



Weill Cornell Medical College

EHS News

Laboratory Safety Initiatives of 2010

Environmental Health and Safety identified three laboratory safety initiatives to focus on during 2010:

- Laboratory Cleanout
- Chemical Segregation
- Personal Protective Equipment

In the first months of 2010, we focused on the Laboratory Cleanout initiative. The success of the Laboratory Cleanout is discussed below. We are now focusing our resources on Chemical Segregation and Personal Protective Equipment (PPE). On the second page of this Newsletter you will find information on how you can work with EHS to make Chemical Segregation and PPE a success.

Laboratory Cleanout

While EHS regularly collects hazardous waste for disposal, we recognized the need to have a large "Laboratory Cleanout" to encourage the disposal of old/outdated chemicals that had accumulated over the years. EHS met with Department Administrators, Principal Investigators, Laboratory Safety Coordinators and Laboratory Managers to discuss the importance of the cleanout, how it would be implemented, and the overall impact.

Why was the cleanout important? Even though laboratories regularly dispose of waste chemicals, the date unused chemicals should be disposed is subjective (chemicals' properties, type of research being performed, etc). Additionally, research changes over time causing the types of chemicals used to change.

How was the cleanout performed? EHS staff and the WCMC hazardous waste disposal vendor (Veolia Environmental Services) visited laboratories and worked with laboratory staff to remove unwanted chemicals. The process was streamlined so laboratory staff did not have to complete the normal collection request forms or labeling requirements. They simply pointed out the unwanted chemicals and they were removed.

What was the impact? Laboratories increased storage space by getting rid of old/unused chemicals. The cleanout was funded by Central Administration, so there was no direct cost to laboratories. Most importantly, WCMC safety was increased by disposing of chemicals that were no longer needed.

Was the Laboratory Cleanout successful? The program was a huge success thanks to the efforts of department and laboratory leaders as well as the students and staff participating in the program. The laboratories of over **200** Principal Investigators were visited. More than **10,000** individual containers were collected, which were packaged and shipped to US Environmental Protection Agency-approved facilities for proper disposal.

What can laboratories do to maintain the benefits gained from the Laboratory Cleanout?

- Maintain chemical inventories using ChemTracker:
<http://weill.cornell.edu/ehs/updates/ChemTracker.pdf>
- Purchase only the quantity of chemical required for a specific project. Do not stockpile chemicals.
- Order high-hazard materials sparingly.
- Chemicals in storage should be examined for changes in the condition of the chemical, the container holding the chemical, and/or storage area.
- Before using/storing chemicals, become familiar with physical/chemical hazards.
- Share chemicals when possible (ChemTracker allows users to share inventories with other labs).
- Dispose of old or unused chemicals in a timely fashion.

Additional chemical waste minimization information is available by contacting EHS and online at: http://weill.cornell.edu/ehs/manuals/5.1_Pollution_Prevention.pdf



Matthew Brinton assisting Olivia Orta in identifying old chemicals for disposal.



Veolia technician, David Griffith, processing chemical bottles for disposal.



Chemicals packed up and ready for disposal.

Current newsletter available electronically at:
<http://weill.cornell.edu/ehs/news>

646-962-7233 (1-7233)
ehs@med.cornell.edu

Chemical Segregation

Proper chemical segregation is an important element of laboratory safety. If certain chemicals come into contact with each other they may react violently, igniting a fire or producing toxic gas. The picture below shows glacial acetic acid, perchloric acid, and sulfuric acid stored next to each other. Just because two chemicals are acids does not mean they can be stored together. Did you know that if the containers of acetic acid (corrosive, poisonous, and flammable) and perchloric acid (corrosive and powerful oxidizer) broke and mixed they could react violently causing an intense fire?

All laboratories must properly segregate chemicals. To assist in meeting this priority, EHS is implementing the ChemTracker Chemical Storage System. ChemTracker defines compatibility groups that enables users to safely organize and segregate chemicals with different or multiple hazards. Once a chemical is entered into the ChemTracker Chemical Inventory, it will automatically identify the proper storage group for that chemical.

Several laboratories have already implemented the ChemTracker Chemical Storage System. EHS is visiting all areas that store and use chemicals to assist in implementing chemical segregation using ChemTracker.

A ChemTracker Chemical Storage System EHS Update has been created at: <http://weill.cornell.edu/ehs/updates/ChemStorage.pdf>. To schedule a review of chemical segregation, please contact EHS.

Glacial Acetic Acid (Organic)
Perchloric Acid (Oxidizer)
Sulfuric Acid (Inorganic)



Personal Protective Equipment (PPE)

As a leader in medical and scientific education, healthcare delivery and biomedical research we must be a leader in practicing safe science by wearing appropriate Personal Protective Equipment (PPE). The minimum laboratory attire consists of:

- Laboratory coat
- Covered legs (no shorts)
- Closed-toe shoes (no sandals)

Wearing the minimum attire above provides a layer of protection between your skin and hazardous materials that could splash or spill in your work area. Additional PPE is required based on the hazards of your work. Some examples include:

- Gloves – work with chemical, biological, or radiological materials
- Safety glasses – work that may present a physical impact hazard to the eyes
- Safety goggles – work that may present a splash hazard to the eyes
- Face shield – full face splash protection

PPE, including gloves and laboratory coats, should not be worn into public spaces (e.g., hallways, elevators).

EHS staff are available to assist with any PPE questions or concerns. Additional information about PPE selection is available in the Laboratory Chemical Hygiene Plan available here: <http://weill.cornell.edu/ehs/manuals/4.1LabCHP.pdf>



Example of a laboratory worker wearing PPE.

Laboratory Coats

Laboratory coats required for work in WCMC laboratories:

- are made with a tightly woven material to slow the spread/penetration of contamination to your personal clothing or skin.
- minimize contamination of clothes and skin from contaminated surfaces.
- are designed to be quickly removed in the event of a spill/splash.

Ordering Information: EHS approved laboratory coats are available from Baltic Linen or Fisher Scientific. Ordering information is available here: <http://weill.cornell.edu/ehs/guides/LabCoats.pdf>