Safety Rules: Good Laboratory Practice IS Common Sense!

Safety is important during all labs. You are to learn and follow the safety guidelines to ensure a safe environment for everyone.

If you do not follow these rules, you will not be allowed to perform any experiments!

You may also be subject to a grade penalty for that lab.

- **Entering the lab:**
  - Never enter a laboratory without a supervisor present.
  - Arrive *before* the start of your lab. It will take time to get ready and important lab and safety *information will be given at the beginning* of a lab period.
  - At all times in the laboratory, wear a lab coat appropriately, and safety goggles (or prescription eyeglasses).
  - All personal items such as backpacks, purses, coats, and electronic devices are to be kept outside of the lab on the shelves in the hall. (1) You don't want to contaminate or stain personal items, and (2) We want to avoid clutter as much as possible.
  - Disinfect your hands and put on a pair of disposable gloves.
  - There is no official policy on contact lenses. However, be aware that if a chemical product gets in your eyes, it could easily get between the contact lens and your eyeball (and the lens could melt onto your eyeball). If you wear contacts, you must also wear goggles. If you want to avoid this risk, remove the lenses before the lab and wear your prescription eyeglasses instead.
  - No shorts, skirts, capri pants, or pantyhose (bas-collant).
  - Closed-toe shoes only, no flip-flops, no crocs, no sandals. Avoid high-heeled shoes or ones that do not have a good grip.
  - No exposed skin.
  - Long hair MUST be tied back.

- **In the lab:**
  - **ABC: Always Be Calm**
  - Never leave an experiment unattended.
  - Unauthorized or unsupervised experiments are not allowed.
  - Avoid distracting or disturbing anyone who is performing an experiment.
  - Always think about what you are doing!
  - No eating, drinking, or chewing gum in the lab.
  - Use laboratory equipment for its intended purpose. Make sure that lab equipment is securely fastened and there are no loose or wobbly parts.

- **Handling chemicals:**
  - Always wear gloves.
  - Every chemical container will be identified appropriately.
  - When working with chemicals, keep hands away from your face and eyes.
  - NEVER taste or smell any chemical. When testing for odours, use the wafting technique.
  - Use fume hoods when handling poisonous, irritating, or volatile substances.
  - Never work directly from an original container.
    - For liquids: Pour a small amount into a clean beaker and use this to obtain the needed amount for an experiment. Never introduce droppers or pipettes directly into the original bottle – you will contaminate the pure chemical!
    - For powders in an original container: Don't use your own scoopula. A scoopula will be provided for the product in its bottle. Only use that scoopula and don't take it back to your workstation. Put it back in its bottle when done.
  - NEVER return unused chemical products to their original container. Dispose in the appropriate waste container.

- **Cleaning up:**
  - By default, assume all waste (both solid and liquid) is hazardous, and cannot go down a sink or regular garbage unless specifically indicated.
  - Waste must be disposed of in labelled containers provided by the technician for waste purposes. Unless otherwise indicated, these containers will be in the fume hood at the front (the one looking into the prep room).
  - Use tap water and soap for washing glassware or other materials. Perform ONE final rinse with distilled water.
  - Return materials to the place you got them.
  - Never dry glassware with a towel – this will introduce contaminants! It is usually fine to conduct an experiment with wet glassware, but if dry glassware is called for, wash it then dry it in the oven or using the vacuum.
  - Clean your workstation using 70% Ethanol.
  - Advise your professor or lab technician prior to leaving the lab if there are other instructions, and once your lab station has been checked for cleanliness.
  - At the end of the lab session (or whenever you leave the lab), remove your lab coat and throw gloves away BEFORE exiting the lab.
  - Always wash your hands with soap and water before leaving the lab.
  - It is strongly suggested that you clean your lab coat after every lab.

- **Accidents / Spills:**
  - **ABC = Always Be Calm.**
  - DO NOT try to deal with a spill or breakage yourself or try to hide it.
  - Spills: Advise the laboratory technician or teacher of any spill (either on you or at your workspace, or in the lab). Clean any water spill on the floor or your lab bench immediately.
  - Broken glassware: Advise the lab technician or teacher and they will assist you in picking up the glass with a broom. Dispose of it in the broken glass box.

- **Injuries / Safety Equipment:**
  - Be aware of the location and use of safety equipment (fire extinguisher, first aid kit, shower, eye-wash station, and fire blanket).
  - Procedure in case of accidents:
    - **ABC = Always Be Calm.**
    - Burns: Go directly to a sink and place affected region under running cold water (20 minutes minimum) and alert the lab technician or teacher.
    - Cuts: Rinse with water to remove any risk of infection and alert the lab technician or teacher.
    - Contact with chemical:
      - Immediately alert the lab technician or teacher and go to the shower or eye-wash station.
      - Arm = remove clothes that have been in contact and rinse with water for 15 min.
      - Eye = open eye and rinse with water for 15 min.
      - Other: remove clothes and go in shower under running water for 15 minutes.

What is WHMIS/SIMDUT?

- WHMIS stands for the **W**orkplace **H**azardous **M**aterials **I**nformation **S**ystem.
  - SIMDUT: Système d'information sur les matières dangereuses utilisées au travail
- General website: http://whmis.org/
- Canada's national hazard communication standard.
- Consists of three main elements:
  1. Proper labeling of WHMIS controlled products (i.e. chemicals found in the lab)
  2. Safety Data Sheets (SDS) [1]
  3. Education and training programs

[1] Use to be called Material Safety Data Sheet (MSDS).

- **Symbols**
  - There are different classes of materials, each represented by a distinct symbol: