

"Safety Comes First"

Case Department of Occupational and Environmental Safety

Service Building, 1st Floor
Phone: (216) 368-2906/2907
FAX: (216) 368-2236
Website: <http://does.case.edu>

June/July
2010

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On December 29, 2008, a chemistry/biochemistry research assistant at UCLA, Sheharbano (Sheri) Sangji was drawing approximately 20 mL of 1.7 mol/L tert-butyl lithium (t-BuLi) in pentane into a 60 mL syringe when the chemical ignited and she caught fire. She sustained third degree burns over 43% of her body. After several weeks of treatment, Sangji died from her wounds on January 16, 2009. Though Sangji had safety glasses on during the accident, she was not wearing a laboratory coat. Subsequent investigations by Cal/OSHA indicated multiple regulatory violations and led to fines of \$31,875 in May 2009.

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However, UCLA's problem did not end here. The Department of Chemistry and Biochemistry was assessed new penalties in both August 2009 and again in December 2009. Cal/OSHA assessed penalties totaling \$67,720 for health and safety violations identified in chemistry research labs, and an additional \$29,300 for an unnamed student who was burned in a 2007. Fines were also assessed by Cal/OSHA for numerous violations including failure to notify the agency of the accident, lack of protocol to respond to unsafe working conditions, and failure to ensure that all lab workers use protective safety wear. Neal Langerman (founder of Advanced Chemical Safety) noted that the UCLA Chemistry and Biochemistry department was becoming an "embarrassment" and "an unsafe environment in which to be a student" (Kemsley, 2009). Potential criminal charges are now being considered by local authorities.

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Proper Chemical Labeling: The Essentials

“Unclear labels, missing labels, and/or use of abbreviation, formulas, or chemical structures on labels can lead to potential exposure to hazardous chemicals.”

Proper chemical labeling is essential for a safe laboratory work environment. Unclear labels, missing labels, and/or use of abbreviations, formulas, or chemical structures on labels can lead to potential exposure to hazardous chemicals. Unlabeled or mislabeled chemicals not only present potential hazards but are expensive to dispose. Quite simply, it is relatively easy for labels to be misinterpreted if a protocol is not followed.

“Unlabeled chemicals” are classified in the following ways: bottles without a label, containers labeled with only codes, generic process labels that do not specifically list chemicals contained, and obviously mislabeled chemicals such as waste bottles that still have the original product label. Of particular importance is the distinction between the labeling of laboratory chemical products and the labeling of laboratory chemical waste.

The Occupational Safety and Health Administration (OSHA) has established guidelines for the labeling of chemical products used in the laboratory, and the Environmental Protection Agency (EPA) regulates the labeling of chemical waste generated in the Laboratory. Moreover, state and local regulations and/or university policies may exceed the minimum requirements established by OSHA and the EPA. While a detailed summary of these guidelines can be found in the Case DOES Laboratory Safety Manual (see <https://www.case.edu/finadmin/does/ChemSafety/>), enclosed below are a few essentials to keep in mind.

Procedures for Labeling of Chemical Containers

Inspect incoming containers to ensure that they have legible labels.

Manufacturer chemical labels should never be removed or defaced until the chemical is completely used. Empty containers that are saved for re-use must have the original label removed or marked out and obliterated. Empty containers that are used for waste or chemical products must have a new label affixed or have the information written directly on the bottle.

Label all containers in English to identify the contents with the full chemical name(s) and appropriate hazard warning information. The identity on the label should correspond to a chemical name, trade name, or abbreviation found on the MSDS. No abbreviations, formulas, or chemical structures may be used unless it is otherwise labeled appropriately.

Small containers that are difficult to label such as 1-10 ml vials and test tubes can be labeled as a group and stored together. A log or laboratory notebook with corresponding sample numbers on the bottles or group may be used to identify the contents.

Unattended beakers, flasks, and other laboratory equipment containing chemicals used during an experiment should be labeled as described above...

