

EHS Lab Chatter



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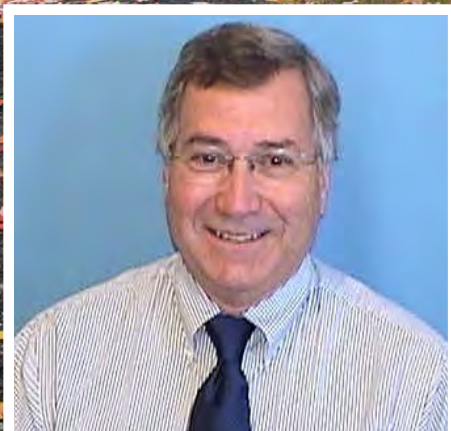
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Safety Spotlight



REPORTING A WORK-RELATED INJURY

Contributed by: Cat Martins,
Benefits and Disability Specialist,
UNE Human Resources

If you are an employee at the University of New England and are injured at work, it is important to report the injury to UNE Security and/or Human Resources within 24 hours. This will allow us to begin the workers' compensation process should you need to seek medical attention. HR asks for **all** work-related injuries to be reported. It is definitely in your best interest to report no matter how minor or major the injury may initially appear. If your injury is deemed work-related, workers' compensation will pay for your mileage to/from doctor visits, co-pays, prescriptions, and more!

There are steps you can take to help minimize the risk of work-related injuries. These can include things such as:

- Request an ergonomic evaluation of your workstation.
- Contact UNE Security or Environmental Health & Safety immediately if you see a potential hazard.
- Work with your supervisor and Environmental Health & Safety to ensure that you are using appropriate personal protective equipment (PPE).

Some things to consider if you are injured at work:

1. Dial 602-2298 or 9-1-1 if you need emergency care.
2. If you need to seek non-emergency medical treatment please go to one of the following occupational health and/or urgent care facilities:

SMHC WorkWell	Concentra	ConvenientMD
10 Wellspring Road Biddeford, ME 04005 (207) 283-7600	85 Western Ave. S. Portland, ME 04106 (207) 774-7751	191 Marginal Way Portland, ME 04101 (207) 517-3838 Saco, Westbrook & Brunswick too!

3. Make sure you complete an Accident Report and send it to HR within 24 hours of the injury. You may scan/fax/email the report to Cat Martins directly, or call UNE Security to come pick up the Accident Report and deliver it for you.
4. Keep HR informed of your work-related injury or illness.
 - Let HR know if you miss time from work due to your injury.
 - Communicate any restrictions you may have because of your injury to HR.
 - Keep your supervisor informed of any anticipated missed time from work due to your injury (i.e. doctor appointments).

Contact Cat Martins, Human Resources at cmartins@une.edu or 602-2394 with any questions or concerns.

Assess the Risks of the Hazard

via the American Chemical Society

Risk: The probability of harm or damage from a hazard. When you are working in a chemistry laboratory, there is a certain level of risk associated with each chemical you will be using.

Assessing the risks of hazards means thinking about:

- How you might be exposed to the hazard
- What would be the probable results of that exposure, should it occur

Risk assessment: involves determining (estimating) the probability of some adverse event occurring. This means that you will need to be thinking about the upcoming work with this chemical in terms of how you might be exposed during preparations before the experiment, use during the experiment, and after the experiment.

After you assess the risks, the next step will be thinking about how you can minimize the risks of exposures (from the assessment) by using equipment or techniques or procedures to limit exposures. The following case example is for sodium hydroxide (NaOH); however, you should approach the use of any chemical in a similar manner.

Tips:

1. Assess the risks presented by the most important hazards.
2. Use SDSs and the GHS Hazard Categories and Statements to determine the relative risk of the hazards.
3. Check to be sure all glassware and equipment are in good shape and working condition.

Before an Experiment

Know what you are working with: You should always identify the substance you are working with and think about how you can minimize exposure to this in the experiment. For example, sodium hydroxide is commonly known as lye or caustic soda. If you are unsure, look for the Chemical Abstracts Service (CAS) Registry Number on the product label of the chemical and look it up online using reliable sources.

Find and evaluate hazard information: This information is typically found on the SDS, which suppliers are required to provide the end user. The label of the original container also contains valuable safety information. For sodium hydroxide (NaOH) as an example, the hazard information would include:

- The corrosive levels for the solid and for solutions. In the case of NaOH, corrosive means “able to burn or corrode organic tissue by chemical action”.
- The effects of exposure at varying concentrations; for example, 0.05 moles per liter (M) or less (may cause burns to eyes or open wounds), 0.05 M to 0.5 M (irritant to eyes and skin), and 0.5 M or greater (severe burns and may cause blindness if it comes in contact with eyes). The SDS, as with any chemical, gives information on the hazards.

