The Lab Rat NEWS

May 2014

EMORY UNIVERSITY

Environmental Health and Safety Office

Research Administration

The Global Phase-Out of Mercury Thermometers

Several governmental agencies, including the Environmental Protection Agency (EPA) and the World Health Organization (WHO) are jump-starting an effort to phase out mercury (Hg) thermometers from common use. At Emory University, we want to follow the same precedent and also raise awareness about the dangers of mercury. Below are some quick facts about Hg thermometers at Emory:

The most common Hg-containing device at Emory is the Hg thermometer. An Hg thermometer can easily be recognized by visible inspection of the device. The "liquid silver" inside a glass thermometer is the easiest way to identify an Hg thermometer, and the silver can be seen inside the thermometer and at the tip.

So what is the big deal about Mercury anyway? The main concern with mercury is not the use of Hg thermometers; instead, the concern is what happens when/if the thermometer breaks. Mercury is a potent neurotoxin that releases odorless, colorless, and toxic vapors when exposed to the air. These vapors are not visible to the naked eye and can cause poisoning symptoms to those exposed. The EHSO at Bowling Green State University in Bowling Green, Ohio has performed an experiment to show exactly what happens when mercury is released into the air. They use a UV light to show the vapors released into the environment as soon as mercury is exposed to air.

Our advice to you…The EHSO at Emory asks you to REPLACE your Hg thermometers before they break! There are several other options, including digital thermometers, alcohol thermometers, and kerosene thermometers.

What's the benefit of switching? The most immediate benefit of switching from Hg thermometers to non-Hg thermometers is safety; worker safety, environmental safety, and the safety of the clean-up personnel. Switching to digital allows for fast equilibration, faster response time (sometimes as little as 1 second), extended temperature range (some range from -196°C to 550°C), and better advancement in data recording. Also, by switching from Hg thermometers to non-Hg thermometers you can avoid the cost of remediation. Spending thousands, up to tens of thousands of dollars on a mercury spill clean-up is not uncommon.

How do I dispose of my Hg thermometer? Any Hg thermometers at Emory can be disposed of via EHSO. You can email chemwaste@emory.edu to schedule a pick-up. We recommend zip lock bags for secondary containment. Hg thermometers are considered Universal Waste and must be labeled "Used Mercury Containing Article" and the date it was removed from service (or decided to be discarded). It is ok to label a bag holding multiple thermometers, rather than each individual one. Universal Waste handlers must be informed of proper handling and emergency procedures, which can be done by reading the Quick Facts - Universal Waste sheet on our website

Training

Most of EHSO's Trainings are available online. ehso.emory.edu

Rad Safety Training
2nd Tuesdays at 10:00am (monthly)

Lab Safety Training
3rd Thursdays at 10:00am (monthly)

Chemical/ Radioactive Waste

Full Schedule here...

All **chemical** waste pick up should be requested by emailing chemwaste@emory.edu

All **radioactive** waste pick up should be requested via EHS Assist pick-up.

Chemical waste disposal inventory form and/or **radioactive** waste inventory form should accompany all waste containers at the time of pick-up.

PPE

Choice to be based on potential exposures involved:

Eye: Glasses, goggles & face shields

Gloves: Appropriate for the type of procedure

Clothing: Gowns, lab coats, aprons, coveralls

Respirators: Appropriate for the type of procedure

What Can You Do to Improve the Safety Culture of Your Lab?

Would you like to begin incorporating safety into everyday activities of your research? Do you want to reduce the probability of accidents or injuries in your lab? If your answer is "yes" to these questions, then consider including "lab safety moments" in every lab meeting.

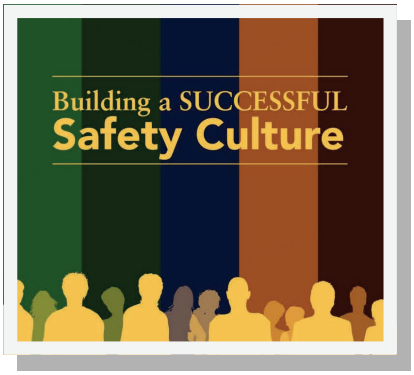
At the University of Minnesota, Twin Cities (UMTC), the Department of Chemistry and the Department of Chemical Engineering, and Materials Science (CEMS) do not begin a lab meeting without a "safety moment." A "safety moment" is a 1 to 2 minute talk about a lab safety topic used to kick-off the lab meeting. The following list includes a sample of topics

° Safety Issues in the Media
° Emergency Procedures
° Engineering Controls
° Classes of Personal Protective Equipment
° Chemicals and Their Hazards
° Technique and Procedure Safety (i.e. Working in an Inert Atmosphere, Using an Oil Bath, Flash Chromatography hazards)

For this university, the leaders of cultural change were current lab members that worked in collaboration with research staff and university safety. As current lab members, these individuals were able to make safety central to the daily activities in the lab. They helped to ensure personnel knew the expectations for conducting experiments safely and encouraged the culture of safety within their lab. Over time, the cultural change within the lab helped shift the culture of the department. As a result, awareness of the need for personal protective equipment increased along with use of required protective gear.

What can you do to improve the safety culture of your lab?

⇒ Maintain a set of lab specific standard operating procedures or guidelines.
⇒ Address instances when lab members consistently depart from safety requirements.
⇒ Encourage staff members to share general safety concerns.
⇒ Increase safety awareness by benchmarking with other labs or obtaining advice from members of the campus' safety community. Share and discuss safety challenges or concerns with other research departments.



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Science Magazine: http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2014_03_05/caredit.a1400060

Please Read—

Signature indicates: I have read and I understand the information in this issue of Lab Rat Newsletter. Use an additional sheet of paper for more signatures, if needed and attach to this document.

- This newsletter is a tool to help fulfill a legal requirement for ongoing safety training.
- Supervisors are responsible for ensuring that individuals in their area have read and understood the information that applies to their area.
- The signed newsletter should be placed into the PIs EHSO Lab Safety Binder.

Signature Here

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Eye Wash Testing

Eyewash Stations should be tested and documented once a month by lab personnel

Certifications

Biosafety Cabinets, Geiger Meters and Chemical Fume Hoods Certifications are required annually.

Fire Extinguishers

Visual fire extinguisher inspections conducted monthly:

A. Is it present and mounted in its proper location?

B. Is it readily accessible?

C. Initial and date attached tag.

If it appears to need servicing contact the Maintenance HELP line at 7-7463

Tell us how we are doing!

The newsletter has a new home. Every individual article is now hosted online at blogs.emory.edu/labratnews/

Got something to share? Tell us! Post comments, related articles/links, and safety concerns.

Feel free to also send your comments to **biosafe@emory.edu**.

We look forward to reading your ideas and comments!

Building Liaisons

Click here to find your building's Radiation and Research liaisons.