

SLS Laboratory Safety Awareness:

A. Responsibilities

a) Every Laboratory Worker (students, faculty, floor keepers) should know the location and operation of the:

1. Safety showers & eyewashes
2. Fire blankets
3. Chemical spills kits,
4. First aid kits
5. Fire extinguishers
6. Fire Alarm
7. Telephones & Emergency Phone Numbers
8. Fire exits
9. Material safety data sheets

b) The Lab Manager must:

1. Be trained in the use of fire extinguishers and other safety equipment
2. Be aware of fire drill and evacuation protocols. He/she must know what to do in case of a fire inside the laboratory and how to evacuate students
3. Be aware of what to do in case someone catches on fire or spills a chemical on himself/herself
4. Be aware of what to do in case of gas leakage and/or explosion
5. Make sure there are clear and prominent signs that identify the: safety showers and eyewashes, fire blankets, chemical spills kits, first aid kits, material safety data sheets, etc.
6. Check that all fire and safety equipment are functional and serviced regularly
7. Make certain there is a list of Emergency Phone Numbers posted and visible at various sites in the laboratory and hallways, particularly near the telephones.
8. Make certain there is easy access to all safety and fire equipment at all times
9. Make certain the laboratory is always clean, dry, organized, and well ventilated
10. Make certain chemicals are always stored appropriately
11. Review CHECK LIST daily before leaving the lab

c) The Floor Keeper must:

1. Be trained in the use of fire extinguishers and other safety equipment
2. Be aware of fire drill and evacuation protocols. He/she must know what to do in case of a fire inside the laboratory and how to evacuate students
3. Be aware of what to do in case of gas leakage and/or explosion

d) The Faculty Members must:

1. Be aware of fire drill and evacuation protocols. He/she must know what to do in case of a fire inside the laboratory and how to evacuate students
2. Be aware of what to do in case someone catches on fire or spills a chemical on himself/herself
3. Be aware of what to do in case of gas leakage and/or explosion
4. Provide the following to students in 3 forms (as **online material**, as **hard copy handouts**, and as a **lecture** in lab):
 - The layout of the rooms in the laboratory – equipment, chemicals/reagents, gas lines, vacuum lines, water lines, main switch for the gas, etc.
 - Where and how chemicals and reagents are stored
 - Safety guidelines related to particularly hazardous/toxic/flammable chemicals/reagents and infrastructure (gas lines and nozzles)
 - Safety guidelines related to all the chemicals/reagents which they will be handling during the class
 - Safety guidelines related to all the equipment which they will be using during the class
 - What to do in case of an accidental chemical spill/fire on themselves or anyone else
 - Where all the telephones, fire extinguishers, eye wash, safety showers, fire blanket, material safety data sheets, and first aid kits are located/stored
 - Where all the emergency phone numbers are written
 - How to evacuate in case of an emergency
 - How to use protective clothing (gloves, goggles, masks, etc)
 - How to use the safety equipment (showers, eye wash, fire blanket)
 - How to clean different chemical spills and use of chemical spills kit
 - How to use the chemical fume hood
 - That no food or water is allowed in the laboratory under any circumstances
5. Make sure all students know the important “DOs and DON'Ts” in the LAB
6. Never let the students perform any experiments alone
7. Teach students how to recognize and handle hazardous/toxic reagents
8. Put away chemicals, turn off equipment, clean up after lab classes before leaving the lab.
9. Notify lab manager if any equipment runs overnight

B. Protocols

a) Protocol for faculty members, lab managers, floor keepers if fire/gas alarm rings during lab class:

1. Immediately terminate class
2. Evacuate the students and leave lab right away

3. If possible, turn off the main gas valve and shut the lab door behind you.
- 1.

b) What to do when someone catches on fire:

1. If your own clothes are on fire, drop to the floor and roll to smother the fire. NEVER RUN!!
2. If someone else's clothing is on fire, get the person to the floor and roll or COVER WITH A FIRE BLANKET OR OTHER CLOTHING to smother the flames.
3. Use a safety shower immediately thereafter. DO NOT USE A FIRE EXTINGUISHER ON PEOPLE
4. If the fire originated from a non-chemical source you may apply water.

c) What to do when a fire breaks out in the laboratory:

In case of a small fire (for Students, Faculty, and Lab manager):

1. If the fire is no bigger than a wastepaper basket you may try to extinguish it by covering it or by stepping on it with your shoe.
2. You may apply a fire blanket over the fire.
3. If it is an electrical fire or grease fire, **DO NOT** apply water.

d) If the fire is larger:

For the students:

1. If the fire is too large (generally larger than a wastepaper basket), do not try to extinguish the fire by yourself.
2. Immediately evacuate and notify faculty or lab manager
3. If no senior person is there (although the possibility is null), raise fire alarm and immediately evacuate
4. If the fire alarm does not work, notify the building occupants verbally to evacuate.
5. Do not re-enter the building until you are told to do so by the authority

For the Faculty members

1. Immediately evacuate the students from lab

2. If the fire seems **VERY** large or spreading, **ACTIVATE THE FIRE ALARM** to alert the building occupants. Call the fire defense section of IUB. If the fire alarm does not work, notify the building occupants verbally to evacuate.

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3. If the fire was caused by a reagent, **NEVER** apply water (use the fire extinguisher ABC powder type preferred).
4. Call Lab Manager/Appropriate personnel to use the fire extinguisher.
 - If you have been trained in the use of a fire extinguisher, fight the fire from a position where you can escape, only if you are confident that you will be successful.
 - A fire contained in a small vessel can usually be extinguished by covering the vessel with a lid of some sort.
5. Do not turn off any hoods in the immediate area, as they will tend to keep the area free from smoke and fumes.
6. **CLOSE THE DOOR** behind you to prevent the fire's spread.
7. If you know the precise location of fire wait outside the lab for the arrival of the experts to inform them of the exact location, details of the fire, and chemicals that are stored and used in the area.
8. Do not re-enter the building until you are told to do so by the authority.

For Lab manager/Floor keeper

1. If students are present, immediately evacuate them
2. If the fire is spreading **DON'T** fight alone
 - If you have been trained in the use of a fire extinguisher, fight the fire from a position where you can escape, only if you are confident that you will be successful.
 - A fire contained in a small vessel can usually be extinguished by covering the vessel with a lid of some sort
3. Raise the fire alarm or notify the building occupants verbally.

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4. If possible turn off the main switch/any running equipment

5. Leave the lab **CLOSE THE DOOR** behind you to prevent the fire's spread
6. Wait outside of the lab to inform the fire fighters
7. Do not re-enter the building until you are told to do so by the authority

e) What to do when there is a chemical spill in the laboratory:

For the students:

1. Notify faculty or lab manager immediately
2. Co-operate corresponding personnel to remove the waste.

For faculty or Lab manager

1. Based on the nature of the chemical guide the students to safe zone.
2. According to the degree of vulnerability manage the waste using spill kit.
3. If necessary call any housekeeper or cleaner for help.

f) What to do if Chemical spill on body or clothing:

1. Immediately run to the shower tray and flush water

Emergency Phone numbers:

Fire Brigade: 01730002245, 01715282853

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