

Facility Safety Plan - University of Haifa, Haifa, Israel

Research Operations / Standard Operating Procedure

The University of Haifa maintains a safety department to address the institutional needs of complying with the federal, state, and local laws regulating safety and health. The Occupational Safety and Health (OSH) management system is certified by IQNEet, the international certification network, and the Israeli Standard Institution for the OSHAS 18001 standard. Research compliance is generally handled through the Vice-President and Dean of Research, the Research Authority and the primary committees outlined below.

Safety Department:

Environmental Health & Safety: addresses the following regulations:

- Israel OSH regulations
- Bloodborne Pathogens Standard
- Chemical Hygiene Plan/Laboratory Standard
- Hazardous Waste Management
- Regulations/Hazardous Waste Transport SARA - Title III
- Biosafety in Microbiological and Biomedical Laboratories

Environmental Health & Safety: serves as the institution's compliance and education agency with respect to safety and health concerns associated with biomedical research. The Office consists of one occupational health and safety professional who has areas of experience and practice in general and fire safety, biosafety and environmental health and safety.

In general, the following list demonstrates the areas that Environmental Health & Safety operates in:

- General Safety SOP- 07-01
- Fire Safety SOP 07-01,07-17, 07-26, 07-27
- Biosafety SOP 07-57
- Hazardous Waste Management SOP 07-53
- Hazardous Materials Management SOP 07-54
- HAZ-MAT Emergency Response in laboratories SOP 07-52
- Industrial Hygiene Services SOP 07-01
- Accident Investigation/Mitigation SOP 09-25

Radiation Safety: Ensures compliance with safety and health regulations and oversees ordering, storage and disposal of radioactive waste in accordance with Israel's Nuclear Regulatory Commission Addressed in the following regulations: Israeli Regulations & Standards for Protection Against Radiation.

Departments/ Committees Governing Research:

Research Compliance Office:

Assures that all research conducted at the University of Haifa involving human subjects, laboratory animals, radiation, toxic and infectious agents, human tissues and recombinant DNA complies with government regulations and research foundations and/or the University's own institutional policies.

Compliance with the laws, regulations and policies of OACU (NIH).

Committee for the Humane Use of Animals (CHUA):

At the University of Haifa the use of animals for scientific purposes is subject to the laws of the State of Israel:

Animal Protection Law (animal experimentation) - 1994

Animal Experimentation Council regulations Biological Safety Program

(a) OH&S reviews laboratory spaces annually.

(b) Each principal investigator must prepare a Biosafety Manual for any research involving human blood, body fluid, tissue or pathogenic organism. The manual must be reviewed and approved by the Institutional Biosafety Committee prior to initiating any research project.

(c) Spaces used for biological research are audited on a regular basis and in special events by the OSH department

(d) Principal investigators must certify annually that all approved research is in compliance with all regulations and institutional policies.

(g) Spill Response

(h) Accident Investigation

Chemical Safety Program

(a) Annual inspection of laboratories for compliance with Israeli Law Chemical Hygiene Plan requirements.

(b) Ensures material safety data sheet collection and dissemination.

(c) Chemical waste storage, packaging and recycling/disposal in accordance with US EPA, NYSDEC and DOT Regulations.

(d) Reactive hazard mitigation, and "unknown" chemical identification by external consultant.

(e) Chemical spill/incident response procedure and remediation.

(f) Activate Institution's Emergency notification system.

Radiation Safety A group of trained technicians are responsible for enforcing the regulations, statutes and policies of the institution and state agencies as applicable, and for interfacing with these regulatory agencies. They also provide support services such as personnel monitoring (TLDs, etc.), centralized ordering of radioactive materials, waste disposal, centralized record repository, safety surveys, and educational activities. In summary, they are responsible for education, documentation, training and enforcement regarding all ionizing radiation used on the University of Haifa campus.

Radiation Safety Officer Responsibilities and Qualifications: The responsibility for radiation protection procedures is assigned to the Radiation Safety Officer. The Radiation Safety Officer should be certified by the Israel Atomic Energy Commission.

