

LAB SAFETY RULES

1. You are not permitted to be in the laboratory when an instructor is not present.
2. Report all accidents and injuries, no matter how minor, to your instructor.
3. You are only allowed to do authorized experiments.
4. Horseplay in the lab is unacceptable behavior and is cause for immediate ejection.
5. **You must wear safety goggles in the lab at all times.**
 - Contact lenses (hard or soft) are not permitted: trapped chemicals may cause injury to the eye.
 - Know the location and use of the closest eyewash, safety shower, and fire extinguisher.If you get chemicals in the eye, immediately flush the eye with copious amounts of water from the eyewash. For other parts of your body, wash the affected area thoroughly using the sink or safety shower.
6. Keep your book bags and other non-essential items at designated spaces only.

Bare feet, legs, or midriiffs are not allowed in a chemistry lab. Sandals, open-toed or open backed shoes, shorts, or halters are not enough protection. If you have long hair it must be tied back. Old clothing or a laboratory apron or coat is highly recommended. **If you are not properly attired, you will not be admitted to the lab.** If you are ejected from the lab for improper dress, you will not be permitted back until you are properly dressed. If you miss the lab, or do not finish, you will not be permitted to make the lab up, and the absence will **NOT** be considered excused.

If your back is exposed when you bend over then your top is too short and you will not be allowed to work.

7. The vapors of a number of solutions are quite potent and can irritate or damage the mucous membranes of your nasal passages and throat. If you must smell a chemical, hold its container away from your face and waft its vapor gently toward your face with your hand. For reactions involving poisonous or noxious gases, use the hood by placing the container well within the marked lines. At Douglas, **ALL WORK MUST BE DONE INSIDE THE HOODS!**
8. Always keep burners under the hood. Never apply heat to the bottom of the test tube; always apply it to the point at which the solution is highest in the tube. A suddenly formed bubble of vapor may eject the hot and perhaps corrosive contents violently from the tube (an occurrence called “bumping”).
9. No eating, drinking, or smoking in the lab. You may not bring in anything consumable, either.
10. Never taste chemicals or solutions—poisonous substances are not always so labeled.
11. Label all containers. Stock solutions must remain on the stock solution bench. Be sure to replace the same cap or stopper on the reagent bottles. Do not put medicine droppers or pipettes in the reagent bottles. Do not take too much stock solution. If you accidentally take more than you needed, do not return the excess back in the reagent bottle, try to give it to another student or dispose the excess as instructed. Grades may be reduced if instructions are not followed and materials are found where they should not be.
12. Although we do not provide gloves, you may wear them, if you choose to do so. Consult with your instructor or the stockroom regarding the type of gloves you should consider. However, we do provide nitrile gloves for acid washing for certain experiments. All other experiments in this course can be safely performed without gloves.
13. Make sure your sink is cleaned out before leaving the lab.
14. Beware of hot glass—it looks cool long before it may be handled safely.
15. You must wash your hands at the end of lab even if you have been wearing gloves. This will prevent you carrying something out on your hands, which you later might get in your eyes or onto food.
16. Inform your instructor if you have a medical condition that requires special consideration.
17. Housekeeping is very important and can prevent many accidents in the lab.

WHEN IN DOUBT, ASK YOUR INSTRUCTOR!

Use of Hoods

We have two types of hoods that you will encounter: a low-flow laminar flow fume hood (called “traditional” hood from here on), and a canopy hood. Each is used in a different manner. You should understand both but know how to use the type of hood you have. Hoods are shared, so be courteous. Both types depend on air flow, so be careful not to block the vents.

Canopy Hoods (NOT AVAILABLE IN HSB 005)

These are older hoods, designed for student use. They are not designed to handle large amounts of very volatile compounds and provide no protection from spills or explosion. Essentially, they are air vents mounted over a portion of the work area. Whenever you are heating material or working with volatile compounds, you must use them.

To use them effectively, place the material inside the lines marked on your work area. The closer you get to the center of the hood, the more effective it is.

“Traditional” Hoods

These are newer hoods, and look like what most of us have come to think of as chemical hoods. They are metal boxes mounted on the bench-top. Our hoods have glass panels that slide left and right. In addition, the frame holding the panels slides up and down. They work by drawing air from the room into the box and out the top. They provide complete protection against exposure to volatile compounds under most conditions and, if used properly, provide some protection from spills, fire and explosions. You use them **WHENEVER** you are working with compounds. **ALL WORK SHOULD BE DONE INSIDE THE FUME HOODS.**

To use them, place the material inside the hood (see picture below). You may slide the front up to do this if you need to. Most hoods require that the front be down most of the way. These hoods will operate with the front at any height; however they are designed to operate best with the front ALL the way down and the glass panels moved to allow access to the hood. Slide the two panels on your side of the hood one in front of the other so that both panes of glass are between you and your work. You can reach around the panels to handle the materials. This offers you the most protection against spills, splattering, fire and explosion.

