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Proper Disposal of Compact Fluorescent Lamps, Tubes and Compact Fluorescent Bulbs (CFLs)

(Adapted from USEPA)

Requirements

All fluorescent lamps and tubes must be recycled or taken to a household hazardous waste disposal facility, a universal waste handler (e.g., storage facility or broker), or an authorized recycling facility (Title 22, division 4.5, chapter 23, section 66273.8.) The law requiring that fluorescent lamps be recycled or taken to a household hazardous waste disposal facility, a universal waste handler, or an authorized recycling facility has been in effect since February 9, 2006.

County Household Hazardous Waste facilities accept bulbs for recycling.

- Residents of Santa Clara County: call 408-299-7300 https://www.sccgov.org/sites/rwr/hhw/Pages/hhw.aspx
- Residents of San Mateo County: https://www.smchealth.org/hhw
- Other drop-off locations in these counties can be found at RecycleStuff.org

All fluorescent lamps and tubes are considered hazardous waste in California when they are discarded because they contain mercury. (Title 22, division 4.5, chapter 11, section 66261.50) This includes:

Fluorescent Lamps and Tubes: Fluorescent tubes, including low mercury tubes. Compact fluorescents, including low mercury lamps.

High Intensity Discharge (HID) Lamps: Metal halide lamps, such as floodlights for large indoor and outdoor areas and gymnasiums. Sodium lamps, such as those sometimes used as security lighting and outdoor floodlights. Mercury vapor lamps, such as those sometimes used for street lighting.

Does EPA recommend the use of CFLs?

Yes. CFLs, when compared with standard incandescent bulbs, offer many benefits. First, they help save energy and money. They use 2/3 less energy than standard incandescent light bulbs, and last up to 10 times longer. Replacing a 60-watt incandescent with a 13-

watt CFL can save you at least $30 in energy costs over the life of the bulb. Second, CFLs offer convenience, because they last longer, and come in different sizes and shapes to fit almost any fixture. In addition, CFLs produce about 70% less heat than standard incandescent bulbs, so they're safer to operate and can help cut energy costs associated with home cooling. When shopping, always look for ENERGY STAR qualified CFLs.

Is it true that CFLs contain mercury? Why and how much?

CFLs contain a very small amount of mercury *sealed within the glass tubing* – an average of 5 milligrams (roughly equivalent to the tip of a ball-point pen). Mercury is an essential, irreplaceable element in CFLs and is what allows the bulb to be an efficient light source. By comparison, older home thermometers contain 500 milligrams of mercury and many manual thermostats contain up to 3000 milligrams. It would take between 100 and 600 CFLs to equal those amounts. There is currently no substitute for mercury in CFLs; however, manufacturers have taken significant steps to reduce mercury used in their fluorescent lighting products over the past decade.

Should I be concerned about using CFLs in my home, or should I take any special precautions?

CFLs are safe to use in your home. No mercury is released when the bulbs are in use and they pose no danger to you or your family when used properly. However, CFLs are made of glass tubing and can break if dropped or roughly handled. Be careful when removing the lamp from its packaging, installing it, or replacing it. Always screw and unscrew the lamp by its base, and never forcefully twist the CFL into a light socket by its tubes. Used CFLs should be disposed of properly using the guidance below.

Why recycle mercury-containing lamps?
When mercury-containing lamps or tubes are placed in the trash and collected for disposal, the lamps or tubes are broken and mercury is released to the environment. Mercury vapors from broken lamps or tubes can be absorbed through the lungs into the bloodstream. People who are particularly close to the breakage are especially at risk. Mercury from broken lamps and tubes can also be washed by rain water into waterways.

What should I do with a CFL when it burns out?

Follow these guidelines to dispose your CFL properly:

- Like paint, batteries, thermostats, and other hazardous household items, CFLs should be disposed of properly.
  - Do not throw CFLs away in your household garbage
  - Drop off used bulbs at the county Household Hazardous Waste facility
  - Drop-off used bulbs at a site that can be found on RecycleStuff.org (counties of Santa Clara and San Mateo only).
  - Additional information is available at www.lamprecycle.org.

What should I do if a CFL breaks?

- Because there is such a small amount of mercury in CFLs, your greatest risk if a bulb breaks is getting cut from glass shards. Research indicates that there is no immediate health risk to you or your family should a bulb break and it's cleaned up properly.
- You can minimize any risks by following these proper clean-up and disposal guidelines:
  - Sweep up—don't vacuum—all of the glass fragments and fine particles
  - Place broken pieces in a sealed plastic bag and wipe the area with a damp paper towel to pick up any stray shards of glass or fine particles. Put the used towel in the plastic bag as well.
  - If weather permits, open windows to allow the room to ventilate.
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What is mercury, what are the sources of mercury emissions, and what are the risks?

- Mercury is an element (Hg on the periodic table) found naturally in the environment. Mercury emissions in the air can come from both natural and man-made sources. Utility power plants (mainly coal-fired) are the primary man-made source, as mercury that naturally exists in coal is released into the air when coal is burned to make electricity. Coal-fired power generation accounts for roughly 40% of the mercury emissions in the U.S. EPA is implementing policies to reduce

airborne mercury emissions. Under regulations issued in 2005, coal-fired power plants will need to reduce their emissions by 70 percent by 2018.

- CFLs present an opportunity to prevent mercury emissions from entering the environment because they help to reduce emissions from coal-fired power plants. A coal-fired power plant will emit 13.6 milligrams of mercury to produce electricity required to use an incandescent light bulb, compared to 3.3 milligrams for a CFL. Even in areas without significant coal-fired power generation as part of the electricity mix (e.g., Alaska and the Pacific Northwest), there are other, equally positive environmental impacts from saving energy through the use of CFLs: reduction of nitrogen oxides (which cause smog), and prevention of substantial quantities of CO2, a greenhouse gas (which is linked to global warming), as well as other air pollutants. Airborne mercury poses a very low risk of exposure. However, when mercury emissions deposit into lakes and oceans, they can transform into a highly toxic form that builds up in fish. Fish consumption is the most common pathway for human exposure to mercury. Pregnant women and young children are most vulnerable to the effects of this type of mercury exposure. The Food and Drug Administration (FDA) estimates that most people are not exposed to harmful levels of mercury through fish consumption. However, the FDA and state agencies do issue public health advisories. EPA offers additional information and resources on all sources of mercury at www.epa.gov/mercury.