ignitable vapor-air mixture near the surface of the material as determined by a specific method.

Generator - Any person, by site, whose act or process produces hazardous waste identified or listed in the regulations, or, any person whose act first causes a hazardous waste to become subject to regulation.

Hazardous Waste - Any waste or combination of wastes as defined or listed by regulation, which, because of its quality, concentration, physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness, or pose a threat to the health of humans or other living organisms.

Manifest - The shipping document required to accompany all hazardous waste shipments of a regulated quantity.

RCRA - Resource Conservation and Recovery Act.

Recycle - To reclaim or reuse a spent material.

Regulated Quantity - The generation or accumulation of a minimum amount of hazardous waste, as defined by regulation, which subjects the generator to following certain regulatory requirements.

Resource Recovery - The reclamation of energy or materials from waste, its reuse, or its transformation into new products, which are not wastes.

RSMo - Revised Statutes of the State of Missouri.

Tank - A stationary device designed to contain an accumulation of hazardous waste, and is constructed primarily of non-earthen materials (e.g. concrete, steel, plastic) that provides structural support.

Waste - Any material for which no use or sale is intended and that will be discarded, or any material that has been or is being discarded. Waste also includes certain residual materials that may be sold for purposes of energy or materials, reclamation, reuse, or transformation into new products that are not wastes.

Appendix B - State Environmental Departments

For a listing of all state environmental agencies visit
the U.S. EPA's Web site at

www.epa.gov/epahome/state.htm

Missouri Department of Natural Resources

P.O. Box 176

Jefferson City, MO 65102-0176

800-361-4827

Fax: 573-751-9277

environmental@dnr.mo.gov

www.dnr.mo.gov

Directors Office

Water Resources

Soil and Water Conservation

Division of Environmental Quality

Air Pollution Control Program

Hazardous Waste Program

Land Reclamation Program

Solid Waste Management Program

Water Protection Program

Public Drinking Water Branch

Operator Certification

Water Pollution Branch

Wellhead Protection

Division of Field Services

Environmental Services Program

Regional and Satellite Offices

Environmental Assistance Office

Environmental Education

Division of Geology and Land Survey

Geological Survey Program

Land Survey Program

Missouri Department of Health and Senior Services

P.O. Box 570

Jefferson City, MO 65102-0570

573-751-6400

Fax: 573-751-6041

info@dhss.mo.gov

www.dhss.mo.gov

Missouri Department of Conservation

P.O. Box 180 (zip 65102)

2901 W. Truman Blvd.

Jefferson City, MO 65109

573-751-4115

Fax: 573-751-4467

www.mdc.mo.gov

Appendix C - U.S. Environmental Protection Agency - Regional Offices

Headquarters
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
202-272-0167 or
202-272-0165 for TTY
(speech- and hearing-impaired)
www.epa.gov

Region 1 (CT, MA, ME, NH, RI, VT)
Environmental Protection Agency
1 Congress St. Suite 1100
Boston, MA 02114-2023
Phone: 617-918-1111 or 888-372-7341
Fax: 617-565-3660
www.epa.gov/region01/

Region 2 (NJ, NY, PR, VI)
Environmental Protection Agency
290 Broadway
New York, NY 10007-1866
Phone: 212-637-3000
Fax: 212-637-3526
www.epa.gov/region02/

Region 3 (DC, DE, MD, PA, VA, WV)
Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029
Phone: 215-814-5000 or 800-438-2474
Fax: 215-814-5103
www.epa.gov/region03/
Email: r3public@epa.gov

Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)
Environmental Protection Agency
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104
Phone: 404-562-9900 or 800-241-1754
Fax: 404-562-8174
www.epa.gov/region04/

Region 5 (IL, IN, MI, MN, OH, WI)
Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3507
Phone: 312-353-2000 or 800-621-8431
Fax: 312-353-4135
www.epa.gov/region5/

Region 6 (AR, LA, NM, OK, TX)
Environmental Protection Agency
Fountain Place 12th Floor, Suite 1200
1445 Ross Avenue
Dallas, TX 75202-2733
Phone: 214-665-2200 or 800-887-6063
Fax: 214-665-7113
www.epa.gov/region06/

Region 7 (IA, KS, MO, NE)
Environmental Protection Agency
901 North 5th Street
Kansas City, KS 66101
Phone: 913-551-7003 or 800-223-0425
Web address: www.epa.gov/region07/

Region 8 (CO, MT, ND, SD, UT, WY)
Environmental Protection Agency
999 18th Street Suite 500
Denver, CO 80202-2466
Phone: 303-312-6312 or 800-227-8917
Fax: 303-312-6339
www.epa.gov/region08/
Email: r8eisc@epa.gov

Region 9 (AZ, CA, HI, NV)
Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
Phone: 415-947-8000 or 866-EPA-WEST
Fax: 415-947-3553
www.epa.gov/region09/
Email: r9.info@epa.gov

Region 10 (AK, ID, OR, WA)
Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101
Phone: 206-553-1200 or 800-424-4372
Fax: 206-553-0149
www.epa.gov/region10/

For additional U.S. EPA Satellite and Laboratories
locations visit the Web at
www.epa.gov/epahome/postal.htm

Appendix D - Checklist for Compliance with Regulations

Yes No

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Do you have documentation on the amount and kinds of hazardous waste that you generate and how you determined that they are hazardous? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you have an EPA and Missouri identification number? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you ship wastes off site? |
| <input type="checkbox"/> | <input type="checkbox"/> | If so, do you know the name of the transporter, and the designated treatment, storage and disposal facility that you use? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you have copies of completed manifests used to ship your hazardous wastes over the last three years? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are they filled out correctly and completely? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you received the original signed copy of the manifest from the treatment, storage and disposal facility? If not, have you filed an exception report? |
| <input type="checkbox"/> | <input type="checkbox"/> | Is your hazardous waste stored in proper containers or tanks? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are the containers or tanks properly marked, labeled and dated? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you exceeded any of your storage time limits? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you designated an emergency coordinator? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you posted emergency telephone numbers and the location of emergency equipment? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have your employees been thoroughly trained in the proper waste handling and emergency procedures? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you understand when to contact the National and State Response Centers? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you filed the necessary annual reports with the department? |



**Missouri Department of Natural Resources
Division of Hazardous Waste**

**1803 East Elm Street
Jefferson City, MO**

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