

Universal Waste Fact Sheet – Lamps Management

Managing Universal Waste Lamps

Electrical lights or lamps are essential for modern life. All these lamps must eventually be disposed of, and some are hazardous due to toxic content. Many lamps must be managed as a Universal Waste (UW) at the end of their life cycle because of these hazardous characteristics.

The U.S. Environmental Protection Agency (EPA) finalized the Universal Waste Rule (40 CFR Part 273) to provide a streamlined approach for facilities to collect and manage certain widely generated hazardous wastes. The rule was intended to facilitate environmentally

sound collection and encourage proper recycling and treatment of these wastes. The Alaska Administrative Code (AAC) adopts by reference federal regulations for hazardous and UW.

This fact sheet summarizes UW regulations for lamps, Alaska/EPA's recommendations, and Eielson Air Force Base's (EAFB) requirements for management of fluorescent lamps.

What is a Universal Waste Lamp?

A lamp is the bulb or tube portion of an electric lighting device that is designed to produce radiant energy. It includes, but is not limited to, fluorescent tubular and compact fluorescent lamps (CFL); high intensity discharge; neon; mercury vapor; high pressure sodium; and metal halide lamps.

The use of fluorescent lamps is encouraged because they use about 20 percent – 25 percent less electricity, which in turn reduces mercury and greenhouse gas emissions from power generating stations.

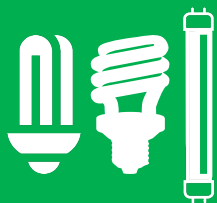
In general, newer fluorescent lamps will typically have less mercury, but mercury is an essential component in fluorescent lamps and cannot be eliminated completely. The amount of mercury in a standard fluorescent lamp varies depending on the type and manufacturer of the lamp, but typically ranges from 8 milligrams (mg) – 14 mg and can possibly be as high as 50 mg with some older lamps. The amount of mercury in a low-mercury bulb (often referred to as “green-tipped” lamps) can range from 3.5 – 4 mg depending on the manufacturer.

An unused mercury-containing lamp becomes a waste on the date the handler decides to discard it. Lamps that have not been discarded or that don't meet the definition of hazardous waste are not considered UW.

Who is Affected by the Universal Waste Rule?

Small and Large Quantity Generators (SQG and LQG) of hazardous waste are required to manage spent lamps under 40 CFR Part 273 or under 40 CFR Part 261. EAFB is designated an SQG and is required to manage UW lamps in accordance with federal regulations. Facilities that generate less than 200 pounds (or 100 kilograms) of hazardous waste in one calendar month, called Very Small Quantity Generators (VSQG), are strongly encouraged to participate in voluntary collection and recycling programs by taking spent lamps to collection centers for recycling or proper treatment and disposal.

Under federal regulations, the Toxicity Characteristic Leaching Procedure (TCLP) determines if a lamp is a hazardous waste. This test measures the leachability of certain metals, including mercury and organic constituents. Lamps that pass the TCLP test for mercury are determined to be non-hazardous and not subject to federal regulation. The amount of mercury in a fluorescent lamp typically exceeds and fails the TCLP limit. Therefore, most lamps would be considered a hazardous waste when disposed. UW is a specific category of hazardous waste. Of note, low-mercury “green-tipped” lamps usually will not fail the TCLP limit for mercury and have the potential to be managed as a solid waste. However, EAFB manages **ALL** waste lamps as UW, including LEDs.



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Household waste is exempt, and spent lamps generated by households are not regulated as hazardous waste. However, households are encouraged to recycle spent lamps. **All non-household facilities at EAFB** are regulated and all waste lamps must be managed as UW.

Waste Lamp Management

Lamps can be managed as hazardous waste (40 CFR Part 262) or as UW (40 CFR Part 273). However, **EAFB manages waste lamps as UW** in accordance with 40 CFR Part 273.

When managing UW, the facility must make a handler status determination for the facility. Less than 5,000 kg on-site is considered a Small Quantity Handler of Universal Waste (SQHUW). It is estimated that 350 four-foot lamps will generate 100 kg of waste. Greater than 5,000 kg results in a status as a Large Quantity Handler of Universal Waste (LQHUW). The number of waste lamps accumulated on site is used as part of this determination. EAFB is designated as a SQHUW.

Location of Waste Lamp Storage

Identify an area in your unit where UW lamps will be stored. This area should be away from high-traffic areas, clean, dry, and free of debris.

Storage of Waste Lamps at the Unit

Waste lamps **must** be stored in a container that is structurally sound and compatible with the contents of the lamp. It must also lack evidence of leakage, spillage, or damage that could cause releases of mercury or container contents.

The container should be stored in such a way that it will not tip over and must be closed unless actively adding or removing UW lamps. The container **must** be labeled or marked with the words “Universal Waste – Lamp(s).” A label with those words can be affixed to, or the words can be written directly on, the container.

Containers holding lamps should not be overfilled or underfilled when stored or transported. Use care when stacking or grouping containers to keep the lamps from being crushed. Do not secure lamps together with tape or rubber bands.

When a lamp breaks, it releases mercury vapors into the air. It is important to clean up and contain the lamp debris immediately. Accidentally broken lamps and their debris can be managed as UW; however, intentionally broken lamps and their debris must be managed as hazardous waste (unless other exemptions apply). Unless you are trained and authorized to break lamps for waste lamp management, **do not intentionally break lamps**.

A handler of UW lamps **must** be able to demonstrate the length of time that the lamps have been accumulated as a waste. Demonstrating accumulation time can be accomplished by:

1. Marking or labeling the container with the **first date a lamp was placed** in the container (EAFB required method), or
2. Maintaining an inventory system on-site that identifies the date each lamp became a waste or the earliest date that a lamp in a group of lamps became a waste (method would require an EAFB exception).

A facility may not accumulate UW for longer than one year. This year limit applies to EAFB and **not** your unit. Units **must** turn in containers when full, or no later than **8 months** after the first lamp was placed in the container, to the Hazardous Waste Facility (Building #4388) on Wednesdays from 0800 – 1100.

For Additional Information

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