



Research Safety

FAST 2025



Lab Safety Begins Before You Go to the Lab!

- Locate fire extinguishers, eyewash, safety shower, and spill kits
- Identify possible hazards
 - Flammable, strong acid/base, hand/power tools, etc.
- List steps to minimize hazard

HIERARCHY OF CONTROLS



What is a fume hood?

Special equipment with greatly enhanced ventilation for handling hazardous chemicals



When should you use one?

- Any solvents, acids, or bases
- Any volatile chemicals
- Any reaction that produces gas
- Any splash hazards

How do you use a fume hood?

- Turn on the light and ventilation
- Keep the sash as low as possible
- Stand while working
- Recap all reagents before cleaning up



Dressing for Lab

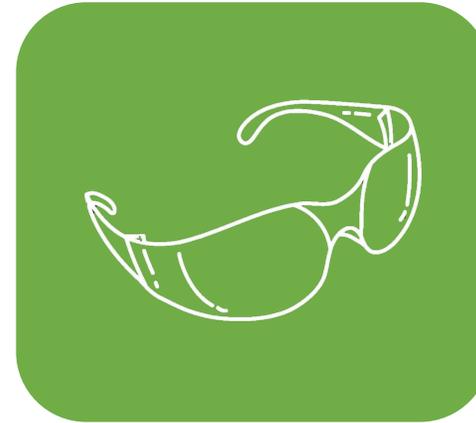
Always wear your PPE!



Close toed shoes



Long pants/skirt



Eye protection



Gloves



Long hair tied back



Avoid dangling clothing



General Safe Practices

Never work alone

Be aware of surroundings

Keep food/drink separate



General Safe Practices

Wash hands often

Wear your PPE

Ask questions!



Safety for Common Hazards

Working at large scales

- Start with a small test run
- Scale up by $< 3x$ at a time
- Add more safety controls every time
 - Other mentors check set-up
 - Benchtop fume hood
 - Glasses goggles

Bunsen Burners

- No loose hair or clothing
- No nitrile gloves
- Locate fire extinguisher
- Alert other people in room of open flame
- Clear work surface
- Open doors/windows to ventilate
- Use heat resistant gloves and forceps to manipulate objects over flame
- Turn off immediately after use



In the Event of an Accident...

You are not in trouble! We will never be mad at you for telling us about a safety incident.

Take care of yourself first (eye wash, safety shower)

Tell your teacher, mentor, room leader, or nearest adult in the room!



At the End of Your Work Time

- Properly dispose of waste according to your research plan
- Clean up your area
- Wash your hands



Remember... Safety First!

And you'll have lots of fun!

