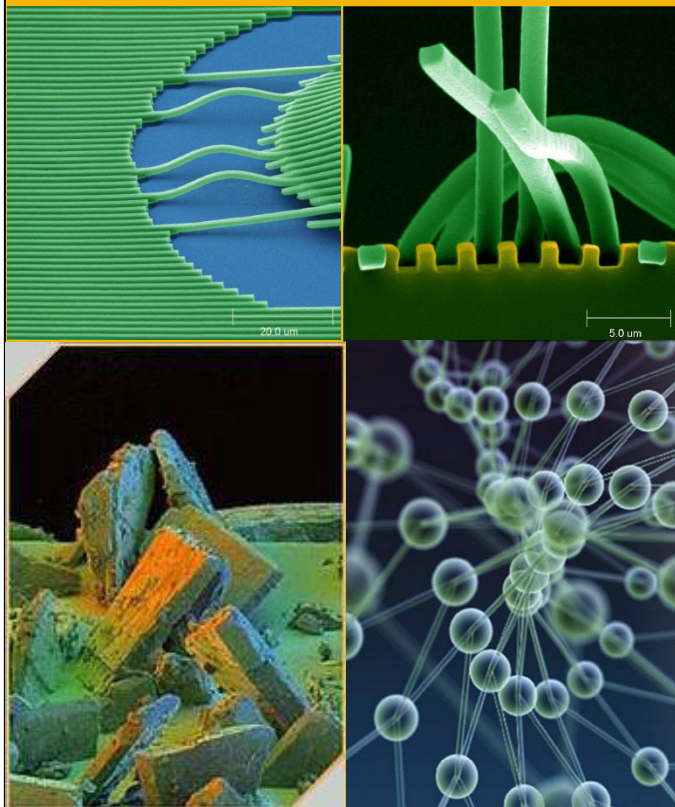


MSE Lab User Safety FAQ

(A Non-Exhaustive List)



WHAT IS EXPECTED OF ME IN THE LAB REGARDING SAFETY?

- For a comprehensive list of requirements for lab work at Iowa State University, please see the ISU Laboratory Safety Manual
 - <http://publications.ehs.iastate.edu/labsm/>
- Keep up to date on necessary Safety Training. Your group has a safety training records class in Canvas named after your PI. If you need to be added to the class, please contact Michelle (mgrawe@iastate.edu)
- 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 action plan.
- Know how the fire alarm sounds and the locations of pulls.
- Pick up after yourself!
 - Store chemicals 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 the glass waste into the large yellow bin at loading dock (Hoover and Gilman) (glass only! No caps or chemicals)
 - Take the garbage out if it is full before biweekly cleaning by custodian in Hoover or Gilman.
 - Cardboard should be placed in designated dumpsters near loading dock (Hoover and Gilman)
- Label and properly close containers (not with aluminum foil or Parafilm)
 - Sample Labeling details (important for first responders):
 - Labels should be written legibly on the bottle, not on the cap.
 - Labels may contain chemical abbreviations if there is a definition list near the lab entrance.
 - Labels should include (From Laboratory Safety Manual):

Sample ID (optional)	Date
Chemical name(s)	
Signal Word (danger, caution, warning)	
Hazard Statement (Flammable, fatal if swallowed, etc.)	
Generator's Initials	

- Consider pre-printing labels with the chemical name, signal word, and hazard. Contact mselabs@iastate for assistance with pre-printed chemical labels for your lab.
- Create or modify Standard Operating Procedures (SOPs) for all of the major activities you perform in the lab, see **How do I find or create 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. For assistance in Hazard Identification and Risk Assessment, go here: https://iastate.qualtrics.com/jfe/form/SV_eJ3WPAF1LC8Teaq
- 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:
 - <https://www.ehs.iastate.edu/research/laboratory/chemical-inventory>
- Dispose of unwanted chemicals as Hazardous waste:
 - See **How do I get rid of Hazardous Waste?**
 - Keep adding information to tag as you add chemicals (omissions can be dangerous).
- Keep Safety in mind and bring up concerns to:
 - Your PI
 - MSE Safety Contact (Michelle Grawe, 515-441-3437 or 515-294-3304, mgrawe@iastate.edu)
 - [Anonymous MSE Lab Reporting](#) button on the MSE website
- 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:
 - <https://www.ehs.iastate.edu/research/laboratory/forms/survey-forms>
 - Maintain SDS database/binder

WHAT IS AN EMERGENCY ACTION PLAN?

- Posted on the inside of the lab door, the plan 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.
- <https://www.ehs.iastate.edu/research/laboratory/forms/eap>

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

- Call FP&M at 515-294-5100 first
- If it's a water leak, call the Building Supervisor

HOW DO I TAKE SAFETY TRAINING?

- Log into Learn@ISU using your ISU netID and password:
 - Go to <https://www.ehs.iastate.edu/>, scroll down, and click on training.
 - Click on Safety training ISU Login (Learn@ISU)
 - New system in July 2022

LEARN@ISU

WHAT SAFETY TRAINING DO I NEED?

