SOLUTIONS - Indoor Environmental Consulting
Presents

Indiana IAQ

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About Indiana IAQ:

A new kind of newsletter that addresses the concerns of everyone interested in Indoor Air Quality (IAQ) in Indiana. From the many questions and concerns received this newsletter and the ones to follow are developed from specific concerns. Information is collected and applied this way to the articles published.

Who can write in? *Anyone*! Contractors, mitigation technicians, restoration and remediation technicians, real estate professionals, banks, doctors, lawyers, insurance professionals, investors, *anyone* with an interest in IAQ.

To submit an idea for an article, write to: IndianaIAQ@solutionsiec.com.

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MEMBER OF Indoor Air Quality ASSOCIATION INC.

Mercury In Compact Florescent Light Bulbs

Since Global Warming and Climate Change grew in popularity and concern, manufacturers have looked for ways to advance technology to reduce emissions of a number of man-made products, like carbon dioxide and mercury, especially in the form of energy production and efficiency. Not all of these efforts have reaped rewards, but few have come along that have had the effect promised of them.

When Compact Florescent Light Bulbs (CFLs) came out their goal was to reduce the emissions of mercury created when energy was produced for consumption. In that respect, according to Energy Star and the United States Environmental Protection Agency (EPA), they have done just that. Although landfill mercury, from CFLs, has increased 0.6 milligrams per bulb, emissions from the energy production of 8000 hours of

bulb use has gone down 4.6 milligrams.

Increases in landfill mercury comes from the fact that these bulbs do contain mercury, so, when they are disposed, we can expect more mercury to be deposited in landfills than traditional light bulbs (which did not contain mercury). But, wait a minute, if they contain mercury and mercury emissions can have a negative effect on the outdoor environment, what about the indoor environment?

Truth is, given what we know now, CFLs will not have a negative impact unless they are broken. I know that is a small consolation to some, given we have all experienced broken bulbs, so let's discuss what mercury is and how to handle one of these bulbs should one break in your home or office.

Mercury is a naturally occurring element found in the earth's crust, air and water. It is not something man-made. *(read more on page 2)*

Depression in the Workplace

During a recent study led by Suellen Curkendall, Ph.D., of Thomson Reuters Healthcare in Washington, D.C., researchers found that employees with depression were twice as likely to use short term disability leave, compared to workers without depression, despite antidepression treatments. For employees with severe depression, the short term disability leave was three times as high. "*Even after receiving antidepressant treatment, patients with depression still have significant productivity deficits*," Curkendall and colleagues wrote. In fact, employees with depression missed more workdays too.

Curkendall and colleagues estimate that depression-related short term disability leave costs businesses approximately $1000 per employee and up to $1700 for those with severe depression. (*read more on page 3*)

Is There A Need For Tougher Regulations On Heavy Metals?

For close to a century one of the world's largest smokestacks released lead, arsenic and other heavy metals across Washington's Puget Sound. The smokestack and copper smelter have since been demolished, but after the company that had owned the mine was bought by a foreign corporation there were concerns across the state that taxpayers would be left to pay the bill to clean up the environmental contamination.

The mining company was placed into bankruptcy in a move some skeptics viewed as a way to manipulate the justice system to prevent the parent company from its financial obligations to provide environmental cleanup funds. A U.S. District judge stepped in and in the end accepted a $2.2 billion plan from the new owners which satisfied most parties in the state.

Heavy metals that result from mining and smelting operations can include arsenic, beryllium, cadmium, hexavalent chromium, lead, mercury and other metals. Exposure to many of these metals can lead to adverse health conditions ranging from skin and lung diseases, cancers to even death.

These metals can build up in biological systems on land and in the water and become significant health hazards to both people and animals. LA Testing, an affiliate of EMSL Analytical and a leading source of heavy metal testing services, provides testing solutions to help protect people and the environment from heavy metal exposure.

"*Mining is a crucial component of the economy and our modern lives, but unfortunately in the past the safety and environmental regulations were not always as tough or heavily enforced as they are today*," reported Ben Sublasky, National Director of Client Services for LA Testing and EMSL Analytical. "*To ensure public safety and to protect the environment it's important that people recognize the need to test suspect materials for heavy metals to be sure that contaminated sites are identified and properly remediated.*"

To learn more about heavy metals or other environmental testing services please visit www.LATesting.com, email info@LATesting.com or call.

