

General Chemistry Safety and Laboratory Rules

Chemistry laboratories can be hazardous if the rules are not followed. During a chemistry course a student may handle materials which are carcinogenic, poisonous, flammable, and explosive. Some of these materials and equipment may also cause severe burns, cuts, or bruises if handled improperly or carelessly. Most accidents that occur in the chemistry laboratory are a result of carelessness, impatience, improper or unauthorized experimentation, and disregard for safety rules or proper operating procedures. In order to minimize the chances of an accident in the laboratory certain rules and regulations must be obeyed at all times when one is working or observing in a chemical laboratory. Therefore, it is not advisable for anyone to work in a laboratory without proper knowledge of the dangers involved.

Due to the inherent dangers present in a chemical laboratory exercise, it should be understood that the following rules must be obeyed to minimize the chance of an accident. The student is expected to exercise proper judgment and extreme caution at all times when working in the laboratory.

Learn and observe the safety and laboratory rules!

1. DO NOT perform unauthorized experiments or work in a laboratory alone.
2. Approved eye protection must be worn at all times in the laboratory. Tennessee State law requires the use of such devices. Eye protection must be splash proof chemical goggles and be approved by your instructor. If you do get a chemical in your eye rinse immediately with large quantities of water using the eye-wash stations.
3. Long hair (shoulder-length and longer) must be secured (hair net, clip, scrunchie, etc.) while in a laboratory.
4. Appropriate clothing must be worn at all times while in the laboratory. Skin may be exposed ONLY on the face, neck, hands, and arms (excluding shoulders). Sleeveless shirts, tank tops, and clothing with tears or cuts of any kind are prohibited. Leggings are discouraged. Loose-fitting clothing (particularly long, loose sleeves) is also discouraged and must be secured if worn in the laboratory. Clothing made from natural fibers (e.g., cotton) is preferred over synthetic fibers (e.g., polyester, spandex, Lycra, etc.) as synthetic fibers typically melt and stick to the skin when burned.
5. Closed shoes with socks must be worn at ALL times – open-toed shoes, backless shoes, sling backs, clogs, Crocs, and sandals are not permitted. Ankles should not be visible.
6. Long, natural fingernails (longer than one-quarter inch) are prohibited in the laboratory. Long nails interfere with the proper manipulation of chemistry equipment in the lab. The wearing of acrylic nails is also prohibited in the laboratory. Acrylic nails are known to be flammable and present a serious burn hazard in the presence of open flames.

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7. Know the location and proper use of fire extinguishers, fire blankets, safety showers, eye wash devices, and first aid kits.
8. Before obtaining any chemicals carefully read the label on the reagent bottles.
9. Eating, chewing gum, drinking, and use of tobacco products are not allowed in a chemistry laboratory.
10. Thoroughly wash your hands after leaving the laboratory.
11. Use the fume hoods when toxic or irritating vapors are involved.
12. Mouth suction is never used to fill a pipette.
13. Never force glass tubing through cork or rubber stoppers without proper lubrication.
14. Never direct the open end of test tube toward yourself or anyone else.
15. Never pour water into concentrated acid.
16. Learn the proper procedure for igniting and operating a laboratory burner. Always extinguish the flame when the burner is not being used. Make sure that all flammable reagents are well removed before lighting the burner.
17. Liquid and solid waste containers must be properly used at all times.
18. Never place chemicals directly on the balance pan. Always use a proper weighing container when using a balance to weigh a chemical. Never pour chemicals directly over the balance.
19. Never return unused chemicals to their original container (unless directed to do so by the instructor).
20. Securely replace lids, caps, and stoppers after removing reagents from containers.
21. Always wipe spatulas clean before and after inserting into reagent bottles.
22. Report any accident and/or injury, however minor, to your instructor immediately.
23. Never place anything that is not directly required for the experiment on laboratory desks; other items may interfere with the experiment.
24. All personal belongings should be placed in the bookcases as you enter the laboratory.
25. Clean up any spill immediately.
26. Before leaving the laboratory, make sure your work area is clean and dry. Ensure that all gas, water, vacuum, and air valves are completely turned off.
27. Your instructor is available for any assistance you may need. Never hesitate to ask questions especially if there is any question concerning proper operating procedure. Be sure that you understand every instruction before proceeding.

SAFETY PLEDGE:

I have read and I understand this paper entitled "General Chemistry Safety and Laboratory Rules". I certify that I will obey each and every rule stated in the paper and will adhere to each of them in my chemistry courses. I have received a duplicate copy of this paper and will keep it available for review throughout my chemistry courses.