



Frequently Asked Questions Regarding CFLs

Why did the Maine DEP conduct the CFL study?

Maine conducted the study to refine our existing clean-up guidance for handling broken fluorescent lamps. The guidance that was in use prior to the release of this study was based heavily upon guidance developed for businesses and was based upon experience from spills of much larger amounts of mercury. Gathering data on broken lamps as well as investigating situations more apt to be encountered by homeowners was an important part of this study. This work was used to revise Maine's clean-up guidance to be more appropriate to lamp breakage in the home setting.

Are intact compact fluorescent lamps (CFLs) safe? Does mercury emit from them?

Maine DEP tested the air within a foot of approximately 50 new intact lamps, one at a time, as part of our CFL study and did not find elevated mercury levels. In addition, the study tested broken lamps contained in glass screw topped jars and found negligible mercury emissions. Glass, which is what CFLs are made of, appears to be an effective barrier to mercury emissions.

Are CFLs safe to use?

Yes, CFLs are safe to use. As with many other household products, however, there are things to be aware of. With CFLs, there may be small risks for sensitive populations associated with the breakage of CFLs (or any other fluorescent lamp).

Why has the government been promoting CFLs if they contain toxic mercury?

CFLs save a lot of energy and money. They use a quarter of the energy of an incandescent lamp and last 6-10 times longer. According to the U.S. Environmental Protection Agency's Energy Star program, if everyone in the United States were to switch one incandescent light bulb to a CFL, it would annually prevent greenhouse gases equivalent to the emissions of more than 800,000 cars – and that's good for the environment. In addition, there would be significant savings on individual monthly electric bills. Fluorescent lamps have been in use for over 60 years in homes and businesses. If they do break and are properly cleaned up, the exposure to mercury is relatively short and is unlikely to be harmful.

How much energy will I save by using CFLs and is it worth the extra cost of the bulb?

You'll save lots of money and save a lot of energy, which is good for the environment. For more information, contact the Efficiency Maine program at the Maine Public Utilities Commission toll free at 1-866-376-2463 or visit their web site at **EfficiencyMaine.com**

I have heard that it can cost thousands of dollars to clean up a broken CFL? Is this true?

No. At one point in 2007 a person from Maine called a hazardous waste contractor to get an estimate for a broken lamp cleanup. The contractor's estimate was presumably based on a number of factors including a long travel distance and many unknowns. Maine DEP staff ultimately assisted the homeowner and a small piece of carpeting was removed from the home at the request of the homeowner. For further details on this situation, go to **MaineDEP.com** and click on "**Fluorescent Light Bulb Information**" and the details are at the bottom of the page.

I just broke a CFL, what should I do?

If you do break a lamp, you can follow our step by step clean up guidance by going to **MaineDEP.com** and clicking on "**Fluorescent Light Bulb Information**". The cleanup guidance is based upon the Maine CFL study recently completed by the DEP. This study was specifically done to test various cleanup situations so we could give more informed cleanup advice. The guidance also takes into account Maine's significant lamp recycling network throughout the state. Homeowners can take the broken lamp for a nominal fee to these recycling locations.

I just broke a CFL on my carpet, what should I do?

Do not vacuum. Have children and pets leave the room. Open some windows and leave the room yourself (closing the door behind you) for 15 minutes. This allows peak mercury levels to subside before you begin the more active parts of the clean up. Then follow the instructions on our website for proper cleanup and recycling.

You may want to consider cutting out the part of the carpet where the lamp broke if sensitive people such as infants, young children, and pregnant women frequent the area. If you do cut the carpet, place it in a garbage bag and remove it from your home for disposal in your regular trash.

If you decide to not cut out the section of the carpet where the break occurred, the next few times you vacuum again as a part of regular housecleaning, consider opening the window.

I broke a CFL (last week; last month). What should I do now?

Compare your cleanup method to the one on the Maine DEP website. If your cleanup was thorough and similar to the one on our website, then you have minimized your exposure to mercury. If your cleanup was less thorough, you may want to go back to the location of the break and do a more complete cleanup using tape and wet wipes while ventilating the room.

I vacuumed up a broken CFL. Is my vacuum safe to use? What should I do?

Any time a vacuum is used to clean up a CFL break, it will be difficult for a homeowner to know if their vacuum is contaminated. It therefore should be assumed to be contaminated and should be thoroughly cleaned.

For the common canister type vacuum, remove the vacuum bag and dispose of it in the outside trash. Use a number of wet wipes to clean the floor attachment and other areas of the vacuum that are easily accessed, including the beater and the area inside where the bag goes. Ventilate the room by opening windows for the next five or more times you vacuum.

For other types of vacuums, wet wipe the accessible vacuum parts, including any collector cups, and ventilate the room by opening windows for the next few times you vacuum.

When done cleaning your vacuum, if you still have the broken lamp contained in a glass jar, open the jar outside and place the wet wipes in the jar. Otherwise, place the wet wipes in a garbage bag and place it outside your home for collection with the rest of your trash.

How long does the contamination on the floor last?

The study indicated that mercury vapor emitted from new hardwood flooring was generally gone within a week of a lamp cleanup. Carpets took longer, sometimes emitting mercury vapor (mostly when the surface was agitated) for months after a break and cleanup.

Is all the carpet in my house now contaminated since I've been using my vacuum? If yes, how do I clean it? Will steam cleaning it get rid of contamination?

