

Guidance for Conditionally Exempt Recycling Operations on Handling Products Containing Mercury

Effective March 2010

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 (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).

This document explains the requirements and provides specific guidance about managing certain common products that contain mercury. All conditionally exempt recycling operations must incorporate the procedures established in 310 CMR 76.00 for managing mercury-added products into their standard operating procedures.

General Guidance

Products containing mercury must be separated and stored separately from other materials and the mercury must be recycled. In order to reduce recycling and disposal costs, conditionally exempt recycling 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**

Hazardous Waste	Non-Hazardous Waste
<p><i>These items must be handled as either hazardous waste or as universal waste.</i></p>	<p><i>These items must be: Separated; Handled and stored to minimize breakage and release of mercury; Recycled to reclaim the mercury.</i></p>
<ul style="list-style-type: none"> • Bilge pumps and sump pumps (some contain mercury switches) • Button batteries • Electrical switches • Sphygmomanometers • Thermometers • Thermostats • Tilt switches and mercury thermocouples removed from appliances / white goods • Neon lamps and some fluorescent lamps, such as 4ft straight tubes, u-tubes, circular <p align="center"><i>These items must be handled as hazardous waste.</i></p>	<ul style="list-style-type: none"> • Green cap fluorescent lamps and low mercury compact fluorescent lamps (CFLs) • Electronic devices with screens that are backlit using a fluorescent lamp, such as: <ul style="list-style-type: none"> • Flat panel computer monitors • Flat panel TVs • Handheld gaming devices • Portable DVD players • Some appliances/white goods such as: <ul style="list-style-type: none"> • Gas ovens with mercury thermocouple • Chest freezers with tilt switches in lid
<ul style="list-style-type: none"> • Elemental mercury¹ • Glass ampoules of mercury removed from devices 	<ul style="list-style-type: none"> • Toys containing button cell batteries that are not designed to be removed by the user/parent

¹Elemental 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)** – If the appliance has a mercury switch or thermocouple, remove the device and place it in a Universal Waste bucket, or contract with someone who will remove the mercury added component before it is crushed or shredded at a recycling facility.
- **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)**

Broken – direct residents with a broken lamp to the MassDEP guidance on cleaning up broken lamps (link below), and to dispose of the broken lamp with solid waste. Once the lamp is accepted at a conditionally exempt recycling operation it must be managed as universal waste. If a mercury-added lamp breaks on site, ventilate any indoor area and follow the clean up guidance and manage the broken lamp as universal waste.

Intact – place in Universal Waste container for recycling (including your facility's own fluorescent lamps)

- **Products containing button cell batteries as its only mercury-added component**
 - Removable (e.g., small electronic game or toy)**– remove button battery and put the battery in container for recycling. The rest of the product can be handled as solid waste.
 - Irremovable (e.g., flashing toy or novelty)** – Facility operators can choose not to accept these products; however, if these products are accepted at the facility they will need to be separated for recycling. By definition, an irremovable button battery is one that is not intended to be replaced by the product user. However, for some products it is possible to separate the battery from the product and recycle the battery. Some products will be covered by a manufacturer's collection plan.
- **Sphygmomanometer (blood pressure cuff)** - place in Universal Waste bucket.
- **Thermostat** – place in Thermostat Recycling Corporation (TRC) box or in Universal Waste bucket.

For More Information

- Mercury recycling facilities in the northeastern United States are listed on MassDEP's web site:
www.mass.gov/dep/toxics/stypes/hgcycle.htm
- Guidance on handling of universal waste, please refer to the fact sheet on MassDEP's web site:
www.mass.gov/dep/recycle/hazardous/univrule.doc or
www.mass.gov/dep/recycle/hazardous/univrule.pdf
- Guidance on cleaning up mercury spills:
www.mass.gov/dep/toxics/stypes/spill.htm
- Guidance on cleaning up broken compact fluorescent light bulbs:
www.mass.gov/dep/toxics/stypes/brkncfls.htm