Laboratory Safety Orientation

EHS Mission

Environmental Health and Safety (EHS) is responsible for developing, maintaining, and promoting policies, procedures, and programs necessary to maintain a safe and healthy environment for students, faculty, staff, and the visiting public. EHS works with the Weill Cornell Medicine (WCM) community to protect the College against losses and ensure that College operations comply with Federal, New York State, and New York City environmental health and safety codes and regulations. EHS serves as the Biological, Chemical, and Radiological Safety Office by coordinating a comprehensive College biological, chemical, and radiological safety program and provides an emergency response for the College to situations that may include the handling of hazardous materials and/or exposure to fire emergencies.

EHS Safety Advisors

EHS Safety Advisors work with the laboratory to effectively implement environmental health and safety services and programs. Safety Advisors evaluate chemical, biological, radiological, fire, and general safety hazards as well as hazardous material shipments and waste management practices. They implement effective, safe work practices in accordance with established departmental standards and advance the safety culture at Weill Cornell Medicine (WCM). An outline of Safety Advisor responsibilities is available on the EHS website.

EHS Safety Advisor Assignment by Building / Floor: https://ehs.weill.cornell.edu/system/files/saassign_0.pdf

EHS Safety Manuals

EHS safety program manuals serve as the standard operating procedures for safety practices at WCM in the areas of chemical, biological, radiation, and fire safety; spill planning and response; pollution prevention and waste disposal; hazardous materials transportation; and general safety. Topic-specific guidelines are also available under EHS Updates. Principal Investigators (PIs) may be required to develop high hazard operating procedures (HHOP) depending on the specific nature of the research being conducted, as outlined below.

EHS Program Manuals: https://ehs.weill.cornell.edu/forms-resources

Laboratory Safety Registration

WCM Laboratory Safety Policy requires Principal Investigators to register their laboratories with EHS and obtain applicable committee approvals (Laboratory Safety Registration) prior to initiating research. At WCM, Laboratory Safety Registration is not based on a particular grant, project, contract, or cooperative agreement. Instead, it is based on all the characteristics of the research performed in the lab by the Principal Investigators and their research fellows/lab members.

The Laboratory Safety Registration is composed of four parts:

- EHS Research Safety Checklist, (EHS Registration)
- Institutional Biosafety Committee Registration, (IBC Registration)
- Radiation Safety Committee Authorization of Non-Human Use Application, (RSC Registration)
- Laboratory Roster

The IBC, EHS, RSC, and Lab Roster submission and review process takes place in the Research Safety module within the Weill Research Getaway (also known as WRG-RS).

The Laboratory Safety Registration serves three important functions:

- A risk assessment tool for WCM to identify and address various hazards in research spaces;
- Provide PIs with a comprehensive tool for recognizing hazards and compliance issues that affect them; and
- Register the use of biohazardous materials (rDNA, human tissues, infectious agents, viral vectors, production of transgenic animals) with the Institutional Biosafety Committee. This registration must be completed. by the Principal Investigator currently performs all research works.

The Research Safety Checklist and the Institutional Biosafety Committee registration are required to be **renewed every two years**.

Laboratory Safety Registration Frequently Asked Questions (FAQ): https://ehs.weill.cornell.edu/sites/default/files/rsc.pdf

EHS Safety Advisors will work with their respective laboratories to help complete initial registration forms and review renewals with Principal Investigator's and/or Laboratory Safety Coordinators.

Weill Research Gateway (WRG) Lab Registration Guide: https://ehs.weill.cornell.edu/sites/default/files/wrg_lab_registration_guide.pdf

Laboratory Safety Coordinator

The Laboratory Safety Coordinator, designated by the Principal Investigator, coordinates safety activities in the laboratory. EHS will keep the Laboratory Safety Coordinator apprised of environmental health and safety issues and requirements impacting WCM laboratories. Details of the role and responsibilities can be found on the EHS website: https://ehs.weill.cornell.edu/sites/default/files/lsc.pdf.

The Laboratory Safety Coordinator should inform the EHS Safety Advisor about changes to lab protocols and, if necessary, initiate appropriate amendments. The Laboratory Safety Coordinator will have editing rights to PI's laboratory registration forms in WRG-RS.

See Instructions how to obtain access to WRG-RS

High Hazard Operating Procedures (HHOP)

Principal Investigators are responsible for assessing their research operations and determining if their research uses highly hazardous chemicals. If it is determined that highly hazardous chemicals are used, the Principal Investigator must develop and implement an HHOP for each substance and ensure all laboratory staff working with these materials are properly trained on the HHOP to handle and use these materials safely. Anyone working with highly hazardous substances must consult with the laboratory-established HHOP documentation prior to using them.

