

Safety Inspection Issues – July 2015

This document summarizes the most frequent safety issues identified during the safety inspections of ChE laboratories/offices, conducted by members of the ChE Safety Committee during late June 2015, in preparation for the upcoming recertification meeting with REM.

Documentation required by OSHA and REM (please make sure they are up-to-date and dated within the last 6 months):

- **MSDS Books** – are required for every lab and should be organized so MSDSs are easy to locate. **MSDSs must be no older than 5 years.** MSDSs are required for chemicals, catalysts, gases, biological materials, etc. – essentially everything that we work with in our labs – both hazardous and non-hazardous. Please update the MSDS books in your labs.
- **Hazard Assessment Certification** – must be dated within the last 6 months, signed by PI and posted inside the lab, near the entrance. The hazard assessment should be updated whenever a new hazard type is introduced to the lab.
- **Chemical Inventory (HCP-4)** - should coincide with the items in the MSDS book and must be up to date. Please add new chemicals to this list as soon as you receive them.
- **Employee Exposure Record (HCP-5)** – is intended to list the people exposed to the chemicals in a lab. It should be updated whenever a new person starts working in that lab.
- **Chemical Hygiene Plan (CHP)** – Each laboratory must have a lab specific CHP, to include lab specific hazard assessments, SOPs and any other specific safety rules. You can use the Purdue CHP template posted on our safety website to develop your lab specific CHP. The printed lab specific CHP should be kept with the MSDS folder, near the lab entrance. The CHP should be reviewed and updated whenever necessary, but at least annually (minimum required is to update the first page with lab information and date).

PPE

- **Safety Glasses** – Safety glasses must be worn when you are in a ChE laboratory. Get in the good habit of putting your safety glasses on before or immediately after you enter a laboratory and taking them off only when you leave. Prescription glasses must be safety glasses (have shatter proof lenses) and have side shields.
- **Safety Gloves** – Chemical resistant gloves are allowed on the corridors only in designated areas, marked with the sign “One Glove Policy Area”.
- **Dust Masks and Respirators** – Inhalation hazards are spelled out on MSDSs. Labs with inhalation hazards must have a Respiratory Protection Plan and the hazard and PPE requirement should be documented on the Hazards Assessment.
- **Lab Coats** – Lab coats should not be laundered at home or at a commercial laundromat. Lab coats contaminated with hazardous chemicals should be disposed of with REM and new lab coats should be purchased. If you work with flammables, your lab coat must be rated as fire resistant.
- **Closed toe shoes** are a **must** in all ChE laboratories.

Safety issues found and reminder of some safety rules and policies:

- Food and drinks are not allowed in labs at any times. Most of the labs comply with this regulation, but there were a few isolated cases when coffee cups and water bottles were found in laboratories.
- Bags/backpacks are not allowed in the labs. Undergraduate students working in our labs should contact Marsha Shafer in FRNY G027 and request a locker.
- Chemicals should be segregated by class and flammables should be kept in a hood or cabinet designed for flammable storage. Hazardous chemicals should not be stored above eye level. Store incompatible chemicals separately; if you are limited by space and need to store incompatible chemicals in the same cabinet, you have to use secondary containment. The capacity of the secondary containment should be at least 1.5 times the volume of the chemical stored in the primary container.
- All chemical containers must be labeled (including beakers, vials, waste containers). Labeling only the caps is not acceptable; the label should be placed on the container. If acronyms are used on labels, a list of acronyms used must be available in the lab.
- Open chemical containers are not allowed in the labs. Sealing with parafilm, duct tape, paper towels or aluminum foil is not acceptable.
- Flammables should only be stored in explosion proof refrigerators. Contact the safety committee if you are unsure if your refrigerator is explosion proof.
- Avoid using outlets near a water source. As most labs are not equipped with GFCIs, child proof outlet plugs should be installed in outlets that are located near sinks.
- Gas cylinders: please use the gas cylinder storage area outside FRNY to store gas cylinders not in use. The inventory of flammable and hazardous gases in the labs should be minimized. Flammable gases (i.e. hydrogen) should be stored at least 20 feet away from oxidizing gases (i.e. oxygen).
- Gas cylinders in use must be secured individually. Securing multiple cylinders with the same chain or strap is not permitted. All labs should keep a gas cylinder inventory in the lab and if flammable gases are used, an inventory for them is also required.
- Chemicals and samples are not allowed in offices – there were a few isolated cases when chemicals or samples were found on office desks or on shelves.
- If you have a fridge in the office, that must be labeled as “Food only”. If you have a coffee machine/kettle in your office, this should be placed on a ceramic tile. We inspected all offices and identified the ones needing a ceramic tile or fridge sign, and we will provide you with these items as soon as possible. However, if you don't receive one, please contact Jeff Valley.
- Bikes are not allowed in the building.

Emergency Preparedness

- The updated Building Emergency Plan (BEP) for Forney is posted on the ChE Safety web page (<https://engineering.purdue.edu/ChE/AboutUs/Safety.html>) under the Emergency Preparedness section. If you work in Potter, contact the Building Deputy, Phil Quallio, to access the Potter BEP. The BEP describes the procedures to follow in the event of a building evacuation or shelter-in-place emergency.