



THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE

Universal Waste – Annual Generator Training

Office of Environmental Health & Safety

www.uah.edu/OEHS

Special thanks to UWM for sharing training materials

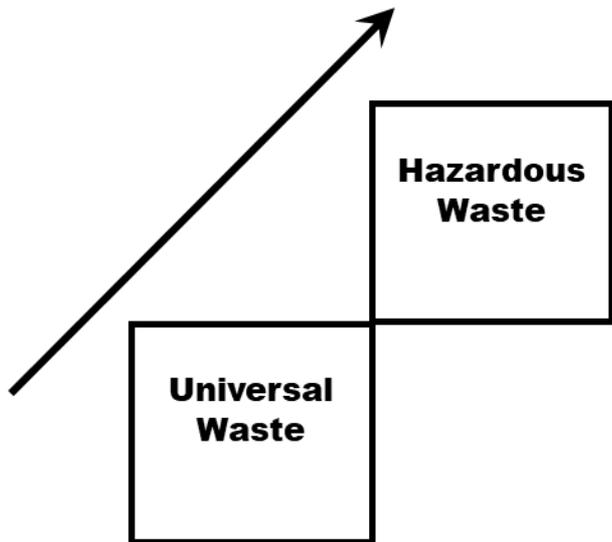
Annual Requirement

- According to Universal Waste Management Standards (ADEM Administrative Code 335-14-11), a small quantity handler of Universal Waste(UAH) shall inform employees of the proper handling and emergency procedures appropriate to the types of waste handled.

What is Universal Waste?

- Universal Waste is a regulatory step below Hazardous Waste

Regulations



- Reduced requirement from hazardous waste management
- Have one year to ship out Universal waste
- Items must be properly marked and dated

Recognizing a Universal Waste

The following items are considered Universal waste:

- Batteries
- Lamps
- Thermostats (mercury-containing equipment)
- Pesticides



Waste Batteries

➤ ***Universal waste batteries include:***

- Nickel-Cadmium (Ni-Cd)
- Nickel Metal Hydride (Ni-MH)
- Lithium and Lithium Ion (Li-ion)
- Lead Acid and Lead Gel Cells

- *UAH recycles all used batteries on campus, except Alkaline. Landfills do accept alkaline batteries, and they should be tossed in the normal trash.*

Waste Batteries

- Tape the terminals of batteries, whenever possible
 - Especially Lithium batteries
 - Prolonged contact between Li batteries will generate heat, and possibly a fire.
- If you notice a damaged or leaking battery
 - Wear appropriate PPE (gloves, glasses)
 - Contain spill to prevent a release to the environment
 - Contact OEHS AT 824-2171

Waste Lamps

Universal Waste Lamps Include:

- Fluorescent
 - Even Green-tipped
- Compact Fluorescent Lamps (CFLs)
- Mercury Vapor
- Metal Halide
- High Pressure Sodium-Vapor
- UV
- Incandescent

Waste Lamps

Can contain:

➤ Elemental Mercury

– Lamps can contain up to 40 milligrams

➤ Lead



➤ Antimony



➤ Cadmium



Green-tipped Lamps

- Most people believe that the mercury content in these lamps are low enough to allow for disposal in the general trash
 - This is NOT Correct!!!
 - You should regard green-tipped lamps as Universal Waste
- UAH collects and recycles all lamps generated on Campus



Safe Handling and Storage

- Wear cut resistant gloves and safety glasses any time you are working with lamps



Safe Handling and Storage

- Place lamps in the proper-sized cardboard box to prevent breakage (remove cardboard dividers from 4 foot boxes)
- Affix the box with a “*Universal Waste Lamp*” sticker



Labeling

➤ Once a used bulb is placed into a box:

- Date the label
- Circle the type of lamp in the box
- Attach label to box
- Ensure box is closed