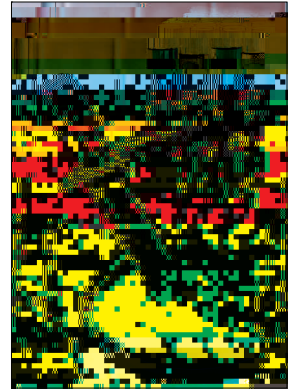
(continued on page 4)





12 Safety Tips for Using an Autoclave


An *autoclave* is a large pressure cooker that operates by using steam under pressure as the sterilizing agent. Autoclaves are widely used at Case Western Reserve University



“The high temperatures associated with autoclaves present physical hazards involving heat, steam, and pressure as well as biological hazards involving potential exposure to viable human pathogens.”







Major Spill

A spill that involves contamination of personnel or results in contamination outside of the intended work area, and that cannot be promptly cleaned up.

What if I determine that it is a minor spill?

1. Survey clothing, hands and shoes for potential personnel contamination.
2. Notify others in the area of a minor radiological spill.
3. Remove contaminated bench paper and/or gloves, and dispose of as radioactive waste.
4. Decontaminate the work area and survey to verify all contamination has been removed.
5. Document incident, attach decontamination results, and place report in the laboratory's Radiation recordkeeping binder for future RSOF compliance reviews.

What if I determine that it is a major spill?

1. Survey clothing, hands and shoes for potential personnel contamination.
2. Notify others in the area of a major radiological spill.
3. During business hours (weekdays 8:30 a.m. - 5:00 p.m.) call the RSOF at x. 2906.
4. After hours (weekdays 5 p.m. - 8:30 a.m., weekends and holidays) call Security at x 3333 and indicate there is "A Radiation Spill."
5. Give Safety or Security your name, the AUs name, location, and telephone number.
6. Establish a secure boundary to prevent spreading of contamination.
7. Do not leave the area (unless in immediate danger) until initial investigations by Safety have been completed.

What if there is a fire or a medical emergency?

In the case of a fire

Evacuate the area and immediately call Security at x. 3333. Give



Upcoming Training Sessions*

NOTE: While all laboratories must attend training at DOES, labs must hold specific training in the CHP and ECP as it pertains to the actual work they do. Labs will also need an outline of the CHP and ECP training and a sign in sheet to accompany. Store the sign-in sheet and outline with the CHP and ECP. It will be asked for during lab inspections.

New Hazard Communication (Right-to-Know) Training

Retraining is required annually.

DOES Small Meeting Room - Service Building 1st Floor

PREREGISTRATION IS REQUIRED - Please call 368-2907

New Radiation Safety Training

Retraining is required annually.

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS REQUIRED - Please call 368-2906

New Laser Safety Training

Retraining is required annually.

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS REQUIRED - Please call 368-2906

FOR THE FOLLOWING CLASSES:

Laboratory Safety Retraining

Regulated Chemical Retraining

Hazard Communication (Right-to-Know) Retraining

Bloodborne Pathogen Retraining

Radiation Safety Retraining

Laser Safety Retraining

Respirator Safety Retraining

Please retrain on the Internet at <<http://does.case.edu>> and click on Training.

Print test and fax or mail it to the DOES office.

If your training is more that one year overdue, then you must attend the training class in person and cannot retrain online.

FOR THE FOLLOWING CLASSES:

New Laboratory Safety Training

New Regulated Chemical Training (Formaldehyde, Benzene, Methylene Chloride, Vinyl Chloride, etc.)

New Bloodborne Pathogen Training

New Respirator Safety Training

New BSL-3 Safety Training

Retraining is required annually.

DOES Conference Room - Service Building 1st Floor

PREREGISTRATION IS REQUIRED - Please call 368-2907

***THIS IS A TRUNCATED LIST OF OUR OFFERINGS. As always, consult our website (<http://does.case.edu>) for a full schedule of training sessions.**

Please remember that our updated DOES website provides many resources to meet your safety needs. The DOES website (<http://does.case.edu/>) includes all of the following resources:

Safety Services
Manuals and Forms

Archived DOES
Newsletters

Training Class
Schedules

Staff Information

MSDS



DOES STAFF

Robin Elliott, (robin.elliott), Executive Director, DOES

W. David Sedwick, PhD, (wds), Director and RSO

Marc Rubin (mdr6), Director of Chemical and Biological Safety

Felice Thornton-Porter (fst)

Remember, all back issues of the DOES Newsletter can be found online at <http://does.case.edu>. Simply click on the "Newsletter" link in the left-hand column!