

One Change Fact Sheet - CFL bulbs and UV radiation

What is UV radiation?

Ultraviolet (UV) radiation is part of the electromagnetic spectrum emitted by the sun. UV radiation also comes from unnatural sources, like lamps and tanning beds. Small amounts of UV are essential for the production of vitamin D in people, yet overexposure may result in negative health effects on the skin.

I heard on the news that Health Canada is investigating CFL bulbs and UV radiation. Should I be concerned?

Project Porchlight welcomes Health Canada's study on CFL bulbs and UV radiation. We encourage all efforts to ensure CFL bulbs are as safe as possible for the public and look forward to the results of the Health Canada study, which should be available in fall 2009.

In the meantime, as per the information below, Project Porchlight encourages people to continue using CFL bulbs for all of their lighting needs.

How much UV radiation is emitted from CFLs?

Not much. While all fluorescent lamps emit some UV radiation, compact fluorescent light (CFL) bulbs typically emit very low levels of UV. These levels are not hazardous and are far less than the amount produced by natural daylight.

The level of UV radiation from CFL bulbs ranges from 50-140 microwatts/lumen. Some old-fashioned incandescent bulbs have been found to have levels exceeding 100 microwatts/lumen.

Are CFL bulbs safe to use at home?

Yes! The amount of UV given off by regular fluorescent light bulbs used in your home and office are absolutely safe. While we don't necessarily recommend that people sit one inch away from CFL bulbs 24 hours a day, 7 days a week, it is absolutely safe to be sitting next to a lamp in reasonably close proximity on a regular basis at home or in the office without being adversely affected by UV radiation.

Can the UV rays from CFL bulbs cause health-related problems?

No. Fluorescent lighting has been used since 1938, and in 70 years of operation there have been no significant negative health problems reported from UV emissions related to fluorescent lighting.

There is absolutely no risk of cancer or other health risks from CFL bulbs. The worst case scenario is that after prolonged exposure to a CFL, within a distance of less than 30 centimetres (approximately 1 foot), people with extremely sensitive skin conditions may experience slight reddening of the skin.



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For the minute percentage of people that may experience slight reddening, there are now double-enveloped CFL bulbs available, which look like incandescent bulbs and offer additional shielding from UV rays. Studies have shown that double-envelope CFL bulbs emit essentially no UV light.

The real health-related risk from lighting comes from using energy-inefficient lighting like old-fashioned incandescent light bulbs. These wasteful types of lighting use high levels of energy, which in North America is often produced by coal and other non-renewable sources that emit mercury and other pollutants into the air we breathe and cause smog—major contributors to serious health risks. A 2008 study by the Ontario Medical Association found that air pollution is the cause of 9,500 premature deaths per year in Ontario alone.

CFL bulbs use up to 75% less energy than old-fashioned incandescent bulbs, thereby reducing harmful air pollution, smog, and their associated adverse health effects significantly.

How do I know that the level of UV is acceptably low from a CFL bulb?

Most fluorescent light bulbs do not give off significant UV emissions. We recommend that everyone purchase ENERGY STAR-qualified CFL bulbs, which have a more consistent phosphorous coating inside the lamp (minimizing UV exposure), in addition to far lower mercury levels.

Project Porchlight is committed to only handing out the highest quality, Energy Star-qualified CFL bulbs. These Energy Star-qualified CFL bulbs undergo very strict testing with the Underwriters Laboratory and have passed all Canadian Standards Association (CSA) tests to ensure the strictest health and safety standards. As well, they offer the best quality in terms of lighting, colour, lifetime, and energy efficiency.

Are there further precautions I can take to reduce the small levels of UV from CFL bulbs?

While the glass used in standard single-envelope CFL bulbs (the curly shaped ones) already provides a UV filtering effect, there are now double-enveloped CFL bulbs available. These CFL bulbs have an additional glass or plastic cover, so they look like incandescent bulbs, and offer additional shielding from UV rays. Studies have shown that double-envelope CFL bulbs provide a further step to reducing the already low level of UV radiation in CFL bulbs to an even lower level, essentially emitting no UV light.

In addition to this, any glass, plastic or fabric found in your lighting fixture can provide another filter between you and the CFL bulb. And minimizing extremely close and/or prolonged direct exposure to CFL bulbs will further minimize any UV exposure.



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