Information on establishing HHOP in the lab is detailed in the EHS High Hazard Operating Procedures Update: https://ehs.weill.cornell.edu/sites/default/files/highhazard.pdf.

Safety Training Programs for Researchers

EHS has established core safety training programs and specialized safety training programs for researchers working in laboratories. The core safety training programs are designed to provide tailored training for everyone working within Weill Cornell Medicine. These customized training sessions will meet all safety training requirements unless specialized work activities are conducted. Core safety training programs include:

- Students: Student Safety Training
- Laboratorians: Laboratory Safety Training:
  All laboratory personnel (including students, faculty, staff, and volunteers) who work in a laboratory are required to complete annual Laboratory Safety Training, which meets the combined training requirements for Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens, Laboratory Standards, Radiation Safety awareness, and Environmental Protection Agency (EPA) hazard waste disposal regulations.
- Visitors and Volunteers: Online Fire Safety Training

The specialized safety training programs must also be completed for those who conduct the following specialized work activities:

- ☐ Works alone in a laboratory or provides supervisory coverage when a laboratory is in operation.
- ☐ Works with radioactive materials in a laboratory.
- ☐ Ships biological materials or dry ice.

C14 CERTIFICATE OF FITNESS – SUPERVISION OF CHEMICAL LABORATORY

The New York City Fire Department (FDNY) requires that a C14 Certificate of Fitness holder must be present at any time when someone is working in the laboratory (days, nights, and/or weekends). Multiple C14 Certificate of Fitness holders may be required to provide adequate coverage when the lab is in operation.

RADIATION SAFETY TRAINING

Radiation safety is required for all researchers and laboratory personnel handling OPEN sources of radioactive materials. The course provides an introduction to the fundamentals of handling radioactive materials within the context of a biological/chemical laboratory. Training topics include sources of radiation, atomic structure and radioactivity, radiation health effects, measurement of radiation, radiation protection regulations and license requirements, exposure/contamination control, radiation waste handling, and a review of the college's radiation policies.

BIOLOGICAL MATERIALS AND DRY ICE SHIPPING TRAINING

All personnel involved in shipping biological materials and/or dry ice, including packaging and air bill/document preparation, must complete Biological Material and Dry Ice Shipments training.

Detailed information on EHS-provided safety training programs for Researchers is available at: https://ehs.weill.cornell.edu/training.

Personal Protective Equipment and Laboratory Safety Equipment

LABORATORY COATS AND PERSONAL PROTECTIVE EQUIPMENT

Principal Investigators are responsible for ensuring all laboratory personnel are provided appropriate types and sizes of personnel protective equipment depending on the nature of the work conducted in the laboratory. Laboratory coats, gloves, covered legs, and closed-toe shoes are required at a minimum when working with hazardous materials in the laboratory. For additional information, refer to Section 22.0 – Personal Protective Equipment of the Laboratory Chemical Hygiene Plan.

Additional information about approved laboratory coats for research laboratories is available at: https://ehs.weill.cornell.edu/safety/general-safety/laboratory-coats

BIOSAFETY CABINET CERTIFICATIONS

Laboratories are responsible for annual third-party certifications of their biosafety cabinets. A list of biosafety cabinet certifiers is available at: https://ehs.weill.cornell.edu/safety/biological-safety/biological-safety-cabinet-certifiers.

CHEMICAL HOODS

Chemical hoods are maintained by Engineering & Maintenance and inspected annually by EHS. If the chemical hood is not operating properly, immediately contact EHS at 646-962-7233 to inspect and coordinate repairs with Engineering & Maintenance.

Chemical Safety Programs

SAFETY DATA SHEETS (SDS)

All Weill Cornell Medicine locations that utilize chemicals, including laboratories, must have SDSs for these chemicals readily accessible to all chemical users and emergency responders at each work location. To assist the WCM community in ensuring all students, faculty, and staff have access to SDSs for the chemicals in which they work, WCM has made campus-wide access available to ChemWatch, an online Safety Data Sheet database consisting of over 20 million vendor-supplied documents. For additional information on SDSs, please visit https://ehs.weill.cornell.edu/sds.

SALUTE CHEMICAL INVENTORY AND STORAGE

Laboratory personnel are responsible for maintaining a complete inventory of all the chemicals stored or used at Weill Cornell Medicine and reporting to Environmental Health and Safety annually on the types, quantities, and storage locations.

