

What is a RCRA hazardous waste?

The Resource Conservation and Recovery Act (RCRA) governs the management of hazardous wastes. There is not a single comprehensive list of hazardous waste that is continuously updated, as hazardous waste identification is a process that involves many steps.

To be considered a hazardous waste, a material first must be classified as a solid waste (40 CFR §261.2). EPA defines solid waste as garbage, refuse, sludge, or other discarded material (including solids, semisolids, liquids, and contained gaseous materials). If a waste is considered solid waste, it must then be determined if it is hazardous waste (§262.11). Wastes are defined as hazardous by EPA if they are specifically named on one of four lists of hazardous wastes located in Subpart D of Part 261 (F, K, P, U) or if they exhibit one of four characteristics located in Subpart C of Part 261 (characteristic wastes).

Listed Wastes

Wastes are listed as hazardous because they are known to be harmful to human health and the environment when not managed properly, regardless of their concentrations. EPA has studied and listed as hazardous hundreds of specific industrial wastestreams. These wastes are described or listed on four different lists that are found in the regulations at Part 261, Subpart D. These four lists are:

The F list – The F list designates as hazardous particular wastes from certain common industrial or manufacturing processes. Because the processes producing these wastes can occur in different sectors of industry, the F-listed wastes are known as wastes from non-specific sources. The F list is codified in the regulations at 40 CFR §261.31.

The K list – The K list designates as hazardous particular wastestreams from certain specific industries. K-listed wastes are known as wastes from specific sources. The K list is found at 40 CFR §261.32.

The P list and the U list (Discarded Commercial Chemical Products) – These two lists are similar in that both list pure or commercial grade formulations of certain specific unused chemicals as hazardous. Both the P list and U list are codified in 40 CFR §261.33. A P or U waste code may be applicable, provided that the material is an unused commercial chemical product (CCP). A CCP is a substance that consists of the commercially pure grade of the chemical, any technical grades of the chemical, and all formulations in which the chemical is the sole active ingredient (§261.33(d)).

Characteristic Wastes

Even if the wastestream does not meet any of the four listings explained above, it may still be considered a hazardous waste if it exhibits a characteristic. In Part 261, Subpart C, EPA has designated the following four characteristics: ignitability (D001), corrosivity (D002), reactivity (D003) and toxicity (D004–D043).

Ignitability – Ignitable wastes create fires under certain conditions or are spontaneously combustible, or have a flash point less than 60 °C (140 °F). The characteristic of ignitability is found at 40 CFR §261.21.

Corrosivity – Corrosive wastes are acids or bases (pH less than or equal to 2 or greater than or equal to 12.5) that are capable of corroding metal containers, such as storage tanks, drums, and barrels. The characteristic of corrosivity is found at 40 CFR §261.22.

Reactivity – Reactive wastes are unstable under "normal" conditions. They can cause explosions, toxic fumes, gases, or vapors when mixed with water. The characteristic of reactivity is found at 40 CFR §261.23.

Toxicity – Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead, etc.). When toxic wastes are disposed of on land, contaminated liquid may drain (leach) from the waste and pollute ground water. Toxicity is defined through a laboratory procedure called the Toxicity Characteristic Leaching Procedure (TCLP). The toxicity characteristic is found at 40 CFR §261.24.

Generators are responsible for characterizing their waste as hazardous and must determine whether a waste exhibits a characteristic by either testing or applying knowledge of the hazardous waste characteristic of the waste (§262.11).

In addition to federal RCRA hazardous waste identification rules we have outlined, most states are authorized to operate their own hazardous waste programs and may have more stringent rules than those of the federal hazardous waste management program. For instance, a state may impose more stringent regulations for hazardous waste identification or identify state-specific hazardous wastes. Therefore, we suggest that you contact your state hazardous waste agency to determine which regulations are applicable to your situation.

If wastes are not listed or do not exhibit any hazardous waste characteristics, they are considered nonhazardous solid waste (as opposed to hazardous wastes). Nonhazardous solid waste disposal and recycling is regulated on a state level. Therefore, you may wish to contact your state solid waste officials for more information on solid waste management.

For a list of both state solid and hazardous waste contacts, please visit the following URL: <http://www.epa.gov/epawaste/wyl/stateprograms.htm>

References:

[40 CFR Part 261](#) and [40 CFR Part 262](#)
55 Federal Register 11798, 11806; March 29, 1990
Memo, Lowrance to Oberg, April 16, 1991 ([RCRA Online #11599](#))
[RCRA Orientation Manual](#)
[Training Module: Introduction to Hazardous Waste Identification](#)
[RCRA – Reducing Risk From Waste](#)