



Mercury-Containing Equipment

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Mercury Overview

Mercury is found in thermostats, position sensors, relays and switches (e.g., on printed circuit boards), discharge lamps, and batteries. It is also used in medical equipment, data transmission, telecommunications, and cell phones. When mercury makes its way into waterways, it is transformed into methylated mercury in the sediments. Methylated mercury accumulates in living organisms and travels up the food chain. Methylated mercury can cause brain damage. The principal exposure pathway is through our food.

Adapted from EPA's e-Cycling website

<http://www.epa.gov/epawaste/conservel/materials/ecycling/faq.htm>

Mercury-Containing Equipment

On August 5, 2005, the U.S. Environmental Protection Agency (EPA) added mercury containing equipment (MCE) to the list of "universal waste" allowing for streamlined waste management procedures. MCE is defined as equipment that contains elemental mercury integral to its function. Mercury thermostats were previously categorized as universal waste, though this does not change, they are now a subset of MCE rather than having separate regulations. Other MCE include: barometers; manometers; temperature and pressure gauges; and mercury switches. Other items designated as universal waste are batteries, pesticides, and lamps. For more information on universal waste, see the GECAP Tech Guides on [batteries](#) and [fluorescent bulbs](#).

Handlers of universal waste have to handle their waste per [40 CFR part 273](#). If handled appropriately, universal waste does not count

towards a business' hazardous waste generator status. Generators of MCE waste must handle it in such a way so as to prevent release of any component into the environment and it must be sent to a permitted hazardous waste facility. Conditionally Exempt Small Quantity Generators (CESQG) and households are not required to comply with universal waste rules but are encouraged to dispose of these wastes properly. All Small Quantity Generators (SQG) and Large Quantity Generators (LQG) are required to follow certain management standards, labeling and marking, accumulation time limits, employee training, response to releases, requirements related to off-site shipments, and export requirements. A business accumulating less than 5,000 kilograms total of universal waste at any time is designated as a "universal waste small quantity handler." A small quantity handler of universal waste is not required to notify EPA of universal waste handling activities, whereas a LQG must provide EPA notice that they are accumulating more than 5,000 kilograms of universal waste and with a list of all the types of universal waste they manage. Other than this difference in notification, the requirements for SQG and LQG are the same.

Handling Requirements for Small and Large Quantity Generators

- The MCE must be placed in a container that will prevent release of mercury into the environment.
- Ampules of mercury can be removed from MCE provided: it is done in a way to prevent breakage of ampules; it is done over a containment device; a mercury clean-up system is in place; releases from breakage are promptly

moved to a proper container; employees are trained to safely perform the ampule removal; the removal process is monitored for OSHA compliance; and ampules are placed in a non-leaking container with sufficient packing material to prevent breakage during transportation.

- Mercury not contained in an ampule can be removed from the original equipment and treated similarly to the ampules provided that the portion containing the mercury is immediately sealed with an air-tight seal. It is the responsibility of the handler to determine whether or not the remaining part of the equipment is contaminated with mercury, and if so then it must be handled as hazardous waste.
- The container holding the MCE and ampules of mercury must be labeled as such “Universal Waste – Mercury-Containing Equipment,” “Waste Mercury-Containing

Equipment,” or “Used Mercury-Containing Equipment.” If the waste is composed entirely of mercury-containing thermostats the following labels are still acceptable: “Universal Waste – Mercury Thermostat(s),” “Waste Mercury Thermostat(s),” or “Used Mercury Thermostat(s).”

For More Information

- See the EPA’s website on mercury-containing equipment (<http://www.epa.gov/osw/hazard/wastetypes/universal/mce.htm>).
- Contact GECAP personnel at 404-407-8082 or send an email to Paige Rohrig at paige.rohrig@gtri.gatech.edu.

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