The responsibilities of the Radiation Safety Officer (RSO) include the following:

1. Supervising the centralized procurement, receipt, calibration, storage, issuance and disposal of all radioactive materials entering or leaving the University of Haifa.
2. Planning for radiation protection in advance of the purchase of any source of radiation, following prior consultation.
3. Making personnel monitoring devices available to all staff members whose department chairs, section chief, or individuals request them.
 - a) Providing instructions on the correct use of dosimeters.
 - b) Maintaining complete records of all personnel exposures.
4. Surveying areas where radiation is employed:
 - a) Determining exposure levels in occupied areas.
 - b) Specifying appropriate working conditions
5. Performing and documenting appropriate bioassay measurement(s) on employees on a routine and, if necessary, emergency basis.
6. Formulating regulations governing the use of radiation sources (including radioactive materials as well as radiation producing machines). In general, such regulations will be in conformance with those recommended by the Israel Atomic Energy Commission and any other regulatory agencies having jurisdiction.
7. Requiring the posting of appropriate warning signs in radiation areas.
8. Reviewing plans for the proposed use of radiation from the point of view of radiation protection and make appropriate recommendations to the user.
9. Supervising the decontamination of individuals or property and the disposal of radioactive waste.
10. Reporting to the OSHA University manager regarding any unusual or major radiation hazards or accidents.
12. Formulating policy with regard to handling of radiation sources. Major new policies are submitted to the Radiation Safety Committee and the Administration for their endorsement.
13. Surveying all health physics activities, including both personnel and environmental monitoring.
14. Instructing personnel in proper procedures for the use of radioactive materials.
16. Supervising storage of all radioactive materials not in current use.
17. These provisions are intended to assist department chairs and individuals in maintaining good radiation protection practices in their departments, clinics, and laboratories and do not decrease their responsibility in this regard.

B. Facility Equipment and Description (related to the research environment) The University of Haifa operates 7 research institutions, distributed over three buildings on the Haifa Campus. Each Principal Investigator is requested to prepare a laboratory safety manual specifically for the research facilities and activities in their spaces and submit a copy to the department or governing committees outlined in Part A. above. Within the manual, specific hazardous agents, i.e. toxic, carcinogenic chemicals, select agent materials and biohazards, are addressed with respect to safe use, storage and disposal. All laboratories are 100% - in 100% - out ventilated spaces, with most laboratories having fume hoods available in continuous operation mode. Personal Protective Equipment is specified for each researcher in the departmental compliance policy, and within specific standard operating procedures prepared by the principal investigator for his/her projects. OSH evaluates PPE and proper use on a case-by- case basis. Biological safety cabinets are required for biological safety level 2 and higher activities. Access to steam autoclaves is also required for biological safety level 2 and higher activities.

C. Radioactive Materials A copy of the University of Haifa's Radioactive Materials License is attached.

D. Hazard Analysis (related to the research environment) Adverse Event Control Activities Chemical Spills Specific policy to report all spills to OH&S and evacuate area. OH&S to evaluate hazards on a case-by-case basis. Affected personnel sent to Emergency Department for evaluation and treatment. OH&S maintains equipment and is trained to respond to incidental spills and agreements are in place with qualified outside response vendors for any chemical spills beyond internal capabilities. Fire / Bomb-threat / Total alarm and evacuate procedure using facility-wide Catastrophic Events alarm systems. Full contingency plan developed and distributed internally and externally to government agencies. Toxic Chemical Exposure Removal/Support of victim by Haifa Fire Department. OH&S supports Paramedics and ED with required information on associated hazards. Biological Agent Exposure Depending on agent and dose responses can range up to similar procedure as outlined for toxic chemical exposure (above). Spills are handled by OHS. In case of suspected over-exposure, OHS provides industrial hygiene evaluation and practice to chemicals in use review for lab research activities. Recommendations are made, enforced if warranted, to reduce exposure levels to acceptable levels based on OSHA, Israeli Standards and Guidelines. **E. Biological Defense Research Program Requirements** We have no Biological Defense Research Program activities.