



LEARN MORE AT  
[energystar.gov](http://energystar.gov)

ENERGY STAR®, a U.S. Environmental Protection Agency program, helps us all save money and protect our environment through energy efficient products and practices. For more information, visit [www.energystar.gov](http://www.energystar.gov).

## Frequently Asked Questions Information on Compact Fluorescent Light Bulbs (CFLs) and Mercury April 2008

### **Why should people use CFLs?**

Switching from traditional light bulbs to CFLs is an effective, accessible change every American can make right now to reduce energy use at home and prevent greenhouse gas emissions that contribute to global climate change. Lighting accounts for close to 20 percent of the average home's electric bill. ENERGY STAR qualified CFLs use up to 75 percent less energy than incandescent light bulbs, last up to 10 times longer, cost little up front, and provide a quick return on investment.

If every home in America replaced just one incandescent light bulb with an ENERGY STAR qualified CFL, in one year it would save enough energy to light more than 3 million homes and prevent greenhouse gas emissions equivalent to those of more than 800,000 cars.

### **Do CFLs contain mercury?**

CFLs contain a very small amount of mercury sealed within the glass tubing – an average of 5 milligrams – about the amount that would cover the tip of a ballpoint pen. By comparison, older thermometers contain about 500 milligrams of mercury. It would take 100 CFLs to equal that amount.

Mercury currently is an essential component of CFLs and is what allows the bulb to be an efficient light source. No mercury is released when the bulbs are intact or in use. Many manufacturers have taken significant steps to reduce mercury used in their fluorescent lighting products. In fact, the average amount of mercury in a CFL is anticipated to drop by the end of 2007 thanks to technology advances and a commitment from members of the National Electrical Manufacturers Association.

### **What precautions should I take when using CFLs in my home?**

CFLs are made of glass and can break if dropped or roughly handled. Be careful when removing the bulb from its packaging, installing it, or replacing it. Always screw and unscrew the lamp by its base (not the glass), and never forcefully twist the CFL into a light socket. If a CFL breaks in your home, follow the clean-up recommendations below. Used CFLs should be disposed of properly (see below).

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

EPA recommends that consumers take advantage of available local recycling options for compact fluorescent light bulbs. EPA is working with CFL manufacturers and major U.S. retailers to expand recycling and disposal options. Consumers can contact their local municipal solid waste agency directly, or go to [www.epa.gov/bulbrecycling](http://www.epa.gov/bulbrecycling) or [www.earth911.org](http://www.earth911.org) to identify local recycling options.

If your state permits you to put used or broken CFLs in the garbage, seal the bulb in two plastic bags and put it into the outside trash, or other protected outside location, for the next normal trash collection. CFLs should not be disposed of in an incinerator. ENERGY STAR qualified CFLs have a warranty. If the bulb has failed within the warranty period, look at the CFL base to find the manufacturer's name. Visit the manufacturer's web site to find the customer service contact information to inquire about a refund or replacement.

## **How should I clean up a broken fluorescent bulb?**

Because CFLs contain a small amount of mercury, EPA recommends the following clean-up and disposal guidelines:

### **1. Before Clean-up: Ventilate the Room**

- Have people and pets leave the room, and don't let anyone walk through the breakage area on their way out.
- Open a window and leave the room for 15 minutes or more.
- Shut off the central forced-air heating/air conditioning system, if you have one.

### **2. Clean-Up Steps for Hard Surfaces**

- Carefully scoop up glass fragments and powder using stiff paper or cardboard and place them in a glass jar with metal lid (such as a canning jar) or in a sealed plastic bag.
- Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder.
- Wipe the area clean with damp paper towels or disposable wet wipes and place them in the glass jar or plastic bag.
- Do not use a vacuum or broom to clean up the broken bulb on hard surfaces.

### **3. Clean-up Steps for Carpeting or Rug:**

- Carefully pick up glass fragments and place them in a glass jar with metal lid (such as a canning jar) or in a sealed plastic bag.
- Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder.
- If vacuuming is needed after all visible materials are removed, vacuum the area where the bulb was broken.
- Remove the vacuum bag (or empty and wipe the canister), and put the bag or vacuum debris in a sealed plastic bag.

### **4. Clean-up Steps for Clothing, Bedding, etc.:**

- If clothing or bedding materials come in direct contact with broken glass or mercury-containing powder from inside the bulb that may stick to the fabric, the clothing or bedding should be discarded. Do not wash such clothing or bedding because mercury fragments in the clothing may contaminate the machine and/or pollute sewage.
- You can, however, wash clothing or other materials that have been exposed to the mercury vapor from a broken CFL, such as the clothing you happened to be wearing when you cleaned up the broken CFL, as long as that clothing has not come into direct contact with the materials from the broken bulb.
- If shoes come into direct contact with broken glass or mercury-containing powder from the bulb, wipe them off with damp paper towels or disposable wet wipes. Place the towels or wipes in a glass jar or plastic bag for disposal.

### **5. Disposal of Clean-up Materials**

- Immediately place all cleanup materials outdoors in a trash container or protected area for the next normal trash pickup.
- Wash your hands after disposing of the jars or plastic bags containing clean-up materials.
- Check with your local or state government about disposal requirements in your specific area. Some states prohibit such trash disposal and require that broken and unbroken mercury-containing bulbs be taken to a local recycling center.

### **6. Future Cleaning of Carpeting or Rug: Ventilate the Room During and After Vacuuming**

- The next several times you vacuum, shut off the central forced-air heating/air conditioning system and open a window prior to vacuuming.
- Keep the central heating/air conditioning system shut off and the window open for at least 15 minutes after vacuuming is completed.

**What is mercury?**

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. Coal-fired power plants are the largest man-made source because 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 percent of the mercury emissions in the U.S. EPA is implementing policies to reduce airborne mercury emissions. Under regulations EPA issued in 2005, mercury emissions from coal-fired power plants will drop by nearly 70 percent by 2018. The use of CFLs reduces power demand, which helps reduce mercury emissions from power plants. For more information on all sources of mercury, visit <http://www.epa.gov/mercury> For more information about compact fluorescent bulbs, visit <http://www.energystar.gov/cfls> EPA is continually reviewing its clean-up and disposal recommendations for CFLs to ensure that the Agency presents the most up-to-date information for consumers and businesses.