

Regulatory Relief for Some Institutions

The U.S. Environmental Protection Agency (EPA) recently issued regulations that will make life easier for laboratory personnel at institutions with centrally managed hazardous waste programs. Those institutions utilizing the new hazardous waste regulations for academic laboratories can allow EH&S personnel to take on many of the waste management tasks now performed by lab personnel, reducing duplication of effort and risks.

Unfortunately, our decentralized hazardous waste program does not qualify for regulatory relief. This means that you must remain vigilant in managing your hazardous waste; EPA and TDEC inspectors will continue to hold your lab to the same regulatory standards as industry.

Keeping Clean Surfaces Clean

Whether you are a custodian, a cook, or a research scientist, it is important to avoid cross contaminating surfaces. When touching “clean” surfaces or when leaving the lab or shop, please remember to remove potentially contaminated personal protective equipment (PPE). Good laboratory practice for avoiding cross contamination of “clean surfaces” is described in the *Laboratory Chemical Hygiene Program* statement, “When PPE is used for work with hazardous chemicals [let’s add radioisotopes and biological agents, too], it shall be removed and left in the laboratory before leaving for non-laboratory areas (e.g., cafeteria, library, administrative offices). Gloves are not to be used for touching ‘clean’ surfaces (keyboards, telephones, etc.)”

Are you putting yourself and others at risk by not removing PPE at appropriate times?

Sources of Assistance

Director of EH&S	678-4672
Radiation Safety Officer	678-4672
Chemical Hygiene Officer	678-4672
Environmental Protection Specialist	678-2044
Laboratory Safety Specialist	678-2740
Fax	678-4673
Emergency (Fire, Police, Ambulance, after hours Chemical/Radiological)	678-4357
EH&S Home Page	http://ehs.memphis.edu

Handling Nanoparticles Safely

The toxicological properties of nanoparticles have not been fully investigated; however, initial studies suggest the potential for adverse health effects, especially when the particles are inhaled or there is direct skin contact. Nanoparticles in dry powder form are thought to present the greatest health risk because of the potential for the material to become airborne; therefore, maximum effort must be expended in ensuring that these materials are contained to prevent dispersal into the air where they also present a serious risk for fire or explosion.



Katherine Miller snapped this photo of public trash receptacles in Wuhan, China. The receptacle on the left is for hazardous items - it's obviously not EPA approved.

Do not rely on the accuracy of MSDSs for chemicals which have not been evaluated in nanoparticle form; a normally innocuous chemical may not be innocuous at nanoparticle size. Be safe by handling all nanomaterials as if they are hazardous. For more information on proper handling of materials of unknown toxicity, see the *Laboratory Chemical Hygiene Program* at <http://ehs.memphis.edu/chp2005.pdf>. See our web site for links to more nanoparticle resources.

University of Kansas Resolves EPA Citation

The University of Kansas will spend more than \$81,000 to resolve an EPA citation alleging multiple violations of the Resource Conservation and Recovery Act. Among the violations cited by EPA were the usual items: failure to make a waste determination (did not determine if waste was a hazardous waste before tossing it), failure to properly mark and close hazardous waste containers, and improperly treating hazardous waste by allowing solvent in rags to evaporate rather than disposing of the solvent soaked rags as hazardous waste.

If your budget can't handle any extra costs, then make a special effort to manage your waste by the book. If you haven't read the book, see our *Guide to Hazardous Waste Management* at <http://ehs.memphis.edu/waste man06.pdf>.

Do you know how to contact your department's hazardous waste coordinator?

UCLA Researcher Dies after Lab Fire

A December 29, 2008, laboratory fire at UCLA involving tert-butyllithium in pentane resulted in a 23 year old research associate/lab technician receiving second and third degree burns over 40% of her body. The *Los Angeles Times* reported that she died on January 16 at Grossman Burn Center in Sherman Oaks, California.

The fire occurred while the researcher was extracting the chemicals with a syringe: The plunger came out of the syringe, splashing her with the chemicals and causing her nitrile gloves and synthetic sweater to become involved in the spontaneous fire. Sources indicated that she was not wearing a lab coat at the time of the incident.

Does everyone in your lab know how to respond to a fire or other emergency? Do employees know where to seek medical assistance? If you answered no, see <http://bf.memphis.edu/crisis/chart.pdf> and <http://bf.memphis.edu/hr/esh/injury.php>. Information on handling air sensitive reagents is available at http://www.sigmaaldrich.com/etc/medialib/docs/Alldrich/Bulletin/al_techbull_al134.Par.0001.File.tmp/al_techbull_al134.pdf.

Prepare for accidents before they happen!

Fires and Explosions at Other Institutions

Lab Fire at Scripps Research Institute

A laboratory at Scripps Research Institute was the scene of a November fire apparently involving lithium aluminum hydride. None of the six employees in the lab at the time were injured. The building was evacuated as a precaution after the lab employees stopped the fire using fire extinguishers.

UNC Grad Student Injured in Lab Explosion

A January 6, 2009, article in *The News & Observer* reported that a University of North Carolina - Chapel Hill graduate student was injured when a pressurized flask of nitric acid exploded in a research lab. The injuries were said to be limited to cuts, abrasions, and some skin contact with the acid.

Colorado State University Lab Explosion

Volume 2, Issue 5, of *Campus Fire Watch* reported that methanol fumes caused an explosion in a research facility on the Colorado State University Foothills campus. There were no injuries in the incident, but the building was temporarily evacuated.

Do You Need PPE?

Personal protective equipment (PPE), such as lab coats, gloves, and safety glasses, is the last line of defense for personnel who are determined to be at risk of injury due to conditions in the workplace. Engineering controls (e.g., fume hoods) and administrative controls (e.g., unplug that gadget before sticking your finger in the circuits) are the primary means of protection. When those methods are inadequate to protect personnel, then PPE is needed.

OSHA requires the employer to provide PPE at no cost to employees. At The U of M, this generally means that your department pays the cost of PPE. The exceptions to this requirement include non-specialty safety-toe protective footwear and non-specialty prescription safety eye wear, provided that the employer permits such items to be worn off the job-site; everyday clothing, such as long-sleeve

shirts, long pants, street shoes, and normal work boots; and ordinary clothing, skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sun screen.

To determine the need for PPE, follow the process outlined at <http://ehs.memphis.edu/WorkPlaceHazAssessGuide.pdf>. Use the guidance at <http://ehs.memphis.edu/PPEguidelines.pdf> to select PPE.

MSU Video, Entertains and Informs

Colleagues at Mississippi State University produced a new biosafety video that is available on the Web. In addition to being informative, the video format is entertaining. Take a few minutes and see "Lab Wars" at http://vimeo.com/2578088?pg=transcoded_email&sec=2578088.

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