

# **Guidance for Solid Waste Facility Operators on Handling Products Containing Mercury**

Effective February 2010

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The Massachusetts Mercury Management Act prohibits the disposal of products containing mercury in solid waste. MassDEP regulations that implement this law (310 CMR 74.00, 75.00 & 76.00) specify how end-of-life mercury-added products must be managed:

- End-of-life mercury-added products that are "hazardous waste" must be managed as hazardous waste in accordance with 310 CMR 30.000.
- End-of-life mercury-added products that are "universal waste" must be managed as either hazardous waste in accordance with 310 CMR 30.000 or as universal wastes in accordance with 310 CMR 30.1000.
- End-of-life mercury-added products that are not hazardous waste must be:
  - ✓ Separated from solid waste.
  - ✓ Handled and stored to minimize breakage and release of mercury.
  - ✓ Recycled to reclaim the mercury.

The regulation that specifically addresses the prohibition on disposal of mercury products in solid waste (310 CMR 76.00), which was promulgated in August 2009, establishes procedures for managing these products (See 310 CMR 76.05: Management of End-of-Life Mercury-Added Products). MassDEP has also incorporated references to these management procedures into 310 CMR 19.000, the "Solid Waste Facility Regulations" with new sections of 310 CMR 19.130(37): End-of-Life Mercury-Added Products (for landfills) and 310 CMR 19.207(26): End-of-Life Mercury-Added Products (for handling facilities).

Solid waste facilities will be required to file a permit modification to ensure compliance with the updated regulations. The Department will notify facilities when that permit modification must be submitted. Until this notice is provided, all solid waste facilities must incorporate the procedures established in 310 CMR 76.05 for managing mercury-added products into their O&M plans. This document explains the requirements and provides specific guidance about managing certain common products that contain mercury.

**General Guidance**

Products containing mercury must be separated and stored separately from solid waste and the mercury must be recycled. In order to reduce recycling and disposal costs, solid waste facility staff may separate a component containing mercury (e.g., switches, lamps or batteries) from a larger product, or may choose to recycle the entire product. However, please note that glass ampoules containing mercury removed from products, such as thermostats, must be handled as hazardous waste.

All mercury items set aside at the facility must be sent to a facility that properly manages mercury components.

**MANAGEMENT REQUIREMENTS FOR SOME COMMONLY DISCARDED PRODUCTS THAT CAN CONTAIN MERCURY**

<b>Hazardous Waste</b>	<b>Non-hazardous Waste</b>
<i>These items must be handled as either hazardous waste or as universal waste</i>	<i>These items must be: Separated from solid waste; Handled and stored to minimize breakage and release of mercury; Recycled to reclaim the mercury.</i>
<ul style="list-style-type: none"> <li>• Bilge pumps and sump pumps (some contain mercury switches)</li> <li>• Button batteries</li> <li>• Electrical switches</li> <li>• Sphygmomanometers</li> <li>• Thermometers</li> <li>• Thermostats</li> <li>• Tilt switches and mercury thermocouples removed from appliances / white goods</li> <li>• Neon lamps and some fluorescent lamps, such as 4ft straight tubes, u-tubes, circular</li> </ul>	<ul style="list-style-type: none"> <li>• Green cap fluorescent lamps and low mercury compact fluorescent lamps (CFLs)</li> <li>• Electronic devices with screens that are backlit using a fluorescent lamp, such as:               <ul style="list-style-type: none"> <li>• Flat panel computer monitors</li> <li>• Flat panel TVs</li> <li>• Handheld gaming devices</li> <li>• Portable DVD players</li> </ul> </li> <li>• Some appliances/white goods such as:               <ul style="list-style-type: none"> <li>• Gas ovens with mercury thermocouple</li> <li>• Chest freezers with tilt switches in lid</li> </ul> </li> <li>• Toys containing button cell batteries that are not designed to be removed by the user/parent</li> </ul>
<i>These items must be handled as hazardous waste</i>	
<ul style="list-style-type: none"> <li>• Elemental mercury<sup>1</sup></li> <li>• Glass ampoules of mercury removed from devices</li> </ul>	

<sup>1</sup>Elemental mercury is not covered by the Mercury Management Act or by 310 CMR 76.00 but is mentioned here to remind facilities that it must be managed as hazardous waste when it is discarded.

## Specific Guidance for Common Products

A wide range of products contain mercury. Readily identifiable and recoverable mercury-added products need to be separated for recycling when safe to do so. MassDEP provides guidance on how to manage common mercury-added products below:

- ***Appliances or White Goods (e.g., ovens and chest freezers)*** – Separate these from the load, in accordance with your waste ban plan (since they are already regulated as “white goods”). If the appliance has a mercury switch or thermocouple, remove the device and place it in a Universal Waste bucket or contract with someone to remove the mercury component before the appliance is crushed or shredded at a recycling facility. MassDEP’s web site contains a link for online training about how to recover mercury switches and other devices from appliances:  
<http://www.mass.gov/eea/docs/dep/toxics/stypes/hgapplia.pdf>
- ***Bilge or sump pump*** – if the pump has a tethered float switch, assume it has a mercury switch, clip the switch off and place it in Universal Waste bucket. The motor can be recycled or disposed as trash.
- ***Electronic devices with backlit screens (e.g., laptops and flat panel screens)*** – Separate these devices from the load and contract with an electronics recycler that properly manages the mercury components.
- ***Mercury added lamps (e.g., fluorescent lamps)***

**Individual Broken** – no action required; handle with solid waste

**Individual Intact** –remove if safe to do so and handle as universal waste

**Multiple lamps that are probably from the same generator** – try to find out where the load came from, and contact the MassDEP Mercury Hotline (1-800-963-7287) with as much of the following information as possible: generator name and location, type of truck and/or container, truck number(s), hauler. If the lamps are broken, no separation is required. If lamps are intact, attempt to remove if safe to do so and handle as universal waste.

- ***Products with button cell batteries (e.g., watches, calculators, small flashing toys)*** – when they can be readily identified and retrieved, separate them for recycling
- ***Sphygmomanometer (blood pressure cuff)*** – separate from the load and handle as universal waste
- ***Thermostat*** – remove and handle as universal waste

## **For More Information**

- Mercury recycling facilities in the northeastern United States are listed on MassDEP's web site:  
<http://www.mass.gov/eea/agencies/massdep/toxics/sources/mercury-recycling-companies-serving-massachusetts.html>
- Guidance on handling of universal waste, please refer to the fact sheet on MassDEP's web site:  
<http://www.mass.gov/eea/agencies/massdep/toxics/sources/mercury-recycling-companies-serving-massachusetts.html>
- Guidance on cleaning up mercury spills:  
<http://www.mass.gov/eea/agencies/massdep/toxics/sources/cleaning-up-elemental-mercury-spills.html>
- Guidance on cleaning up broken compact fluorescent light bulbs:  
<http://www.mass.gov/eea/agencies/massdep/toxics/sources/guidance-for-cleaning-up-broken-compact-fluorescent-lig.html>