

Guidelines for safety training of new researchers in ChE Laboratories

(For Safety officers only)

The term *researcher* herein refers to any individual who will be actively working in your laboratory, and is not limited to graduate student, post-doc, undergraduate student, summer intern, visiting scholar and high school student.

Ensure that all the following safety training requirements for the school have been met:

1. The researcher completes the initial safety awareness training as specified on [ChE Safety Webpage](#) under “Training”, as listed below:
 - Completes the “**Purdue - Lab Safety Fundamentals**” online training course using the [Learning Management System \(https://otis.osmanager4.com/Purdue\)](https://otis.osmanager4.com/Purdue)
 - Reads the **Lab Specific Chemical Hygiene Plan (CHP)** for the lab(s) and completes the [Lab Specific CHP Certification](#) (page 81 in the [Purdue CHP template](#))
 - Has lab specific safety training, including training on all relevant Standard Operating Procedures (SOPs) with the group safety officer
 - Reviews the [Building Emergency Plan \(BEP\) for FRNY Building](#)
 - Attends an in-person training session with the ChE Safety Committee Chair, currently Dr. Gabriela Nagy

Suggested items to be covered by the safety officer during lab specific safety training:

- Explain the emergency procedures (evacuation and sheltering in place) from the lab(s) and from the assigned office (if any).
- Indicate the location of fire alarms nearest to the lab.
- Explain the emergency procedure (evacuation and sheltering in place) from the lab/office
- Explain the policy regarding locking and unlocking of the lab (labs should be kept locked when unoccupied).
- Indicate the location of eyewash, safety shower, fire extinguisher and flashlight for emergency situations.
- State the general minimum PPE requirements for entering a lab and the policy regarding storage of lab-coats (do not stack them).
- Provide relevant personal protective equipment (PPE) training and record this training using [PPE Certification of Training](#) Form
- Provide briefing on using specialized PPE (if any) – Oven mitts, cryogenic gloves, face-shield, ear-muffs, respirators, etc.
- Consult with the PI and identify any necessary specialized PPE training. Refer the new researcher to EHS for this training and provide relevant contact information.
- Provide briefing on safety documentation such as location of CHP, SOPs and SDSs (hard-copy or soft-copy, or both).
- Provide training on any relevant SOPs and ensure this training is recorded.
- Spill kits (if stored in the lab) - indicate their location and explain the procedure for use.

- Explain the need for keeping chemical containers closed/sealed at all times
 - Explain the requirement for chemical container and sample labeling. All containers (beakers, jars, tubes, vials, reaction vessels) containing any kind of liquid (even water) or solid should be clearly labeled or an appropriate sign/sticky-note should be posted with indication of the container's content. Vials should be labeled on the body (or on both body and the cap).
 - Explain the use of secondary containment vessels and carriers for storing and transporting chemicals, respectively.
 - Explain waste management (collection and disposal) procedures:
 - ❖ Introduce the researcher to the RightCycle program for nonhazardous nitrile gloves and point to them the location of the collection box and procedures/logistics.
 - ❖ Solid waste (contaminated vs. non-contaminated, hazardous vs. non-hazardous)
 - ❖ Explain that all liquid chemical waste is considered hazardous and needs to be collected in the lab for disposal through EHS.
 - ❖ Collection and segregation procedures for different types of hazardous liquid waste (segregation of organic acids from mineral acids, bases, organic solvents)
 - ❖ Collection of sharps (broken glass, etc.) (clean vs. contaminated)
 - ❖ Requirements for collection, storage and disposal of razor blades and needles in the designated buckets
 - ❖ Brief on updating the orange hazardous waste tag on waste containers
 - ❖ If this is a bio-lab, explain the need for treatment of category 1 biological waste (autoclave or chemical treatment with bleach) before disposal through EHS. Ensure the researcher completes training for the use of autoclave
 - Explain policies on handling and storage of gas cylinders and cryogenic liquid dewars (if these are used in your lab). Provide training (if the researcher will be handling them), and record this training.
 - Provide training on the "Chemical Reactivity Worksheet (CRW)" tool, if this is used by the group
 - Describe the group policy for training on different equipment and procedures (e.g.: handling HF, handling aqua-regia, etc.) involved in the lab.
2. Present a copy (soft or hard) of the [Safety Policies Specific to FRNY Building](#) document to the new researchers and make sure they have read and understood these policies.
 3. If the researcher is an undergraduate student, they need to complete the training as stated in [this document](#).
 4. Have the researcher read and sign the group specific laboratory safety contract (if any).
 5. After completion of training, confirm by email to the faculty, safety committee chair and building deputy that the new researcher completed all necessary safety training