
What is a Hazardous Waste?

40 CFR 261

Does my business generate a hazardous waste?

A waste is hazardous if it exhibits a hazardous characteristic or if it is found on any of four specific hazardous waste lists.

What are the benefits of knowing my business generates hazardous waste?

Every business is responsible for characterizing its wastes. Knowing which wastes are hazardous and the amount of hazardous waste generated and stored at your facility will indicate the level of regulation that applies to your business. The benefit of knowing this information provides the opportunity for compliance with federal environmental regulations.

CHARACTERISTICS of Hazardous Waste

According to Environmental Protection Agency (EPA) regulations, there are four characteristics that can make a waste hazardous: ignitability, corrosivity, reactivity, and toxicity.

IGNITABILITY

If liquid waste has a flash point of less than 140°F, it is an ignitable hazardous waste. Some solid wastes are characterized as ignitable hazardous wastes if they spontaneously combust and/or meet certain ignition/burning testing criteria. Ignitable hazardous wastes have the EPA waste code of **D001**. Examples are:

- Petroleum parts washer solvents;
- Solvent-based paint waste;
- Waste kerosene or gasoline; and
- Spent paint booth exhaust filters.

CORROSIVITY

Aqueous wastes that have a pH less than or equal to 2.0, or greater than or equal to 12.5, are considered corrosive hazardous wastes. Corrosive hazardous wastes have the EPA waste code **D002**. Examples are:

- Acid or alkaline cleaning solutions;
- Rust removers;
- Battery acid; and
- Caustic hot tank waste.

REACTIVITY

A waste is reactive if it reacts violently with water, forms potentially explosive mixtures with water, generates toxic gases when mixed with water, contains cyanides, or sulfides that are released when exposed to acid or alkaline materials, or is explosive. Reactive hazardous wastes have the waste code **D003**. Examples are:

- Cyanide plating wastes;
- Waste concentrated bleaches;
- Pressurized aerosol cans; and
- Metallic sodium and potassium.

TOXICITY

A waste is toxic if it fails the Toxicity Characteristic Leaching Procedure (TCLP) lab test for any one of 40 parameters. Examples are:

- Painting wastes that contain toxic metal based pigments and/or certain solvents (i.e., MEK);
- Treated wood waste where the treatment was done with “penta”, or pentachlorophenol;
- Oily wastes, such as used oil filters that exceed the levels for benzene and/or lead.

LISTED Hazardous Wastes

The federal EPA has designated four “lists” of hazardous wastes, designated by the letters “F”, “K”, “P”, and “U”. If a material is found on one or more of these lists, it is considered a “listed hazardous waste”. Each of these lists is explained briefly below:

- **F Listed Wastes** - The F listed wastes include a wide variety of commonly found wastes, ranging from solvents to wastewater treatment sludges to dioxin contaminated materials.
- **K Listed Wastes** - These are hazardous wastes from specific processes, many of which are chemical or pesticide manufacturing. Examples are “distillation bottoms from the production of aniline” or “wastewater treatment sludge from the production of toxaphene”. K listed wastes are relatively uncommon in Iowa.
- **P Listed Wastes** - These are known as “acute” hazardous wastes because they are highly toxic. Many are unusual chemicals that are not likely to be found. Some, especially the pesticides, are still in use or were formerly used and may be stored as unusable materials. Examples include endrin, arsenic trioxide (gopher bait), and warfarin (rat poison).
- **U Listed Wastes** - U listed wastes are less toxic commercial chemicals, off-specification products, or manufacturing chemical intermediates. They are normally waste materials only if they can’t be used (off-specification) and must be discarded. Examples include benzene, DDT, formaldehyde, and vinyl chloride.

Examples of F Listed Hazardous Wastes

F001

Spent halogenated solvents used in degreasing, or the still bottoms from the recovery of the spent solvents. Solvents include:

- Tetrachloroethylene, or perchloroethylene (perc)
- Trichloroethylene
- Methylene Chloride
- 1,1,1-trichloroethane
- Carbon tetrachloride
- Chlorinated fluorocarbons (freons)

F002

Spent halogenated solvents, and still bottoms, from uses other than degreasing.

- Tetrachloroethylene, or perc
- Methylene chloride
- Trichloroethylene
- 1,1,1-trichloroethane
- Chlorobenzene
- 1,1,2-trichloro-1,2,2-trifluoroethane, or freon 112
- Ortho-dichlorobenzene
- Trichlorofluoromethane (freon)
- 1,1,2-trichloroethane

F003

Spent non-halogenated solvents, and still bottoms, that are ignitable.

- Xylene
- Acetone
- Ethyl acetate
- Ethyl benzene
- Ethyl ether
- Methyl isobutyl ketone (MIBK)
- n-butyl alcohol
- Cyclohexanone
- Methanol

F004

Spent non-halogenated solvents and still bottoms.

- Cresols and cresylic acid
- Nitrobenzene

F005

Spent non-halogenated solvents and still bottoms.

- Toluene
- Methyl ethyl ketone (MEK)
- Carbon disulfide
- Isobutanol
- Pyridine
- Benzene
- 2-ethoxyethanol
- 2-nitropropane

*The Iowa Waste Reduction Center can assist your small business.
Please contact the IWRC at 319-273-8905 for free, non-regulatory and confidential environmental assistance.*