About LA Testing and EMSL Analytical, Inc.:
LA Testing and EMSL Analytical are providers of environmental testing services and products to professionals and the general public. The company has an extensive list of accreditations from leading organizations as well as state and federal regulating bodies.

Mercury in CFLs

(CONTINUED FROM PAGE 1)

Pure mercury is a liquid metal that volatilizes quickly (meaning it vaporizes quickly). It has been used to manufacture such products as thermometers, switches and some light bulbs.

During the manufacturing of energy from coal, mercury is released into the atmosphere. According to the EPA, in the United States coal-burning energy production makes up "*accounting for over 40 percent of all domestic human-caused mercury emissions.*"

Depending on the type, source, geographical-concentration and potential for air, water, and food transport (the number one way people are exposed to mercury is through fish consumption), as well as the location of your structure in relation to these things, determines the potential for your exposure to mercury on a day-to-day basis. At least it was before we began using it in the production of our consumer goods.

"*When elemental mercury is spilled or a device containing mercury breaks, the exposed elemental mercury can evaporate and become an invisible, odorless toxic vapor. This is especially true in warm or poorly-ventilated rooms or spaces. Sources of potential exposure to elemental mercury are described below.*

1. Elemental or metallic mercury is the liquid metal used in thermometers, barometers, and thermostats and other electrical switches. Metallic mercury is often found in school laboratories as well as in thermometers, barometers, switches, thermostats, and other devices found in school science labs.

2. It is not uncommon for children to break fever thermometers in their mouths. Mercury that is swallowed in such cases poses low risk comparison to the risk of breathing mercury vapor.

3. There are some necklaces imported from Mexico that contain a glass pendant that contains mercury. The mercury-containing pendants can come in various shapes such as hearts, bottles, balls, saber teeth, and chili peppers. If broken, they release metallic mercury to the environment." (EPA—www.epa.gov/mercury/exposure.htm#1)

"*Symptoms include these: tremors; emotional changes (e.g., mood swings, irritability, nervousness, excessive shyness); insomnia; neuromuscular changes (such as weakness, muscle atrophy, twitching); headaches; disturbances in sensations; changes in nerve responses; performance deficits on tests of cognitive function. At higher exposures there may be kidney effects, respiratory failure and death.*" (EPA—www.epa.gov/mercury/effects.htm)

According to Energy Star, manufacturers of CFLs though have taken precautions to assure users of CFLs that the overall content of mercury is low and safe. In fact, Energy Star reports that manufacturers are constantly working toward lowering the mercury content of these bulbs in response to consumer concerns and safety. But, where does that leave you today if one of these bulbs were to break in your home or office? How would you handle it? Let's discuss that now.

This is what the EPA suggests you do if one of these bulbs breaks (www.epa.gov/mercury/spills/index.htm#fluorescent):
(*read more on page 3)*

Depression in the Workplace

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So, what can you do to help reduce these problems?

The good news is that 80% of depression sufferers can be helped and recover. Here are some helpful tips for those of you in management and ownership:

1. Empower your staff so they understand and can recognize depression. Because many managers do not have daily contact with all employees, having your employees familiar with the signs of depression will help them recognize it and bring it to management for help and care.

2. Set up resources to help those suffering with depression. This can be as simple as including a once-a-year depression screen in your yearly physical exams, or just being more available for employees to talk to.

3. When you talk to your employees avoid diagnosing them. Be supportive and concerned, but avoid playing the psychologist. Your job is to help them become better employees, thus improving business. If an employee needs help, offer them support.

4. Be ready to act quickly. Have emergency preparedness plans that get needed employees to the hospital quickly, contact police, etc.

5. Create a good culture and working condition. Some have found that including such things as live plants, animals, natural light, healthy food, personalized work-spaces, and access to the natural world has helped increase moral and productivity of employees.

The cost of doing nothing can far surpass income loss and can include workplace violence. "*When you see people at work systematically cutting every single tie they have so that they're very much alienated and alone, that's the warning sign ...*," explains Dave Logan, Ph.D., a professor at the University of Southern California's Marshall School of Business and the co-founder and senior partner of the workplace culture consulting firm CultureSync. "*It's amazing how manager don't see the alienation until it's too late.*"

"*It doesn't take a lot of people*," Logan explains. "*It just takes one.*"

Author: Jason Yost, CIEC, CMRS, WRT, is owner of SOLUTIONS IEC, and has been in the cleaning, restoration, remediation, mitigation, and IAQ industry for over seventeen years. Jason is an individual member of the Indoor Air Quality Association and a board member of the American Indoor Air Quality Council. Visit Jason's IAQ PRO.FILE at: http://www.iaqa.org/profile_agreement.asp?id=223.

