

# **CBE LAB USER FAQ ABOUT SAFETY**

**(A NON-EXHAUSTIVE LIST)**



**ISSUE DATE: JAN 2020**

## WHAT IS EXPECTED OF ME IN THE LAB WITH REGARD TO SAFETY?

- Keep up to date on necessary Safety Training
- Wear appropriate PPE in the laboratory (safety glasses, long pants, close toed/heeled shoes, lab coat at a minimum)
- Know where fire extinguishers, eye wash, safety shower, first aid and spill kits are located
- Know your emergency evacuation plan
- Know how fire alarm and chemical spill alarm sound and locations of pulls
- Pick up after yourself!
  - Put chemicals back in designated space, watching for proper chemical segregation
    - EH&S chemical storage guidelines:  
<https://www.ehs.iastate.edu/sites/default/files/uploads/publications/policies/incchemicals.pdf>
    - Empty glass waste container into large yellow bin at loading dock when full (Sweeney)
    - Take the garbage out yourself if it is full before biweekly cleaning by custodian in Sweeney
    - Cardboard should be placed in designated dumpsters near loading dock (Sweeney)
- Label and properly close containers (not aluminum foil or Parafilm)
  - Sample Labeling details (important for first responders):
    - Labels should be legible
    - Label needs to be on the bottle, not on the cap (Caps can be switched)
    - Labels may contain chemical abbreviations if there is a definition list near the lab entrance
    - Labels should include (From Laboratory Safety Manual):

<b>Sample ID (optional)</b>	<b>Date</b>
<b>Chemical name(s)</b>	
<b>Signal Word</b> (danger, caution, warning)	
<b>Hazard Statement</b> (Flammable, fatal if swallowed, etc)	
<b>Generator's Initials</b>	
- If many of these details are the same, consider pre-printing sample labels with the chemical name, signal word, hazard

- Follow, create or modify Standard Operating Procedures (SOPs) for the all of the major activities you perform in the lab (see later FAQ **Where do I find SOPs?** for more detail)
- Know how to safely shutdown experiments in case of an emergency
- Evaluate the hazards of an activity and try to minimize unnecessary dangers
- Report a near miss or injury (see **What do I do if I get injured in the lab?**)
- Keep Chemical Inventory accurate and up to date
- Dispose of unwanted chemicals as Hazardous waste
  - Keep adding information to tag as you add chemicals (omissions can be dangerous)
- Keep Safety in mind and bring up concerns to:
  - Supervisor
  - Safety Committee (Chaired by Dr. Loveland, 4-3024, [prairie@iastate.edu](mailto:prairie@iastate.edu)),
  - CBE Safety Contact (Sarah Beckman, 4-4134, [sezb@iastate.edu](mailto:sezb@iastate.edu))
- Lab Safety Officer (designated by PI for each research group) should:
  - Make sure eyewash is flushed monthly
  - Make sure First Aid kit has unexpired supplies
  - Make sure spill kit is replenished if used
  - Keep Chemical Inventory accurate and up to date
  - Prepare lab for inspections
  - Maintain SDS database/binder

## WHAT'S WITH THAT EMERGENCY ACTION PLAN ON THE DOORS?

- Provides steps to take in a variety of emergencies
- Designed to be torn off the door in an emergency and carried with you to provide contact info.

## HOW DO I REPORT A LIGHT OUT, FUME HOOD ALARM, DOOR PROBLEM OR OTHER FACILITY ISSUE?

- Go to FP&M webpage> Click on "**REPORT A PROBLEM**" in the menu bar > Fill out Form <https://www.fpm.iastate.edu/frontdoor/>
- Or email a Laboratory Coordinator (Sarah Beckman, [sezb@iastate.edu](mailto:sezb@iastate.edu), Ryan Arndorfer, [rja@iastate.edu](mailto:rja@iastate.edu))

## HOW DO I TAKE SAFETY TRAINING?

- After you receive your netID, you can go to Learn@ISU
  - Go to <https://www.ehs.iastate.edu/>, scroll down and click on training
  - Click on Safety training ISU Login (Learn@ISU)
- OR Find the [CBE Department Safety Training](#) group on Canvas and follow the links there



