

Safety in the Laboratory

The chemistry laboratory is a place to experiment and learn. You must assume responsibility for your own personal safety and that of people working near you. Accidents are usually caused by carelessness, but you can help prevent them by closely following the instructions printed in this manual and those given to you by your teacher. The following are some safety rules to help guide you in protecting yourself and others from injury in a laboratory.

1. The chemistry laboratory is a place for serious work. Do not perform activities without your teacher's permission. **Never** work alone in the laboratory. Work only when your teacher is present.
2. Study your lab activity **before** you come to the lab. If you are in doubt about any procedures, ask your teacher for help.
3. Safety goggles and a laboratory apron must be worn whenever you work in the lab. Gloves should be worn whenever you use chemicals that cause irritations or can be absorbed through the skin.
4. Contact lenses should not be worn in the lab, even if goggles are worn. Lenses can absorb vapors and are difficult to remove in an emergency.
5. Long hair should be tied back to reduce the possibility of it catching fire.
6. Avoid wearing dangling jewelry or loose, draping clothing. The loose clothing may catch fire and either the clothing or jewelry could catch on chemical apparatus.
7. Wear shoes that cover the feet at all times. Bare feet or sandals are not permitted in the lab.
8. Know the location of the fire extinguisher, safety shower, eyewash, fire blanket, and first-aid kit. Know how to use the safety equipment provided for you.
9. Report any accident, injury, incorrect procedure, or damaged equipment immediately to your teacher.
10. Handle chemicals carefully. *Check the labels of all bottles before removing the contents.* Read the labels three times: before you pick up the container, when the container is in your hand, and when you put the bottle back.
11. Do **not** return unused chemicals to reagent bottles.
12. Do **not** take reagent bottles to your work area unless specifically instructed to do so. Use test tubes, paper, or beakers to obtain your chemicals. Take only small amounts. It is easier to get more than to dispose of excess.
13. Do **not** insert droppers into reagent bottles. Pour a small amount of the chemical into a beaker.
14. **Never** taste any chemical substance. **Never** draw any chemicals into a pipette with your mouth. Eating, drinking, chewing gum, and smoking are prohibited in the laboratory.
15. If chemicals come into contact with your eyes or skin, flush the area immediately with large quantities of water. Immediately inform your teacher of the nature of the spill.
16. Keep combustible materials away from open flames. (Alcohol and acetone are combustible.)
17. Handle toxic and combustible gases only under the direction of your teacher. Use the fume hood when such materials are present.
18. When heating a substance in a test tube, be careful not to point the mouth of the tube at another person or yourself. **Never** look down the mouth of a test tube.
19. Use caution and the proper equipment when handling hot apparatus or glassware. Hot glass looks the same as cool glass.
20. Dispose of broken glass, unused chemicals, and products of reactions only as directed by your teacher.
21. Know the correct procedure for preparing acid solutions. *Always add the acid slowly to the water.*
22. Keep the balance area clean. **Never** weigh chemicals directly on the pan of the balance.
23. Do **not** heat graduated cylinders, burettes, or pipettes with a laboratory burner.
24. After completing an activity, clean and put away your equipment. Clean your work area. Make sure the gas and water are turned off. Wash your hands with soap and water before you leave the lab.