



OSHA estimates that there are over 500,000 people employed in laboratories in the United States. These workers are exposed to several potential hazards, which can include chemical, biological, physical and radioactive hazards. Learning the hazards in your lab and utilizing the hierarchy of controls can help prevent unnecessary accidents.

Utilize the hierarchy of controls:

1. Eliminate the hazard, if possible.
2. Substitute the hazard for something less hazardous.
3. Engineering controls - Change the work environment to reduce hazards. Examples include the use of chemical fume hoods and biological safety cabinets.
4. Administrative controls - Modify work tasks and schedules to reduce exposure to workplace hazards. Examples include providing adequate training and rotation of workers.
5. Work practice controls - Promote safe work by reducing the intensity, frequency or duration of hazard exposures. Work practice controls include prohibiting mouth pipetting and chemical substitution (choosing the least hazardous chemical for the job).
6. Personal protective equipment (PPE) - provides a barrier between the hazard and the employee. PPE can consist of safety glasses, goggles, lab coats, pants, closed-toed shoes and gloves.

Useful safety rules:

1. No food or drink in the lab.
2. Wash hands as often as possible.
3. Never pipette anything by mouth.
4. Wear appropriate eye protection.
5. Wear protective clothing including, long sleeve shirts and pants and close-toed shoes.
6. When working with chemicals under a fume hood, ensure that all chemicals are at least 6 inches inside the hood.
7. Only use equipment that you have been trained on and are approved to use.
8. Be aware of the location of safety data sheets and familiarize yourself with the hazards of the chemicals you are working with.
9. Learn the location and operation of all safety showers and eye wash stations within your laboratory.
10. Learn the location and operation of fire extinguishers within your lab.
Utilize the PASS method:
 - **P**ull the pin;
 - **A**im the nozzle at the base of the fire;
 - **S**queeze the handle; and
 - **S**weep the hose from side to side.