

Universal Waste – Annual Generator Training



**University Safety
& Assurances**

Department of University Safety & Assurances

www.safety.uwm.edu



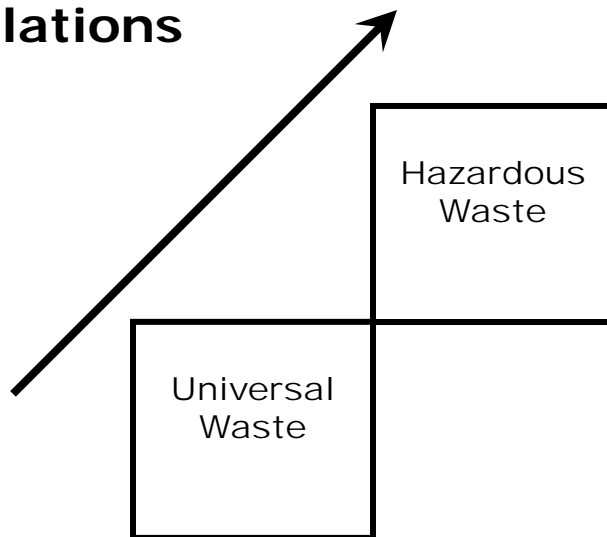
Annual Requirement

According to **Universal Waste Management Standards** (Chapter NR 673.16), a small quantity handler (UWM) of Universal Waste 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 follow 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

UWM recycles all waste batteries on campus, except Alkaline. Landfills do accept alkaline batteries, and they should be tossed in the normal trash.

- 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 US&A

Universal Waste Lamps Include:

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

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**



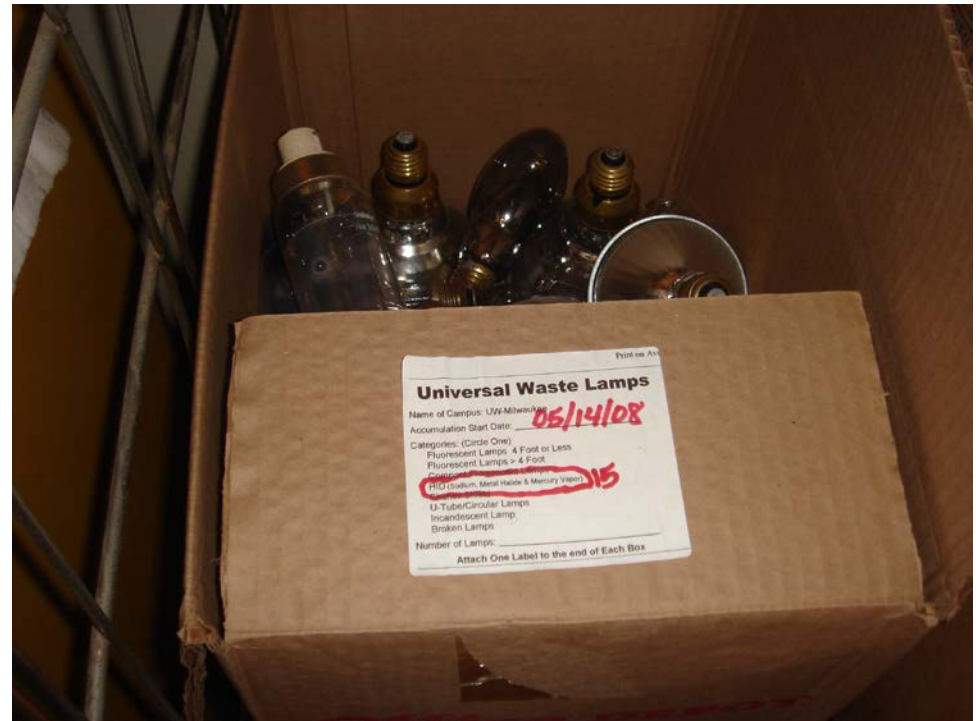
UWM collects and recycles all lamps generated on Campus

Safe Handling and Storage

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



- Place lamps in the proper-sized cardboard box to prevent breakage
- Affix the box with a "Universal Waste Lamp" sticker



Once a used bulb is placed into a box:

- Date label
- Circle the type of lamp in the box
- Keep a tally of the number of lamps in that box
- Total the number of lamps

Universal Waste Lamps

Name of Campus: UW-Milwaukee

Accumulation Start Date:

03/11/2009

Categories: (Circle One)

Fluorescent Lamps 4 Foot or Less

Fluorescent Lamps > 4 Foot

Compact Fluorescent Lamps

HID (Sodium, Metal Halide & Mercury Vapor)

Shatter-Shield

U-Tube/Circular Lamps

Incandescent Lamp

Broken Lamps

Number of Lamps:

5

Attach One Label to the end of Each 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



- Store lamps in a safe place – not in mechanical or electrical rooms



Safe Handling and Storage

- Lamps can be stored for **one year**, then must be sent out for recycling
- Call Stores for a pickup when you have a large accumulation



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



- Keep the lamp accumulation area clean and safe
- Have spill/breakage response material nearby





Universal Waste Accumulation Signs



Universal Waste Accumulation Area

Universal Waste Lamps are stored in this location and picked up by Facility Services on a regular basis.

Accumulation limits for Waste Lamps are 1 year.

Once a used bulb is placed into a box:

- Affix label
- Date label
- Circle the type of lamp in the box
- Keep a tally of the number of lamps in that box
- Total the number of lamps
- Contact Stores for a pickup

Universal Waste Lamps

Name of Campus: UW-Milwaukee
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 Compact Fluorescent Lamps
 HID (Sodium, Metal Halide & Mercury Vapor)
 Shatter-Shield
 U-Tube/Circular Lamps
 Incandescent Lamp
 Broken Lamps
 Number of Lamps: 5

Attach One Label to the end of Each Box

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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 US&A for pickup

If there is a mercury spill...

- Secure the contaminated area and contact US&A **immediately**

Recalled and unused pesticide products are managed as Universal Waste

- Contain product in a closed, structurally sound, compatible container
- Contact US&A for a pickup





Questions?

Please contact US&A if you have any questions or concerns

US&A can be reached through the web at
<http://www.uwm.edu/Dept/EHSRM/>
or by phone at
X4999 or X2883