

fact sheet

COMMERCIAL LAMP DISPOSAL 2011

The State of Montana and the Environmental Protection Agency (EPA) consider fluorescent lamps and High Intensity Discharge (HID) lamps Hazardous Waste (HW) when disposed of because of the mercury contained in the lamps. HID lamps are mercury vapor, high pressure sodium, and metal halide.

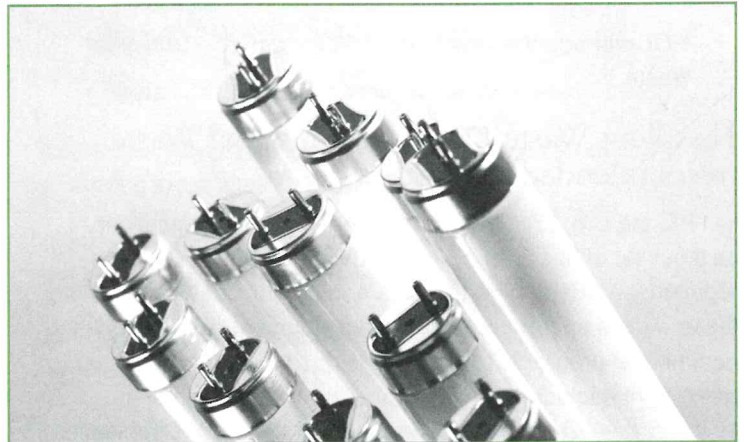
Mercury can accumulate in living tissue and cause adverse health effects. Lamps need to be recycled to keep mercury out of landfills.

During the past several years lamps have been developed that are not considered HW. Manufacturers have made significant mercury reductions in fluorescent lamps since the 1990's.

Some low-mercury lamps can be identified by metal "end caps" (the metal pieces at the end of the linear tube) that are colored green. These are sometimes referred to as "green-tip" or "green cap" lamps. Low-mercury lamps may also be identified by green etchings on the lamps.

Other linear fluorescent lamps may have low mercury content, but not indicated on the lamp or packaging. The best way to determine the mercury content of a fluorescent lamp is to contact the manufacturer. Low mercury (green cap) lamps can be disposed of in a Waste Disposal Facility (WDF) or landfill, providing the WDF will accept them – and not all facilities will accept them. However, the State of Montana and the EPA encourages the recycling of all mercury-containing lamps regardless of their mercury content, and it is the responsible thing to do for the environment.

The rules are somewhat different depending on how much Hazardous Waste (HW) is generated. Fluorescent lamps and HID lamps are examples of Hazardous Wastes (HW). The quantity of HW generated is not per building, but all the HW generated by the entity. As an example, for a school district it is all the HW generated at all the facilities owned and operated by the school district. The generator of the HW is the person or entity that owns the HW and is responsible for appropriate disposal.



Contact the Montana Department of Environmental Quality (DEQ) at 406-444-1435 to determine which substances are hazardous wastes.

1. If the entity generates less than 220 pounds per month of HW (total generation of all HW, including but not limited to lamps and ballasts, by the entity): This category is called "Conditionally exempt small quantity generator of HW".
 - While not required, it is highly recommended all lamps be sent to a credible lamp recycler, which constitutes "Universal Waste" management and exempts the entity from other HW management requirements.
 - Or, send the lamps for disposal to a Waste Disposal Facility (landfill) providing the Waste Disposal Facility will accept the lamps. Check with the waste disposal facility first to see if the lamps will be accepted.
2. If the facility generates between 220 pounds and 2,200 pounds per month of HW (total generation of all HW by the entity): This category is called "Small quantity generator of HW". Lamps may **not** be disposed of in a Waste Disposal Facility (landfill).
 - It is highly recommended all lamps be sent to a credible lamp recycler, which constitutes "Universal Waste" management and exempts the entity from other HW management requirements.

- Or, manage the lamps as a HW instead of a Universal Waste.

3. If the entity generates more than 2,200 pounds per month of HW (total generation of all HW by the entity): This category is called "Large quantity generator of HW". Lamps may **not** be disposed of in a Waste Disposal Facility (landfill).

- It is highly recommended all lamps be sent to a credible lamp recycler, which constitutes "Universal Waste" management and exempts the entity from other HW management requirements.
- Or, manage the lamps as a HW instead of a Universal Waste.

