
ENVIRONMENTAL HEALTH AND SAFETY

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Chematix Coming to a Lab Near You

While many of you were away for the summer, we worked with our friends in IT to replace multiple, stand-alone software systems with an integrated suite of software that shares information among the modules. The new Chematix™ (pronounced kem·at·iks) software suite will offer you broader, improved services while increasing EH&S' productivity.

Labs that elect to use Chematix™ for inventory management will no longer receive those green and white sheets of paper every year. So, this is your chance to eliminate paper and reduce frustration.

If you are interested in digitalizing your laboratory inventory, we will be happy to demonstrate the system and discuss how Chematix™ can make life better for you.



Adrienne Bonton applies the first Chematix barcode label in the Chemistry Department.

It's That Time

The Laboratory Safety Seminar will be offered on Thursday, August 29, from 1:15 p.m. until 4:15 p.m. in the Ellington Hall Auditorium. Your seminar favorites will be back: PPE fashion show, refreshments, door prizes, fun, and scary case studies.

“Danger, Will Robinson, Danger!”

The new OSHA Hazard Communication Standard will require containers of hazardous chemicals to have labels that include a signal word indicating the relative severity of the chemical hazards. One of the signal words, either “Danger” or “Warning,” with “Danger” indicating the greater relative hazard, will soon be appearing on your chemical containers.

Read and follow recommendations on the label and Safety Data Sheet when you see a signal word.

EH&S to Evaluate Energy Saving Options

Laboratory fume hoods are critical to protecting personnel from hazardous materials used in labs. Unfortunately, the cost of running over 200 fume hoods 24 hours per day every day is tremendous, both in money and our carbon footprint.

Fortunately, fume hood manufacturers are making high efficiency hoods that effectively protect personnel while using less energy.

The Chemical Hygiene Committee recently endorsed plans by EH&S to study the effectiveness of operating our newest fume hoods at a lower face velocity than traditional-

ly used. If the study confirms the hood manufacturer's data showing that safety of lab personnel is maintained at the lower face velocity, it will open a door for tremendous energy savings over the life of each hood.

Please pull down your fume hood sash to conserve energy and improve safety.

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EH&S Wins National Award, Again!

EH&S was awarded the Campus Safety, Health and Environmental Management Association's 2013 Newsletter Award of Excellence. CSHEMA recognizes outstanding EH&S programs and people to promote continuous improvement of EH&S programs.

Your suggestions, criticisms, and compliments were critical in making this a nationally recognized publication for the second time. Thank you for making our success possible!

How's Your Situational Awareness?

It's not unusual to see close encounters between pedestrians and vehicles, or even pedestrians and non-mobile objects. Although drivers are expected to maneuver their vehicles safely and yield to pedestrians, they can't anticipate your every move. And, of course, that giant tree root can't just hop out of your way.

A study published in the journal *Injury Prevention* indicated that nearly one-third of studied pedestrians were distracted by "social or technological activity." Texting pedestrians were observed to be four times more likely to engage in an unsafe act.

Here are some tips that may help you avoid an unwanted, painful interaction with another object while in motion:

- Avoid using ear buds or ear phones.
- Avoid texting and web surfing.
- If you must use your cell phone, exert extra effort to stay aware of your surroundings.
- Avoid or severely limit other distractions.
- Watch out for yourself and those around you.

Be alert out there! You probably aren't as good at multitasking as you think you are.

Student Lab Injuries and SDSs

If a student is injured by a chemical and seeks medical treatment, the healthcare provider needs a copy of the Safety Data Sheet (SDS) for the chemical to which the student was exposed. Sending an injured student to Student Health Services or other healthcare provider without the SDS will delay treatment.

EH&S maintains the master file of SDSs for the University, and we make them available to you via the web on any

computer, tablet, or smart phone using a U of M IP Address. Just click on the yellow SDS folder on the right side of our web page, and search for the chemical; once you find the right SDS, you may print it.

Are you retrieving and studying Safety Data Sheets before using new chemicals?

Design Standards Promote Lab Safety

A set of laboratory design standards has been developed as a cooperative effort between Physical Plant personnel and EH&S. As new labs are constructed and old labs receive major renovations, the new standards should promote consistent design and construction practices that improve safety.

One of the more visible results of the standards is a new style emergency shower and eye wash. The new style provides a "medically superior" spray of water for decontamination of the eyes, face, and body. A video demonstrating the advantages of the units is available via the embedded link.

Do you understand how to use the emergency eye wash and shower in your work area?



David Horan
Ann Marie Cowles, Al Simpson, Erik Tyge, and Katherine Shorter show off the 2013 CSHEMA Newsletter Award of Excellence.

Hazcom Training Deadline is December 1st

If you have not attended the Lab Safety Seminar or a Hazard Communication class recently, the regulatory clock is ticking. Personnel who work with, or around, hazardous chemicals have until December 1 to complete federally mandated Hazard Communication (a.k.a., Hazardous Chemical Right-to-Know) training. This requirement is part of the globally harmonized regulatory changes imposed by the Occupational Safety and Health Administration (OSHA).

If you are a supervisor, department chair, or director of an activity, University Policy UM1293 charges you with ensuring that personnel in your area receive appropriate safety training. Let us help you carry out this responsibility by presenting a hazard communication class for your personnel.

