



Managing Universal Waste Lamps

In order to provide a streamlined approach for businesses to collect and manage hazardous wastes, the U.S. Environmental Protection Agency (EPA) created the Universal Waste Rule (40 CFR § 273) in 1995. The rule, intended to promote environmentally sound collection and recycling of hazardous wastes, became effective in Arizona in 1996, and mercury-containing waste lamps were added to the list of hazardous materials in 1997.

What is a Universal Waste Lamp?

A “universal waste lamp” is the bulb or tube portion of an electric lighting device that is designed to produce radiant energy, but that also contains mercury or other hazardous materials. Examples of universal waste lamps include, but are not limited to, fluorescent tubular bulbs; compact fluorescent lamps (CFLs); high-intensity discharge bulbs; and neon lights or signs. Bulbs that contain hazardous materials, such as mercury-containing light bulbs, are tested using the Toxicity Characteristic Leaching Procedure (TCLP). The amount of mercury varies depending on the manufacturer and type of lamp, but typically ranges from 1.7mg-15mg per bulb, and can be as high as 50mg in older bulbs. Although widely used for lighting, the amount of mercury contained in a fluorescent lamp typically exceeds the TCLP limit and therefore, is a hazardous waste when disposed. Low mercury, or “green” fluorescent lamps, which will usually pass the TCLP, still contain mercury and should be managed to prevent breakage.

Who is affected by this rule?

According to the Arizona Department of Environmental Quality (ADEQ), lamps can be managed as either a hazardous waste (40 CFR § 262) or as a universal waste (40 CFR § 263). Government entities or businesses that generate more than 100 kilograms (or about 350 four-foot fluorescent lamps) of hazardous waste in one month are considered “large quantity hazardous waste generators” and are required to adhere to the Universal Waste Rule. Entities generating less than 100 kg of hazardous waste are classified as Conditionally Exempt Small Quantity Generators (CESQG), but are strongly encouraged to participate in voluntary collection and recycling programs, as even small amounts of mercury can be hazardous to the health of employees and the public.

How do I manage Universal Waste Lamps?

Employees handling lamps must fully understand the Universal Waste Rule. Lamps should always be handled carefully to prevent breakage, broken lamps must be cleaned up immediately and properly, and spent or broken lamps must be stored and labeled accurately in approved containers.

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Once a lamp is broken, it releases mercury vapors and must be cleaned up immediately. Ensure that your facility is following OSHA, EPA, and ADEQ regulations when managing broken lamps. Fragments and residue from broken lamps must be managed as hazardous waste unless used in a CESQG facility. The EPA recommends that broken lamps be stored in a sealed container, preferably glass or metal. Containers should be removed from the building and stored in a cool place, away from high-traffic areas, in a designated hazardous waste storage area. Containers of broken lamps should *never* be reopened to add or remove materials.

Lamps must be stored in a container that is structurally sound and compatible with the components of the lamp. There should be no evidence of leakage, spillage or damage that may be indicative of or lead to the release of mercury. The container must be labeled with the words "Waste Lamps"; further, the handler must be able to demonstrate the length of time that the lamps have been stored as waste, as hazardous waste may not accumulate for more than one year.

Universal Waste Lamp Disposal

Waste lamps can be disposed of and recycled through regular pickup by hazardous waste transporters, mail-in prepaid boxes offered by a number of retailers, or by dropping off waste lamp receptacles at a disposal facility. Cost, storage space, and transportation safety should be considered when developing a disposal/recycling program for your facility.

For additional information on universal waste lamp management, visit the ADEQ website at www.azdeq.gov, or contact Loss Control Manager Eric Duthie at (602) 368-6503 or eduthie@berkleyrisk.com.

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