Handling Waste Lamps as Universal Waste (recommended method)

In 1995 the U.S. EPA created "Universal Waste" regulations as a subset of hazardous waste. These regulations ease the regulatory burden on retail stores and others that wish to collect these wastes and encourage the development of municipal and commercial programs to reduce the quantity of these wastes going to municipal solid waste landfills or combustors. In addition, the regulations also ensure that the wastes subject to this system will go to appropriate treatment or recycling facilities pursuant to the full hazardous waste regulatory controls.

In order to be subject to the Universal Waste regulations, rather than the stricter hazardous waste regulations, the wastes must be destined for recycling. The four UW categories are:

1. Hazardous waste batteries other than lead-acid batteries, such as Ni-Cad batteries.
2. Hazardous waste pesticides that are being recalled or are part of a pesticide collection program.
3. Mercury-containing thermostats; and
4. Spent electric lamps that are hazardous due to heavy metal content.

There are numerous advantages in managing waste lamps under the universal waste rule:

- Universal wastes are not counted towards hazardous waste generator status;
- No manifesting is 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;

- Increased storage time available; and
- Reduced administrative requirements for record-keeping, training, and emergency preparedness.

Generators and 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;
- Contain lamps in containers such as cardboard boxes, fiber drums, or other adequate collection/storage container.
- Keep containers closed.
- Minimize lamp breakage and immediately clean up any broken or damaged lamps.
- Store broken lamps in a closed, structurally sound container.
- Universal waste cannot be diluted with other wastes.
- Waste lamps must be sent to a universal waste destination facility for recycling or disposal.
- Each container of waste lamps must be labeled or marked clearly with one of the following phrases: "Universal Waste—Lamps", "Waste Lamps", or "Used Lamps".
- Waste lamps may be accumulated for up to 1 year. Accumulation of universal waste lamps longer than 1 year is permitted if the handler can demonstrate that more time is needed to accumulate the quantities necessary to facilitate proper recovery, treatment or disposal.





Crushing Lamps

Generator may crush or break lamps on site providing that:

- Crushing or breaking is conducted in the final accumulation drum;
- The operation and maintenance of the crushing or breaking unit are performed in accordance with written procedures developed by the manufacturer of the equipment;
- The manufacturer's operating and maintenance instructions are available for inspection;
- An operation and maintenance log book, or similar documentation, is maintained and available for inspection;
- Crushing, breaking, handling, and storage of treated lamps complies with the mercury limits specified in 29 CFR 1910.1000, which refers to worker exposure to air contaminants;
- The management of the lamps complies with the requirements of 40 CFR 273.13(d) and 273.33(d), which refer to containment of the lamps in sound packaging to prevent release of any components of the lamp waste into the environment; and
- Crushed lamps are recycled.

Handling Waste Lamps as Hazardous Waste

Generators of waste lamps may decide, in lieu of the management as universal waste, to manage their waste lamps as hazardous waste. Management of lamps as hazardous waste is more restrictive than under the universal waste rule and, depending on the amount of hazardous waste generated, may:

- Limit the time waste can be accumulated.
- Be subject to hazardous waste generation fees.
- Require additional training, emergency preparedness and contingency plans to be developed.
- Require annual reporting of waste generated.

Additional information about Hazardous Waste can be found by accessing these sites:

Montana DEQ Hazardous Waste Program
<http://deq.mt.gov/HazWaste/default.mcp>

US Environmental Protection Agency
<http://www.epa.gov/osw/hazard/index.htm>

Contact the Montana Department of Environmental Quality (DEQ) at 406-444-1435 for question.

Lamp Ballasts Section

Environmental Concerns: Lamp ballasts manufactured prior to 1978 likely contain polychlorinated biphenyls (PCBs). When released into the environment, PCBs persist for many years and bio-accumulate in organisms. Studies have shown that PCBs cause cancer in animals, and repeated exposure to PCBs has shown adverse reproductive and developmental effects in animals. Exposure to PCBs can cause liver damage, nausea, dizziness, eye irritation, and bronchitis in humans.

