Dear researchers and students,

There are many hazards in the laboratory.

This booklet provides guidelines for safe work in the laboratory and instructions for responding to emergencies that may occur in the laboratory.

Please read this booklet in advance and work according to the guidelines and instructions.

We wish you success in your laboratory work and most important: take care of yourself, your colleagues and your environment.
1. Immediately report any University emergency, including an accident that caused injuries, a fire or a leak/spill of hazardous materials, to the Campus Security Unit. If there are injuries call the responders (first aid emergency team/MDA (Magen David Adom) through the Campus Security Unit.

2. Exit and help to evacuate others from the hazardous area.

3. Use safety equipment (fire extinguishers, alarms, emergency switches etc.) as necessary and according to your discretion. If there is a chemical/biological/radioactive spill that can be treated, don PPE (personal protective equipment) and respond as described in this guide.

4. When security forces, safety staff, firemen or first aid providers arrive, offer as much information as possible and follow their instructions.

Telephone numbers - Campus Security Units (24 hours):
Safra - Givat Ram Campus: 02-6585000
Mount Scopus Campus: 02-5883000
Ein Kerem Campus: 02-6758060
Rehovot Campus: 08-9489000

Telephone numbers - Campus Safety Officers:
E.J.Safra, Givat Ram Safety: 02-6585525 (054-8820356)
Mount Scopus Safety: 02-5880305 (054-8820145)
Ein Kerem Safety: 02-6758051 (054-8820348)
Rehovot Safety: 08-9489983 (054-4377712)
Safety Department Manager: 02-6584015 (054-8820171)
1. Alert other workers in and near the laboratory, and make sure that they exit.
2. Notify the Campus Security Unit that there is a fire and its exact location. Inform the Laboratory Director.
3. Press the emergency electricity cut-off push button, located next to the laboratory door, to interrupt the electricity supply. Activate the fire alarm.
4. If the fire is small (the flame covers an area of less than 1 square meter) you can judge whether to use the fire extinguisher located in the laboratory or in the hallway. Do not use water to extinguish the fire.
5. Before operating the fire extinguisher, remember the stages: check the cylinder pressure (gauge should be on green), break the plastic seal, pull out the safety pin from the handle, point the fire extinguisher at the fire, squeeze the trigger handle and aim at the base of the flame.
6. If there is a larger fire: evacuate yourself and others in the building by the nearest doors and staircases which are not on fire. Do not use an elevator!
7. As you exit, if possible close the windows and doors in order to prevent the fire from spreading.
8. In case of injuries, your first priority is to immediately act:
   a. If the clothes of a worker catch on fire: roll the burning person on the floor and/or wrap him in a blanket or item of clothing and/or put him under an emergency shower. Do not try to remove burnt clothing after extinguishing the fire.
   b. Smoke inhalation: evacuate to fresh air.
   c. Notify the Campus Security Unit that there is an injured person and request that they order an MDA (Magen David Adom) ambulance.
9. When the security, safety, fire or first aid teams arrive, follow their instructions and provide information regarding injured persons, possible causes of the fire, hazardous materials in the laboratory and so on.
10. Wait together with the other evacuees outside of the building in a safe place and confirm that everyone who was in the laboratory or nearby has left the building.
1. Alert nearby personnel and move everyone away from the area of the chemical spill. If the spill is inside a laboratory: leave the room, close the door behind you and place a sign on the door forbidding entry to the laboratory. Notify the Laboratory Director.

2. When required (a spill larger than 4 liters, an extremely hazardous spill or a dangerous gas leak) immediately notify the Campus Security Unit.

3. Your first priority should be to immediately treat the injured, if any: move them to fresh air and rinse contaminated skin with water (using a safety shower/eyewash station) and evacuate to medical care. It is recommended to attach an MSDS (material safety data sheet) to an injured person who is evacuated to the hospital.

4. If a hazardous substance has spilled or splashed on you, immediately remove any contaminated laboratory coat or clothing and rinse your skin and/or eyes for 15 minutes in running water (emergency shower/eyewash station).

5. Read the MSDS (material safety data sheet) about the material’s properties. If you are familiar with the properties of the material and able to handle the spill, have a qualified worker assist you and proceed according to the following instructions:

6. Protect yourself with: a face mask with an appropriate filter to protect the respiratory system, chemical-resistant gloves, a protective coverall and shoe covers. These items, and a spill kit, can be found in emergency spill response cabinets located in laboratory building hallways which contain personal protective equipment and materials for spill response.

7. If the bottle or a glass vessel containing a chemical has broken, pick up the glass shards or other sharps using a brush and dustpan (do not use your hands!) and place them in the rigid container designated for sharp chemical waste.

8. Absorb the spill using the designated items in the spill kit (first contain the spill with an absorbent sock/boom and then absorb the spill using the pillow).

9. Place the used absorbent materials and the protective clothing that you have worn (coverall, gloves and shoe covers) into the waste bag, close the bag with the plastic band and attach a label identifying the chemical which was spilled and the name of the Laboratory Director. Dispose of the bag as chemical waste.

10. As soon as possible, notify the Safety Department so that they can draw conclusions and replenish items in the spill response kit.
1. Notify the workers in the laboratory and exit the room for 30 minutes, until the aerosols have settled. Close the door behind you and post a sign prohibiting entry to the room.