Ensure that the proper concentrations are prepared: Students in a typical high school laboratory should not routinely work with basic (NaOH) or acidic (HCl) solutions at concentrations greater than 1 M.

Ensure that all chemical bottles are properly labeled: In a school setting, using sodium hydroxide as the example again, the bottle should have the chemical name (“sodium hydroxide”) spelled out, not just the formula (“NaOH”), and the concentration of the solution should also be listed. Additional information, such as signal words and words describing the specific hazards, should be on the label of the original chemical container. It is also recommended to add any GHS pictogram labels to secondary containers, as needed.

The signal words “Danger”, “Warning”, and “Caution” are used to describe the level of the hazard.

Words such as “Caustic”, “Corrosive”, and “Flammable” are used to describe specific hazards.

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During an Experiment

- Use the lowest concentrations and smallest volumes possible for all chemicals
- Do not allow students to handle solids that are classified as fatal or toxic if swallowed
- Wear appropriate eye protection that offers both impact and splash protection. This is not only for your safety but also as a precaution in the event that an accident is caused by someone else in the laboratory
- Wear appropriate protective clothing (laboratory apron, coat, and gloves)
- Be certain that the reagent bottle and the container are properly closed after transferring a chemical (solid or liquid) from a reagent bottle into a secondary container

What if an Emergency Occurs?

Teachers must receive all necessary training in case of an incident or emergency. Normally, teachers should not provide medical treatment for students. However, in some cases the teacher may have to act before medical personnel arrive. The emergency training must include how to use an eyewash station and safety shower, for example:

- ▶ *If the chemical is in the eye:*

Flush water using an eyewash station for at least 15 minutes. Medical attention must be summoned as soon as possible.

- ▶ *If the chemical is swallowed or ingested:*

Do not induce vomiting unless the SDS recommends vomiting. Medical attention must be summoned as soon as possible.

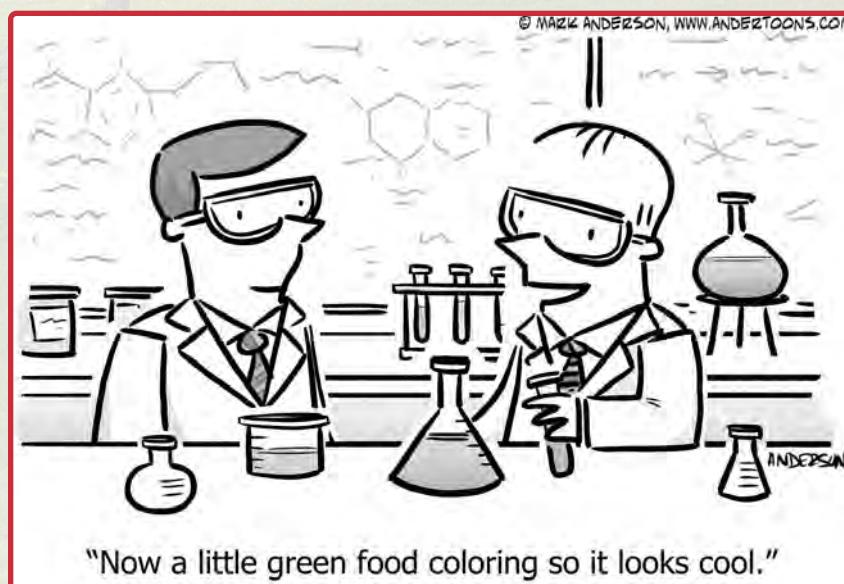
- ▶ *If the chemical comes into contact with skin:*

Rinse the affected area for 15 minutes with tap water. It may be necessary to use a safety shower. If the safety shower is used, all contaminated clothing should be removed while the person is under the safety shower, and medical attention must be summoned as soon as possible.

After an Experiment

- Ensure that all chemicals are properly stored
 - Make sure that the caps on the reagent bottles are tightly secured
- Ensure that benches are clean before the next class comes in
 - One of the major causes of accidents is carelessness on the part of someone else

Source: <https://www.acs.org/content/acs/en/chemical-safety/basics/assess-risks.html>



Laboratory Fire Safety

Labs, especially those using solvents in any quantity, have a very high potential for flash fires, explosion, rapid spread of fire, and high toxicity of products of combustion.

