# The Universal Waste Rule for Lamps
## WAC 173-303-573(5)

Any business that generates dangerous waste must follow the dangerous waste rules, Chapter 173-303 WAC. In Washington State the Universal Waste Rule allows less burdensome management of the following wastes:

- Batteries *(#98-407.a)*
- Thermostats *(#98-407.b)*
- Lamps *(#98-407.c)*
- Mercury-containing equipment *(#98-407.b)*

Businesses have the choice of managing these wastes as universal waste (UW) or dangerous waste. UW requirements for storage, transportation and collection are less stringent.

This publication focuses on the UW requirements for lamps. Publication number 98-407, *The Universal Waste Rule* provides more details on these requirements and the advantages of UW management.

## What types of lamps are considered Universal Waste?

The types of lamps that may be Universal Waste include:

- Fluorescent
- High Intensity Discharge (HID) (e.g., mercury vapor, metal halide, high pressure sodium)
- Compact fluorescent
- Neon[1]
- Any other lamps that are dangerous waste

## How can I tell if my lamps are dangerous waste?

The process of determining if a waste is hazardous is called designation. Through EPA test procedures, lamps have been shown to designate as dangerous waste because of their mercury and/or lead content. A generator has three choices when determining if their spent lamps are a dangerous waste:

1. Assume that their lamps are a dangerous waste;
2. Use manufacturer's information, MSDS and other available information to designate by knowledge;
3. Designate by sampling and testing.

[1] "Neon" lamp manufacturers sometimes use gases other than neon, and lamps have been manufactured that contained up to 600 milligrams of mercury per tube.

Certain "green tip" lamps pass the EPA test and are not dangerous waste. Ask your lamp manufacturer or supplier for product testing information that shows these particular lamps are not a dangerous waste.

Some local governments may have landfill bans on disposal of mercury-containing lamps or other mercury-containing items. Check with your local health department, solid waste agency, or landfill for specific requirements, as well as recycling or disposal options.

## What are the requirements for Universal Waste management of lamps?

Manage Universal Waste lamps the same as the other Universal Wastes, except for a few specific handling requirements. Because glass bulbs are easily broken, Universal Waste rules require specific handling procedures. Universal waste management requirements for lamps include:

**Accumulation start date**:

Both used and unused lamps become waste on the date the handler decides to discard them.

**Accumulation and dating of Universal Waste lamps:**

You can only accumulate lamps for one year from the date they are generated. To document this, the collection container or individual UW lamp is typically marked with the first date of accumulation. An extension to the one year accumulation limit is allowed if the facility needs more time to collect enough items to facilitate proper recovery, treatment, or disposal.

**Labeling and Marking:**

Clearly label or mark individual lamps or containers with one of the following phrases:

- *Universal Waste – Lamps*
- *Waste Lamps*
- *Used Lamps*

**Packaging:**

Contain lamps in structurally sound containers such as cardboard boxes or fiber drums. In addition, keep containers closed when not adding lamps.

**Clean up procedures:**

Immediately clean up broken lamps and store debris in a closed container.

**Large Quantity Handlers[2] of Universal Waste (LQHUW)**

When a handler exceeds 11,000 pounds (or 2,200 pounds for lamps),
they become an LQHUW and are subject to extra requirements, including:

- Notification to Ecology of LQHUW status, and which specific types of UW they manage.
- Tracking type and quantity of universal wastes received and shipped.
- Obtaining a RCRA Site Identification Number.

[2] Handlers are either the original generators of the UW or businesses that receive and consolidate UW from other handlers before shipping to another handler or to a destination facility.

**Lamp crushing prohibited:**
Lamps cannot be crushed under Universal Waste regulations. Lamp crushing is allowed as a dangerous waste treatment-by-generator activity, but not as a Universal Waste option.

**Transporting Universal Waste lamps:**
You may self-transport UW lamps, complying with applicable U.S. Department of Transportation regulations. Refer to Ecology publication number 98-407 "The Universal Waste Rule" for details.

