

Waste Reduction has Silver Lining

A cooperative effort between the Art Department and the Environmental Health and Safety Office (EH&S) has resulted in installation of a new system to remove silver from photographic wastes. Just 5 milligrams of silver in a liter of waste makes it a hazardous waste under federal and state regulations.

The new system, replacing an older version that has been in operation for many years, allows spent black and white photographic fixer to be safely disposed of after the silver is removed. Although the system has some operating costs, the Art Department will receive credit for the recovered silver. Wow! Protecting the environment and getting money back - now that's a real silver lining.

What are you doing to help the environment?

Physicists Tending Bar(codes)

The Physics Department will soon become the second department on campus to implement barcoding and chemical inventory management with the Vertere Inventory Manager (VIM). Maintained by EH&S and Information Technology, VIM will allow physicists to keep track of their hazardous chemicals, search for chemicals in-house before buying new materials, track consumption, and more. Using VIM also means that physicists will no longer receive those huge inventory printouts from EH&S every year, saving valuable time. Periodic physical inventories with a barcode scanner will ensure accuracy of the inventory data.

How does your department account for hazardous chemicals?



Nick Arechederra of ARS Services installs a new silver recovery unit as the Art Department's David Horan looks on. (Photo by Erik Tyge.)

Lab Safety Seminar September 1

Our highly rated Laboratory Health and Safety Seminar is scheduled for Wednesday, September 1, 2010, from 1:15 p.m. until 4:15 p.m., in the Ellington Hall Auditorium. We continue to improve the seminar and try to keep it lively.

In addition to providing information that will help you work safely in the lab and protect the environment, we promise refreshments and fun.

Your registering for the seminar through your department by August 28 will help ensure that we have plenty of refreshments and handouts.

Has everyone in your lab, shop, or studio been informed of the hazards in their workplace and trained on how to protect themselves and others?

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EPA's New Lead Paint Rule

The U.S. Environmental Protection Agency (EPA) has promulgated regulations requiring firms that disturb lead based paint while renovating, repairing, or painting pre-1978 homes, childcare facilities, and schools to be certified by the EPA. Workers on such projects must also be trained by an EPA accredited training provider and use lead-safe work practices.

If you live in a pre-1978 home with lead paint, be sure that your renovator, repairer, or painter has the appropriate credentials and uses lead-safe work practices. If you are the owner of pre-1978 rental property with lead paint and you perform renovation, repair, or painting on the property, please see the requirements for certification and lead-safe work practices required by EPA's Renovation, Repair and Remodeling rule. More information is available at <http://www.epa.gov/lead/pubs/renovation.htm>.

Hazards in Unexpected Places

It hasn't been that long since PCBs were detected in caulk used years ago in some areas of the country. Now colleagues at Yale and Stanford universities have discovered that some autoclave tapes contain significant amounts of lead, making the tape a hazardous waste and increasing disposal costs.

If you are unsure as to whether your autoclave tape is lead-free, check out the Stanford web site at <http://med.stanford.edu/somsafety/chemsafety/getLeadOut.html> or call EH&S.

Are you testing your autoclave frequently to ensure that temperature and pressure are adequate to kill fungi, bacteria, and other unwanted wee things?

Texas Tech Explosion Linked to Violations

The *Lubbock Avalanche-Journal* reports that the internal investigation of a January 7, 2010, laboratory explosion has revealed numerous violations of safety protocols in the lab where the explosion occurred. A 29 year old graduate student was said to be grinding approximately 10 grams of a highly energetic compound, cobalt perchlorate hydrazine, on a benchtop when it exploded, severing three fingers and perforating an eye (no goggles). Tech has beefed up its lab safety efforts while awaiting results of a federal investigation.

The Laboratory Chemical Hygiene Program is not just essential reading; following its rules and guidance can prevent a tragedy.

EPA Enforcement Update

Among the newly released draft goals of the U.S. Environmental Protection Agency (EPA) is to "protect human health and the environment through **vigorous and targeted civil and criminal enforcement.**" This goal is to be achieved by 2015 through the following measures:

- Conduct 105,000 federal inspections annually
- Increase the number of criminal cases with individuals charged
- Increase the percentage of criminal cases opened
- Initiate more civil judicial and administrative enforcement cases

As industries substitute materials, eliminate processes, and take other actions to reduce or eliminate hazardous waste generation, educational institutions are generally unable to make similar changes, making us more visible targets for inspections.

If you are not actively working to comply with environmental laws and regulations, this might be a good time to reconsider your priorities.



Taped biohazard bag ready for the autoclave - without the lead.