By University of Oklahoma | August 05, 2009 via Lab Manager Magazine

FIRE EXPERIENCE

- Small bench-top fires in lab spaces are typical and not uncommon.
- Large lab fires are rare.
- Fuel load and hazard levels in labs are typically very high.
- Labs, especially those using solvents in any quantity, have a very high potential for flash fires, explosion, rapid spread of fire, and high toxicity of products of combustion (heat, smoke, and flame).

PREVENTION

- Plan work. The majority of lab fires have resulted from mental or procedural errors or carelessness.
- Minimize materials. Have present in the immediate work area and use only the minimum quantities necessary to work in progress. Not only does this minimize fire risk, it reduces costs and waste.
- Observe proper housekeeping. Keep work areas uncluttered, and clean frequently. Put unneeded materials back in storage promptly. Keep aisles, doors, and access to emergency equipment unobstructed at all times.
- Observe proper safety practices.
- Store solvents properly.
- Observe restrictions on equipment (i.e. keeping solvents only in an explosion-proof refrigerator).
- Keep barriers in place (shields, hood doors, lab doors).
- Wear proper clothing and personal protective equipment.
- Avoid working alone.
- Plan. Have a written emergency plan for your space and/or operation.
- Training. Exercise the emergency plan and learn to use the emergency equipment provided.

EMERGENCY

- Know what to do. You tend to do under stress what you have practiced or pre-planned.
- Know where things are: The nearest fire extinguisher, fire alarm box, exit(s), telephone, emergency shower/eyewash, and first aid kit, etc.
- Be aware that emergencies are rarely "clean" and will often involve more than one type of problem. For example, an explosion may generate medical, fire, and contamination emergencies simultaneously.

FIRE PROCEDURES

Notify:

- Other occupants of the immediate space (yell)
- Other occupants of the facility (use the fire alarm)
- Emergency responders (the alarm will do that for you, but a phone call makes certain)

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Evacuate:

- The immediate area of the problem.
- The space within which the problem has occurred.
- The building within which the space is located.

Isolate:

- Lower hood sash, close lab door(s), close corridor doors.
IF SAFE TO DO SO, attempt to extinguish.

FIRE EXTINGUISHERS

- Types of Fire/Types of Extinguishers (know what type you have available)
- An Extinguisher is a "1st Aid" Tool - Don't expect it to control a big fire:
 - For **small, isolated fires only**, if the fire is too big don't try to fight it
 - **Short duration**, depending on the size, 10 seconds to 30 seconds of spray
 - **Short range**, depending on the size/type, 5-10 feet
- Fire ahead, escape behind, keep yourself between the fire and your exit
- Spare extinguisher & observer: have an observer with a spare extinguisher to back you up
- **If in doubt, bail out! If you're not sure if you can fight the fire, you can't.**

HOW TO USE A PORTABLE FIRE EXTINGUISHER

Remember the acronym, "P.A.S.S."—

PPull the Pin.

AAim extinguisher nozzle at the base of the flames.

SSqueeze trigger while holding the extinguisher upright.

SSweep the extinguisher from side to side, covering the area of the fire with the extinguishing agent.

Source: <https://www.labmanager.com/lab-health-and-safety/2009/08/laboratory-fire-safety#.Xi76RGhKiUk>

UNE fire safety resources:

For a list of all UNE building muster points, please refer to the Human Resources Fire Safety and Public Safety training module on Blackboard or see list below here in EHS Lab Chatter.

To schedule a fire extinguisher training exercise for your department, please contact UNE Security:

<https://www.une.edu/studentlife/security/people>

BIDDEFORD CAMPUS MUSTER POINTS:

588 Pool Street--Go to Sea Star Market Parking Lot

Alfond

- First floor door facing Campus Center--Go to sand volleyball court.
- First floor exit nearest Hills Beach Road--Go to end of the brick retaining wall.
- Lower level main entrance (by Alfond Café)--Go to center of large lawn.
- Main entrance and Embalming Room entrance--Go to front lawn of Stella Maris.

Alfond Forum- All exits cross NorEaster Way to parking lots. Do not block access road.

Assisi Hall--Go to volleyball court or the lawn between Assisi and Alfond.

Avila Hall--Go to the lawn between Avila and the Campus Center (chiller plant) or the lawn by Padua.

