COMPACT FLUORESCENT LIGHTBULBS (CFL) - *INFORMATION SHEET*

Source: Office of Energy Efficiency (Natural Resources Canada)
http://www.oee.nrcan.gc.ca/energystar/english/consumers/questions-answers.cfm

Can CFLs be used outside in cold temperatures?

Yes, there are CFLs that can be used outdoors in temperatures as low as -30 ^{o}C. However, check the low temperature rating on the package to make sure it suits your local climate. It is also preferable to have your CFL enclosed in an outdoor fixture to protect it from the cold, wind and humidity. If your CFL is used outdoors with a motion detector, the life of your CFL may be shortened.

Should I be concerned about using CFLs in my home?

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 handled properly. An extremely small amount of mercury, an average of five milligrams, is sealed within the glass tubing. For a basis of comparison, there are about 500 milligrams to two grams of mercury in your average home thermometer. It would take between 100 to 400 CFLs to equal that same amount of mercury!

What is my health risk should a CFL break in my home?

Research indicates that there is no health risk to you or your family should the bulb break as there is such a small amount of mercury in CFLs. The greatest risk is getting cut from the glass shards. Please follow the proper procedure to handle the broken bulb.

If CFLs contain mercury, how can they be better for the environment than incandescent lights?

Despite the presence of small amounts of mercury, CFLs provide significant environmental benefits compared to incandescent products. Here's why:

- CFLs use far less energy than incandescent bulbs, so they reduce greenhouse gas emissions from electrical generating stations powered by fossil fuels
- CFLs last up to 10 times longer than incandescent bulbs, so fewer bulbs and less packaging ends up in landfills
- the amount of mercury in a CFL is so small – less than one-fifth of the mercury found in a wristwatch battery – that it does not pose a significant threat to human health or the environment (nevertheless, CFLs should be handled with care and disposed of properly)
- by decreasing the demand for electricity from coal-fired generation plants – one of the largest sources of mercury emissions in Canada – CFLs can actually reduce mercury levels in the environment

The environmental benefits of energy-efficient lighting are impressive. The lighting efficiency standards proposed by the Government of Canada could help Canadians reduce greenhouse gas emissions in the residential and commercial sectors by more than six million tonnes a year, equivalent to taking 1.4 million vehicles off the road.

How much mercury is in compact fluorescent bulbs?

The average mercury content in a CFL is about 3 milligrams – roughly the amount it would take to cover the tip of a ball-point pen. By comparison, older thermometers contain 500 milligrams of mercury – the equivalent of more than 100 CFLs. A common wristwatch battery contains five times more mercury than a CFL.

Although there is currently no substance that can replace the efficiency properties of mercury to produce light in fluorescent lamps, manufacturers have reduced the amount of mercury used in lamps. Some manufacturers have voluntarily reduced the mercury content in CFLs by about 80% in the past decade, to

as little as 2 mg per bulb. Research is ongoing to achieve further reductions and, ultimately, to develop a mercury-free fluorescent lamp.

The chart below compares the mercury content in a CFL to other household items.

Product	Amount of Mercury	Number of Equivalent CFLs
Compact fluorescent lamp	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

How should I dispose of a broken CFL?

A spill of the amount of mercury found in household products, such as CFLs does not usually pose an immediate health risk to you or your family. However, proper clean up and disposal is required. You can minimize any risk of mercury contamination by following these basic guidelines:

When a CFL breaks on a hard surface:

- Open windows (if possible) to ventilate the room for a few minutes.
- Wear rubber gloves and scoop or sweep up the debris with a stiff paper or cardboard, and then place the debris in a sealed plastic bag.
- Wipe the area with a damp paper towel and put it all in that same sealed plastic bag.
- Dispose of the bag in accordance with local disposal options as mentioned above.

When a CFL breaks on a carpet:

- Open windows (if possible) to ventilate the room for a few minutes.
- Wear rubber gloves to remove as much debris as possible with a stiff paper or cardboard.
- Use sticky tape (such as duct tape) to pick up any small pieces of glass or fine particles, and then if necessary, vacuum the area and then immediately dispose of the vacuum bag along with the debris and sticky tape in a sealed plastic bag.
- Dispose of in accordance with local disposal options as mentioned above.

All of this can be done by oneself – no need to call in a hazardous waste team.

What is the correct way to dispose of compact fluorescent bulbs?

Just like paint, batteries, thermostats and other household chemicals, compact fluorescent bulbs should be disposed of safely. Homeowners are encouraged to take advantage of local disposal programs for CFLs, where available. Governments are working with CFL manufacturers and major Canadian retailers to expand recycling options.

Many municipalities have programs that accept household products that contain mercury. Some have implemented collection programs specifically for mercury-containing switches such as those found in your car, while others collect mercury-containing products as part of their household hazardous waste programs. Contact your municipality to find out about local disposal options.

ENERGY STAR qualified CFLs have a warranty. If the bulb fails within the warranty period, return it to your retailer.