



Mercury is a potent neurotoxin that is hazardous in very tiny amounts.

Mercury-containing tubes and bulbs cannot be discarded with regular refuse or recycling and **MUST** be handled according to California's Universal Hazardous Waste rules. Your business, property, or non-profit can be fined up to \$25,000 per day for disposal in Recology's refuse or recycling bins or for mercury contamination caused by unsafe storage or handling of mercury-containing tubes and bulbs.

Mercury-containing lighting includes:



Linear Fluorescent Tubes
(2' – 12' long, 1" – 1.5" diameter; may be coated in protective plastic)



Fluorescent bulbs



High Intensity Discharge (HID) Lamps



Neon signs

Proper Handling and Storage

Mercury-containing tubes or bulbs must always be handled to prevent breakage and release of mercury. It is illegal to crush mercury-containing tubes and bulbs in California.

Place tubes or bulbs into sturdy, non-leaking, close-able containers as soon as you remove them from the light fixture. You can use the original packaging, a separately purchased box or fiber drum, or a cubic yard ("Gaylord") box secured to a pallet. **Do not tape tubes together.**

Keep the collection container closed except when tubes or bulbs are being added. Containers should be stored in a distinct area of your business and protected from the weather. Do not store collection containers for more than one year. Each container (box, drum, or yard box) must be labeled with a "Universal Waste" label and the information shown below.



Do not tape tubes



Use a sturdy box or other container to collect tubes and bulbs.

Label collection container while in storage.

Keep collection container closed.



NOTE:

"Accumulation Start Date" is the date you first put a tube or bulb in the collection container.

Do not store collection containers for more than one year.





Breakage

Broken compact fluorescent and HID bulbs still contain mercury after they are broken! Follow the EPA's guidelines (www.epa.gov/cfl) for a safe clean up. **Do not use a vacuum.** It is important to be thorough in collecting broken glass and visible powder to prevent mercury contamination of your property. For disposal of the materials left from your clean up, write "Accidental Breakage" on the zipper bag or other sealed container, carefully seal the container and place it in the drum or box you are using to store unbroken mercury containing lights that you send for recycling.

Training

At least once a year, employees who package mercury-containing tubes and bulbs must be trained on:

- Why mercury is dangerous
- How tubes and bulbs should be stored and labeled
- What to do if tubes or bulbs break during handling

State and local inspectors may ask for documentation of your employee trainings. Be sure to have your employees sign and date a training log to demonstrate that they have read or been informed about the contents of this fact sheet. Attach a copy of the fact sheet or other training outline used to the signed training log and retain with your other records for at least three years.

Transportation

Mercury-containing tubes and bulbs can be transported to a licensed recycling/disposal destination by:

- Your employees, in your company vehicle
- A package shipping service (e.g. US Postal Service, FedEx, UPS, etc.)
- A commercial ("common") carrier. It is not required to use a transportation firm with a Hazardous Waste Transporter license for mercury-containing tubes and bulbs.

What about LED tubes and bulbs?

LED light bulbs and tubes offer remarkable energy savings and are becoming more popular with consumers every day. Although LED bulbs and tubes do not rely on mercury to generate light, they may contain other toxic metals such as copper, zinc, lead, nickel, and chromium that are also harmful to human health and the environment, even in very small quantities. The San Francisco Department of the Environment (SF Environment) found three published studies that report on the levels of toxic metals in certain types of LEDs. All three studies indicated that the LEDs tested had to be disposed as a hazardous waste in California because they contained at least one regulated heavy metal. In addition, the Department worked with Enthalpy Analytical, a certified laboratory in Southern California to test one type of LED bulb in 2018. These test results showed higher-than-allowed levels of copper, zinc, lead, and nickel. Although these are only a few studies, we have found no analyses in which a LED bulb or tube "passed" the tests that identify hazardous wastes in California. As a result, SF Environment now recommends that LED bulbs and tubes be managed as a hazardous waste at end-of-life. LED bulbs and tubes may be managed using the same options as mercury-containing fluorescent tubes and compact fluorescent bulbs ("CFLs"). Keep LED bulbs separate from compact fluorescent bulbs and tubes and add the words "LED Bulbs" to the Universal Waste Lamps label.