Our study did not address this, but it is expected that your vacuum did not significantly contaminate other areas of carpeting. But to be cautious, be sure to clean the vacuum as described above.

I broke a lamp and cleaned it up. What else do I need to be concerned about? Is the air in my home circulating contamination? Do I need to treat anything?

Once a window is opened, any mercury vapors in the air usually decrease within minutes to levels below ambient air guidelines. If the floor at the spot of breakage is agitated, more mercury may be emitted into the air. Just make sure you clean up the break as well as you can, use our clean-up guidance and leave the window in the room open while you do the clean-up. If there is no window in the room where the break occurred, then ventilate rooms adjacent to the break as best as you can.

Why do they even put mercury in a CFL?

At this point in technology development, mercury is a necessary part of any fluorescent lamp. Without the mercury, the lamp would not produce visible light. Mercury is needed in CFLs to create ultraviolet light that changes into visible light when it comes in contact with the phosphor coating inside the lamp.

Why are we even concerned about the small amount of elemental mercury in a CFL?

Elemental mercury is a liquid that releases mercury vapor at room temperature. This vapor can be inhaled into the lungs and pass directly into the blood stream. Elemental mercury vapor can also be absorbed through the skin and then into the blood stream. Elemental mercury can convert in the environment

to a more toxic form known as methylmercury, and this can build up in the bodies of wildlife as well as humans. If you have concerns about your exposure to mercury from a broken lamp, you can contact the State Toxicologist's office at 1-866-292-3474 (toll free in Maine) or your personal physician.

Can I tell whether I or my family has been exposed to unsafe levels of mercury?

Mercury vapor is invisible and it is hard for you to know the extent of any exposure you may have had, other than knowing that the amount of mercury in one CFL is very small, averaging around 5 milligrams (mg) with a range of 0.9 to 18 mg. This small amount can fit inside the point of a ball point pen.

I have small children in my house. Should I use CFLs at all?

It's your choice. In a ceiling light or covered overhead light that is not in an infant's, small child's or pregnant woman's room, they are a good choice as they will save energy and money and are unlikely to be broken from accidental contact. You may want to consider restricting the use of CFLs in the rooms of infants, children, and pregnant women, and in table and floor lamps that are easily tipped over or locations where easily broken.

Should I call DEP Response Services for a broken CFL?

No. You can clean up the broken bulb by following the cleanup guidance found on our website, and take the debris to your municipal "universal waste" location for recycling. This study was specifically done to evaluate simple cleanup methods so we could provide the best cleanup advice. You don't need to call our Response Staff.

How did the Maine DEP change their cleanup guidance as a result of the Maine CFL study?

The pre-study cleanup guidance was generally found to be sound. However, as a result of this study, the cleanup guidance was modified to include:

- Waiting 15 minutes after breakage to begin cleaning up;
- Using a glass container with a metal screw top lid with a seal, such as a canning jar, to contain the lamp pieces, powder, and cleanup materials;
- Immediately removing the lamp breakage and cleanup materials from the home once they are sealed in a container;
- Suggesting that homeowners consider removal of a carpet or portions of carpet where a breakage has occurred as a precaution, particularly in homes with infants, small children or pregnant women;
- Suggesting that homeowners consider not utilizing fluorescent lamps in situations where they could easily be broken, in rooms used by infants, small children, or pregnant women;
- Suggesting that homeowners consider not utilizing fluorescent lamps over carpets in rooms frequented by infants, small children or pregnant women;
- If a fluorescent lamp breaks and a carpet is not removed, we suggest that the homeowner consider ventilating the room for the next several times the room is vacuumed.

What do I do with the debris from a broken CFL or other fluorescent lamp?

Broken CFLs in a proper container must go to one of the municipal transfer stations or recycling centers for universal waste (green or blue on the list on the DEP website). Keep in mind that if you have a broken lamp in a glass jar with a metal screw lid, there is minimal mercury migration through the container, so there is no urgency: you can fit a drop-off at your local transfer station or recycling center into your schedule. You should **not** take broken bulb debris to the retail stores participating in Efficiency Maine’s CFL recycling program, these stores will only accept intact CFLs for recycling.

What should I do with intact CFLs that have burned out or which I no longer want?

Take the CFL to your local transfer station, hardware store, or home center for proper recycling. On our website, DEP has a list of municipal locations and retail stores that will recycle your unwanted or burned out CFLs. **You can recycle your CFL for free at one of the 214 retail stores participating in Efficiency Maine’s program (on DEP’s list).** Many towns will recycle them for a small charge. Go to **MaineDEP.com** and click on **“Fluorescent Light Bulb Information”** where you can find a list of recycling locations. Intact CFLs may go to one of the retail stores free of charge (yellow on list). If you do have burned out CFLs it is a good idea to take them to a recycling facility so they do not get accidentally broken. Maine law requires the recycling of all fluorescent light bulbs and prohibits their disposal in the trash.

Does the DEP study answer all the questions about broken CFLs?

No. The study provided important information that was not available previously on the best procedures for cleaning up broken fluorescent bulbs. But there is more research being done. There is a wide variability in the amount of mercury in various fluorescent bulbs, and this study did not look at that in detail. Additional study of various types of vacuum cleaners could also be undertaken to further clarify the recommended clean-up guidance.

For more information, you may contact:

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