Bush Center --Go to the lawn between Stella Maris and Decary

Campus Center

- Double doors outside Fitness Center--Go through parking lot, turn right to lawn by Hills Beach Road
- Gym exit by Equipment Room--Turn left proceed to area between Campus Center and Avila.
- Main entrance--Go to either sidewalk that runs along Alfond lawn or to Alfond lawn – DO NOT REMAIN ON THE FRONT PLAZA AREA.
- Pool side doors--Go to center of lawn by Hills Beach Road.
- Simard, Pettipiece and Wescott Rooms --Go to volleyball court.

Champlain Hall--Go to the Freddy Hall Parking Lot -- Do not impede emergency response vehicles.

Decary-

- Computer Lab, lower level--Go to lawn between Decary and Stella Maris.
- Entrance closest to Residence Hall Access Road--Go to center of lawn between Hills Beach Road and the Residence Hall Access Road.
- Entrance facing Stella Maris--Go at least halfway onto lawn between Stella Maris and Decary.
- Exits from Cafeteria/Kitchen--Go to either Library or Stella Maris lawn.
- Main entrance--Go to the front lawn by the park bench

East Hall--Exit along the rear of the building (toward Frederick Hall). Assemble in parking area between Frederick Hall and the back parking lot of the Campus Center.

Facilities Building --Service road towards LAC Lot.

Featherman Hall--Go to parking area between Avila and Featherman Hall

Fine Arts Building--Go to the rear of the parking lot.

Frederick Hall--Cross the parking lot to the lawn between Campus Center and Hills Beach Road. During winter, follow sidewalk to front of Campus Center.

Gregory--Go to parking lot behind Gregory.

Ketchum Library--Go to lawn between Stella Maris and Decary.

LAC--Go to the LAC Parking Lot -- do not block access road.

Marcil

- First level--Go to parking lot area across from lower level entrance.
- Second level --Go to lot across parking lot access road nearest Route 9.

BIDDEFORD CONTINUED...

Marine Science Center--Go to the entrance to the walkway to Champlain Hall.

Morgane Hall

-First floor--Go to Parking Lot #14.

-Second and third floors--Go to Gregory Parking Lot.

Padua Hall--Go to Avila Parking Lot.

Petts Health Center

-Lower level--Cross Hills Beach Road and go to the Admissions Cottage Lawn.

-Upper level--Walk out to middle of parking lot (at least past the third parking space).

Ripich Commons

-Lower level--Move to the open area behind the "Quad" residence halls

-Upper level--Exit through library; go to the lawn between Stella Maris and Decary

Pickus--Go to Gregory Parking Lot.

Siena Hall--Go to walkway to Library.

Sokokis Hall --Exit all doors. Go across street to parking lot.

Stella Maris--Go either to lawn in front of Stella Maris or to lawn between Decary and Stella Maris.

Welcome Cottage--Go to parking lot.

West Hall--Exit along the rear of the building (toward quad) follow sidewalk leading to the quad area. Assemble on long sidewalk that points directly at the center of the quad behind Avila

PORTLAND CAMPUS MUSTER POINTS:

30 College Street--Go across College Street to the lawn area between Hersey Circle and College Street.

1075 Forest Ave--Exit building and move down the sidewalk away from the building

Abplanalp Library--Lawn between Hersey Circle and College Street.

Alexander--Lawn between Hersey Circle and College Street.

Alumni--Lawn between Hersey Circle and College Street.

Art Gallery--Go to the Proctor Hall Parking Lot.

Blewett--Lawn by Ludcke Hall.

Coleman--Lawn by Ludcke Hall.

College of Pharmacy--Go to center of parking lot for Finley Recreation Center.

Facilities Shop--Go to the parking lot, group near Alexander Hall.

Finley Recreation Center--Center of Finley Recreation Center parking lot.

Forrest Avenue--Go to the attached parking lot.

Goddard Hall--Lawn between Hersey Circle and College Street.

Hersey Hall--Lawn between Hersey Circle and College Street.

PORTLAND CAMPUS CONTINUED...

Innovation Hall--Got to the parking lot for the Dental Clinic.

Linnell Hall--Cross College Street and group on the lawn.

Ludcke Auditorium--Go to lawn between Ludcke and College Street.

McDougall/Ginn--Cross College Street and group on the lawn in front of Abplanalp Library.

Oral Health Center:

-College Street entrance--Cross College Street and group on the lawn between College Street and Ludcke.

-Patient parking entrance--Cross patient parking and group in the Armory parking lot.