## WHAT SAFETY TRAINING DO I NEED TO TAKE?

- If you work in a laboratory, CBE expects you to be up to date on the following:
  - Fire Safety and Extinguisher Training (expires yearly)
  - Emergency Response Guide Video (expires in 3 years)
  - Laboratory Safety: Core Concepts (expires in 3 years)
  - Laboratory Safety: Compressed Gas Cylinders (expires in 3 years)
  - Laboratory Safety: Chemical Storage (expires in 3 years)
  - Laboratory Safety: Fume Hoods (expires in 3 years)
  - Laboratory Safety: Spill Procedures (expires in 3 years)
- We recommend:
  - Personal Protective Equipment (PPE) (expires in 3 years)
  - Worker Right-to-Know OSHA Hazard Communication Standard Training
- Your PI may assign more training for your specific research requirements such as:
  - Autoclave Safety Training
  - Biological Risk Assessments for Researchers

## WHERE DO I GET MY PPE?

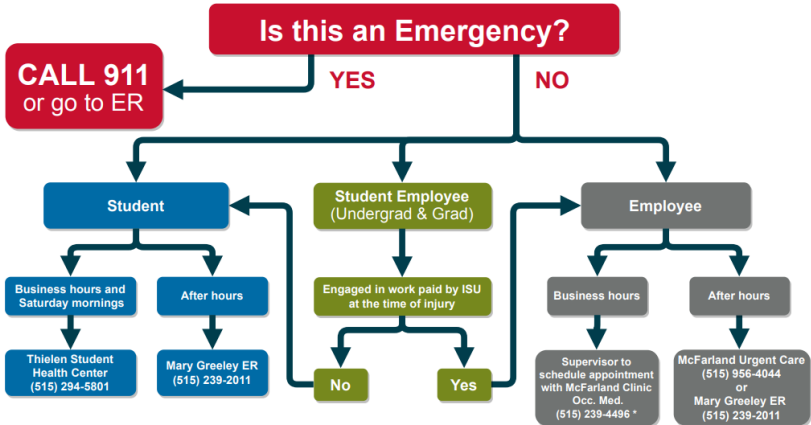
- Supervisor may supply, or ask you to purchase with work funds
- Safety glasses may be purchased from Chem Stores or Central Stores
- Lab coats and gloves may be purchased at Chem Stores or through CyBuy (Fisher or VWR)
- See Graduate Handbook for details on how to purchase items at ISU

# WHAT DO I DO IF I GET INJURED IN THE LAB?

- **Medical Treatment** (don't worry about expense)
  - Life Threatening: Call 911 and request ambulance, **notify supervisor as soon as possible**
  - Minor injury: Lab First Aid Kit, **Report to Supervisor**
  - Non-Life Threatening Serious Injury: **Report to supervisor**
    - Day time: Supervisor should arrange medical care with McFarland Clinic, Occupational Medicine, P.C. 1018 Duff Avenue, Ames, IA (515) 239-4496
    - *If supervisor is not the one to call, you may be questioned whether it is really a work related incident when arriving at medical facility*
    - After Hours: Mary Greeley Medical Emergency Department (515) 239-2011
      - Notify staff that injury is due to workplace injury or illness

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## SEEK INJURY CARE



\* ISU Occupational Medicine, (515) 294-2056, treats minor work related injuries or conditions requiring first aid only.

Environmental Health and Safety | 2408 Wanda Daley Drive | Ames, IA 50011-3602 | Ph: (515) 294-5359 | [www.ehs.iastate.edu](http://www.ehs.iastate.edu)

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- **Reporting**
  - Report (you or supervisor) within 24 hours using **ISU incident portal** <https://www.ehs.iastate.edu/services/occupational/accidents-injuries>

- From EH&S main page click “Accidents and Injuries” link
- Click “[Report a new Incident](#)”
- Unless this happened while you were in a class, you are classified **as an ISU employee**
- Click “[Click here to report an Injury to an ISU employee](#)”



## HOW DO I REPORT A NEAR MISS IN THE LAB?

- A near miss is any serious event in the lab that did not result in injury but could have (i.e. Fire, equipment malfunction, etc.)
- Tell your supervisor
- Report to CBE
  - Fill out the Near Miss form located on the safety tab on CBE webpage <https://www.cbe.iastate.edu/safety/>
- Report to EH&S
  - Use same steps for reporting an injury through the **ISU Incident Portal**
  - Click “[Click here to report a Near Miss](#)”

## WHERE DO I FIND SOPs?

- Talk to your Principal Investigator about the location of SOPs
- If you are starting a new process, fill out the [CBE Hazard Checklist](https://www.cbe.iastate.edu/safety/) found on <https://www.cbe.iastate.edu/safety/>
- Create a new SOP with the template from EH&S or create your own <https://www.ehs.iastate.edu/sites/default/files/uploads/forms/soptemplate.docx>

