

Reducing Mercury Pollution

Universal Waste Rule (UWR)

Universal wastes (u wastes) include products with mercury and other widely used polluting substances that have a more significant, detrimental impact on the environment than typical waste materials, but are not as dangerous and risky to handle as hazardous wastes. The Universal Waste Rule (CA Code of Regulations, Title 22, Division 4.5, Chapter 23) refers to the special requirements for handling, transporting and disposing of these wastes.

Small Businesses

Regardless of how small your business or how little hazardous and u wastes it generates, *since February 2006* it must comply with the State of California's *new* UWR for handling fluorescent lamps and other products that contain mercury. Your business *must either recycle universal wastes or dispose of them as a hazardous waste*. Universal waste cannot be dumped in the trash or garbage containers.

Mercury Products

Most of the products listed below are subject to the Universal Waste Rule.

Lamps - Fluorescent lamps (Straight, U-shaped, compact, others), High Intensity Discharge Lamps, Mercury Vapor, Metal Halide, High Pressure Sodium and Neon Signs.

Thermometers, Thermostats, Dental Amalgams, Mercury Batteries, Novelties, and Rubber Flooring in some older gymnasiums.

Switches and Relays – used in automobiles to turn on car hood/trunk lights, anti-lock brakes and airbags; used to activate alarms, motion sensing lights, sump and bilge pumps; and to stop clothes washer spin cycle.

Pressure or Vacuum Gauges - Manometers Barometers, Sphygmomanometers. Primarily used for medical and scientific purposes.

Gas Flow Regulators, Thermostat Probes/Flame Sensors/Gas Safety Valves used to stop or open flow of gas to water heaters, ovens, space heaters and other appliances.

Dilators and Weighted Tubing – Bougie tubes, Canter tubes used in medical procedures.

Counterweights and Dampers - Bow stabilizers for archery, recoil suppressors for shotguns and counterweights for clocks.

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Proper Handling and Disposal of Fluorescent Lamps

The goal of the Alameda Countywide Clean Water Program (ACCWP) is to control discharges of pollutants to municipal storm drain systems and local creeks and the San Francisco Bay.

Municipalities participating in the ACCWP have instituted a business education campaign and inspection program. The ACCWP recommends that businesses *recycle mercury waste, use non- or low-mercury alternatives, and control potential releases of mercury through good business practices*. The tables on the reverse side of this page provide additional information for businesses that generate mercury lamp waste. Property and business owners are responsible for their contractors' practices.

Mercury enters the **environment** through landfill leaching, wastewater treatment facilities or as atmospheric deposition. As atmospheric deposition, mercury mixes with rain and then falls into the Bay and other waterways. According to State water quality officials, in the Bay Area, residents and businesses dispose of approximately 13 million **fluorescent lamps** in landfills each year and cause the release of an estimated 22 -290 lbs./yr of mercury vapor into the atmosphere of the San Francisco Bay Region from crushed and broken lamps.

Health Impacts

Bacteria convert mercury into methyl mercury. Methyl mercury contaminates the food chain and can build up in the tissue of fish and wildlife and finally in humans through the fish we eat. Mercury causes damage to the human brain, spinal cord, kidney and liver. It is especially dangerous during fetal development and to small children.

If you need additional information concerning stormwater pollution and its prevention contact your local program representatives at **(510) 670-5543**.



Alameda Countywide
Clean Water Program
A Consortium of Local Agencies

Alternatives - Low Mercury Fluorescent Lamps

Fluorescent lamps make sense from both an environmental and economic standpoint. Energy consumption of fluorescent bulbs is 50% of standard incandescent lamps and, on average, they last ten times longer. Even though these lamps contain reduced levels of mercury they still must be handled as wastes.

DO use *low-mercury alternatives* with up to 80% less mercury than standard fluorescent lamps.

Philips' "Alto," General Electric's "Ecolux," and Sylvania's "Ecologic" are examples of such products.

Where to Recycle

Recycling costs less and has less government paperwork than hazardous waste disposal.

AERC Recycling Services
Hayward, California
(800) 628-3675, (510) 429-1129
www.aerc-mti.com/

Earth Protection Services Inc.
Ontario, CA
(800) 414-0443
www.earthpro.com/

Lighting Resources Inc.
Ontario, CA
(800) 572-9253
www.lightingresourcesinc.com/

Best Management Practices for Mercury Lamp Waste

Storage

- Store used lamps in impact resistant containers designed to prevent breakage or place containers in sturdy double containers and store in a dry place. Two sources of containers are the manufacturer's box and mercury recycling companies. Packing material around the lamps in addition to the container is not required. A container with no evidence of leakage, damage or spills need not be airtight.
- Label or mark containers "Universal Waste - Lamps" or "Waste Lamps" or "Used Lamps" (CA Universal Waste Rule). Individual recycling companies may want the word mercury included.
- Containers of used lamps should show no evidence of leakage. Lamps showing evidence of leakage, spillage or damage must be placed in a plastic bag and then placed in the container.
- Waste lamps should not be kept for over a year or they may be subject to additional regulatory oversight and paperwork.

Spill Cleanup

- If lamps break, clean up immediately, store broken lamp pieces as well as any spilled powder in a sealed plastic bag, then place in a sealed drum or other closed, structurally sound container. Recycle/dispose of according to uniform waste rules (see below).

Shipping/Documentation (for waste sent to certified recyclers)

- Keep invoices, bills of lading, logs or other shipping records for three years. Record should indicate shipping date, name/address of shipping origination or destination, and number of lamps.
- Waste can be shipped to the appropriate recycling location using a common carrier. A bill of lading is required to transport lamp waste *to a recycling center*, but a Uniform Hazardous Waste Manifest is not required and other Hazardous Waste requirements do not apply.

Waste Disposal and Recycling

Preferred Option:

- Recycle at an authorized facility. See list of businesses above.

Second Option (availability limited to businesses that generate small quantities):

- Alameda County Household Hazardous Waste at (800) 606-6606 accepts mercury lamps for a small fee. Call for details and to make an appointment for disposal.

For further information on Universal Waste Regulations call Department of Toxic Substances Control at (510) 540-3739.