

# Lab Safety Equipment

## Objectives

- ✓ Learn about various engineering controls and the difference between fume hoods and biosafety cabinets
- ✓ Learn how to find hazard information and don the appropriate PPE
- ✓ Learn how to respond to an exposure – shower/eyewash; emergency poster
- ✓ Learn how to verify if fume hood/biosafety cabinets are working properly
- ✓ Learn how to work safely within a fume hood/biosafety cabinet
- ✓ Learn how to perform small spill clean up

### Chemical Fume Hoods

Used for **hazardous materials**

Protects the user from fumes/vapors

No HEPA filter

Exhausts air outside the building

VS

### Biosafety Cabinets (BSC)

Used for **biological agents**

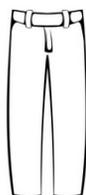
Protects the user, materials, and environment from aerosols/particulates

HEPA filters to capture aerosols and particulates

Recirculates air within room or exhausts air outside the building depending on type

## Wear your laboratory PPE:

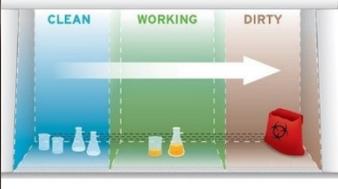
- full length pants (or equivalent)
- closed toe/heel shoes
- laboratory coats (or equivalent protective garments)
- protective eyewear
- gloves



## Know what you are working with and what to do if you are exposed:

- Locate nearest eye wash & shower station
- Know where the fire extinguisher is kept
- Review Emergency Poster
- Review each chemical's safety data sheet (SDS) and **know what the hazards are**



<p><b>Conduct a “pre-use” fume hood check:</b></p>	<p><b>Before using a BSC:</b></p>
<p><input type="checkbox"/> Check the fume hood sticker and ensure it has been certified within the last year</p>	<p><input type="checkbox"/> Check certification sticker and ensure it has been certified within the last year</p>
<p><input type="checkbox"/> Check the air flow monitor &amp; alarm. Make sure it’s working and not alarming</p>	<p><input type="checkbox"/> Turn on BSC, ensure sash is at operating height, and allow it to run for 10 minutes to purge the cabinet</p>
<p><input type="checkbox"/> Check that the lights work</p>	<p><input type="checkbox"/> Check for any alarms</p>
<p><input type="checkbox"/> Ensure the fume hood is free from obstruction (i.e. bulky items, excess storage)</p>	<p><input type="checkbox"/> Decontaminate cabinet with disinfectant and load materials you’ll be working with into the cabinet</p>
<div style="display: flex; justify-content: space-around;">    </div>	<div style="display: flex; justify-content: space-around;">   </div>
<p><b>Safe techniques for working within the Fume Hood:</b></p>	<p><b>Safe techniques while working in the BSC:</b></p>
<p><input type="checkbox"/> Open the sash to height noted on “sash sticker”</p>	<p><input type="checkbox"/> Work with materials 4 inches inside the BSC</p>
<p><input type="checkbox"/> Work with materials 6 inches inside the hood</p>	<p><input type="checkbox"/> Work in one direction across the cabinet to minimize cross contamination</p>
<p><input type="checkbox"/> Only your hands and arms can work within the hood, never your head/face</p>	
<p><input type="checkbox"/> Cap containers that aren’t being used</p>	
<p><input type="checkbox"/> Work slowly and carefully</p>	
<p><b>Conduct a “post-use” fume hood check</b></p>	<p><b>After using the BSC:</b></p>
<p><input type="checkbox"/> Lower the sash</p>	<p><input type="checkbox"/> Remove unused materials from BSC</p>
<p><input type="checkbox"/> Turn off the lights</p>	<p><input type="checkbox"/> Decontaminate with appropriate disinfectant</p>
<p><input type="checkbox"/> Ensure chemicals left short-term are capped</p>	<p><input type="checkbox"/> Turn off BSC</p>
<p><input type="checkbox"/> Don’t store chemicals in the fume hood long-term</p>	



**Small spill clean-up**

- ✓ Notify supervisor/PI/Instructor if a spill occurs
- ✓ Only use spill kit for small spills, **do not attempt to clean-up large spills**
- ✓ Clean the spill using good work practices and the proper spill kit and PPE
- ✓ Bag and tag the spill clean-up and notify EH&S to pick-up as hazardous waste