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Solid Waste and Emergency Response



Identifying Your Waste

The Starting Point

EPA REGION 1 LIBRARY

100 WATER STREET

SPRINGFIELD, MA 01103



This brochure explains the methodology for identifying hazardous waste under the Resource Conservation and Recovery Act (RCRA). Companies that produce hazardous waste are responsible for following a number of regulations regarding the generation, storage, treatment, and disposal of hazardous waste. Call the RCRA Hotline with questions or to order any of a number of publications (see "For More Information").

If your company generates waste as part of a manufacturing or industrial process, you might be subject to hazardous waste regulations. "Hazardous waste" is a legal term that describes certain toxic, ignitable, corrosive, or reactive wastes generated in manufacturing, industrial, or other processes. The U.S. Environmental Protection Agency (EPA) has prepared this simple guide to explain hazardous wastes and help you determine whether you generate hazardous wastes and are subject to regulation. Your company is responsible for making hazardous waste determinations correctly.

The hazardous waste regulations can be found in Title 40 of the *Code of Federal Regulations* (CFR) Part 261-299, which is available at many libraries or can be obtained from the U.S. Government Printing Office. It is updated daily with individual issues of the *Federal Register*.

Step One: **Is Your Waste a Solid Waste?**

You must determine if your waste is a "solid waste" according to EPA. EPA defines "solid waste" as garbage, refuse, sludge, or other discarded material (including solids, semi-solids, liquids, and contained gaseous materials). For guidance on making this determination, see the section "For More Information."

Step Two: **Is Your Waste a Hazardous Waste?**

If your waste is a solid waste, you must then determine if it is a hazardous waste. It is your responsibility as a generator either to test your waste or use your knowledge of the waste to make a determination about its properties. Once you know what is in your waste, you can then determine if EPA considers it to be hazardous. EPA defines hazardous waste in six different ways.

A. Is the Waste a "Listed" Hazardous Waste?

EPA developed several lists of hazardous wastes (40 CFR 261.30). If your waste appears on any of these lists, it is hazardous. Wastes on these lists are hazardous regardless of the concentrations of hazardous constituents in the waste. The lists identify:

- **Nonspecific source wastes** (40 CFR 261.31), which are material-specific wastes, such as solvent wastes, electroplating wastes, or metal heat-treating wastes, commonly produced by a wide variety (non specific sources) of manufacturing and industrial processes (designated with "F" waste codes).

Examples: *Wastewater treatment sludges from electroplating operations (F006), process wastes such as distillation residues, heavy ends, tars, and reactor clean-out wastes (F024).*

- **Specific source wastes** (40 CFR 261.32), which are wastes from specifically identified industries such as wood preserving, petroleum refining, and organic chemical manufacturing (designated with “K” waste codes).

Examples: *Wastewater treatment sludge from the production of chrome yellow and orange pigments (K002), tar storage tank residues from coal tar refining (K147).*

- **Discarded commercial chemical products** (40 CFR 261.33), which are off-specification products, container residuals, spill residue runoff, or active ingredients that have spilled or are unused and intended to be discarded (designated with “P” and “U” waste codes). If the intent is to use the material or recycle it, it is not considered a hazardous waste.

Examples: *Aldicarb (P070), parathion (P089), and vinyl chloride (U043).*

B. Is the Waste a “Characteristic” Hazardous Waste? EPA identified four characteristics, or traits, of hazardous waste: ignitability, corrosivity, reactivity, and toxicity (designated with “D” waste codes). Your waste is considered hazardous if it exhibits any of these characteristics (40 CFR 261.20-24). These properties are measurable by standardized and available testing methods that can be found in a manual entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)*. This document is available by calling 703 821-4690.