Universal Waste Lamps	
University of Alabama in Huntsville	
Accumulation Start Date:	
Categories (Circle One):	
Fluorescent Lamps 4 Foot or Less	Shatter-Shield
Fluorescent Lamps >4 Foot	U Tube/Circular Lamps
Compact Fluorescent Lamps	Incandescent Lamps
HID (Sodium, Metal Halide & Mercury Vapor)	Broken Lamps
Attach one label to the end of the box	

Safe Handling and Storage

- Avoid overfilling a box
- Tape ends of the boxes with packing tape – Not duct tape



Safe Handling and Storage

- Never tape lamps together



- Used lamps must be placed and packaged immediately in the Universal Waste Shed at JRC



Safe Handling and Storage

- Lamps can be stored up to **one year**, then must be sent out for recycling
- Boxes on pallets must not be more than 4 boxes high



Broken Lamp Cleanup

- If a lamp breaks:
 - Leave area for a few minutes so vapors can escape
 - Wear gloves and glasses
 - Scoop up glass pieces and powder using stiff cardboard
 - Use duct tape or a wet paper towel to capture any small pieces



Broken Lamp Cleanup

- Do not use a vacuum on hard surfaces
- Place fragments and all other cleanup items into a sturdy, lined cardboard box
- Label box with Universal Waste sticker, and circle “broken lamps” as the contents

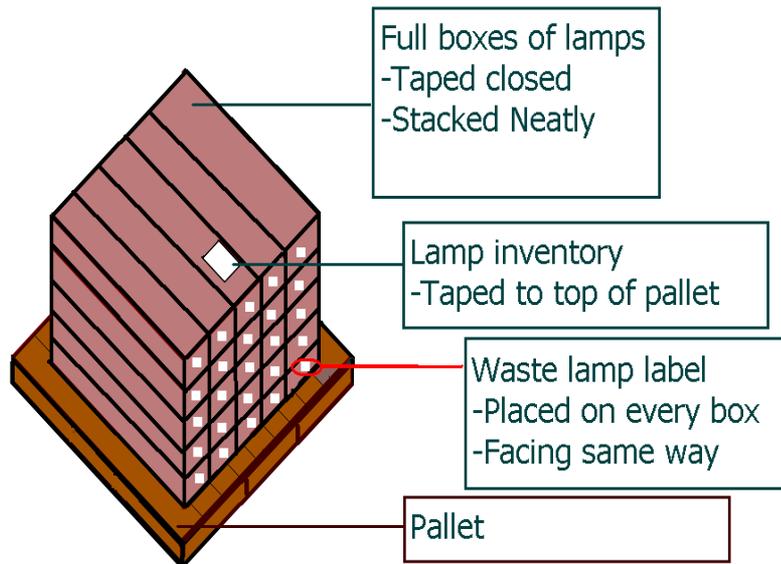


Lamp Housekeeping

- Keep the lamp accumulation area clean and safe
- Have spill/breakage response material nearby
- Close drum holding broken bulbs. If it will not close, contact OEHS.
- Boxes must be closed when not in use
- When the box is full close the lid/top and seal with packing tape



Palletizing Lamps



- No more than 4 boxes high and wide
- Alternate directions on each layer
- Shrink wrap before placing the inventory on top of the pallet

Universal Waste Storage Shed



Thermostats (mercury containing equipment)

- Mercury-containing equipment (MCE) is handled as Universal Waste



Thermostats

(mercury containing equipment)

- Handle MCE carefully to prevent breakage and releases of mercury to the environment
 - Place MCE in a closed, structurally sound, and compatible container
 - Contact OEHS for pickup
- If there is a mercury spill...
 - Secure the contaminated area and contact OEHS immediately

Pesticides

- Recalled and unused pesticide products are managed as Universal Waste
 - Contain product in a closed, structurally sound, compatible container
 - Contact OEHS for a pickup



Acknowledge Training

[Click here to acknowledge receipt of training](#)

If you have any questions contact:

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