



shedding some light on lighting

by Adam Neugebauer

“Should I be concerned about mercury exposure from compact fluorescent lights (CFLs)?”

I admit that I was pretty much blindsided by this question after my speech at the Nature Forum last November. “Well great,” I thought to myself, “CFLs have had to fight off all of the negative stereotypes caused by their original, crude forms — including flickering, buzzing, poor color quality, slow start-up, and so on — and now this?” It’s not that the question was asked in a particularly audacious or unfair manner, I simply had never heard of this issue. And seeing as how young children are often more susceptible to the harmful effects of chemical exposures, I quickly understood how this question was particularly urgent for child care centers, especially centers looking to become more environmentally friendly. Therefore, the first chance I got, I rushed back to my room and did some quick online research.



Adam Neugebauer is a project manager at ConSol, an energy efficiency consulting company based in Stockton, California. The company works with

builders, government agencies, local jurisdictions, research laboratories, trade organizations, and product manufacturers in order to improve the quality of construction in California and throughout the United States. His passion for environmental consciousness began way back in his eighth grade science class and now he is excited about connecting with the ECE industry through this series of Going Green articles.

While Google can readily provide you with a plethora of resources on the topic, the Environmental Protection Agency (EPA) seems to have the most thorough, even-handed coverage. First things first: fluorescent lamps (those long glass tubes) and compact fluorescent bulbs (the ones that can look like a soft-serve ice cream cone) both require the use of mercury for proper functioning. And should the glass tube of a fluorescent lamp or bulb break, the mercury could be released into the environment, possibly leading to mercury exposure. But that’s the bad news. The good news, on the other hand, is that CFLs on average contain only 4 milli-grams of mercury (compared to about 500 milligrams in older thermometers and anywhere from 3,000 to 20,000 milligrams in most non-electric thermostats), which is enclosed within the durable glass bulb. Manufacturers are aware of this concern and they continue to find ways to decrease this number through advances in CFL technology. However, some mercury is still more than no mercury, so the EPA also put together a detailed guide about the proper disposal and clean-up procedures should a fluorescent light break.

This research convinced me that the risks associated with mercury in fluorescent lights are real, but also relatively accept-

able. Centers should be aware that these lights do contain trace amounts of mercury and, therefore, should be handled with a reasonable amount of care during installation and disposal. Centers should also know that fluorescent lights should not simply be thrown away, but rather need to be properly disposed of (go to www.epa.gov/bulbrecycling or www.earth911.com to find local recycling options). Finally, centers should be familiar with the proper clean-up procedures, and possibly have a copy of the EPA recommendations on hand, should a CFL break.

In spite of this slight tarnish, however, I still love CFLs. I love that they use about a quarter of the electricity of traditional incandescent bulbs. I love that they last up to ten times longer than incandescents. And now I love that, according to the EPA, even though they contain mercury, their use still leads to lower amounts of this hazardous material being released into the environment than with incandescents, which contain no mercury. This is because power plants, which release mercury as a byproduct, must produce additional electricity to meet the needs of the less-efficient incandescent lights. Oh, and did I mention that I love CFLs?

Future installments of the Going Green series will discuss additional lighting options, including the use of light emitting diodes (LEDs), and ways to conserve water. If you have questions or topics that you would like to see discussed in future Going Green articles, send them to GreenNeugebauer@gmail.com.

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