Hazardous Waste Guidelines

What is a Hazardous Chemical Waste?

- Federal and State regulations define hazardous waste as a substance that poses a hazard to human health or the environment when improperly managed. A chemical waste is considered hazardous if it is either listed on one of the lists of hazardous wastes found in the Federal or State regulations, or exhibits one or more of the four characteristics listed below.

- Check the Hazardous Waste Chemical List [1].
  - If your waste is on this list, treat it as a hazardous chemical waste.
  - If your waste is not on the list, determine if it meets any of the four characteristics listed below.
  - If your waste meets any of the four characteristics, it is a hazardous chemical waste.

- Hazardous chemicals that are stored in containers that are unlabeled or mislabeled, in poor condition, or abandoned are also considered hazardous waste.

- Used lubricating oil must be managed as a hazardous waste.

- Engineered nanomaterials such as nanotubes, nanorods, nanowires, quantum dots, etc. must be managed as a hazardous waste unless the waste determination shows it to be non-hazardous.

- Contact EH&S regarding low concentration wastes or chemicals when you are unsure of the properties.

Characteristics:

- Ignitable
  - Flashpoint <140 degrees F
  - Capable of causing fire at standard temperature and pressure through friction, absorption of moisture, or spontaneous chemical changes
  - Is an ignitable compressed gas
  - Is an oxidizer

- Corrosive
  - Liquid with pH less than or equal to 2 or greater than or equal to 12.5
Solid that has pH less than or equal to 2 or greater than or equal to 12.5 when mixed with equal weight of water

**Reactivity**
- Normally unstable and readily undergoes violent change
- Reacts violently with water
- Forms potentially explosive mixtures with water
- Forms toxic gases, vapors, or fumes when mixed with water
- Is a cyanide- or sulfide-bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes
- Is capable of detonation or explosive decomposition if subjected to a strong initiating source or heated under confinement
- Is readily capable of detonation or reaction at standard temperature and pressure

**Toxicity**
- Has an acute oral LD50 less than 2,500 mg/kg
- Has an acute dermal LD50 less than 4,300 mg/kg
- Has an acute inhalation LC50 less than 10,000 ppm as a gas or vapor
- Has an acute aquatic 96-hour LC50 less than 500 mg/l
- Has been shown through experience or testing to pose a hazard to human health or environment because of its carcinogenicity (carcinogen, mutagen, teratogen), acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment

**Hazardous Waste Labeling:**
Labels must be placed on the hazardous waste container upon the start of accumulation. Please note: A PLASTIC ENVELOPE IS NOT REQUIRED AT UC DAVIS. Taping the label to the waste container is sufficient, provided that the barcodes and waste information are not obstructed.

- **Hazardous Waste Label** [2]

**INSTRUCTIONS:**

1. ¾ fold Hazardous Waste Tag and insert into plastic **Hazardous Waste** envelope (available from EHS).

2. Affix Tag to waste container **BEFORE** putting waste into container.

3. Making sure the waste information is facing out, attach tag to container of waste with envelope adhesive or other appropriate method.

**KEY POINTS:**

- Always keep the container closed when not in use.
- Always keep the container in secondary containment
- Do not contaminate the outside of the container. If you do, wipe it off and dispose of the wipes as hazardous waste
- Do not air evaporate, sewer, drain dispose, or discard in ordinary trash.

Call 9-1-1 for large spills that may cause injuries or harm the environment.
Hazardous Waste Segregation:

- All hazardous waste must be segregated to prevent incompatible mixtures.
- Segregation can be by hazard class. Hazard class examples include:
  - Flammable, Oxidizer, Pyrophoric, Reactive, Reducer, Acid, Base, and Toxic
- For more information on specific chemical incompatibility, consult a safety data sheet (SDS).

Hazardous Waste Storage:

- Hazardous waste must be transferred to EH&S for disposal within 9 months of being generated.
- Hazardous waste containers must be stored in secondary containment to adequately contain all of the contents of the container.
- Containers must be closed when not in use.
- Hazardous waste that meets the quantity threshold of 55 gallons of hazardous waste or 1 quart of Acutely/Extremely Hazardous Waste [3] must be transferred to EH&S for disposal within 3 days of reaching these set volumes.
- Report damaged containers to EH&S. EH&S can provide on transfer of the contents from the damaged container to an appropriate container.
- Containers should be inspected weekly for signs of leaks, corrosion, or deterioration.
- Do not dispose of chemicals by pouring them down the drain or placing them in the trash.
- Do not use fume hoods to evaporate chemicals.

Empty Hazardous Material Container Management:

- At no time should full or partially full containers be placed in the trash.
- EH&S recommends reusing or recycling empty containers whenever possible. Safety Net #124 provides detailed information on the management of empty containers.
- Any container that held an Acutely or Extremely Hazardous Waste by managed by EH&S.
- Compressed gas cylinders should be returned to the manufacturer whenever possible.
- Lecture bottle and non returnable cylinders must be managed by EH&S.
- Aerosol cans that previously contained hazardous materials must be managed by EH&S

To be considered empty:

- **Liquid container** - no liquid can drain from the container when tilted in any direction.
- **Solid container** - (powder, sludge, grease, thick resin, crystals, etc.) - the walls of the container must be scraped clean and cannot contain any adhered or encrusted materials.
- **Aerosol container** - must have its contents and pressure completely dispensed, the spray mechanism in place and functional.

**Contact**

**Hazardous Waste Management**

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**More information**


**Related content**

1. Guidelines for Completing the Chemical Waste Label
2. Hazardous Waste Management and Minimization
3. Hazardous Waste Storage and Labeling

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