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Compact fluorescent lamps save energy but need to be disposed of properly

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For years, consumers have been urged to switch to CFLs, or compact fluorescent lights, which use about one-quarter of the electricity of incandescent bulbs. But unknown to many, CFLs come with a health risk if they're broken: They contain small amounts of mercury, a neurotoxin that can be particularly harmful to children and pregnant women.

With sales of CFLs now reaching about 400 million a year in the United States, according to the federal Environmental Protection Agency, concerns over the mercury has grown because many of the lights end up in landfills.

"It's a public health issue and an environmental mess if they are not disposed of properly," said Rob D'Arcy, the hazardous materials program manager for Santa Clara County.

California and several other states ban disposal of CFLs in the trash because they could contaminate landfills. But there's little enforcement.

Some local governments in California encourage consumers to recycle the bulbs on household hazardous waste collection days or through "take back" programs at local hardware stores. But no one monitors how successful those voluntary efforts have been, and many fear that the vast majority of CFLs still end up at the bottom of the kitchen trash can.

CFLs contain an average of 5 milligrams of mercury sealed within the CFL's glass tubing. That's far less than watch batteries, dental filings and older thermometers, but still enough to warrant special handling.

If a fluorescent bulb breaks in your house, the EPA advises consumers to have all people and pets vacate the room, open windows for at least 15 minutes, and carefully scoop up any broken fragments into a glass jar with a metal lid. Any heating or air conditioning should be turned off before cleanup.

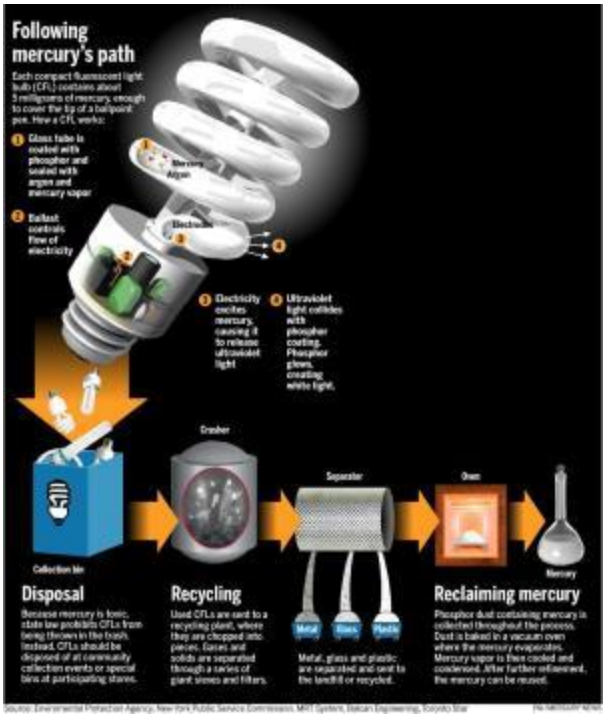
But no one has called for CFLs to be banned because, on balance, they offer a wealth of environmental and energy-saving benefits. Coal-fired power plants are the largest source of mercury emissions in the air, so using CFLs, which use less electricity than incandescent light bulbs and last longer, is still a better deal for the planet.

Environmental groups such as the Natural Resources Defense Council have taken a close look at the CFL safety issue and have concluded that the energy savings exceed the dangers posed by the mercury the lights contain.

"The quantity of mercury contained in the bulb, and the opportunity to be exposed to the mercury, is quite small," the NRDC said in a May 2008 policy paper.

Many consumers are either unaware the lights contain mercury or agree that the benefits outweigh the risks.

Julius Bercasio, 30-year-old owner of Mighty Thredz graphics-design studio in San Jose, was price-comparing



light bulbs for his office Monday afternoon at a San Jose Lowe's, but he did not see the fine print on the back of the CFL box indicating the product contained mercury. When it was pointed out to him, Bercasio said, "If it's really toxic, I'd probably stay away from it.

"But if it's a really small amount, and if the bulb's really energy-efficient," he added, "then I'd say the good outweighs the bad, and I'd buy it."

Jamsher Bhatthal, a Lowe's lighting expert, said most customers are like Bercasio. "Nobody ever asks me about the mercury because they don't look closely at the label warning about it," he said. "They read the front of the box, where it says you'll save $48 each year in energy costs by using this product. But they don't read the part that says the lamp contains mercury."

Heidi Sanborn, executive director of the California Product Stewardship Council, a nonprofit organization whose mission is to shift responsibility for waste management from local governments to manufacturers and producers, is among those who believe "we're still better off using fluorescents."

"But what's happened is that we're trying to keep mercury out of the air by not burning coal, and now mercury is in all of these lamps that are in people's homes," she said.

The regulations prohibiting CFLs from being disposed of in the trash went into effect in 2006, but there's no state funding attached to it. That means each county in California has had to develop its own consumer awareness and recycling program in a time of strapped budgets, and some have done a better job than others.

"This is a problem that cries out for a big, comprehensive solution," said Bill Pollock of the Alameda County Household Hazardous Waste program. "But no one has the funds to tackle it. Right now, the recycling is totally voluntary — people have to make an effort to do it."

In Santa Clara County, several local hardware stores — including Ace Hardware, Orchard Supply Hardware and the Home Depot — offer free fluorescent bulb recycling during their regular business hours. (A complete list of drop-off locations in Santa Clara County can be found at www.hhw.org).

Sanborn says CFLs are indicative of a larger problem — the changing nature of the waste that California residents generate.

"When the waste industry first started, the waste stream was paper, glass, bones and rags — basic material," she said. "Now waste has evolved, and 70 percent of it is manufactured products, like CFLs and cell phones and consumer electronics. Local governments cannot keep up."

The ultimate solution for disposal of CFLs may come with further technological innovation. Many lighting experts see CFLs as a largely transitional product that will be replaced with LEDs — or light-emitting diodes — once volume production drives down costs. LEDs are considered more durable than either incandescent bulbs or CFLs. And, unlike CFLs, LEDs don't contain mercury or require time to warm up.