# Hazardous Waste

The first step in the disposal of chemical waste is the determination of whether or not it is indeed a hazardous waste. The Environmental Protection Agency (EPA) has instituted waste lists and/or characteristics that can assist in the determination of hazardous waste. You should never place any waste chemical in the trash or dump it down the drain unless you know that it is not a hazardous waste and that it is acceptable for disposal through such means. Introduction of any hazardous chemical into a storm sewer is prohibited.

### **Hazardous Waste Identification**

## Hazardous Waste Characteristics

Ignitability:

- It is a liquid with a flashpoint below 140°F (e.g.: acetone or gasoline), or
- It is not a liquid and is capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes (e.g.: sodium), or
- It is a compressed ignitable gas (e.g.: acetylene or propane), or
- It is an Oxidizer (e.g.: ammonium nitrate or sodium perchlorate).

Corrosivity:

- It is an aqueous waste with a pH less than or equal to 2 or greater than or equal to 12.5 (e.g.: hydrochloric acid or sodium hydroxide), or
- It is a liquid that corrodes steel at a rate greater than 6.35mm per year (e.g.: stannic chloride or elemental mercury).

Reactivity:

- It is normally unstable and readily undergoes violent changes (e.g.: butyllithium), or
- Reacts violently with water to evolve flammable or toxic gases (e.g.: potassium or lithium), or
- It is a cyanide or sulfide compound (e.g.: nickel cyanide or sodium sulfide), or
- It is capable of detonation (e.g.: 2,4-Dinitrophenol or TNT).

Toxicity:

Any waste which contains a contaminant from the "TCLP" list above its specified limit. The contaminants are:

Arsenic Barium Benzene Cadmium Carbon Tetrachloride Chlordane Chlorobenzene Chloroform Chromium o-Cresol m-Cresol	2,4-D 1,4-Dichlorobenzene 1,2-Dichloroethane 1,1-Dichloroethylene 2,4-Dinitrotoluene Endrin Heptachlor (and its epoxide) Hexachlorobenzene Hexachlorobutadiene Hexachloroethane Lead	Methoxychlor Methyl Ethyl Ketone Nitrobenzene Pentachlorophenol Pyridine Selenium Silver Tetrachloroethylene Toxaphene Trichloroethylene
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p-Cresol	Lindane	2,4,5-Trichlorophenol
Cresol	Mercury	2,4,6-Trichlorophenol
		2,4,5-TP (Silvex)
		Vinyl Chloride
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## Listed Hazardous Wastes

There are four different lists depending on the type of waste produced. For a more complete listing <u>view</u> the regulation.

F List: These are spent wastes generated from non-specific sources (e.g.: spent non-halogenated or halogenated solvents).

K List: These are spent wastes generated from specific sources (e.g.: distillation bottoms from the production of acetaldehyde from ethylene). Typically not produced at FSU.

P List: These are acutely hazardous unused chemicals. These chemicals are typically highly toxic. (e.g.: osmium tetroxide or phosgene).

U List: These are unused hazardous chemicals (e.g.: cacodylic acid or phenol).

#### **Chemical Waste Containers**

FSU has the following requirements for chemical waste containers in accordance with Florida Statutes under the Department of Environmental Protection (DEP) and FSU policy:

- Labeling: All chemical containers must be properly labeled. Hazardous waste containers must be marked with the words <u>Hazardous Waste</u> and the chemical and/or chemicals in question. In addition, all labels should have an accumulation start date so staff know how long containers have been in service.
- Packaging: The chemical waste container must have a cap in place at all times, except when actively filling or discharging the bottle or can. For particularly hazardous chemicals, place the primary, chemical container into a secondary container for additional protection. Flip-top funnel waste containers must be latched closed.
- Storage: The chemical waste must be properly packaged, stored and labeled in a location specified for "Hazardous Waste."
- Hazardous waste that is not properly packaged and labeled cannot be removed by EH&S.

#### **Chemical Waste Disposal and Pickups**

Chemical waste pickups can be scheduled <u>online</u> (FSUID Required) or by calling 644-7682.

#### **Waste Reduction**

By law, the University is required to strive to reduce the amount of hazardous waste it generates; therefore, University departments should take the following measures:

- Buy only those amounts of hazardous materials that can be used before the expiration date of the material.
- Use up the hazardous material by using it for the purpose for which it is intended.

• Determine if someone else in the department has a legitimate need for, and can use, the product.