

## **Minding the Mercury: Keeping pollutants in perspective**

*“If every American home replaced just one light bulb with an ENERGY STAR qualified bulb, we would save enough energy to light more than 3 million homes for a year, more than \$600 million in annual energy costs, and prevent greenhouse gases equivalent to the emissions of more than 800,000 cars” EPA Energy Star*

There’s been recent concern about the mercury in compact fluorescent bulbs (CFLs); but let’s keep things in perspective. According to a recent article in Popular Mechanics, coal-fired power plants emitted *more than 50 tons* of mercury into the air in the year 2006. That’s more mercury than is contained in *9 billion* CFLs. And please note that the mercury in the bulbs is *contained and recyclable*, in contrast to the coal plants’ emissions, which release mercury (as well as carbon dioxide, sulfur dioxide and nitrogen oxide) into our air, soil and drinking water.

According to the folks at Popular Mechanics, a coal-fired plant releases 3.5 mg of mercury to power an average 20 watt CFL over its lifespan. Over that same time, a plant releases over 13 mg of mercury to power a series of incandescent light bulbs of equivalent brightness (75 watt). That’s an extra 9.5 mg of mercury for using incandescent bulbs, assuming the CFL is recycled at the end of its life. And if the CFL should break? Then a total of about 8 mg of mercury would be released – still around 5 mg less than the incandescent bulb caused to be released.

### ***But what if the bulb breaks?***

A CFL contains 5 mg of mercury on average – enough to coat the tip of a ball point pen. For comparison, mercury thermometers contained about 500 mg. The EPA reminds us that it would require one hundred compact fluorescent bulbs to equal one thermometer – and, I might add, they have the added benefit of being safely out of our mouths... The EPA says that because the amount of mercury is so small, there is more risk from the broken glass, should the bulb break.

If one should break, there are steps to take to reduce this small exposure, especially if you have young children. Do NOT vacuum. First – open windows and leave the room for 15 to 30 minutes before you start clean up. Second, scoop up the debris with a couple of index cards, and deposit it in a sealable container. The best option is a glass bottle, like a canning or peanut butter jar. If you don’t have one of these on hand, you can double-bag the debris in zip-lock bags until you can find a better container in which to put the bags. Use gloves, or at least avoid direct contact. Next, pat the area with the sticky side of duct or masking tape to pick up any remaining residue, and deposit the tape with the broken bulb. Wiping with a wet paper towel can catch any remaining dust. Keep the windows open for a couple hours, and also the next couple of times you vacuum that area, and change the vacuum bag afterwards. Wash your hands when done. If a bulb breaks in a room where infants or toddlers are often on the floor, you may want to consider cleaning or replacing the carpet.

If you have small children, or are pregnant, you may want to avoid using CFLs in areas where they can be easily broken. LED light bulbs are safer for these areas, though pricier, and are available online. Or for now, you may want to continue using the most efficient incandescent bulb you can find for these locations. That said, we have CFLs in areas where our older kids play, and in their rooms – we just keep them protected by covers.

### ***How can the bulbs be recycled?***

CFL bulbs need to be recycled as hazardous material rather than tossed in the trash or regular recycling. While one bulb contains minimal mercury, thousands in the landfill really will cause a pollution problem. You have options for recycling: take them to the annual hazardous household waste pick-up in Canton; or if you don't want to burn gas in line there, you can order a recycling kit from [lamprecycling.com](http://lamprecycling.com) or [Sylvania.com](http://Sylvania.com) for a cost of about a dollar a bulb (two-way shipping included); you can drop them off for free recycling at an IKEA; or you can carefully save them up in a garbage bag inside a PVC bucket with a lid, and start agitating for manufacturers and retailers to start recycling these items in the future! Apparently the EPA is working on this, and the Mayor's Green Task Force is also looking for a better local solution.

But please keep the pollution in perspective - incandescent bulbs cause three times as much mercury to be released into the atmosphere as the equivalent CFL bulbs. And even if the CFL breaks, its total mercury emissions are still a third less than those of an incandescent bulb. So reap the cost savings, shrink your carbon footprint, recycle, and don't chew on the bulbs.

### **Check it out:**

Environmental Protection Agency: Frequently Asked Questions: Information on Compact Fluorescent Light Bulbs (CFLs) and Mercury, April 2008

[http://www.energystar.gov/ia/partners/promotions/change\\_light/downloads/Fact\\_Sheet\\_Mercury.pdf](http://www.energystar.gov/ia/partners/promotions/change_light/downloads/Fact_Sheet_Mercury.pdf)

Energy Star information on Compact Fluorescent Light bulbs (CFLs):

[http://www.energystar.gov/index.cfm?c=cfls.pr\\_cfls](http://www.energystar.gov/index.cfm?c=cfls.pr_cfls)

“Compact Fluorescent Bulbs and Mercury: Reality Check,” Popular Mechanics, June 11, 2007:

<http://www.popularmechanics.com/cfl>

Revised clean-up directions in the case of breakage, from the government of Maine:

<http://mainegov-images.informe.org/dep/rwm/homeowner/cflreport/appendixe.pdf>

Recycle household CFLs through the mail for a fee:

<http://www.sylvania.com/Recycle/RecyclePak/>

<http://www.lamprecycling.com/store/products.aspx?id=6760&gclid=CK779OPMmZMCFQWVFQodsmL03g>