

## **VI. Waste Handling, Labeling, and Storage Requirements**

If you determine, from the information in the previous section, that you do have a hazardous waste, the following handling, labeling, and storage requirements apply:

Specific requirements for the proper handling and storage of hazardous waste are set forth by the EPA and TCEQ.

The following procedures will ensure compliance with the regulations related to proper labeling and storage of hazardous waste:

### **A. Waste Containers**

Containers used to store waste should be in good condition free from leaks or cracks with securely closed lids. The containers must be compatible with the type of waste being stored to prevent deterioration and leaks.

If a waste container begins to leak, the generator must transfer the waste into a container that is in good condition or overpack the container into a larger container with an absorbent material.

Below are the waste container labeling and storage guidelines for all hazardous waste containers:

1. All hazardous waste containers must be clearly marked with the words “HAZARDOUS WASTE” with a detailed description of the contents. Remove or cover any old labels on the container. Hazardous waste labels are on file with the SFA Printing Services (phone: 468-1796) and are the preferred method of labeling waste containers. Contact Printing Services to order “Hazardous Waste” labels for your laboratory or work area.
2. Write a description of the contents on the label. A chemical mixture may be expressed as the actual volume (in mL) of each chemical in the mixture or as a percentage of each chemical making up the waste (totaling 100%). Also include any water or solvents that makeup the waste mixture.
3. Once the container is full or no longer being used to add waste, write in the accumulation start date. Containers still being used to add waste are considered “active waste containers” and should not be dated with an accumulation start date.
4. Waste containers should be kept at or near the source of waste generation (in the lab or work area) and controlled from unauthorized access.

- Keep waste containers closed at all times except when waste is being added. Caps or lids on waste containers must close securely to prevent leakage if the container is tipped over.



**Examples of Improper Container Capping**

## B. Waste Accumulation Areas

Waste Accumulation Areas are designated storage rooms or other restricted areas where hazardous and other regulated wastes are properly stored until they are picked up by EHSRM staff for final disposal by an approved hazardous waste disposal contractor. The following requirements for waste accumulation areas must be met:

- Designated waste accumulation areas should be identified for each laboratory or work area on campus and access restricted to only those people who are authorized to collect and manage waste. The waste accumulation area may be in the lab/work area or in a nearby room designated as a waste storage area.
- A generator may store up to 55 gallons of hazardous waste or one quart of acutely hazardous waste on-site (see *Appendix C* on page 30, EPA's "P" List of Acutely Hazardous Chemicals). Notify EHSRM for pick-up at least one week prior to reaching these limits.
- Segregate wastes and store compatible or similar wastes together.
- Store waste in appropriate storage areas such as flammable or corrosive storage cabinets.
- Hazardous waste should never be stored in or around drains or sinks.
- The waste storage area should be kept clean and inspected for leaks or spills at least weekly. EHSRM staff inspects waste storage areas monthly, and will notify appropriate personnel of any violations or safety concerns.
- Waste must never be left in a hallway or any other area where it could endanger personnel, facility safety, or the environment.
- Do not mix incompatible wastes. Examples of incompatible chemicals are provided in the table below.

## C. Examples of Incompatible Chemicals

<b>Chemical</b>	<b>Incompatible with</b>
<b>acetic acid</b>	chromic acid, nitric acid, perchloric acid, peroxides, permanganates
<b>acetic anhydride</b>	Hydroxyl-containing compounds such as ethylene glycol and perchloric acid
<b>acetylene</b>	chlorine, bromine, copper, fluorine, silver, mercury
<b>acetone</b>	concentrated nitric and sulfuric acid mixtures
<b>alkali and alkaline earth metals</b>	water, carbon tetrachloride or other chlorinated hydrocarbons, carbon dioxide, halogens

<b>ammonia (anhydrous)</b>	mercury, chlorine, calcium hypochlorite, iodine, bromine, hydrofluoric acid (anhydrous)
<b>ammonium nitrate</b>	acids, powdered metals, flammable liquids, chlorates, nitrates, sulfur, finely divided organic or combustible materials
<b>aniline</b>	nitric acid, hydrogen peroxide
<b>arsenical materials</b>	any reducing agent
<b>azides</b>	acids
<b>bromine</b>	see chlorine
<b>calcium oxide</b>	water
<b>carbon (activated)</b>	calcium hypochlorite, all oxidizing agents
<b>carbon tetrachloride</b>	sodium
<b>chlorates</b>	ammonium salts, acids, powdered metals, sulfur, finely divided organic or combustible materials
<b>chromic acid and chromium trioxide</b>	acetic acid, naphthalene, camphor, glycerol, alcohol, flammable liquids in general
<b>chlorine</b>	ammonia, acetylene, butadiene, butane, methane, propane or other petroleum gases, hydrogen, sodium carbide, benzene, finely divided metals, turpentine
<b>chlorine dioxide</b>	ammonia, methane, phosphine, hydrogen sulfide
<b>copper</b>	acetylene, hydrogen peroxide
<b>cumene hydroperoxide</b>	acids (organic and inorganic)
<b>cyanides</b>	acids
<b>flammable liquids</b>	ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, halogens
<b>fluorine</b>	everything
<b>hydrazine</b>	hydrogen peroxide, nitric acid, any other oxidant
<b>hydrocarbons (e.g., propane, butane, benzene)</b>	fluorine, chlorine, bromine, chromic acid, sodium peroxide
<b>hydrocyanic acid</b>	nitric acid, alkali
<b>hydrofluoric acid (aqueous or anhydrous)</b>	ammonia (aqueous or anhydrous)
<b>hydrogen peroxide</b>	copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, combustible materials
<b>hydrogen sulfide</b>	fuming nitric acid, oxidizing gases

<b>hypochlorites</b>	acids, activated carbon
<b>iodine</b>	acetylene, ammonia (aqueous or anhydrous), hydrogen
<b>mercury</b>	acetylene, fulminic acid, ammonia
<b>nitrates</b>	sulfuric acid
<b>nitric acid (concentrated)</b>	acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, flammable liquids, flammable gases, copper, brass, any heavy metals
<b>nitrites</b>	acids
<b>nitroparaffins</b>	inorganic bases, amines
<b>oxalic acid</b>	silver, mercury
<b>oxygen</b>	oils, grease, hydrogen, flammable liquids, solids, or gases
<b>perchloric acid</b>	acetic anhydride, bismuth and its alloys, alcohol, paper, wood, grease, oils
<b>peroxides, organic</b>	acids (organic or mineral), avoid friction, store cold
<b>phosphorus (white)</b>	air, oxygen, alkalis, reducing agents
<b>phosphorus pentoxide</b>	alcohols, strong bases, water
<b>potassium</b>	carbon tetrachloride, carbon dioxide, water
<b>potassium chlorate</b>	sulfuric and other acids
<b>potassium perchlorate (also see chlorates)</b>	sulfuric and other acids
<b>potassium permanganate</b>	glycerol, ethylene glycol, benzaldehyde, sulfuric acid
<b>selenides</b>	reducing agents
<b>silver and silver salts</b>	acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid
<b>sodium</b>	carbon tetrachloride, carbon dioxide, water
<b>sodium nitrite</b>	ammonium nitrate and other ammonium salts
<b>sodium peroxide</b>	ethanol and methanol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerin, ethylene glycol, ethyl acetate, methyl acetate, furfural
<b>sulfides</b>	acids
<b>sulfuric acid</b>	potassium chlorate, potassium perchlorate, potassium permanganate (and similar compounds of light metals such as sodium, lithium)
<b>tellurides</b>	reducing agents