## Does the rule apply to me?

The following types of businesses may generate dangerous waste lamps and can take advantage of the Universal Waste regulations:

- Regulated generators[3] of dangerous waste (Medium Quantity and Large Quantity Generators)
- Businesses that generate or accumulate dangerous waste lamps in regulated quantities (this category may include commercial building/property owners that maintain the lighting for tenants)
- Businesses that provide collection and management services (e.g., lighting contractors)

A dangerous waste generator has the choice of managing lamps as UW or under the more stringent dangerous waste requirements. In most cases UW management is much easier and the preferable alternative to dangerous waste management. Note that businesses that generate and manage dangerous wastes and UWs are considered both a dangerous waste generator and a UW handler. Regardless if you are a generator or a handler, you are liable for ensuring your waste is properly managed once it leaves your site.

## Where do I send them?

Universal wastes may be sent to either another handler (acting as a collection point) or to a destination facility. Another handler could include any business that is already managing UW, government-sponsored collections, or hazardous waste management firms. Businesses that recycle or dispose of UW are called destination facilities. Ultimately, all UW must go to a destination facility. They are subject to dangerous waste regulations for recyclers and hazardous waste disposal facilities. A facility that only accumulates UW would not be a destination facility.

For a list of firms that offer waste management services, visit http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm.

## Why do we care about lamps?

[3] Regulated generators of dangerous waste are those that generate over 220 pounds of dangerous waste per month or batch (or 2.2 pounds of extremely hazardous waste), or accumulate greater than 2,200 pounds of dangerous waste (or 2.2 pounds of extremely hazardous waste) at any time. As a point of reference, 4-four-foot long, linear fluorescent tubes weigh approximately 2.2 pounds. It would take about 400 of those tubes to equal 220 pounds and approximately 4,000 tubes to equal 2,200 pounds.

Nationally, about 680 million lamps are disposed of annually, most to solid waste disposal facilities, including landfills and solid waste incinerators. Fluorescent lamps contain a small amount of mercury which is released when the lamp is broken. During waste handling and disposal, many lamps break, releasing mercury vapor and potentially exposing waste handlers to inhalation of those vapors. Waste incineration (not common in Washington State) of mercury-containing lamps also releases the mercury into the atmosphere. Mercury in the atmosphere is ultimately deposited back to the earth, rivers and lakes. From that point, mercury is then available to enter the food chain and eventually accumulates in fish.

The mercury content in newer fluorescent tubes ranges from 3.5 milligrams to 8 milligrams or more. Some older fluorescent tubes (pre-1999) contain up to 50 milligrams of mercury. HID lamps may contain up to 250 milligrams, depending on the lamp wattage.

Some lamps contain lead in the glass and lead solder in the base. Lead is a toxic metal that may leach from solid waste landfills into the ground water. Manufacturers are eliminating the lead by using non-leaded glass and solders in new lamps.

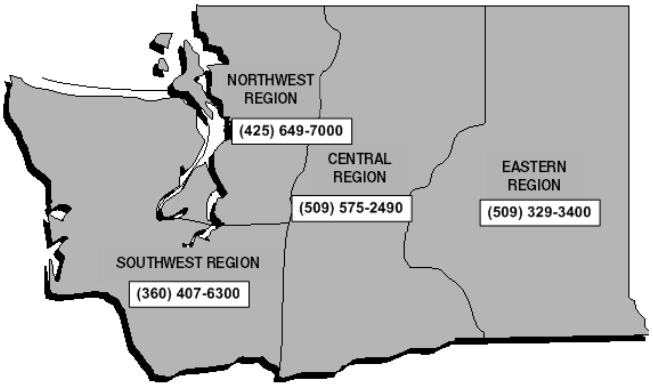
Although fluorescent and HID lamps contain toxic mercury and should be recycled, people are encouraged to continue using them because they use much less electricity and last much longer than other types of lighting. For this reason, fluorescents are a better long-term choice for the environment.

## How do I manage lamps at home?

Homeowners are not required to manage their lamps as Universal Waste. They are strongly encouraged to take them to a local household hazardous waste collection facility or other appropriate recycling alternative, if available.

## For More Information

Questions on this topic may be directed to your nearest regional office Dangerous Waste Specialist.

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