

## General Laboratory Guidelines

### Importance of lab safety:

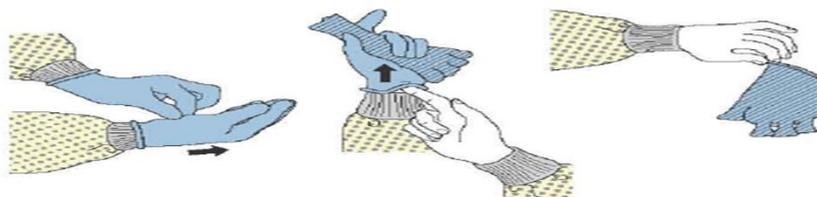
From chemicals to electrical equipment, laboratories reap a wide array of safety hazards, which is why it is so vital to understand the important of lab safety. If something goes awry, more than just your experiments can be affected. Equipment can be damaged, fines can occur, and individuals on your team can be injured.

When working in a lab, it is important you to be familiar with the equipment in your working space, even if you don't use it yourself. By becoming familiar with the laboratory you're working in and always following proper safety procedures, you can help to prevent or eliminate hazards. You will also know the proper steps to take in the unfortunate event that something does go wrong. <sup>(1)</sup> The following are general precautions and laboratory guidelines that should be followed for safety.

### General guidelines:

1. Eating, drinking, applying cosmetics or lip balm, and handling contact lenses are prohibited in areas where specimens are handled.
2. Place your bag in the correct area.
3. Tell your instructor about any accident.
4. You must listen carefully to all the instructions given by your instructor. If you are unsure of anything, always ask your instructor.
5. Tie your hair before doing an experiment.
6. Do not use any chipped or broken glassware.
7. You must know all exits in your lab, eye washer, and fire extinguisher, first aid kit.
8. Do not touch any electrical sources.
9. Appropriate Personal Protective Equipment (PPE) will be used where indicated:
  - **Lab coats** or disposable aprons should be worn in the lab to protect you and your clothing from contamination.
  - **Lab footwear** should consist of normal closed shoes to protect all areas of the foot from possible puncture from sharp objects and/or broken glass and from contamination from corrosive reagents and/or infectious materials.
  - **Gloves** should be worn when handling hazardous materials.

 How to remove gloves?



- **Protective eyewear and/or masks** may need to be worn when contact with hazardous aerosols, caustic chemicals and/or reagents is anticipated.



### 🧪 Before and after work precautions:

1. Before start working, be sure to label the glassware.
2. Glassware should be clean before using.
3. After finishing the experiment turn off all the equipment, clean your work bench.
4. You must wash your hands with soap after finishing the experiment.
5. Glassware must be cleaned and kept back at the proper place.

### 🧪 Dealing with chemicals:

1. Consider all chemicals to be hazardous.
2. Do not taste, smell or touch any chemical.
3. Know what chemicals you are using and notice the hazard symbols.
4. Carefully read the label twice before taking anything from a bottle.
5. Never point a test tube that you are heating at yourself or your neighbour.
6. You must work at the hood when dealing with a chemical with fumes.
7. If chemicals come into contact with your skin or eyes, flush immediately with water and consult with your instructor.
8. Always pour acids into water. If you pour water into acid, the heat of reaction will cause the water to explode into steam.
9. Do not forget to label your tubes before starting the lab.
10. Close all chemical bottles after finishing
11. Dispose chemicals properly.

### 🧪 Informations about chemicals:

Material Safety Data Sheet (MSDS) is a document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product. It also contains information on the use, storage, handling and emergency procedures all related to the hazards of the material.



Figure1. Hazardous Materials Identification System (HMIS).<sup>(3)</sup>