Examples: *Certain paints, degreasers, and solvents are ignitable; battery acid is corrosive; certain cyanides or sulfide-bearing wastes are reactive; and wastes that contain high concentrations of heavy metals, such as cadmium, lead, or mercury, may be considered toxic.*

C. Is the Waste a Mixture? If your waste is a mixture of nonhazardous solid wastes and listed hazardous wastes, it is considered hazardous (40 CFR 261.3). A few wastes are listed only because they are ignitable or reactive. In these cases, if the resulting mixture no longer is ignitable or reactive, the mixture is not considered a listed waste.

Examples: *Spent solvents (F003), such as methanol or acetone, are listed hazardous wastes and are ignitable. If these solvents are mixed with a non-ignitable nonhazardous waste, the mixture will still be considered hazardous, unless the mixture is not ignitable.*

D. Is the Waste a "Derived-From" Hazardous Waste? Any solid waste generated (derived) from the management (treatment, storage, or disposal) of a listed hazardous waste, including sludge, spill residue, ash, emission control dust, or leachate, is considered hazardous waste (40 CFR 261.3).

Example: *Any ash or residue left from the incineration process at a hazardous waste incinerator is considered hazardous waste.*

E. Is the Waste Contaminated Media?

Environmental media (ground water, soil, or sediment) sometimes come in contact with listed hazardous waste. If these media become contaminated with (and therefore contain) hazardous waste, they must be managed as a hazardous waste (no regulatory citation).

Exclusions

Be sure to note that some wastes are excluded from the definition of solid waste and from the hazardous waste regulations. For example, domestic sewage, irrigation return flows, and in-situ mining wastes are excluded from the definition of *solid waste*. Household wastes, agricultural wastes used as fertilizers, and cement kiln dust are examples of wastes that are excluded from the definition of *hazardous waste*. These wastes are not subject to the federal hazardous waste regulations but may be subject to other federal regulations or state waste programs.

Example: *If a tank leaks listed hazardous waste into ground water, the ground water must be managed as a hazardous waste because it contains a listed hazardous waste.*

F. Is the Waste Contaminated Debris?

Manufactured objects, plant or animal matter, and natural geological material that exceeds 60 mm (2.36 in) particle size and that is intended for disposal are considered “debris” (40 CFR 268.2). Debris is not considered a solid waste, but if a hazardous waste is mixed with debris, it becomes hazardous waste.

Example: *Rags, personal protective equipment, or wood pallets that are contaminated with a hazardous waste must be managed as a hazardous waste until they are decontaminated and no longer contain the listed waste.*

Step Three: **How Do I Manage My Wastes?**

If your waste is hazardous, you must comply with EPA’s treatment, storage, and disposal requirements. Since most states have the authority to pass more stringent hazardous waste regulations, you should also check with your state hazardous waste agency to learn about additional requirements. If you generate nonhazardous solid waste, you should consult your state solid waste agency to determine any requirements that might apply to you as well. If your waste is not considered a solid waste, you should contact your state to determine if the waste is regulated by other statutes, such as the Clean Water Act.

For More Information

For more information about waste identification or the hazardous waste regulations, including a list of state solid and hazardous waste agencies, contact the RCRA Hotline at 800 424-9346 or TDD 800 553-7672. In the Washington, DC, area, call 703 412-9810 or TDD 703 412-3323. You may wish to order the document *Understanding the Hazardous Waste Rules: A Handbook for Small Businesses—1996 Update* (EPA530-K-95-001) from the Hotline. EPA’s home page, www.epa.gov/EPAOSWER/hazwaste, can provide additional information as well.

The Guiding Principle

To encourage environmentally sound methods for managing household, municipal, commercial, and industrial waste, Congress passed the Resource Conservation and Recovery Act (RCRA) in 1976. This act requires the U.S. Environmental Protection Agency (EPA) to identify and regulate hazardous waste and develop a program to ensure that it is handled safely “from cradle to grave”—from generation through transportation, treatment, storage, and ultimate disposal.

The goals of RCRA are:

- To protect human health and the environment.
- To reduce waste and conserve energy and natural resources.
- To reduce or eliminate the generation of hazardous waste as expeditiously as possible.