

## **EPA FURTHER TIGHTENS CFL DISPOSAL GUIDE OVER GROWING MERCURY CONCERNS**

EPA has strengthened its guidance for cleaning up broken compact fluorescent light bulbs (CFLs) by adding new advice to dispose of bedding and clothing that comes into contact with broken bulbs due to mercury contamination concerns, but it still does not go as far as a recent update to strict guidelines issued by Maine officials who encourage households with at-risk populations to consider not using the heavily-promoted bulbs.

The revised EPA guide says, "If clothing or bedding materials come in direct contact with broken glass or mercury-containing powder from inside the bulb that may stick to the fabric, the clothing or bedding should be thrown away. Do not wash such clothing or bedding because mercury fragments in the clothing may contaminate the machine and/or pollute sewage."

*Relevant documents are available on [InsideEPA.com](http://InsideEPA.com).*

An EPA spokeswoman says the agency revised its guidance last month based on a February study by the Maine environment department that found mercury exposures from broken CFLs thousands of times higher than what is considered safe, as well as several older studies published between 2000 and 2003.

For now, the EPA guide limits its recommendation for discarding items to clothing and bedding that broken pieces of the bulb have touched, however the agency is still investigating whether the mercury vapor from the bulbs can contaminate items as well.

"If materials are exposed to mercury vapor only (i.e. no CFL fragments come into contact with the material) it is OK to wash the material because it is presumed that mercury beads have not contaminated the material. . . . The question here is to what extent does mercury vapor sorb to the material and vaporize over time? This is a question for which we would like better information, and once that becomes available, we may revise our cleanup guidance," the spokeswoman says.

Further, EPA does not recommend discarding furniture, carpeting or flooring that comes into contact with bulb pieces, instead recommending that people use sticky tape to pick up the pieces.

EPA already revised its guidance once this year following the Maine study, including the addition of explicit instructions for how to clean different types of flooring, along with the recommendation that a broken bulb be placed in a glass jar with a metal lid, and that vacuum bags be sealed and discarded if used to vacuum CFL debris. Previously, EPA only recommended putting the debris in a sealed plastic bag.

EPA is planning to conduct follow-up testing on the Maine study but the agency spokeswoman says the plans are still under development.

A Maine environment department source says the EPA follow-up to the state's study is expected to determine by brand CFLs that have the highest likelihood of mercury exposure and whether the exposure is determined by mercury content or concentration.

The source adds that the new EPA recommendations to dispose clothing or bedding is "a logical next step" to the growing list of concerns regarding broken CFLs. Maine recently received a call from a pregnant woman who had broken a bulb in her bedroom and the state advised her to consider removing the carpeting if financially feasible, the source notes.

Maine's guide suggests that consumers consider replacing carpeting and flooring where broken bulbs have landed, and says households with infants, small children and pregnant women consider not using CFLs at all due to the mercury. Maine's guide does not address clothing or bedding (*Inside EPA*, Feb. 29, p10).

The issue of mercury exposure from broken CFLs comes as researchers have announced the discovery of a nanomaterial that appears to absorb mercury from broken bulbs. It also comes as the Product Stewardship Institute (PSI) is launching a national dialogue, with EPA funding, to better encourage CFL recycling, and as the Home Depot announced June 24 it would offer free CFL recycling at all its stores.

An earlier effort to encourage recycling at retailers, launched by WalMart with participation by EPA, appears to have fizzled, with a WalMart spokesman noting the company has no plans for a national program due to "varying degrees of success" with several pilots.

A state source says WalMart may have abandoned its recycling effort too quickly. "They just started selling the lamps and the fact that they didn't get a big return [on recycling] is not surprising because the lamps don't burn out that quickly."

The source adds that WalMart and other retailers considering recycling also have lingering questions about how to handle CFL breakage. "How to protect employees and customers . . . is a big issue for a lot of stores."

Home Depot could not be reached for comment but its announcement has been widely praised by CFL recycling advocates.

A PSI source notes that the new national dialogue -- which will have its second meeting later this month in Seattle -- did not have retailer participants at its April meeting but expects WalMart to attend the upcoming gathering. At the first meeting, the group -- which included participation by EPA's Energy Star and waste offices along with manufacturers and recyclers -- discussed the responsibility of manufacturers funding recycling efforts.

But retailer Home Depot is fully funding the costs of the recycling program at its stores, prompting PSI to issue a statement, "We are pleased that the Home Depot has taken this important step to join the national effort to improve the environment by recycling CFL bulbs in-store. . . . With more than 75 percent of households located within 10 miles of a Home Depot store, collection at retailers is one of the safest and most convenient ways to ensure proper disposal."

The PSI source notes the group did not work with Home Depot on the announcement but has been in discussions with the company on a possible take-back program for the past year.

Finally, Brown University researchers published a paper announcing they had developed a nanomaterial container lining capable of absorbing CFL mercury vapor in the June 27 issue of *Environmental Science & Technology*. The university has applied for federal patents. A Brown press release says the invention "would relieve a major concern with CFL use and comes as CFL sales are projected to skyrocket." -- *Dawn Reeves*

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