

Mercury and CFL's: Is it Safe?





MERCURY AND CFL's: IS IT SAFE?



Energy experts estimate that lighting makes up approximately 14 % of the average household's electricity account. As much as 80 % of that can be saved by replacing ordinary incandescent light bulbs with energy-efficient compact fluorescent lamps (CFLs). Mercury, however, is an essential, irreplaceable element in compact fluorescent light bulbs (CFLs); it's what allows the bulb to be such an efficient light source.

This, however, raises a question about how safe and environmentally sound the use of CFLs is.

Safe for household

For the individual homeowner the mercury content in a CFL should not be a cause of concern. The amount of mercury contained in a CFL (5 milligrams) is about one-fifth of the mercury found in a watch battery (25 milligrams), and at least a 100 times less than the mercury present in standard household thermometers (500 milligrams) and the silver-colored fillings in teeth (500 milligrams).

Product	Amount of Mercury	Number of Equivalent CFLs
CFL	5 milligrams	1
Watch battery	25 milligrams	5
Dental amalgams	500 milligrams	100
Home thermometer	500 milligrams - 2 grams	100 - 400
Float switches in sump pumps	2 grams	400
Tilt thermostat	3 grams	600
Electrical tilt switches and relays	3.5 grams	700

Manufacturers of CFLs are furthermore unanimous in their assertion that the lamps in our homes do not pose any health risk, even if they break. The average amount of mercury in a CFL is about the size of the tip of a ballpoint pen and occurs in vapor form in the lamp. During the course of the lamp's life, the mercury is absorbed into the lamp walls, the metal lamp ends and other bulb components. Therefore, at the end of a bulb's rated life, very little of the mercury is available for release into the environment.

Good for environment

Compared over a five year period, a coal-fired power plant emits about 10 milligrams of mercury to



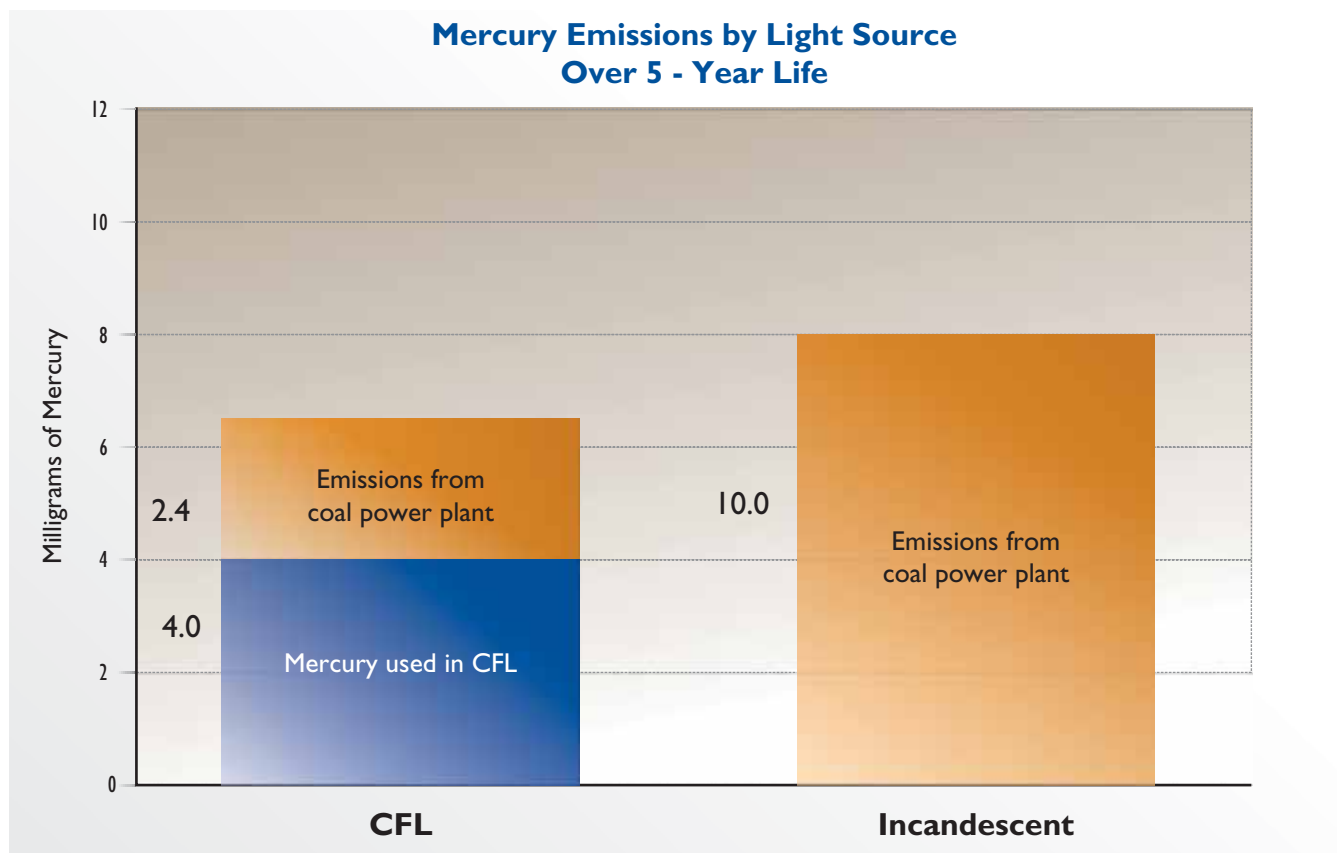
MERCURY AND CFL'S: IS IT SAFE?



produce the electricity to run an incandescent bulb, compared to only 2.4 milligrams of mercury emitted to power a CFL for the same amount of time. Using CFLs is therefore the environmentally friendly choice since it reduces the amount of mercury released into the air.

CFLs Responsible for Less Mercury than Incandescent Light Bulbs

Ironically, CFLs present an opportunity to prevent mercury from being released into the air, where it most affects our health. The biggest source of mercury in our air is the burning of fossil fuels such as coal, the most common fuel used in South Africa to produce electricity. A CFL uses 80% less energy than an incandescent light bulb and lasts at least 6 times longer.



Source: US EPA, June 2002



MERCURY AND CFL'S: IS IT SAFE?



Disposing of CFLs

Although CFLs are safe for everyday household use and offers many benefits, every product containing mercury should be disposed of carefully.

Benefits of using CFL vs. incandescent globe

	Incandescent	CFL
Life Expectancy	1000 h	6 000 h
Cost per unit	- R 3	- R 15
Consumption in W	60 W	14 W
Electricity cost per month	R 1.89	R 0.441
Electricity savings per month	0	46 W
Electricity cost savings per month	0	R 1.45
Electricity cost savings over a year	0	R17.40

Safe disposing of your CFL

While CFLs used in your home are not legally considered hazardous, it is still best for the environment to dispose of them properly. Dispose of your CFL the same way you would for example batteries, oil-based paint and motor oil by supporting your local utilities' e-waste disposal strategy or by sealing the CFL in a plastic bag before putting it out with your regular refuse.

Safe cleanup precautions

If a CFL breaks in your home, open nearby windows to disperse any vapor that may escape, then carefully sweep up the fragments (do not use your hands) and wipe the area with a disposable paper towel to remove all glass fragments. Do not use a vacuum. Place all fragments in a sealed plastic bag and follow the disposal instructions above.

Did you know?

- The older the CFL at the time of disposal, the less mercury is available for release.
- Mercury derives its name from the ancient Roman god, known for his speed as a messenger to the gods. The Romans also used mercury in cosmetics.
- People are most often exposed to mercury by eating contaminated fish.