Parker Pavilion--Group on the lawn by Ludcke.

Proctor Hall--Lawn between Hersey Circle and College Street.



Make sure you are familiar with muster points in ALL your work areas as you may work in more than one building or more than one campus.

Closed doors and open paths for lab safety

By Peter Nagle

Most of us think of doors as simply entrances and exits. In laboratories they also serve as safety and hazard controls during emergencies and as part of the engineering design of ventilation systems. At times it may be convenient to prop doors open when moving from room to room. Propping doors open compromises the safety of the laboratory and surrounding areas especially when there is work with hazardous chemicals being conducted in a fume hood or during an emergency. Below are ways laboratory doors act as safety and hazard controls:

- **Closed doors contain chemical vapors and odors within the immediate work area and facilitate their removal through the ventilation system.**

Most labs are designed to be at negative pressure (air flows from the corridor into the lab and is exhausted to the outdoors). This design is based on the lab door being closed. With the door open, the design is negated allowing chemical vapors to escape into the hallway. It is UNE policy to keep doors closed in all laboratories when work is being performed to allow ventilation systems to work properly as designed.

- **Open laboratory doors can compromise escape routes during a fire.**

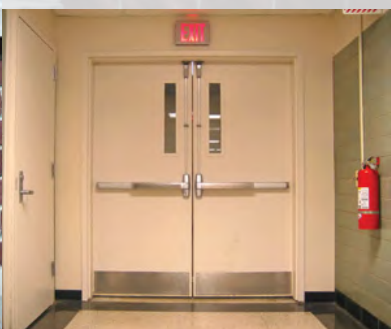
Laboratory doors at UNE that open directly to a corridor are not fire rated (only doors that open to stairwells are fire rated for 1 ½ hours), so closing the door behind you during a fire can help reduce the spread of flames, heat and toxic smoke. An open door can negate this protection and compromise the safety of personnel escaping the building during a fire.

- **Always keep laboratory paths clear to the door.**

The lab door is the personnel's quickest escape to safety during an emergency. Any obstructions can slow down someone's escape, so it is crucial to keep a clear path to the exit from all points in the lab.

- **Always keep door windows clear of postings, lab coats or other items.**

This item is sometimes overlooked, but it is critical. Emergency personnel must be able to see into the labs in order to identify, notify or assist individuals during and emergency. For labs with locked doors it is crucial that emergency staff be able to see into these rooms.



Remember to think safety first!

Keep doors closed and paths open in the laboratory.



Fire Safety during Winter Storms

Winter storms can happen almost anywhere. They can cause us problems. Know what to do before, during and after a storm. This will help keep you and your family safe from a winter fire.

- Test all smoke alarms. Do this at least once a month. This way you will know they are working. Install carbon monoxide alarms in your home. Test the alarms.
- Plan two ways out of the home in case of an emergency. Clear driveway and front walk of ice and snow. This will provide easy access to your home.
- Make sure your house number can be seen from the street. If you need help, firefighters will be able to find you.
- Be ready in case the power goes out. Have flashlights on hand. Also have battery-powered lighting and fresh batteries. Never use candles.
- Stay aware of winter weather. Listen to the television or radio for updates. Watch for bulletins online.
- Check on neighbors. Check on others who may need help.
- Generators should be used outdoors. Keep them away from windows and doors. Do not run a generator inside your garage, even if the door is open.
- Stay away from downed wires. Report any downed wires to authorities.
- Be ready if the heat stops working. Use extra layers of clothes and blankets to stay warm. If you use an emergency heat source, keep anything that can burn at least 3 feet away.
- Turn portable heaters off when you leave the room. Turn them off when you go to bed.

IMPORTANT REMINDER

There are more home fires in winter than in any other season. Half of all home heating fires happen in December, January and February.

As you stay cozy and warm this winter season, be fire smart!



Fact

Nearly half of all space heater fires involve electric space heaters.



**NATIONAL FIRE
PROTECTION ASSOCIATION**

The leading information and knowledge resource
on fire, electrical and related hazards

UNE Chemical Sharing Program

The UNE Chemical Sharing Program is a great way to reduce hazardous waste, reduces costs for your department, and have a positive environmental impact on campus. If you have any commonly used lab chemicals or lab equipment that you are thinking of disposing, please contact EHS so they can be listed in the next issues of EHS Lab Chatter as available for the UNE Chemical Sharing Program.

Available now:

No items currently available.

****All background images are taken from the UNE Digital Asset Manager files****