CBE LAB USER FAQ ABOUT SAFETY

(A NON-EXHAUSTIVE LIST)
• 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
• 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):

<table>
<thead>
<tr>
<th>Sample ID (optional)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name(s)</td>
<td></td>
</tr>
<tr>
<td>Signal Word (danger, caution, warning)</td>
<td></td>
</tr>
<tr>
<td>Hazard Statement (Flammable, fatal if swallowed, etc)</td>
<td></td>
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<tr>
<td>Generator’s Initials</td>
<td></td>
</tr>
</tbody>
</table>
• 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),
  • CBE Safety Contact (Sarah Beckman, 4-4134, 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, Ryan Arndorfer, rja@iastate.edu)
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

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

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
• **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 a really a work related incident when arriving at medical facility*
    • After Hours: Mary Greeley Medical Emergency Department (515) 239-211
      o Notify staff that injury is due to workplace injury or illness

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

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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](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 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](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](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.
“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 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)
- For Computers: Contact Colin Richey (crichey@iastate.edu)
- For Office furniture: Contact Michelle Stotts (mlstott@iastate.edu)