The Hazardous Waste Determination: Is my chemical waste a '**hazardous waste**'?

The process for determining if your chemical waste is a 'hazardous waste' is called a *waste determination*. Waste determinations can be made in one of two ways:

1) Through collecting a sample of the waste and sending it for analysis, or
2) Exercising knowledge of the chemical and processes which generated it to determine whether or not it is a hazardous waste. MSDS sheets are useful in these determinations.

For laboratory operations it usually possible to use chemical and process knowledge to make an accurate waste determination. Contact EHS for help in making waste determinations.

Test #1: Characteristic Hazardous Wastes

Your chemical waste is a hazardous waste if it exhibits any of the following characteristics:

IGNITABILE

- Liquids with flash point < or = 140 F
- Solids which can ignite via friction or reaction
- Flammable gases
- Strong oxidizers

Examples:
Alcohols, solvents, stains and mixtures containing these materials

CORROSIVE

Liquids with a pH:
≤ 2.0
≥ 12.5

Examples:
Acids and bases

REACTIVE

- Unstable materials
- Reacts violently with water or air
- Cyanide or sulfide which can generate toxic gases.

Examples:
Alkali metals, silanes, azide compounds, sodium cyanide

TOXIC

- Wastes bearing the metals:

Arsenic	Lead
Barium	Mercury
Cadmium	Selenium
Chromium	Silver

- Halogenated organics
- Oil

Examples:
Hg-preserved antibodies, chloroform, vacuum pump oil, photo fixer

Test #2: Listed Hazardous Wastes

Your chemical waste is a hazardous waste if it exists on a state or federal list of hazardous wastes:

F List: The 'F List' consists of chemicals from non-specific sources. For our purposes it's mostly mixtures containing 10% or more (before use) of halogenated and non-halogenated solvents such as: *trichloro-ethylene, methylene chloride, carbon tetrachloride, chlorobenzene, xylene, acetone, ethyl acetate, ethyle benzene, methanol, ethyl ether, cresols, nitrobenzene, toluene, MEK, carbon disulfide, pyridine, benzene...*

U List: Only applies to chemicals that are 1) unused and 2) sole active ingredients. We don't often generate U-listed materials because we don't often generate wastes that are 'unused'.

P List: The P-list is for 'acutely hazardous' chemical wastes. It is important because if a chemical is on the P-list both the waste chemical AND the **empty container** must be collected as hazardous waste. Some common examples of P-listed wastes are: *sodium azide, acrolein, oxides of arsenic, benzyl chloride, carbon disulfide, nicotine, nitroglycerin, phenylthiocarbamide, proprionitrile...*

Remember:

- Treating hazardous wastes to render them non-hazardous is NOT an option (dilution, neutralization, etc.)
- Mixing hazardous waste chemicals with other materials results in the entire mixture becoming hazardous waste
- Any time a hazardous waste is spilled, all disposable materials (pads, towels, gloves, etc.) used in the cleanup process become hazardous waste.

This guide is intended as a quick reference. Contact EHS for more complete information.

CRC: 353-4094 BUMC: 638-8830 WEB: http://www.bu.edu/ehs