

Responsible Management of Mercury-containing Lamps for Businesses, Schools and Government Agencies

Fluorescent lamps are up to five times more efficient than their equivalent in incandescent lighting. This efficiency leads to a reduction in energy consumption, which in turn reduces power plant emissions that contribute to regional air quality problems. Although there are costs associated with managing used fluorescent lamps properly, these costs are relatively small compared to the environmental benefits and the cost savings from using energy efficient lighting.

Which lamps are regulated as hazardous waste?

Most fluorescent, compact fluorescent, high-pressure sodium, mercury vapor and metal halide lamps contain mercury and other metals in sufficient quantities to cause these lamps to exhibit the hazardous waste characteristic of toxicity. Most lighting manufacturers also produce versions of their fluorescent lamps that have been shown not to fail the toxicity test for metals. These toxicity test-compliant lamps are clearly marked with either green end caps or green printing on the tube to make them easy to identify. If your lamps don't have these green markings, and if you have no analytical data to show your lamps are not hazardous waste, then you should assume your lamps exhibit the toxicity characteristic and are regulated as hazardous waste.

How should you manage lighting wastes?

If you have determined that your lighting wastes are hazardous waste, do NOT dispose of them in the trash. You should store the lamps safely until you are able to dispose of them properly. You may choose to manage your lighting wastes under the full requirements of the hazardous waste regulations or under the less restrictive requirements of the universal waste rule, as described here.

Each lamp should be labeled as "Waste Lamp," "Used Lamp" or "Universal Waste Lamp," or the lamps can be put into an accumulation container. If the lamps are placed into a container, only the container needs to be labeled as "Waste Lamps," "Used Lamps" or "Universal Waste Lamps," not the individual lamps within it. The original shipping box that the new lamps came in can often be used to store and ship the used lamps if it is still in good condition.

Crushing of fluorescent lamps is allowed as long as it is done in a sealed container equipped with a filter that is designed to prevent the release of any mercury emissions or dust to the environment. You must develop and implement a written procedure detailing how the lamps will be safely crushed, including the type of equipment to be used, operation and maintenance of the equipment, frequency of filter change out, other precautions that need to be taken to protect your employees, and how all resultant materials will be managed. Before crushing your fluorescent lamps, you should ensure that the recycler you intend to send them to is willing and able to take crushed lamps.

Your employees should be thoroughly familiar with how to manage the lamps, including any crushing activities, and what to do in case of a spill or release. Always have a spill kit or

other material available to help contain and clean up a spill. Spill cleanup materials are available from scientific and safety supply companies.

How can you dispose of your lighting wastes?

Recycling of lighting wastes is the strongly preferred option for managing used fluorescent and other lamps. Since the toxicity test-compliant lamps have been shown by their manufacturers to consistently pass the toxicity test, these lamps can be disposed of in the trash rather than managed as hazardous waste. It should be noted, however, that these lamps still contain measurable amounts of mercury and other metals, so the State recommends that even toxicity test-compliant lamps be recycled.

Since there are no lamp recycling facilities located in Colorado, a few local lighting contractors offer lighting waste consolidation and shipping services in order to make it more economic for smaller facilities to recycle their lamps. Lighting contractors that provide these services can be found in your local yellow pages or on Internet "yellow pages" directories under listings for *lamps* or *lighting*.

Alternatively, you may want to send your lighting wastes directly to an out of state lamp recycler. Information on mail-back lamp recycling programs can be found at <http://www.colorado.gov/cs/Satellite/CDPHE-HM/CBON/1251615961696>.

If you decide not to recycle your hazardous waste lamps, your alternative is to dispose of them as hazardous waste at a permitted Treatment, Storage or Disposal Facility (TSDF). Contact a hazardous waste disposal company for assistance. Companies that provide these services can be found in your local yellow pages or on Internet "yellow pages" directories under listings for *waste disposal - hazardous*. Although these companies may not be listed in your local phone directory, most operate throughout the state. Municipal solid waste landfills in Colorado are not allowed to dispose of any hazardous wastes from non-residential sources.

Where can you go for more information?

For more detailed information on managing lighting wastes, see the Lighting Waste compliance bulletin at <http://www.colorado.gov/cs/Satellite/CDPHE-HM/CBON/1251615961696>. You may also email questions to comments.hmwmd@state.co.us or call the Customer Technical Assistance Line at 303-692-3320 or 1-888-569-1831 ext. 3320 toll-free. Additional information on lighting waste management, the benefits of recycling and a list of lamp recyclers can be found at www.lamprecycle.org.



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This is designed to provide general guidance on the appropriate management of wastes and is not intended to provide a comprehensive analysis of all regulatory requirements.