



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Institute of Applied Materials

SARCHI Chair in Carbon Technology and Materials

General Laboratory Rules

DO NOT work alone in a laboratory. Know the location and proper use of fire extinguishers, fire blankets, safety showers, eye wash devices, and first aid kits.

DO NOT perform unauthorized experiments.

YOU ARE ULTIMATELY RESPONSIBLE FOR YOUR OWN SAFETY AND THAT OF YOUR FELLOW STUDENTS, WORKERS AND VISITORS.

1. The following PPE (Personal Protective Equipment) must be worn at all times in the laboratory:
 - Lab coat
 - Eye protection: Splash proof chemical goggles. If you do get a chemical in your eye, rinse your eye immediately using large quantities of water or an eye wash bottle
 - Closed shoes with socks must be worn at ALL times – open-toed shoes, backless shoes, sling backs, clogs, and sandals are not permitted.
 - Always wear gloves when working with unknown substances.
 - Always wear the appropriate breathing masks when working with toxic or irritating vapours.
2. Use the fume hoods when toxic or irritating vapours are involved.
3. Always work in a well ventilated area
4. Eating, smoking, and drinking are not allowed in a chemistry laboratory.
5. Labels and equipment instructions must be read carefully before use
6. Observe good housekeeping practices. **Work areas should be kept clean and tidy at all times.**

7. Dispose of all chemical waste properly. Use the waste containers marked for this purpose and update the waste register every time. Liquid and solid waste containers must be properly used at all times.
8. Thoroughly wash your hands before leaving the laboratory.
9. Long hair and loose clothing must be confined while in a laboratory.
10. Unused chemicals should not be returned to their original container unless directed to do so by the lab instructor.
11. Securely replace lids, caps, and stoppers after removing reagents from containers.
12. All flammable reagents must be removed before lighting a burner.
13. Never pour water into concentrated acid.
14. Mouth suction is never used to fill a pipette.
15. Always wipe spatulas clean before and after inserting into reagent bottles.
16. Report any accident and/or injury, however minor, to your instructor immediately.
17. Clean up any spill immediately.
18. Before leaving the laboratory, make sure your work area is clean and dry and also ensure that all gas, water, vacuum, and air valves are completely turned off.
19. Never hesitate to ask questions especially if there is any question concerning proper operating procedure. Be sure that you understand every instruction before proceeding.

TOXICITY OF CHEMICALS

Laboratory work involves the use of a number of chemicals that are potentially hazardous.

Toxic chemicals can enter the body by ingestion, skin absorption, and inhalation.

Procedures that are performed correctly have minimum risk.

You are required to do the following before working with any chemical substance:

- Read the MSDS of each chemical to be used carefully. There must be a file in the lab containing the MSDS's of the all the chemicals used in the laboratory. Please obtain the relevant MSDS if not in the file before working with the particular chemical.
- Fill in the form, supplied, stating that you have read the relevant MSDS's of the chemicals to be used.
- This form must be signed by yourself and the lab supervisor.
- Read the label and instructions on the chemical container carefully
- Make sure all the correct PPE are used when working with any chemical substance
- Return materials used in the storage facility.
- Label sample material and store safely.

Laboratory Records

Laboratory work records are to be maintained in a laboratory record book; to include the work done the material used quantities, methods and processes.

General Laboratory Rules for equipment and instrumentation

- Computers dedicated to the operation of an instrument should not be used for any private work or the storing of private information for example music.
- Follow the correct operating procedure for each instrument.
- It is your responsibility to report malfunctioning equipment.
- Do not use equipment that malfunctions or in your opinion may endanger yourself or your colleagues.

General SAFETY and LAB RULE Agreement

This is to confirm that I have read and that I understand the General laboratory rules.

I also declare that I will obey and adhere to each and every rule stated above.

I have received a duplicate copy of this paper and will keep it available for review throughout my courses.

Student name

Student Signature

Date