

# LAB SAFETY

# General Safety Rules

- **Listen to or read instructions**
- **Notify your teacher if any accidents occur.**
- **Wear safety goggles**
- **wash your hands with soap and water.**
- **keep your hands away from your face.**
- **Tie back long hair.**
- **Clean up your lab area**

# Know Your Surroundings

- Know where the fire alarm
- If there is a fire, a quick response is the best.
- Know where the first aid kit.
- Know where the eye wash and safety shower is located

# A health hazard

- ✓ Carcinogen
- ✓ Toxic or highly toxic
- ✓ Reproductive Toxins
- ✓ Irritants
- ✓ Corrosives
- ✓ Sensitizers
- ✓ Hepatotoxins
- ✓ Nephrotoxins
- ✓ Neurotoxins

# physical hazard

- ✓ Explosive
- ✓ Flammable
- ✓ Oxidizer
- ✓ Pyrophoric
- ✓ Organic peroxide
- ✓ Compressed gas
- ✓ Combustible liquid
- ✓ Unstable (Reactive)
- ✓ Water-reactive

# Labeling

Labeling is also required for chemicals that are in a secondary container

- Identity of the hazardous chemical
- Appropriate hazard warnings
- Name and address of the chemical manufacturer

# Personal Protective Equipment

- ✓ Safety glasses
- ✓ Gloves
- ✓ Lab coat
- ✓ Respirator
- ✓ Shoe covers

# Safety Equipment

Fume hood

Biological Safety Cabinet (BSC)

Autoclave

# FIRST AID

- First aid as the name implies is a set of guidelines which can mitigate the damage caused by exposure to chemicals or injury before expert medical help can be provided. All those in the laboratory should be familiar with first-aid practices as these save valuable time and reduce the extent of damage in case of laboratory accidents. Each laboratory should have individuals who have received the first aid training and have certification from local bodies.

# First Aid Kit

- First aid kit should be a dedicated cabinet or box and should contain essential medicines, antiseptic lotions, creams, bandages and sterilised cotton. A person should be made responsible for maintaining a list of the contents and discarding the expired medicines and replacement with fresh stocks.

# Contact Information

- Names and contact details of employees holding first aid training certificates
- List of blood groups of all laboratory employees
- Names of employees with any specific allergies
- Telephone numbers of neighbourhood doctors and hospitals
- Emergency contact numbers such as fire brigade service and police

# Guidelines for First Aid Providers

- Maintain calm and evacuate the area in case there is impending danger
- Start remedial action to save time before expert medical help can be provided Do not attempt to move around the victim unless he / she is exposed to smoke, fire, hazardous chemicals or vapours. Take proper care in moving to a safe location
- Ensure that the victim is breathing. If breathing stops try artificial mouth- to- mouth or mouth- to- nose respiration
- Do not try to remove deeply embedded metal or glass shreds. Bandage the wounds to control bleeding till medical help arrives.
- Intense bleeding can be stopped by pressing the wound with your thumb
- In case the victim has fainted turn him/her on the side with the face tilted towards the floor to prevent choking by the tongue.

# Specific First Aid Tips

- Burns – hold the affected skin under a stream of running water for at least 10 – 15 min. Keep the wound open and do not apply any ointment till expert medical help can be provided. In case of strong acid burns after washing with water rinse with dilute ammonia (1 – 2%) or sodium bicarbonate solution.
- Never apply acid or alkali to neutralise the corrosive liquid on the skin. Due to heat of reaction matters can get even more complicated.
- Eyes – if corrosive liquid gets splashed into the eyes wash the eyes thoroughly with fresh water using an eye fountain or eye wash bottle
- Poisons – dilute the stomach contents by making the casualty drink 1 – 2 glasses of water and try to induce vomiting before poison specific expert medical help can be provided.

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