

Environmental Health and Safety at Alfred University

Identifying A Hazardous Waste

What is a Hazardous Waste?

A waste is basically any discarded material. By law hazardous waste is defined as a waste, or combination of wastes, that because of its quality, concentration, physical, chemical or infectious characteristics may cause or significantly contribute to an increase in serious irreversible, or incapacitating reversible illness or pose a substantial present or potential hazard to human health, safety or welfare or to the environment when improperly treated, stored, transported, used or disposed of or otherwise managed.

*A hazardous waste is:
Ignitable,
Corrosive,
Reactive, and/or
Toxic*

Hazardous Waste can be identified by consulting 4 CFR 261. The codes not only represent the ingredients of the waste, but indicate the process generating the waste. Each hazardous waste has a particular alphanumeric code based on its ingredients and process. Wastes are categorized by the following:

1. **Listed Hazardous Waste:**

Four chemical lists exist (**F**, **K**, **U**, and **P**) of waste streams that possess hazardous properties and are subject to hazardous waste regulations.

“**K-Listed**” waste are those generated from a specific process, and therefore are not applicable to Alfred University.

“**F-Listed**” wastes are hazardous wastes from nonspecific sources. Although there are 39 listings (F001-F039), the most common F-listed wastes generated on campus are F001-F005.

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; 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 solvents 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, methylethylketone, 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.

Some common examples of “**F-listed**” hazardous wastes include:

- a. A maintenance worker uses a 10% solution by volume (or greater) of Methylene Chloride as a degreasing agent. The waste that results is considered an **F001** hazardous waste and must be disposed of through the hazardous waste management program.
- b. A graduate student working in a science laboratory uses Acetone as a final rinse for cleaning glassware, the Acetone waste that results is considered a **F003** listed hazardous waste. This Acetone rinse cannot be disposed of down the drain and must be managed as a hazardous waste.
- c. A person working in a Fine Arts department uses a trade name paint brush cleaner that contains 10% or more (by volume) of Toluene. The waste that results is considered an **F005** listed hazardous waste and must be managed accordingly.

“**U-Listed**” wastes are regulated as toxic, reactive, ignitable, or corrosive waste.

“**P-Listed**” wastes are regulated as acutely hazardous wastes. An acutely hazardous waste poses immediate and serious health risks to both the environment and humans.

Both “**U-Listed**” and “**P-Listed**” codes are assigned to chemicals that are discarded commercial chemical products, off-specification species, and container residues. The EPA and DEC also regulate any residue or contaminated soil, water or other debris resulting from the cleanup of a spill involving a U or P-listed chemical as hazardous waste. It is EH&S policy that any mixture of chemicals that contain ANY concentration of U or P-listed chemicals is considered to be hazardous waste and must be disposed of through the hazardous waste management program. The U and P lists of chemicals can be found at the appropriately labeled tab in this document.

2. Characteristic Hazardous Waste:

Four categories of chemical wastes that under certain conditions or concentrations possess hazardous properties that are subject to hazardous waste regulations.

These characteristic properties are:

- Ignitability (EPA waste code D001)
- Corrosivity (EPA waste code D002)
- Reactivity (EPA waste code D003)
- Toxicity (EPA waste code D004)

(see chart on next page)

3. State Regulated Hazardous Waste:

Many states choose to regulate additional materials not covered in the Federal regulations. New York State regulates Polychlorinated Biphenyls (PCBs).

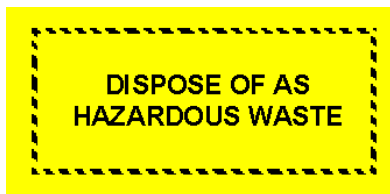
PCBs and PCB contaminated materials are regulated by the DEC as hazardous waste. PCBs and all waste chemicals and contaminated debris containing 50 PPM (parts per million) or greater of PCBs are a New York State listed hazardous waste. Oils in or from electrical equipment whose PCB concentration is unknown or not otherwise clearly marked as “No PCBs”, must be assumed to contain between 50 and 500 ppm of PCBs and must be disposed of through the hazardous waste management program.

Due to the high cost for disposal of PCB waste, it is very important to keep PCB waste clearly identified and separated from other wastes. If PCB waste is added to a container of non-PCB waste, the resulting mixture will have to be treated as PCB waste. Please make every attempt to minimize the amount of PCB waste that you generate.

4. NYSCC-Ceramic Art Hazardous Waste:

The division of Ceramic Art has developed a system which identifies materials that require hazardous waste disposal.

All materials stocked by the Claystore that are regulated by federal, state, or local agencies are labeled with this yellow sticker.



This sticker is also applied to mixtures containing these regulated materials.

Link to EH&S Website: <http://our.alfred.edu/index.cfm/fuseaction/ehs.first.cfm>
EH&S: Rev. 4/01/09