

General Laboratory operating procedures for NPPRL, NPPC (modified from Jonathan Klane, 2017)

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(A principal cause of laboratory accidents is poor housekeeping)

General laboratory safety Practices

1. Be sure to read all fire alarm and lab safety symbols and signs and follow the instructions.
2. Ensure you are fully aware of your facility's/ building's evacuation procedures- where lab's exits and fire alarms are located.
3. Make sure you know where your lab's safety equipment (first aid kits, fire extinguishers, eye wash stations and safety showers).
4. Know emergency phone numbers to use to call for help in emergency.
5. Open flames should never be used in the laboratory.
6. Always work in properly ventilated areas.
7. Do not chew gum, drink, eat or apply lip balm or cosmetics while working in the lab.
8. Laboratory glassware should never be used as food or beverage containers.
9. If you are the last person to leave the lab, make sure to lock all the doors, switch off electrical appliances and turn off all ignition sources.
10. Never lift any glassware, solutions, or other types of apparatus above eye level.
11. Make sure you always follow the proper lab safety procedures for disposing of lab waste.
12. In the event of a chemical splashing into your eye(s) or on your skin, immediately flush the affected area(s) with running water for at least 20 minutes
13. Do not work alone in the lab.

General Housekeeping safety rules

1. Keep all work areas, and especially work benches, clear of clutter and obstructions.
2. Access to emergency equipment, showers, eyewash stations, and exits must never be blocked.
3. Coats, bags, and other personnel items must be stored in the proper area, not on the bench tops, or near chemicals or equipment that is in use.
4. Keep all aisles, hallways, and stairs clear of all chemicals and other obstructions; *never store or place chemicals on the floor.*
5. Promptly clean up all spills, including water spills and ice, and properly dispose of all spilled chemicals.
6. Keep drawers and cabinets closed to avoid accidents.
7. All work surfaces and floors should be cleaned regularly and keep work surfaces dry.
8. Promptly dispose/recycle packing materials and empty cartons.

Dress code safety rules

1. Always tie back hair that is chin-length or longer and as needed.
2. Make sure that loose clothing or dangling jewellery is removed, or avoid wearing it in the lab.
3. Never wear sandals or other open-toed shoes. Footwear must always cover the foot completely.
4. Never wear shorts or skirts in the lab.
5. When working with Bunsen burners or flames, lighted splints, matches etc., acrylic nails are not allowed.

Personal Protection safety rules

1. When working with equipment, hazardous materials, glassware, heat and chemicals, always wear safety glasses or goggles or face shield.
2. Handling any toxic or hazardous agents, always wear the appropriate gloves.
3. When performing laboratory experiments, you must always wear a lab coat.
4. Before leaving the lab or eating, always wash your hands.
5. After experiment, you should always wash your hands with soap and water.
6. When using lab equipment and chemicals, be sure to keep your hands away from your body, mouth, eyes, face, and items you'll handle after removing your gloves (e.g., phone or laptop).

Chemical safety rules

1. Every chemical should be treated as dangerous and before you start an experiment, make sure you are fully aware of the hazards of the materials you'll be using.
2. Do not allow any solvent or chemicals to come into contact with your skin.
3. Never stack chemicals in the laboratory; containers must be stored upright, must not be stored in/on fume hoods, desks, or lab benches.
4. Do not place chemicals within two inches of the edge of a lab bench (to avoid accidental knocking off of bench).
5. Only materials you require for your work should be kept in your work area.
6. Before removing any of the contents from chemicals bottle, read the label twice.
7. Do not put unused chemicals back into their original container.
8. Flammable and volatile chemicals should only be used in a fume hood.
9. If a chemical spill occurs, clean it up right away.
10. Ensure that all chemical waste is disposed of properly.

Glassware and Sharps safety rules

1. Make sure that disposal containers for broken glass and sharps are well labelled and placed in low-traffic areas.
2. Properly dispose of broken glassware and sharps. If these items are contaminated with a hazardous substance, they need to be treated as hazardous waste and disposed in the appropriate waste container.
3. Never use cracked or chipped glassware; promptly discard these items in the broken glass container.

4. Do not stack beakers, flasks, etc.
5. Wear appropriate gloves to clean glassware; do not pile up dirty or clean glassware.
6. Wash glassware carefully (dirty water can hide glass fragments).

Electrical safety rules

1. Electrical equipment should be maintained by trained individuals only.
2. Never overload circuits; use surge protection power strips and ground fault circuit interrupters as needed.
3. Properly ground all electrical equipment.
4. Be sure that all cords are well placed, in good shape, and away from water. Keep cords out of aisles.
5. Immediately report any electrical failure or suspicious heating of equipment to the laboratory manager/supervisor.

References

<https://www.labmanager.com/science-lab-safety-rules-guidelines-5727>

Basic and general rules to be followed in the laboratory, NPPRL, by everyone who uses the facilities.

1. The laboratory must be kept neat and orderly at all times.
2. Keep the work area free from unnecessary apparatus, paper, chemicals, and waste.
3. Do not place chemicals within two inches of the edge of a lab bench (to avoid accidental knocking off of bench)
4. All spills must be cleaned up before continuing work or other tasks.
5. All paths to exits must be kept clear and unobstructed.
6. All paths to emergency shower and eyewash areas must remain unobstructed.
7. Rinse broken glassware before disposal into the "Glass Waste" container.
8. Safely transfer biohazardous waste into the proper waste container.
9. Transfer waste paper, gloves packing material and wood into the regular waste container.
10. Clean all your equipment and put it away before leaving.
11. Clean your work area completely before leaving.
12. Individuals using common equipment and facilities must clean up after use.
13. Return all unused chemicals to their proper storage places or on the laboratory cart.
14. Do not chew gum, drink, eat or apply lip balm or cosmetics while working in the lab.