

Purdue University
Davidson School of Chemical Engineering

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.

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

- The researcher attended the initial safety awareness training session conducted by the Designated Trained Individual (DTI), currently the ChE Safety Committee Chair (Dr. Gabriela Nagy)
- If the researcher is an undergraduate student and he/she already completed the initial “In-person” training previously, ensure that they completed an online safety refresher training.
- Each group member completes the online Annual Safety Training Refresher.
- The lab specific Chemical Hygiene Plan (CHP) is read (after initial training) or reviewed (after each online refresher training)
- The completed CHP certification was submitted to the School’s Safety Representative (Dr. Gabriela Nagy) within 10 days of completion of the initial safety awareness training, or after completing each annual safety refresher training.

2. Present a copy (soft or hard) of the ChE specific safety policies document to the new researchers and make sure they have read and understood the policies.

3. Provide lab specific safety training to all new researchers. Suggested items to be covered during laboratory specific safety training:

- Indicate the location of fire alarms nearest to the lab.
- Explain policy regarding locking and unlocking of the lab.
- 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 the relevant personal protective equipment (PPE) training to all new researchers and record this training using one of the Hazard Assessment Certification forms posted on REM’s website: <https://www.purdue.edu/ehps/rem/home/form.htm>.
- Provide briefing on using specialized PPE (if any) – Oven mitts, cryogenic gloves, face-shield, ear-muffs, respirators, etc.
- Identify any necessary specialized training (e.g. laser, bio-safety training, respiratory protection program, etc.) and refer the new researcher to REM for this training. Provide contact information for relevant REM personnel.
- Provide briefing on safety documentation such as location of CHP, SOPs and SDSs (hard-copy or soft-copy, or both).
- Spill kits (if stored in the lab) - indicate their location and explain the procedure for their use.

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- Explain waste management (collection and disposal) procedures:
 - ❖ Solid waste (contaminated vs. non-contaminated, hazardous vs. non-hazardous)
 - ❖ Collection and segregation of different types of hazardous liquid waste (segregation of organic acids from mineral acids, bases, organic solvents)
 - ❖ Collection of sharps, e.g. broken glass, etc. (clean vs. contaminated)
 - ❖ Requirements for collection, storage and disposal of razor blades and needles (clean vs. contaminated)
 - ❖ Brief upon updating the orange hazardous waste tag on waste containers.
 - Explain the requirement for chemical 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. Vials should be labeled on the body (or on both body and the cap).
 - Explain policies on handling and storage of gas cylinders and cryogenic liquid dewars (if these are used in your lab). Provide training for the same (if the researcher will be handling them), and record this training.
 - Explain the use of secondary containment vessels and carriers for storing and transporting chemicals, respectively.
 - Provide training on any relevant SOPs and ensure this training is recorded.
 - 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.
4. After completion of specialized and lab specific training, confirm by email to the faculty and/or building deputy that the new students completed all necessary safety training.
5. Have the researcher read and sign the research group specific laboratory safety contract (if any).