

### *Training Topic of the Month:*

All new laboratory employees must receive Laboratory Safety training from EH&S as a requirement of the OSHA Laboratory Standard. While there is no OSHA requirement for refresher training in lab safety, we feel that regular review of lab safety topics is essential to a safe work place. Monthly reading of this newsletter will provide such a review. This month's topic is "**Proper Storage & Purchasing of Chemicals**".

1. Compatibility issues are at the heart of proper storage procedures for laboratory chemicals. Too many laboratories store their chemicals alphabetically, which often leads to incompatible materials placed together. Proper chemical storage segregates the following classes of chemicals from each other:
  - **Oxidizers** (such as nitrates, peroxides, potassium permanganate)
  - **Flammables** (such as acetone, methanol, isopropyl alcohol, etc.) More than five gallons of flammable materials in a room should be stored in a flammable cabinet.
  - **Corrosives** (such as acids, bases, phenol); separate acids and bases from each other as well.
  - **Poisons and high hazard** materials (these may need special security)
  - **General chemicals**, of no particular hazard classIf your storage capacity is limited, please contact us for assistance at 8-1493. We may be able to provide advice for ensuring proper storage within the limitations of your lab.
2. Periodically inspect your chemical inventory to ensure that the containers (and their labels) are in good condition. Containers that leak, have damaged caps, have crystals growing on them or have deteriorated labels indicate poor storage practices and **nearly always** lead to safety or environmental problems if left unchecked.
3. When you need a new chemical for a "test case" to see if it will work in your new project or experiment, contact EH&S (8-8182) to see if we can find some for you already on campus. You save money and we have fewer hazardous materials on campus to dispose of later!
4. Only order the amount of chemical you expect to use. Although purchasing larger quantities costs less per unit, this savings is almost always lost when the costs of disposal of unneeded chemicals are considered. A good rule of thumb is that disposal of a chemical costs more than three times what it cost to purchase it!
5. Flammable compressed gases and oxygen (and other oxidizers) **MUST** be separated in storage by at least 15 feet or by a fire wall of at least a ½ inch thick steel plate. Contact us for assistance in meeting this Fire Code Requirement.
6. The **Carnegie Mellon Purchasing Policy** has two requirements that affect laboratory chemical purchases. Did you know that you must have permission from EH&S to purchase a Particularly Hazardous Substance (PHS) not already present in your lab? Did you know that ALL compressed gas purchases on campus **MUST** be done through Mellon Stores?

### Laser Safety

There are a great many lasers and laser-containing devices present at Carnegie Mellon University. Our Laser Safety Program comprises several different activities:

**Laser Inventory:** For all areas where lasers are present, the PI, lead researcher or supervisor is responsible to notify Environmental Health and Safety of information about the laser. This information must

include the manufacturer, model and serial number of the unit, along with its location, laser classification, wavelength(s) of radiation, power, pulse details (for pulsed lasers), the laser medium, beam divergence, and the intended application for the unit.

**Medical Monitoring:** Users of Class 3b and 4 laser systems should be offered initial medical evaluations

### **Laboratory Safety and Hazardous Waste Training**

January 10, 2008	9:30 AM to Noon	WeH 5310	January 31, 2008	9:30 AM to Noon	HbH 1003
February 21, 2008	9:30 AM to Noon	MI 348			

To register, go to: [http://ehs-alert.fms.bap.cmu.edu/EHSWebSite/Training/ClassDescriptons/training\\_laboratory\\_safety.htm](http://ehs-alert.fms.bap.cmu.edu/EHSWebSite/Training/ClassDescriptons/training_laboratory_safety.htm)

prior to their laser use. EH&S has arranged with a contracting medical center to perform these evaluations. Contact EH&S at (412) 268-8182 for further detail.

**Training:** All laser uses should attend the EH&S Laser Safety Training class; it is MANDATORY for users of Class 3b and Class 4 lasers. Check the [EH&S training page](#) for further information.

**Protecting Yourself from Laser Overexposure:** A wide variety of control measures are possible for the safe operation of laser equipment. A key element in this process is the need to maintain radiation levels below

the Maximum Permissible Exposure (MPE) as outlined in ANSI Z136.4. Examples of these controls are protective eyewear, beam stops, protective interlocks, limited beam paths, controlled areas and protective housings. If you are unsure of the status of your laser equipment with regard to maintaining exposures below the MPE, contact EH&S.

**Warning Signs and Labels:** A thorough system of warning signs and labels is in place to provide suitable awareness of laser hazards. This system warns persons of the presence not only of hazardous radiation, but also of related fire, chemical and electrical hazards.

### *Environmental Subject of the Month: Computer Recycling*

Although our computer recycling program has been in place for many years, we want to make sure you understand the process:

- 1. It is mandatory that ALL university computer monitors and CPUs be recycled through our program.** Information on the program and how to request a pick-up for computer items, go to our web page at: [http://ehs-alert.fms.bap.cmu.edu/EHSWebSite/Waste\\_Recycling/ComputerRecycling.htm](http://ehs-alert.fms.bap.cmu.edu/EHSWebSite/Waste_Recycling/ComputerRecycling.htm). The program works very similar to our hazardous waste handling program, with web based requests for door-to-door pick-ups. The system is NOT intended for personal (i.e. from home) computer items.
- 2. Monitors and CPUs MUST be recycled through this program for two reasons:** First of all, computer monitors contain hazardous metals, including a large amount of lead which MUST be kept from leaching into the environment. Secondly, CPUs generally contain a good deal of confidential information, including personal information, grades, research, etc. For the protection of the university, this information must be destroyed in a certain fashion. Our computer recycler is approved by the university to handle and destroy this data. For further information on information security requirements, please check out this link, from the Office of Information Security: <http://www.cmu.edu/iso/governance/guidelines/data-sanitization.html>.

Please contact EH&S at 8-8182 with any questions you may have regarding this program

<b>Hazardous Waste Pick-up Schedule</b>		
<b>Mellon Institute</b>	Jan 2, 15 & 29, Feb 12&26	9:30 AM to 11:30 AM
<b>Wean and Doherty Halls</b>	Jan 2, 15 & 29, Feb 12&26	12:30 PM to 3:30 PM
<b>All other main campus locations</b>	Jan 3, Feb 13	9:30 AM to 11:30 AM
<b>PTC</b>	Jan 3, Feb 13	12:30 PM to 3:30 PM
<b>Penn Ave., Robotics Consortium</b>	Feb 27	
<b>Computers</b>	Jan 3, Feb 7	
To request a waste pick-up or receive waste labels or tags, go to: <a href="http://ehs-alert.fms.bap.cmu.edu/EHSWebSite/Waste_Recycling/HazardousWaste.htm">http://ehs-alert.fms.bap.cmu.edu/EHSWebSite/Waste_Recycling/HazardousWaste.htm</a>		