

Managing Waste Lamps

Background

This fact sheet provides tips for persons who create or manage wastes from lamps containing hazardous materials. Detailed regulations for managing these wastes are in the federal Code of Federal Regulations (Title 40, Parts 260 and 273) and in Oregon Administrative Rule Chapter 340, Divisions 101 and 113.

Environmental concerns

Fluorescent lamps as well as high-intensity discharge lamps – including mercury vapor, high-pressure sodium and metal halide lamps from businesses – can contain levels of mercury and lead that make them hazardous waste when disposed. Businesses and governments in Oregon discard several million lamps each year, making these lamps the state's largest source of mercury in the solid waste stream.

Mercury and lead are toxic metals that can accumulate in living tissue and cause adverse health effects. When a lamp breaks – either intentionally, during compaction or transport or while sent for incineration – metal vapors and lead- and mercury-contaminated dust enter the environment. This contaminates the air, surface water, groundwater and surface soil.

Mercury lamps

There are five basic approaches in dealing with using lamps containing mercury:

- Purchase lamps that contain amounts of mercury below hazardous waste levels; recycle glass, metal and low-level mercury
- Recycle waste lamps and reclaim the mercury
- Dispose of mercury-containing lamps as hazardous waste
- Dispose of lamps as solid waste in a landfill, if qualified (see below)
- Crush lamps and dispose of them as hazardous waste (see health warning on next page).

Lamp management disposal options

Most businesses have three legal options for disposing of waste lamps: universal waste, hazardous waste and special provisions for conditionally exempt generators.

Universal waste (CFR Title 40, Part 273; OAR Chapter 340, Division 113). Universal wastes are a class of generated wastes which the U.S.

Environmental Protection Agency allows to be managed by alternative standard or “universal waste rule.” Advantages of managing waste lamps under this rule are:

- Universal wastes are not counted toward hazardous waste generator status
- Manifests are not required unless the waste lamps are transported through states or treated or disposed of in states that do not recognize mercury-containing lamps as a universal waste
- Waste lamps may be stored for up to a year, provided the facility tracks them
- Reduced recordkeeping, training and emergency preparedness compared with requirements for small- and large-quantity generators

Handlers of waste lamps managed under the universal waste rule must:

- Manage lamps in a way that prevents releases of the waste to the environment
- Place lamps in containers such as cardboard boxes or fiber drums, which are adequate to prevent breakage
- Keep containers closed
- Label each container with the words “Universal Waste – Lamps,” “Waste Lamps” or “Used Lamps.”
- Immediately clean up broken or damaged lamps
- Store broken lamps in a closed, structurally sound container

Universal waste handlers are prohibited from crushing lamps or diluting them with other wastes. They must send waste lamps to a universal waste destination facility for recycling or disposal.

Hazardous waste (CFR 40, Parts 260-66, 268); OAR 340, Divisions 100-106, 108)

Hazardous waste management requirements include:

- Storing waste lamps in a proper container (to protect lamps from breakage)
- Manifesting and contracting with a registered hauler
- Paying necessary fees
- Completing additional training and emergency planning
- Managing waste to a permitted hazardous waste landfill or recycling facility



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- Filing an annual report quantifying the amount of hazardous waste generated
- Meeting other requirements based on facility status

Conditionally exempt generator status (CFR 40, Part 261.5)

Before a waste generator qualifies as conditionally exempt, it must:

- Generate less than 220 pounds of hazardous waste each month
- Store less than 2,200 pounds of hazardous waste at any one time

Some municipal landfills don't allow disposal of hazardous waste from conditionally exempt generators. Check with your hauler and with DEQ's hazardous waste technical assistance program (contacts below). In this case, conditionally exempt generators should manage this material as a hazardous waste – via recycling or disposal.

Solid waste considerations (OAR 340-102-0011)

To manage waste lamp tubes as a solid waste, the waste cannot exhibit toxic characteristics for mercury or lead. The complete waste characterization must be based on laboratory analysis of lamps of the brand and model being disposed of. Waste lamps that don't exhibit hazardous waste characteristics may be disposed of in the municipal solid waste stream. Recycling is the preferred option.

For more on this, refer to DEQ's Hazardous Waste Determination fact sheet.

Crushing lamps

Universal waste regulations prohibit the crushing of universal waste lamps. Crushing is considered hazardous waste treatment. Applicable hazardous waste management and standards pertain to these generated wastes.

Crushing lamps poses human and environmental risks due to mercury vapor release. Crushing lamps in a drum top crushing unit reduces the waste volume. DEQ does not consider on-site lamp crushing a recycling process, even if the crushed glass is later sent to a recycling facility. This is because recycling involves reclaiming or recovering something of value from a waste. A drum top unit reduces waste volume but does not separate and reclaim the waste as recycling facilities do.

Crushing lamps is allowed if the lamps are managed under hazardous waste regulations or if the waste lamps are determined to be a solid

waste before crushing. If solid waste bulbs are crushed with hazardous waste bulbs, the mixture must be managed as hazardous waste. Lamps must be crushed in commercially available crushing units designed to control mercury emissions.

Lamp collection services

The following is a partial list of firms that offer waste lamp services. DEQ does not endorse specific recyclers or disposal firms.

By providing this list, DEQ doesn't imply that the companies comply with applicable laws. DEQ cautions waste generators to personally evaluate the services and environmental compliance status of any company they use to manage their waste.

- * Waste Management, Tigard, OR, 503-620-2466
- * Northwest Hazmat, Springfield, OR, 541-988-9823
- * Safety-Kleen, Clackamas, OR, 503-655-5798
- * Lighting Resources, Ontario, CA, 800-572-9253
- * Waste-Pro, La Grande, OR, 541-963-5459
- * Total Reclaim, Portland, OR, 503-281-1899
- * AERC, Hayward, CA, 510-429-1129
- * Philips Services Corp., Washougal, WA, 800-547-2436
- * Veolia Environmental Services, Vancouver, WA, 920-574-3699

For technical assistance

If you'd like more direct assistance or need more information, contact the nearest DEQ field office:

- Bend, 541-388-6146
- Medford, 541-776-6010
- Portland, 503-229-5263

You can also check DEQ's web page on hazardous waste technical assistance: www.deq.state.or.us/lq/hw/technicalassistance.htm

Alternative formats

Alternative formats of this document (such as Braille or large type) can be made available. Contact DEQ's Office of Communications and Outreach, Portland, for more information at 503-229-5696, or call toll-free in Oregon at 1-800-452-4011, ext. 5696. Hearing-impaired persons may call 711.