Mercury in CFLs (Continued from page 2)

"***Before Clean-up: Air Out the Room***

Have people and pets leave the room, and don't let anyone walk through the breakage area on their way out.

Open a window and leave the room for 15 minutes or more.

Shut off the central forced-air heating/air conditioning system, if you have one.

Clean-Up Steps for Hard Surfaces

Carefully scoop up glass pieces and powder using stiff paper or cardboard and place them in a glass jar with metal lid (such as a canning jar) or in a sealed plastic bag.

Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder.

Wipe the area clean with damp paper towels or disposable wet wipes. Place towels in the glass jar or plastic bag.

Do not use a vacuum or broom to clean up the broken bulb on hard surfaces.

Clean-up Steps for Carpeting or Rug

Carefully pick up glass fragments and place them in a glass jar with metal lid (such as a canning jar) or in a sealed plastic bag.

Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder.

If vacuuming is needed after all visible materials are removed, vacuum the area where the bulb was broken.

Remove the vacuum bag (or empty and wipe the canister), and put the bag or vacuum debris in a sealed plastic bag.

Clean-up Steps for Clothing, Bedding and Other Soft Materials

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.

You can, however, wash clothing or other materials that have been exposed to the mercury vapor from a broken CFL, such as the clothing you are wearing when you cleaned up the broken CFL, as long as that clothing has not come into direct contact with the materials from the broken bulb.

If shoes come into direct contact with broken glass or mercury-containing powder from the bulb, wipe them off with damp paper towels or disposable wet wipes. Place the towels or wipes in a glass jar or plastic bag for disposal.

Disposal of Clean-up Materials

Immediately place all clean-up materials outdoors in a trash container or protected area for the next normal trash pickup.

Wash your hands after disposing of the jars or plastic bags containing clean-up materials.

Check with your local or state government about disposal requirements in your specific area. Some states do not allow such trash disposal. Instead, they require that broken and unbroken . . ."

(*read more on page 4*)

SOLUTIONS
Indoor Environmental Consulting

"Don't let problems with poor indoor air quality take control of your life. Empower yourself with SOLUTONS—Indoor Environmental Consulting—today!"

(877) 624-7185

We're on the web!
www.SolutionsIEC.com

SOLUTIONS IEC is a truly experienced business that, with over seventeen years of mitigation, restoration, remediation and hygiene practices, can assist you in determining the Category and Condition of the damaged structure; develop a protocol that is real and specific to the structure; and can provide expertise beyond just an inspector's role. Our staff of professionals have been recognized in both indoor environmental consulting (Council-certified Indoor Environmental Consultants) and microbial remediation supervision (Council-certified Microbial Remediation Supervisors) - two of the most prestigious awards in the industry today! Don't let poor IAQ take control of your life. Empower yourself with SOLUTIONS—Indoor Environmental Consulting—toady!

Serving the Indiana and Illinois states!

Mercury in CFLs

(CONTINUED FROM PAGE 3)

. . . mercury-containing bulbs be taken to a local recycling center.

Future Cleaning of Carpeting or Rug: Air Out the Room During and After Vacuuming

The next several times you vacuum, shut off the central forced-air heating/air conditioning system and open a window before vacuuming.

Keep the central heating/air conditioning system shut off and the window open for at least 15 minutes after vacuuming is completed."

If you decide to clean one of these spills up yourself (and in most cases you can), always take precautions. Wear personal protective equipment, such as non-absorbent gloves, safety glasses, non-absorbent cover-alls or disposable clothing, and a respirator to keep dust and other fine particles from being inhaled.

For more Indiana-specific information check out the following resources:

Mercury Spill

• For information on recycling, visit the Recycle Indiana website at www.recycle.IN.gov.

• For information on your local solid waste management district, visit Indiana's Department of Environmental Management's (IDEM) website at

www.recycle.IN.gov/2888.htm.

• For information on mercury, visit IDEM's website at

www.idem.IN.gov/4149.htm.

• For questions and concerns, please call IDEM's Office of Pollution Prevention and Technical Assistance at (317) 232-8172 or, toll free, (800) 988-7901.

• For information on the ENERGY STAR program, visit the United States Environmental Protection Agency's website at www.energystar.gov.

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