2. If there was a spill/splash to the body, remove contaminated clothing and rinse under an emergency shower and/or eyewash station for 15 minutes. If someone has been injured, immediately alert the Campus Security Unit and obtain medical treatment.

3. Before re-entering the laboratory, don PPE (personal protective equipment) and wait until at least 30 minutes have passed. The PPE should include a long lab coat or coverall; protective safety glasses; disposable gloves; shoe covers; and appropriate respiratory protection (in the emergency cabinet/spill response cabinet).

4. Cover the spill with absorbent paper or paper towels. Add a second layer of absorbent paper/paper towels soaked with a disinfectant solution. If the disinfectant solution contains chlorine, use a freshly-prepared solution. Contact time should be at least 20 minutes.

5. Collect broken glass or other sharp objects using tongs or a dustpan (do not use your hands!) and place in a designated sharps biohazard waste container, which will be decontaminated in an autoclave.

6. Collect the paper/towels and place in a bag, wipe the surface with disinfectant and afterwards rinse with water.

7. Collect the absorbent paper/towels and place them in a plastic waste bag, close the bag and place it in a general waste container.

8. Remove the PPE (personal protective equipment) and place in a biohazard waste bag.

9. Wash your hands with soap and water after you have treated the spill.

10. Report the spill to the Campus Safety Officer and the Laboratory Director.
1. A radioactive spill will only be treated by a certified radiation worker!

2. If there is a local spill (a small spill limited to one laboratory), qualified laboratory staff (radiation workers only) may treat it without outside help. If there is a more extensive spill, evacuate the laboratory, close the door and post a sign forbidding entry to the laboratory.

3. In any event, immediately alert the Campus Radiation Safety Officer (“Mabak”), the Campus Security Unit and the Laboratory Director. Call for assistance of an additional qualified radiation worker.

4. Monitor, and if you have detected contamination (a splash on the body/lab coat/clothing) on yourself or on another laboratory worker - remove contaminated clothing/contaminated lab coat and rinse yourselves under an emergency shower (or eyewash station in case of a splash to the eye) for 15 minutes.

5. After cleaning up, monitor skin that had been contaminated with a radiation detector to guarantee that the radiation was removed. Should the monitor show that contamination is still present, repeat the decontamination procedure until reaching background levels.

6. The spill should be treated while you are wearing shoe covers in addition to basic personal protective equipment (PPE – safety glasses, gloves and a lab coat). Shoe covers are in the emergency cabinets for spill control response. Use absorbent paper towels to collect a liquid spill.

7. Use a radioactivity detector to determine the margins of the contamination. Collect the spill inwards, from the edge of the contaminated area towards the center, to avoid spreading contamination. Continue collecting the spill, using absorbent paper and changing it often, until attaining background radiation levels.

8. Dispose of the absorbent paper and all of the cleaning equipment that was used to treat the event, including contaminated personal protective equipment, in special bags. Place them in the radioactive waste collection station.

9. When finished, monitor yourself and others who were involved in collecting the spill (hands and feet, including shoe soles).

10. Leave the area of the incident only after receiving permission from the Radiation Safety Officer.
1. Be aware of the hazards in your laboratory (chemical, biological and radioactive materials). Read material safety data sheets (MSDS) and container labels. Work with hazardous materials using appropriate safety equipment and in compliance with safety rules: working in a chemical fume hood or a biological safety cabinet, use of personal protective equipment, safe storage of materials, and so on.

2. Be aware of the laboratory instruments and equipment and their hazards, such as: electricity, heat, radiation, laser, vacuum systems, gas cylinders and pressurized equipment, glass vessels and sharp objects. Use them according to instrument manufacturer's instructions and relevant safety guidelines.

3. Be aware of emergency exits and emergency equipment, their locations in/near the laboratory, and how to operate eyewash stations, emergency showers and emergencyelectricity interrupt push buttons, spill kit cabinets, gas valves (if present) and fire extinguishers.

4. While present or when working in the laboratory, wear basic personal protective equipment (a long, buttoned lab coat; safety glasses; lab gloves; closed shoes), as well as special personal protective equipment for specific hazards (cryogenic gloves, oven gloves, a face shield etc.).

5. Perform work with hazardous chemicals in a chemical fume hood and use it as instructed. Keep flammable materials far from sources of sparks and fire.

6. Store only required amounts of chemicals in the laboratory, as little as possible. Separate incompatible groups (which may react with each other): store volatile chemical containers inside plastic pans in ventilated cabinets, and flammable chemicals in fire-resistant cabinets. Powders may be stored on shelves with raised edges to prevent slipping.

7. Do not pour hazardous materials down the drain. Treat and dispose of hazardous waste according to safety guidelines.

8. Do not work with hazardous substances in the laboratory if you are alone. Do not eat, drink or smoke in the laboratory. While working, avoid use of a cellular telephone and do not touch your face with your hands.

9. Keep work surfaces, fume hoods and cabinets neat and clean. Do not place backpacks, chemical containers or equipment on the floor.

When you have finished working in the laboratory, check if any equipment or processes that are not necessary are still operating, and remove your personal protective equipment. Wash your hands thoroughly with water and soap.

10. Inform the Laboratory Director of any hazard or dangerous conditions in the laboratory or nearby. Inform the Campus Security Unit of any emergency (fire, spill) and act according to the safety instructions for emergency response.