

Hazardous Waste Factsheet

Thurston County Environmental Health encourages you to recycle all fluorescent lamps, including those that are not designated as hazardous waste, in an effort to:

- *prevent the release of mercury to the environment;*
- *protect employees;*
- *conserve resources;*

Thurston County Public
Health and Social Services
Environmental Health Division

412 Lilly Rd. NE
Olympia, WA 98506-5132
Hazardous Waste Hotline:
360-867-2664

TDD Line: 360-867-2603

[http://www.co.thurston.wa.us.
health/ehhw/index.html](http://www.co.thurston.wa.us.health/ehhw/index.html)



THURSTON COUNTY
WASHINGTON
SINCE 1852

Fluorescent Lamps

Burned out fluorescent and high-intensity discharge (HID) lamps contain mercury and may be a dangerous waste. In Washington, as of June 2000, fluorescent lamps that are designated as hazardous waste can be managed as “Universal Waste” and, as such, cannot be disposed in the garbage. They must go to a lamp recycler or a permitted hazardous waste disposal company. (See “Resources” for more information on Washington’s Universal Waste Rule.)

Mercury is a highly toxic element that does not break down. Each year, broken fluorescent lamps release an estimated 500 pounds of mercury in Washington. This quantity is equivalent to approximately 20,000 four-foot fluorescent lamps. Workers may be exposed to mercury in the vicinity of freshly broken lamps. Mercury in the atmosphere eventually becomes deposited on the ground and in water. A Department of Ecology study found elevated mercury levels in bass from 70% of lakes sampled in Washington, including those from Black Lake in Thurston County.

Fluorescent lamps are still a good environmental and economic choice because they are energy efficient – they often use one-quarter the energy of incandescent lamps and last up to ten times longer. Reducing energy consumption cuts down on power plant emissions of mercury and other emissions that contribute to global climate change, acid rain, and smog.

Types of lamps that may contain mercury are:

- **Fluorescent lamps, tubes, and globes** - used in businesses, schools, offices, and stores.
- **High-intensity discharge (HID) lamps**, including mercury vapor, metal halide, and high-pressure sodium - used for streetlights, floodlights, photography, and industrial lighting.
- **Compact fluorescent lamps** - used in homes and offices.
- **Neon (red) and argon (blue) lamps** (some use mercury and phosphor powder) - used as novelties, in lounges, and retail stores.
- **Ultraviolet Lamps** – uses include tanning and disinfection

DISPOSAL OPTIONS FOR FLUORESCENT LAMPS:

- 1). Recycle all fluorescent lamps (both hazardous and non-hazardous) and other mercury-containing lamps.
- 2). Dispose of non-hazardous* fluorescent lamps as solid waste (although legal, recycling is strongly encouraged).

*Note: These lamps **must** be determined to be non-hazardous by the manufacturer or distributor.

FLUORESCENT LAMP RECYCLING

The preferred management option is that lamps ultimately go to a qualified recycler that separates the glass, mercury, and metal end caps, and sends the mercury for reclamation. Crushing lamps on-site is not allowed under universal waste management regulations. When lamps are crushed, they release a mercury vapor that is difficult to contain, and can be a hazard to human health and the environment.

The cost to recycle fluorescent lamps generated by local businesses ranges from \$0.09 to \$0.12 per foot (plus additional transportation or handling surcharges). Most vendors have a maximum or minimum amount of tubes they will accept at one time. Other mercury-containing lamps, such as HID lamps, may be priced per individual lamp.

COMPANY	LOCATION	PHONE	TYPE OF FACILITY/NOTES
Consolidated Electrical Distributors, Inc. (CED)	Lacey	360-923-2345	Does not collect lamps - administers third party collection program for government agencies and political sub-divisions
Ecolights Northwest	Seattle	206-343-1247	Lamp recycling facility.
Earth Protection Services, Inc.	N. Oregon	503-667-1004	Universal waste management company.
Rainier Lighting and Electrical Supply	Tacoma	800-782-2922	Lamp distributor.
Motors and Controls	Lacey	360-438-3447	Electrical supply company.
Thurston County HazoHouse	Lacey	360-754-3354	Small quantity generator collection facility (Also accepts from households for free)

For additional vendors, try these listings:

- Department of Ecology Hazardous Waste Services Directory: Call 360-407-6300 or go to www.ecy.wa.gov/apps/hwtr/hwsd/default.htm
- King County Fluorescent Lamp Recycling: www.metrokc.gov/hazwaste/fluor/vendors.htm

Some vendors offer pre-paid shipping containers for fluorescent lamp recycling. Several companies sell recycling kits that include shipping containers for different bulb sizes. When the containers are full, businesses affix a pre-paid mailing label and ship to a recycling facility via a national parcel carrier.

HOW TO RECYCLE LAMPS

- Carefully remove bulbs from fixtures
- Put lamps in original cartons or in shipping containers, supplied by the recycler with no packing material
- For large quantities of lamps, call your vendor for packing instructions or special containers
- Do not tape lamps together
- Store cartons in a dry place, and date the boxes the day you begin storing; limit accumulation to one year
- Save the disposal receipt as your record of legal disposal

IF YOU BREAK A LAMP...