Light ballasts are the primary electrical components of fluorescent light fixtures and are generally located within the fixture under a metal cover plate. In older ballasts, a tar-like substance surrounds the components of the ballast that is designed to muffle the noise that is inherent in the operation of these ballasts.

Lamp ballasts manufactured since 1978 that do not contain PCBs should be clearly marked by the manufacturer with the statement "No PCBs". Treat ballasts manufactured prior to 1978, or those that do not contain a statement regarding PCB content, as PCB-containing ballasts. PCB-containing ballasts contain approximately 1 to 1½ ounces of PCBs. If the ballast fails, PCBs may drip out of the fixture. Measures should be taken to limit or avoid personal exposures.

Disposal of ballasts containing PCBs: The best option for non-leaking PCB ballasts is to recycle them at a facility with EPA approval for recycling PCB ballasts – see the list of handlers at the end of this document. Non-leaking PCB ballasts that are not recycled must be managed and disposed at a PCB disposal facility. Leaking PCB ballasts must be managed as PCB waste and disposed in a facility regulated Under the Federal Toxic Substances Control Act (TSCA). Non-PCB ballasts can be either recycled or handled as solid waste. Check with the local metal recycler to determine if they accept ballasts.

Lamp and Ballast Recyclers

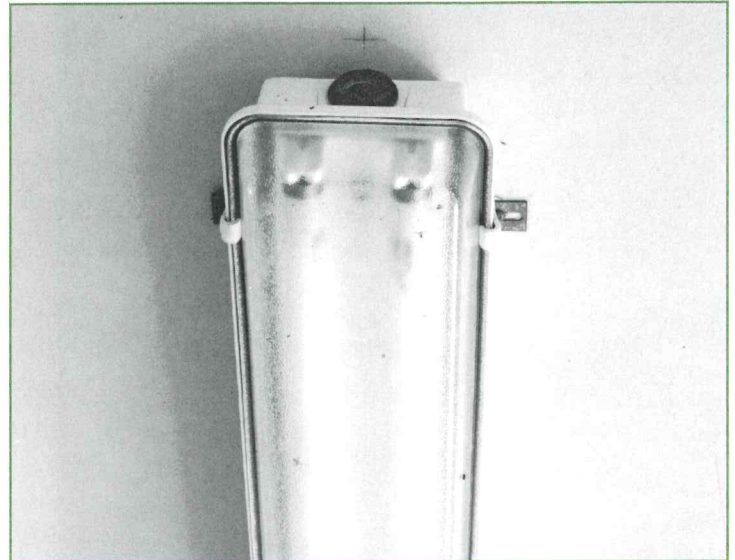
The following is a partial list of firms that offer waste lamp services. DEQ does not endorse specific recyclers or disposal firms. DEQ, by providing the list, does not imply that the companies are in compliance with applicable laws. DEQ cautions generators to personally evaluate the services and compliance status of any company they use to manage their waste.

PETES, Inc
2407 Harve
Missoula, MT 59801
Phone: (800) 310-3086
(406) 543-3086
Fax: (406) 543-3093

Valley Electrical Contracting, Inc.
2820-A Latimor St
Missoula, MT 59808
Phone: (406) 541-4444
Fax: (406) 541-4445

TWO GUYS and a DRUM (LLC)
Fluorescent/HID recycling
298 Brunner Rd
Columbia Falls, MT 59912
Phone: (406) 871-4682

Safety-Kleen Corp-East of the Divide
Troy Morris
3704 Saratoga
Bismarck, ND 58501
Phone: (800) 669-6294



Safety-Kleen Corp-West of the Divide
3808 N Sullivan
Bldg 12, Ste 1 N
Spokane, WA 99206
Nathan Burns
Phone: (800) 669-5902
Phone: (509) 928-8353

Lamp Recyclers of Montana
2226 Elm St
Butte, MT 59701
Phone: (800) 879-3458

A more complete list of UW lamp recyclers can be found at
<http://deq.mt.gov/HazWaste/default.mcpix>

For more information on technical assistance:
Montana Department of Environmental Quality
Energy and Pollution Prevention Bureau
DEQ Hazardous Waste Information
Bob Reinke: 406-444-1435
breinke@mt.gov

Additional information:

<http://deq.mt.gov/HazWaste/default.mcpix>
http://deq.mt.gov/Recycle/Real_Question.mcpix

