



Training Newsletter

April 2012

SALISBURY FIRE
DEPARTMENT
TRAINING CENTER

TRAIN AS IF YOUR LIFE
DEPENDS ON IT...
BECAUSE IT DOES!

QUOTE OF THE MONTH

“BEWARE OF THE
FIREFIGHTER WHO
CLAIMS HE DOESN’T
NEED ANY MORE
TRAINING.”

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Energy-saving Bulb Dangers

By Lt. James L. Jester

WARNING:

This newsletter contains GRAPHIC images



By now, we have all seen them. We probably all have some in our homes. We most certainly have come into contact with them in the homes to which we respond. I am talking about energy-saving light bulbs. They have many different names; compact fluorescent lamp (CFL), compact fluorescent light, and compact fluorescent tube, all describe a fluorescent lamp designed to replace an incandescent lamp. Compared to their incandescent brothers producing the same amount of visible light, CFLs consume less power (from 1/5 to 1/3) and have a longer service life (8 to 15 times).

But the news in our quest to be better stewards of our planet is not all good. These CFLs have a small electronic ballast in their base. There is a fire hazard associ-

ated with these ballasts, but that is a conversation for another day. Let's talk about another danger posed by these "green" lamps: mercury exposure and poisoning.

Like all fluorescent lamps, CFLs contain mercury. This fact not only complicates their disposal under normal conditions, the problem is exacerbated when the lamp is broken and the mercury is allowed "out of its box." The symptoms of mercury poisoning typically include sensory impairment (vision, hearing, and speech), a lack of coordination, skin discoloration, tingling, itching, burning or pain, and desquamation (shedding of skin).

Mercury in lamps is typically present as either elemental mercury liquid, vapor, or both, since the liquid readily evaporates at room temperature. When broken indoors, lamps may emit sufficient mercury vapor to present health concerns. Breakage of multiple lamps presents a greater concern. Injection of mercury into the body through broken glass that is contaminated is of particular concern.

Here is the scenario:

You are dispatched to The Smith residence for a laceration to the foot. Routine run huh? Nope. What you were not told is that Mr. Smith uses CFL lamps in his home. One of those lamps burned-out, and Mr. Smith did not wait for the lamp to cool down before he stood on a chair and removed it. Because the lamp was hot to the touch, Mr. Smith dropped it. As the lamp hit the floor, it exploded. As Mr. Smith descended from the chair he stepped, barefooted, into the broken glass and exposed mercury. Here is what Mr. Smith's foot looked like during his 2-week stay in ICU:



At one stage it was feared that his foot would need to be amputated. Currently his foot is connected to a vacuum pump to remove continuously dead tissue.



The following are the recommended actions to take in the event of a broken CFL.

- ❖ Evacuate the room, taking care not to step on the broken glass littering the floor
- ❖ Ventilate the room for a **MINIMUM** of 15 minutes (EPA recommendation)
- ❖ **DO NOT** clean the debris of the broken lamp with a vacuum cleaner as this will spread toxic mercury droplets throughout the house either immediately or upon the future use of the vacuum
- ❖ Don protective gloves (I'll be the one in SCBA too!); use a broom or brush to sweep the debris into a dustpan; empty the contents of the dustpan into a plastic bag; seal the plastic bag
- ❖ **DO NOT** dispose of the plastic bag into an ordinary refuse receptacle
- ❖ The debris is lawfully a Hazardous Material and must be disposed of accordingly

Depending on the severity of the spill, a more thorough clean-up regimen may need to be employed. Private companies exist that specialize in this type of operation.

Mercury is a toxin, and should be treated with the utmost of care and respect. A CFL may look benign, and make you feel good about “going green,” but once the poison is “out of its box” and able to cause an exposure, it’s a brand new deal. Stay Safe folks!