



EMERGENCY PROCEDURE AND ACCIDENTS

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Lab Safety & Operating System (PHAR 315)

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Outline

- ✓ Medical Emergency
- ✓ Fire Emergency
- ✓ Chemical Spill Emergency
- ✓ Biological Spill Emergency



Objectives

- Demonstrate an understanding of emergency procedures and response protocols in a laboratory setting.



Medical Emergency

Major

- Remain calm.
- Initiate lifesaving measures if required.
- Do not move person unless there is danger of further harm.
- Keep person warm.
- Call for emergency response.

Minor

- Initiate first aid.
- Report incident.

Fire Emergency



Major

- Alert people in area to evacuate.
- Activate nearest fire alarm or call Security number.
- Close doors to confine fire.
- Evacuate to safe area or exit building through stairwell.

Minor

- Alert people in laboratory and activate alarm.
- Smother fire or use correct fire extinguisher.
- Aim extinguisher at base of fire.
- Always maintain accessible exit.

Chemical Spill Emergency



Major

- Attend to injured or contaminated persons and remove them from exposure.
- Alert people in the laboratory to evacuate.
- If spilled material is flammable, turn off ignition and heat sources.
- Close doors to affected area.

Minor

- Alert people in immediate area of spill.
- Wear protective equipment, including safety goggles, gloves, and long-sleeve laboratory coat.
- Avoid breathing vapors from spill.
- Confine spill to small area.
- Use appropriate kit to neutralize and absorb inorganic acids and bases. Collect residue, place in container, and dispose as chemical waste.

Biological Spill Emergency



- **Major**
 - Attend to injured or contaminated persons and remove them from exposure.
 - Alert people in immediate area of spill.
 - Close doors to affected area.
 - Put on protective equipment.
 - Cover spill with paper towels or other absorbent materials.
 - Carefully pour a freshly prepared 1 in 10 dilution of household bleach around the edges of the spill and then into the spill. Avoid splashing.
 - Allow a 20-minute contact period for the bleach solution to be effective.
 - Use paper towels to wipe up the spill.
 - Place towels in a plastic bag and decontaminate in an autoclave.



Minor

- Wear disposable gloves.
- Soak paper towels in disinfectant and place over spill area.
- Place towels in plastic bag for disposal.
- Clean spill area with fresh towels soaked in disinfectant.



References

Sveinbjornsson, B. R., & Gizurarson, S. (2022). Handbook for Laboratory Safety. 1st. Elsevier.