To assist in this process, EHS provides members of the WCM with access to Salute, a web-based EHS management system that allows authorized users to access and edit their chemical inventory. Chemical owners and their delegates may update chemical inventory information, prepare inventory reports, and obtain chemical safety information through the system.

Step-by-step instructions on how to view and manage your inventory in Salute are available at the EHS Chemical Inventory Update.

Radiation Safety Programs

The Radiation Safety Program at Weill Cornell Medicine (WCM) and New York-Presbyterian Hospital (NYP) is overseen and administered by WCM Medical Health Physics (MHP) with the assistance of Environmental Health and Safety (EHS). This Radiation Safety Program has been established to promote a safe environment for all employees, students, patients, and members of the public who may work with radiation or be exposed while on the WCM/ NYP campus. WCM MHP manages environmental and occupational health and safety during the storage, use, and disposal of radioactive materials in all research applications.

AUTHORIZED USERS

Principal Investigators intending to use radioactive isotopes must obtain authorization from the Radiation Safety Committee. Contact MHP to initiate the Radiation Safety Committee Non-Human Use Application process in WRG.

An Authorized User of radioactive materials, approved by the Radiation Safety Committee (RSC), will be able to order, receive, possess, and use radioactive materials within the confines of WCM and NYP under the regulatory authority of the New York City Department of Health and Mental Hygiene.

ISOTOPE ORDERING

MHP maintains the Central Isotope Laboratory (CIL). Laboratories order their isotopes through SAP in WBG, which MHP approves prior to the delivery to the CIL. Laboratories are notified once the orders arrive at the CIL for pick-up.

Dosimetry MHP maintains the Radiation Dosimetry Program, which plays an integral role in assuring a safe environment for all employees working with radioactive materials. Laboratory staff should contact their Badge Coordinator to request a new radiation dosimetry badge or exchange an existing badge.

All dosimetry related forms can be found on the EHS/Medical Health Physics website: https://mhp.weill.cornell.edu/forms-manuals.

ADDITIONAL RADIATION SERVICES

MHP also provides the following services for the WCM / NYP community:
Diagnostic Imaging Quality Assurance - performs and documents testing on all diagnostic imaging equipment to assure optimal, safe performance.

- Central Isotope Laboratory - controls the ordering, receipt, and distribution of radioactive materials.
- Cyclotron and Radiochemistry Facility - provides environmental and occupational safety during production and use of positron-emitting radiolabeled pharmaceuticals.

Additional services provided by MHP include survey meter maintenance and calibration, beta and gamma sample-counting services, and an iodination core facility. Additional information about the Radiation Safety Program is available at: https://ehs.weill.cornell.edu/radiation-safety.

Waste Management Programs

CHEMICAL WASTE COLLECTION

Chemical wastes are collected by EHS every Tuesday and Thursday by submitting a Chemical Collection Request in Salute. Follow below steps to submit and track your requests in Salute:

- Log in to Salute.
- At the bottom of the left sidebar, select *Request/Report.*
- On the top right corner of the screen, click the *Make New Request* button.
- Select the *Waste Request.*

Complete and submit the form

Red Bag Waste and Normal Trash

Red bags and normal trash are collected nightly by Housekeeping from inside the laboratory. Standard red bags are available from Housekeeping. Laboratories are responsible for purchasing autoclave bags.

SHARPS WASTE COLLECTION

Sharps waste containers are collected by EHS. The schedule and frequency depend on the location/building of your laboratory. Contact EHS to schedule the initial delivery of containers and to determine the schedule and frequency of collection. There is no cost for the collection and disposal of sharps containers. Follow the below steps to submit and track your requests in Salute:

- Log in to Salute.
- At the bottom of the left sidebar, select Request/Report.
- On the top right corner of the screen, click the *Make New Request* button.
- Select the *Sharp Request*.
- Complete and submit the form.

RADIOLOGICAL WASTE COLLECTION

To have your radiological waste collected for disposal and replaced with empty containers, please submit a Radioactive Waste Disposal Request Form To EHS. The waste will generally be picked up on Tuesday/Thursday.

To maintain the safest possible working environment with regards to the use and disposal of radiological materials. Radiological materials are closely tracked from procurement until ultimate disposal via EHS. Radioactive materials must be:

- in containers that are provided by or approved by MPH.
- recorded via update in the radioactive waste record each time they are placed in a container.
- stored in secondary containment in a designated radiation use area.
- kept in closed waste containers when not in use.