Million Dollar Lab Fire at Carbondale

A fire, said to be caused by a student cleaning equipment with hexane, in a Southern Illinois University - Carbondale lab will likely cost SIU \$1,000,000 by the time equipment is replaced and damage is repaired. The fire was confined to one lab, and no major injuries were reported.

Flammable vapors can travel considerable distances before finding an ignition source.

Laboratory Ergonomics

Widespread reports of Repetitive Stress Injury (RSI) and related musculoskeletal disorders in laboratory workers resulted in the development of more ergonomic pipettors. Manufacturers are now beginning to address ergonomics associated with microcentrifuge tubes.

A July, 2010, article in *Occupational Health & Safety* described a study comparing five kinds of microcentrifuge tubes, with a rear lid tab tube being judged the most ergonomic. The author of the study indicated that the rear lid tab allowed the user's thumb to move perpendicular to the hand grip "for a more natural application of force." If you handle lots of microcentrifuge tubes, consider using the most ergonomic tubes available.

U.S. Postal Service Fined \$558,000

The U.S. Occupational Safety and Health Administration (OSHA) recently fined the U.S. Postal Service (USPS) \$558,000 for alleged willful and serious violations of worker safety regulations. OSHA inspectors were said to have observed untrained or unqualified USPS employees working on energized electrical equipment in violation of lockout/tagout requirements.

Do you have a program in place to prevent contact with energized equipment?

Mizzou Explosion Injures Lab Workers

A hydrogen-containing anaerobic chamber in a biochemistry lab at the University of Missouri in Columbia was determined to be the origin of an explosion and fire that did major damage to the lab and injured four people. A graduate student, two post

docs, and a lab tech were reported by the *Columbia Missourian* to have received burns, shrapnel and impact injuries.

Investigators concluded that human error led to the explosion: A valve was inadvertently left open and a "T-connection" was installed without a switch to isolate the hydrogen, allowing the gas to reach explosive levels in the chamber.



Exterior view of explosion aftermath at Mizzou. Broken windows and mangled interior are visible on upper floor. (Photo courtesy of Columbia Missouri Fire Department.)

University of Missouri officials have posted recommendations on their web page to help prevent similar accidents. See <http://munews.missouri.edu/news-releases/2010/0709-investigation-of-schweitzer-hall-explosion-complete> for details.

Check, then double check before starting a hazardous process.

Sources of Assistance

Director of EH&S	678-4672
Radiation Safety Officer	678-4672
Chemical Hygiene Officer	678-4672
Hazardous Materials 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

UCLA in More Trouble with CalOSHA

UCLA is again in the news after California OSHA inspectors alleged more safety violations in laboratories. Among the items cited, along with the imposition of a \$67,720 fine, were failure to notify CalOSHA of a serious accident that resulted in a graduate student being hospitalized due to burns, improper storage of chemicals, lack of training for supervisors, no Material Safety Data Sheets, and more.

In discussing UCLA and safety culture in academic laboratories, Dr. Neal Langerman stated in the May/June, 2010, *Journal of Chemical Health and Safety*, "...[S]afety must be a priority equal to research and teaching. Without this total change in culture, we will continue to see the unsafe practices that lead to serious accidents."

Thanks to all of you who make safety an integral part of getting the job done.

Don't Ship that Package!

If you have not received training and certification by the University to ship hazardous materials, then don't do it. The Federal Aviation Administration (FAA) recently proposed civil penalties ranging from \$54,000 to \$97,000 against several companies after inspectors discovered items such as isopropyl alcohol, paint, and medical grade silicone being improperly shipped. Hazardous materials must be declared, properly classified, packaged, marked, labeled, and in condition for shipment before being offered for shipment. The days of stuffing dangerous things into old cardboard boxes and hoping for the best are over.

Welcome, Erik and Ann Marie

Since our last newsletter was published, Frank Williams retired, Kenya Sanders received a promotion in another department, and two new people have joined the EH&S team.



Ann Marie Cowles and Erik Tyge of EH&S

Erik Tyge, our new Hazardous Materials Specialist, holds a Master of Science degree in environmental science and is a Certified Hazardous Materials Manager. He has many years of experience in the environmental field, including hands-on and supervisory experience in hazardous waste management. Contact Erik at 678-2044

Ann Marie Cowles, our new Administrative Secretary, is majoring in Psychology at The U of M. She comes to us with a good familiarity of our facilities and systems, including Banner. You may contact Ann Marie at 678-5700.

Environmental Health & Safety Staff

Alton Simpson, Director
Katherine Miller, Laboratory Safety Specialist
Erik Tyge, Hazardous Materials Specialist
Ann Marie Cowles, Administrative Secretary

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