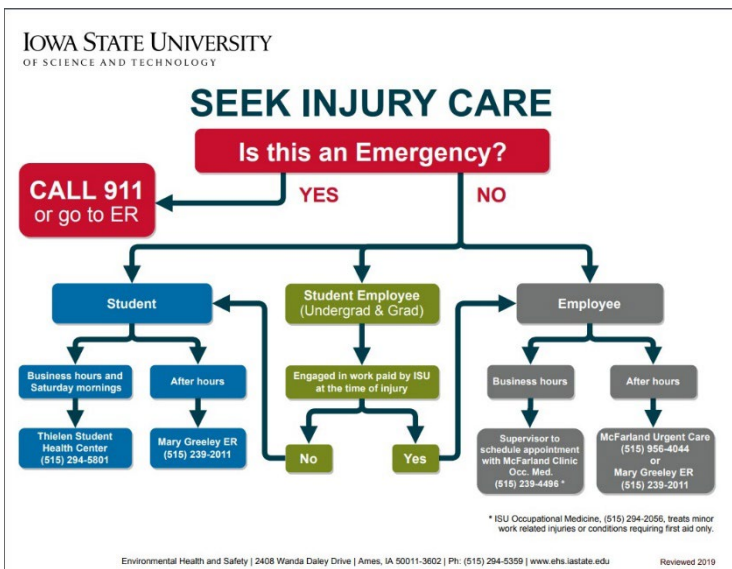
- If you work in a laboratory, MSE expects you to be up to date on the following:
 - Fire Safety and Extinguisher Training (expires yearly)
 - Emergency Response Guide Video (expires in 3 years)
 - Laboratory Safety: Core Concepts (expires in 3 years)
 - Laboratory Safety: Compressed Gas Cylinders (expires 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
- For a comprehensive list of the safety training curriculum:
<https://www.ehs.iastate.edu/sites/default/files/uploads/publications/handouts/labcurriculum.pdf>

HOW DO I PURCHASE PPE?

- Supervisor **MUST** supply PPE for lab workers per OSHA and the ISU Laboratory Safety Manual.
- Safety glasses may be purchased from Chem Stores, Central Stores, or CyBuy.
- Lab coats and gloves may be purchased at Chem Stores or through CyBuy (Fisher or VWR).
- See <https://www.workcyte.iastate.edu/support/knowledge-maps> then click on “Employee” 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, get the help you need)
 - Life Threatening: Call 911 and request ambulance, **notify supervisor as soon as possible**.
 - Minor injury: Lab First Aid Kit, **report to Supervisor within 24 hours**.
 - Non-Life Threatening Serious Injury, **report to supervisor within 24 hours**.
 - 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.



- **Reporting**

- You or your supervisor must report the injury 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 MSE:
 - Fill out the Near Miss form located here:<https://www.mse.iastate.edu/research-and-teaching-laboratories/mse-lab-reporting/>
- Report to EH&S
 - Use same steps for reporting an injury through the **ISU Incident Portal**.
 - Click “[Click here to report a Near Miss](#)”.

HOW DO I FIND OR CREATE AN SOP?

- Talk to your Principal Investigator about the location of SOPs for your lab.
- If you are starting a new process, fill out the Laboratory Risk Assessment:
 - https://iastate.qualtrics.com/jfe/form/SV_eJ3WPAF1LC8Teaq
- 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>
- MSE has also these helpful SOP templates.
<https://iastate.box.com/s/a6y3st6rmaip0r84m65cg4owu3gweesl>

WHAT DO I NEED TO KNOW ABOUT GAS CYLINDER HANDLING?

- Hand carts for moving cylinders are in 3364 Hoover or Chem Stores.

- 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 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 area and remove from inventory.
 - Edit the amounts and location as necessary on the inventory 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 the waste container is full or 90 days has elapsed:
 - Go to the 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.
 - You can also request them to pick up full sharps containers.



HOW DO I DISCARD OF UNNEEDED CHEMICALS?

- In good condition: contact EHS for Chemical Redistribution (4-5359)
- Poor condition: Tag them as hazardous waste (see above)

HOW DO I DEAL WITH 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 compounds are also potentially explosive.” From

**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.

<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 SURPLUS EQUIPMENT?

- Policies and forms found at:
<https://www.policy.iastate.edu/policy/equipment/disposal/>

HOW DO I GET ACCESS TO OFFICES AND LABS?

- For your office and PI's labs:
 - https://iastate.qualtrics.com/jfe/form/SV_0whngRO2L2ktBj0
- For access to MSE Characterization Equipment in Hoover 3342, 3343, 3347, 3355, 3356, 3362, 3364, 3365 or Gilman 3113 or for information on how to join iLab:
 - <https://www.mse.iastate.edu/research-and-teaching-laboratories/equipment-use-and-costs/>

WHAT IS THE SHIPPING ADDRESS FOR MSE?

528 Bissell Rd
2220 Hoover Hall
Ames, IA 50011

Be sure it is shipped to your attention, and you will get an email when it arrives.

HOW DO I SHIP A PACKAGE FOR RESEARCH?

<https://www.mse.iastate.edu/shipping-a-package-for-research/>

Other helpful links:

Computer help:

msetech@iastate.edu

solution@iastate.edu

ISU Environmental Health & Safety:

<https://www.ehs.iastate.edu/>

<https://www.ehs.iastate.edu/research/laboratory/forms>

MSE Website:

<https://www.mse.iastate.edu/>

<https://www.mse.iastate.edu/research-and-teaching-laboratories/>

Workday Instructions:

<https://www.workcyte.iastate.edu/support/knowledge-maps>

Chemistry glass shop, machine shop, chem stores, CIF:

<https://www.chem.iastate.edu/services>

[Stu](#)

Student Wellness:

<https://www.studentwellness.iastate.edu/>