Don't miss the train by failing to train before the December 1st deadline!

California Man Faces 180 Year Sentence

A California man was recently convicted in federal court after trying to improperly ship hazardous materials. Among the nine counts on which he was found guilty were endangering the safety of an aircraft, failing to properly mark and label packages, and failing to provide appropriate shipping papers.

Don't ship hazardous material unless you have appropriate training and are certified to ship. Shipping hazardous material without the knowledge and skills to properly classify, mark, label, package, and create shipping papers puts you, the University, and the public at risk.

See University Operating Procedure UM1296 for information on shipping hazardous materials.

More Nanomaterial Risks

There are more reasons to be concerned about the safety of engineered nanomaterials, both in the lab and the environment. (Nanomaterials include engineered structures, devices, and systems having a length between 1 and 100 billionths of a meter.)

Scientists recently reported in *ACS Nano* that certain kinds of engineered nanoparticles, while showing no outward signs of damaging cells, "caused extensive reprogramming of nearly 500 genes" in macrophages. These gene modifications suggest possible impairment of immune responses.

The *Proceedings of the National Academy of Sciences* published a study reporting that the sharp corners and edges of graphene microsheets can penetrate the walls of human cells, raising concerns about potential harmful effects.

Physics.org reported Illinois Institute of Technology researchers found that commercially available 3D desktop printers can emit substantial numbers "of potentially harmful nanosized particles."

Some tests even suggest that nanomaterials may penetrate materials commonly used in laboratory gloves. So, double glove and change at least the outer gloves frequently. See our website for more information on working safely with nanomaterials.



NIOSH Illustration
If you use, or plan to use, a nail gun, click here to view NIOSH's new graphic novel, "Straight Talk About Nail Gun Safety."

Sources of Assistance

Director, EH&S678-4672
Radiation Safety Officer678-4672
Hazardous Materials Specialist678-2044
Laboratory Safety Specialist678-2740
Fax678-4673
Emergency (Fire, Police, Ambulance,
after hours Chemical/Radiological) 678-4357
EH&S Web Page ...<http://ehs.memphis.edu>

Scary Events at Other Institutions

Washington State University

According to the *Moscow-Pullman Daily News*, a WSU student was hospitalized with third degree burns to his left leg following a chemical fire. The fire apparently erupted as an experiment using hexane was being scaled up. Students tried unsuccessfully to control the blaze with fire extinguishers.

Plan your scale-ups carefully, and review the protocol with your PI before starting.

Pennsylvania State University

Penn State had better luck when, according to *CentreDaily.com*, a graduate student extinguished a chemical fire before it became more serious. The grad student “smelled something burning and saw flames inside a chemical storage room” where the fire apparently originated on a cart storing oxidizers and acids.

Are you segregating your chemicals by hazard class to prevent unwanted reactions?

University of Redlands

When University of Redlands personnel discovered a 1973 vintage container of tert-butoxycarbonyl azide inside a lab refrigerator, the *San Bernadino Sun* reported that the heat and shock sensitive chemical was detonated on campus by San Bernadino County Fire and Sheriff’s personnel.

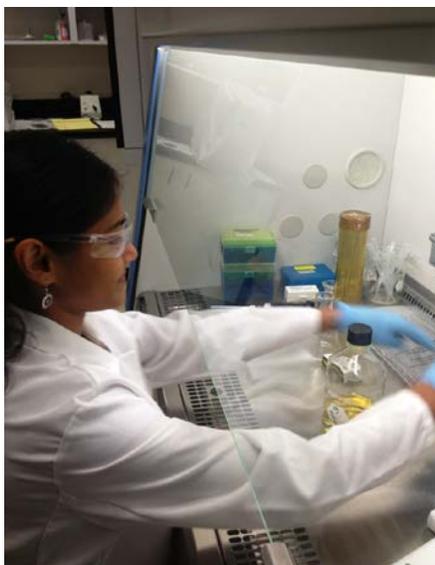
If your chemicals are old enough to vote, then it’s time to arrange for their disposal. Contact EH&S.

University of Maine

Chlorine tablets being neutralized with sodium bisulfate and water in a five gallon bucket unexpectedly off-gassed, leading to evacuation of approximately 150 people from a laboratory building.

OSHA Slams SF VA Medical Center

OSHA cited the San Francisco Veterans Affairs Medical Center for “unsafe and unhealthful working conditions” following the lab-related death of Richard Din, a researcher working with *Neisseria meningitidis* bacteria when he became infected. Violations cited by OSHA included failure to require workers to use a safety enclosure (i.e., biological safety cabinet) when working with a viable culture, failure to provide training on signs and symptoms of illness that might result from exposure to a viable bacterial culture, and failure to provide available vaccines to workers potentially exposed to the bacteria.



Madhumita Paul uses a biological safety cabinet for cell culture work in the IM Center.

Have you received all the vaccinations needed to protect you from potentially harmful biological agents?

RadioLogistix™ Available Soon

Hey, all you rad dudes and dudettes, you will soon have access to RadioLogistix™ for managing your radioisotopes. This software, part of the Chematix™ suite, will give you more tools to help requisition, inventory, track, and dispose of radioisotopes. RadioLogistix™ does not have to be installed on your computer, giving you the convenience of access via any device capable of surfing the web. Contact Al Simpson for more information.

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