If a lamp is broken, carefully collect broken glass and debris into a plastic bag, and then place in a 5-gallon bucket or container with a lid. Ventilate the area for at least 15 minutes. Some vendors, including Thurston County's HazoHouse, accepts small quantities of broken lamps; check with your vendor first.

LOW-MERCURY LAMPS

Low-mercury or "green" fluorescent lamps are available from several companies. The lamps have green markings, including green etching on the bulb and/or green end caps, to denote that they passed the U.S. Federal EPA Toxicity Characteristic Leaching Procedure (TCLP).

Exposure to mercury from even low-mercury lamps may still be a health concern. Although disposal of low-mercury lamps in the trash is a legal management option, recycling of these lamps is highly recommended. Thurston County Environmental Health encourages you to recycle all fluorescent lamps, including those that are not designated as hazardous waste, in order to prevent the release of mercury to the environment, protect workers, and conserve resources.

The amount of mercury in lamps varies widely. Philip's low-mercury four-foot T8 lamp has only 3.5 milligrams (mg) mercury, but some HID lamps have as much as 90 mg. In 1999, the average mercury content for a typical four-foot fluorescent tube was 11.6 grams. The best way to know that you are buying a lamp with low-mercury content is to specifically ask for them from your vendor or retailer.

When purchasing new lamps, buyers should look for low-mercury designations provided by the retailer (i.e. shelf labels or signs) or by the manufacturer (i.e. package labeling). Key words used in such messages may include, but are not limited to: "low-mercury content" or "TCLP-compliant".

Manufacturers have submitted data for specific lamp types to the Washington State Department of Ecology to receive written confirmation that their spent lamps are not designated as a dangerous waste within the state of Washington. Lamp models within the specific low-mercury product lines for each of the manufacturers listed below have received this confirmation from the Department of Ecology.

LAMP MANUFACTURER	LOW-MERCURY FLUORESCENT LAMP PRODUCT LINE**
<u>Osram Sylvania - 978-777-1900</u> www.sylvania.com	Sylvania ECOLOGIC™
<u>Philips Lighting Company - 800-555-0050</u> www.lighting.philips.com/nam	Philips ALTO™
<u>MaxLite - 973-244-7300</u> www.maxlite.com	MaxLite™
<u>GE Lighting - 800-435-4448</u> www.gelighting.com	GE Ecolux™

** Note: Specific lamp models for each low-mercury product line are too numerous to list in this publication. For current models available for each product line, check with the manufacturer, lamp distributor, or retail store for more details. Many models are available on each manufacturer's website.

MANAGING LAMP BALLASTS

New types of energy-efficient fluorescent lamps may not be compatible with your existing fixture ballasts. Fluorescent light ballasts manufactured before 1979 may contain PCBs, or polychlorinated biphenyls, which are toxic and remain in the environment for long periods of time. When replacing old ballasts, look for the label “no PCBs.” If the ballast’s label does not have that language, they must be handled as a federally regulated waste containing PCBs or sampled to prove otherwise. Many lamp recycling companies will accept (for a fee) both PCB and non-PCB ballasts for disposal or recycling.

When replacing fluorescent ballasts or removing old fixtures, wear chemical-resistant gloves made from materials such as latex or nitrile rubber. When handling leaky PCB ballasts, a chemical-resistant Tyvek® suit and respirator are also recommended; if unavailable, at least wear chemical-resistant gloves and minimize contact. If there has been a fire near light fixtures, assume that ballasts are leaky. Place leaky ballasts in a thick plastic bag or bucket to avoid spreading contamination. Contaminated clothing should be treated as hazardous waste along with the ballasts. Call a hazardous waste vendor for disposal options.

FOR MORE INFORMATION

Specialists with the Business Pollution Prevention Program are available to answer questions about best management practices and vendors of equipment or services. Contact the Business Pollution Prevention Program at 360-867-2664 or TDD 867-2603, Monday - Friday between 8 a.m. – 5 p.m. Fact sheets for small businesses are available from our website: <http://www.co.thurston.wa.us/health/ehhw/index.html>.

RESOURCES

Department of Ecology “Washington’s Universal Waste Rule for Dangerous Waste Lamps” www.ecy.wa.gov/pubs/98407.pdf, or call the Department of Ecology Hazardous Waste and Toxics Reduction Program, at 360-407-6700.

Department of Ecology “Fluorescent and HID Lamps” www.ecy.wa.gov/programs/hwtr/demodebris/index.html

King County Fluorescent Lamp Recycling www.govlink.org/hazwaste/business/wastedirectory/wastedetails.cfm?wasteid=87

Inform Factsheet – Mercury-containing product alternatives www.informinc.org/fsmercalt.pdf

The National Electrical Manufacturers Association www.lamprecycle.org