



# Universal Waste Training

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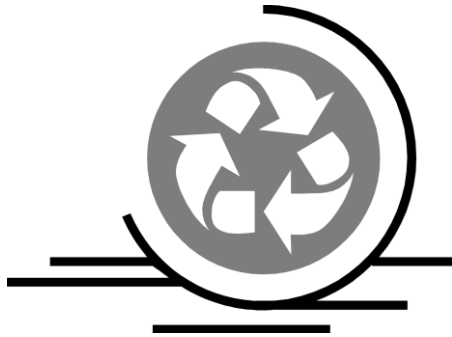
# Universal Waste... What is it?

- Universal wastes are common items such as fluorescent lamps and batteries.
  - They can contain mercury or other toxic metals.
- They are considered hazardous wastes (or likely to be hazardous waste if analytical testing is performed) and are managed under the Universal Waste Rule.
  - 40 CFR 273 (Code of Federal Regulations)

## We manage them because:

- When not disposed of properly, they can end up in regular solid waste streams.
- Can make their way to municipal incinerators and landfills, where the toxic metals can cause environmental contamination since the waste is not treated, recycled, or reclaimed beforehand.

# Universal Waste



The Universal Waste Rule provides alternative management standards for these wastes so that they are not subject to the full range of the hazardous waste regulations.

# Universal Waste

The CTDEEP (Connecticut Department of Energy and Environmental Protection) identifies five categories of Universal Waste:

1. Batteries (Alkaline, Lead Acid, Lithium-Ion, Nickel Cadmium, etc.)
2. Mercury-containing devices (thermostats, hydrometers, thermometers and other mercury-containing equipment)
3. Certain pesticides;
4. Lamps & light ballasts (all light bulbs, including but not limited to fluorescent, neon and mercury vapor lamps, high pressure sodium, HID or High Intensity Discharge lamps)
5. Used electronics.
  - Such equipment often contains heavy-metal bearing circuit components that can cause environmental contamination.

# Universal Waste



All universal waste items (fluorescent lamps, batteries, etc.) cannot accumulate on-site longer than 1 year once it becomes waste.

The handler (generator) must be able to demonstrate compliance:

- **Labeling the containers or individual items with the beginning accumulation date**
- Maintaining inventory and shipping logs is another

# Labeling Requirements

**UNIVERSAL WASTE**

DESCRIPTION Fluorescent Lamps for Recycling  
Disposal per 49 CFR 173.194(a)(1) - Special Rule.

ACCUMULATION START DATE \_\_\_\_\_ SHIP DATE \_\_\_\_\_

GENERATOR NAME University of New Haven

ADDRESS Environmental Health & Safety Department, 300 Soar

CITY Water Haven STATE CT

ZIP 06186 PHONE (203) 930-7000

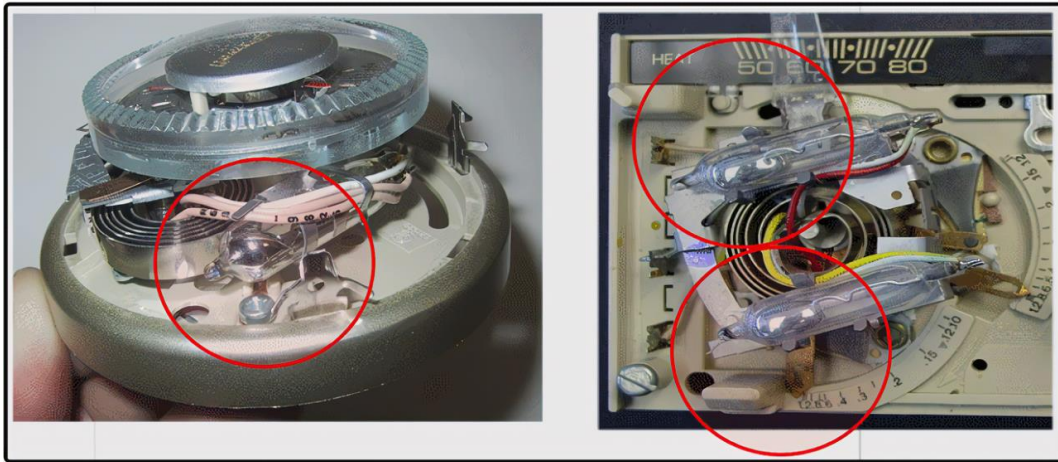
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Universal Waste must be labeled! And must include the following:

- “UNIVERSAL WASTE”
- The type of Universal Waste (i.e. “Lithium Ion Batteries”, “Fluorescent Lamps”, etc.)
- The accumulation start date



# Mercury Containing Devices



- Please label the appropriate drum with the appropriate label, properly filled out with description and accumulation start date when first device is added.
- Place all mercury containing devices in zip lock bag.
- Ensure container is fully closed when you are done.
- If any device is broken, contact Triumvirate. Special clean up requirements are necessary.