## WHAT ELSE DO I NEED TO KNOW ABOUT GAS CYLINDER HANDLING?

- Hand carts for moving cylinders are located in 2058 Sweeney
- Do not ride in an elevator with gas cylinders or liquid nitrogen tanks
- When a tank is empty, tear off the full and in service tabs on the Chemistry Stores tag so that it reads **EMPTY** and move to loading dock
  - Tanks will not be picked up if tag does not say Empty

## HOW DO I UPDATE THE CHEMICAL INVENTORY?

- Update the chemical inventory by:
  - Going to EH&S webpage and click on “Chemical Inventory”  
<https://www.ehs.iastate.edu/research/laboratory/chemical-inventory>
  - This will take you to a login
  - Select the lab from the list
  - Download the list to Excel
  - Compare the list to actual inventory
    - Evaluate the amount and condition of the container
      - If container looks damaged or chemical has expired, move to satellite waste and remove from inventory
  - Edit the amounts and location as necessary on the EHS webpage



## HOW DO I GET RID OF HAZARDOUS WASTE?

- Fill out both sides of the orange tag (found at satellite waste accumulation site) and attach to your waste bottle as soon as the first waste is added to container
  - Continue to update waste info as you add chemicals
    - Be accurate, unlisted items can cause problems for EH&S when waste is combined for disposal
- When waste container is full:
  - Go to EH&S webpage and click on “Waste Removal”  
<https://www.ehs.iastate.edu/services/waste/wasteremoval>
  - Click on “Waste Removal Form” and Fill out a Pick Up Request
    - If you need more orange tags, check box on the Supplies tab



## WHAT DO WE DO WITH CHEMICALS IN THE LAB THAT WE NO LONGER NEED?

- In good condition: contact EHS for Chemical Redistribution (4-5359)
- Poor condition: Tag them as hazardous waste (see above)
- If available, EH &S has had a drive to take unidentified chemicals for free in October.

## WHAT DO I NEED TO KNOW ABOUT PEROXIDE FORMERS?

- “Chemicals such as ethyl and isopropyl ether, tetrahydrofuran (THF), and 1,4- dioxane can form potentially explosive peroxides during use or in storage. Other chemicals such as picric acid and other di- and tri-nitro

**WARNING! MAY FORM EXPLOSIVE PEROXIDES  
THIS CHEMICAL HAS A LIMITED SHELF LIFE**

Store in tightly closed original container. Avoid exposure to light, air or heat.  
If any crystals, discoloration, or layering are visible, do not open.  
Contact ISU EH&S (515) 294-5359 or AL ESH (515) 294-2153 for assistance.

Date received \_\_\_\_\_ Date opened \_\_\_\_\_

**PEROXIDE TEST RESULTS**  
(If peroxides are present **DO NOT DISTILL** before treating)

**Mandatory Testing Interval - 6 months**

Date \_\_\_\_\_ Result \_\_\_\_\_ Initials \_\_\_\_\_  
Date \_\_\_\_\_ Result \_\_\_\_\_ Initials \_\_\_\_\_

Do not use chemical if greater than 100 ppm of peroxide are detected.

compounds are also potentially explosive.” From

<https://www.ehs.iastate.edu/sites/default/files/uploads/publications/factsheets/pfc.pdf>

- Labels available from Chemistry Stores or EH&S should be placed on all peroxide formers and filled out with date received and date opened
- Try to purchase only what will be used in 6 months.
- If longer than six months, bottle needs to be tested for peroxides
  - Purchase dip strips from ISU Chemistry Stores
  - Test and record results on label
  - Dispose as hazardous waste if peroxides exceed 100ppm
- A list of common peroxide formers can be found in Appendix 1:  
<https://www.ehs.iastate.edu/publications/factsheets/pec.pdf>

## HOW DO I GET RID OF EXCESS EQUIPMENT?

- Policies found at:  
<https://www.policy.iastate.edu/policy/equipment/disposal/>
- For Lab equipment: Contact Sarah Beckman ([sezb@iastate.edu](mailto:sezb@iastate.edu))
- For Computers: Contact Colin Richey ([crichey@iastate.edu](mailto:crichey@iastate.edu))
- For Office furniture: Contact Michelle Stotts ([mlstott@iastate.edu](mailto:mlstott@iastate.edu))