Recycling and Disposal

Option 1 – Prepaid Mail-Back Containers

- Most cost-effective option for small quantities (generally, less than 500 tubes or bulbs).
- Purchase specially designed boxes and liners (individually or by the case) for mail-back.
- Mail-back containers include pre-paid return labels and are delivered to your site(s) by FedEx or UPS.
- Carefully package tubes and bulbs into the mail-back container, seal, then arrange mailing to applicable service, or request pick-up.
- Special packaging available for CFLs, U-tubes, and circular tubes.
- Price typically includes an optional certificate of recycling.

Option 2 – Pick-Up Service

- Most cost-effective option for larger quantities of tubes and bulbs, or if assistance in packaging is needed or desired.
- Contact a service representative to describe your needs, confirm availability, hours, and rates.
- Some Bay Area services may allow you to deliver properly boxed and labelled tubes and bulbs; you must provide packaging, labor and vehicle.

Option 3 – Drop-off at Recology San Francisco

- Best for individual homes or small apartment buildings that recycle less than 30 tubes or bulbs per month.
- Maximum 30 unboxed, mercury-containing tubes and/or loose bulbs accepted during daily public drop-off hours at the Public Recycling Area, located at the Transfer Station near Candlestick Park.
- Do **not** tape tubes together
- Deliveries of more than 30 tubes or bulbs must be securely boxed, sealed, and labeled with a completed Universal Waste label on each box. (Boxes and labels NOT sold on premises; packaging NOT permitted on Recology premises.)
- First 30 tubes or bulbs per month, per business free. Additional tubes or bulbs subject to a \$3.00 per-tube or bulb charge.

Record-Keeping

Your company must keep a record of all trainings, receipts, and shipping documents (e.g. outbound Bills of Lading) relating to recycling and disposal of mercury-containing tubes and bulbs for at least three years from the date of action, pick-up or delivery. This applies to mercury-containing tubes or bulbs from all locations of your business. These records may be requested by inspectors from your local health department or the State Department of Toxic Substances Control.





Vendors*

Pre-paid Mail-Back Container Vendors

AERC Environmental RecycleKits

www.aerc.com/RecycleKits/index.php/lamp-kits-c-1

CleanLites LampMaster

lampmaster.com/

Waste Management LampTracker

www.wmlamptracker.com/v2/product_lamp.cfm

Veolia RecyclePak

lamprecycling.veoliaes.com/ordering/usrp-order-form?pid=81

Pick-up Services

AERC Recycling Solutions

(Hayward, CA)
www.aerc.com/Locations.php
(510) 429-1129

North State Environmental

(South San Francisco CA)
www.north-state.com
(650) 588-2838 (Jim or Terry)

Waste Management, LampTracker Division**

www.wmlamptracker.com/v2/product_bulktracker.cfm

Quick Light Recycling (Brisbane, CA)

www.quicklightrecycling.com
(415) 596-2305

Empty tube and bulb boxes

Grainger SupplyPak

www.grainger.com
1(800) 472-4643

Questar

www.questarusa.com
1(888) 966-2070

Uline

www.uline.com
1(800) 295-5510

Universal Waste labels

Emedco

www.emedco.com
1(866) 509-1976

LabelMaster

www.labelmaster.com
1(800) 621-5808

New Pig

www.newpig.com
1(855) 493-4647

* **Please note:** The San Francisco Department of the Environment does not recommend or certify any business or service for the packaging or labeling of mercury-containing tubes and bulbs. The above names are offered for information only. Find other businesses online by searching using the phrase "fluorescent lamp recycling". Check with several businesses to determine the best option for your situation.

** Bulk pickup service via common carrier for transportation of palletized boxes or fiber drums; see website for details.

Thank you for safely recycling your mercury-containing tubes and bulbs.