# U-Tube Fluorescent Lamps (U-Shaped Bulbs)



- Place in either its original cardboard shipping box, or a fiber drum provided by TEI.
- Place appropriate label, description of contents, and accumulation start date on the box or drum.
- Ensure container is fully closed when you are done.



# Straight Fluorescent Bulbs



- Can come in multiple sizes (either 2ft, 4ft, or 8ft in length)
- Place fully intact bulbs into the drums provided, and separate each size type.
- Please label the drum including the description of contents and accumulation start date of when the first bulb is added.
- Ensure container is fully closed when you are done.

# Compact Fluorescent Bulbs (CFL's)



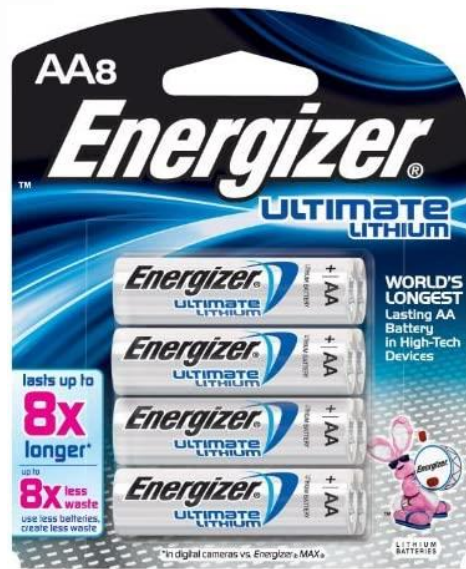
- Place compact fluorescent bulbs into the appropriate drum with the appropriate label, properly filled out with description and accumulation start date when first bulb is added.
- Ensure container is fully closed when you are done.

# Lead Acid Batteries



- Place in the appropriate drum with the appropriate label, properly filled out with description and accumulation start date when first battery is added.
- Ensure container is fully closed when you are done.
- Please make sure to tape off both positive and negative terminals with a non-electrical conductive tape.

# Lithium-Ion or Lithium Metal Batteries



- Keep lithium batteries separated from lithium-ion batteries.
- Place in the appropriate drum with the appropriate label, properly filled out with description and accumulation start date when first battery is added.
- Ensure containers are fully closed when you are done.
- Please make sure to tape off terminals!

# Non-PCB Ballasts



- Place in the appropriate drum with the appropriate label, properly filled out with description and accumulation start date when first ballast is added.
- Ensure container is fully closed when you are done.
- The majority of new ballasts state that they are Non-PCB on the ballast itself. If you do not see this, set aside and contact Triumvirate. These might actually contain PCB's and need to be handled as hazardous waste.

# Universal Waste – Storage Requirements



- Adequate aisle space must be maintained around the containers to allow unobstructed movement of personnel and emergency response equipment.
  - A minimum of 30-inch aisle space is recommended.
  - In the Universal Waste MAA, purple tape on the floor marks the aisle.
- All universal wastes (other than used electronics and dry cell unbroken batteries) must be placed in **closed containers.**



# Broken Bulbs?

- Broken bulbs are no longer able to be managed as universal waste.
- If a bulb breaks, it should be immediately cleaned up and placed into a poly drum instead of a fiber drum.
- You cannot shred, crush, heat or otherwise treat used electronics.
- A hazardous waste determination must be performed to characterize any spill debris.



# Universal Waste Main Accumulation Area



# Universal Waste Main Accumulation Area

- Help us achieve compliance by:
  - Labeling all containers
    - Proper name, accumulation date
- Ensure all waste is in an appropriate **closed** container
- Ensure all batteries requiring taped terminals, are taped (Lithium-ion, Lead Acid)
- Ensuring all waste is segregated by type (i.e. do not mix battery types!)
  - **READ THE LABEL for the universal waste type**
  - **READ THE LABEL on the drum**

# Training Requirements

- A small quantity generator of universal waste must advise proper universal waste management procedures to any and all employees who handle or have responsibility for managing universal waste storage areas.
- The information must describe proper handling and emergency procedures appropriate to the type(s) of universal waste handled at the facility.
- A small quantity handler can accumulate not more than 5000 kilograms 11,000 (pounds) total of universal waste (batteries, pesticides, thermostats, lamps and used electronics collectively) at any time.

# Questions?

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