



Safety Talk

Department of Environmental Safety NEWS

Volume 1, Issue 2

UNIVERSITY OF MARYLAND

Spring, 2006

Director's Spotlight

Creating a Family Disaster Plan

Maureen Kotlas

Winter storms. Hurricanes. Power outages. We should prepare for emergencies not only at work, but also at home. Local officials and relief agencies will be on the scene following a disaster, but how soon? There are four important steps every family should take to be prepared:

1. Find out what types of disasters could happen. Ask your local Red Cross chapter or emergency management office and learn how the community uses



warning signals, how the elderly or disabled can be helped, and provisions for animal care. Learn about disaster plans at work, children's schools and day care centers.

2. Create a family plan. Work as a team, discuss the possibilities and explain what to do in each case. Select safe places in your home to stay during disasters. Also, pick two places to meet - one right outside of your home and one outside of your neighborhood. Ask an out of state relative or friend to be the "family contact".



3. Complete a checklist. Include posting of emergency numbers, teach children how to call 911, show your family how to turn off utilities, stock emergency supplies, determine escape routes from home and two ways out of each room. Look for and correct hazards in the home.

4. Practice and maintain your plan. Conduct emergency evacuations, replace stored food and water every six months, test your smoke detectors and change batteries at least once a year, test and recharge your fire extinguisher.

Based on "Family Disaster Plan," developed by the Federal Emergency Management Agency and the American Red Cross (www.redcross.org/services/disaster).

For more information, go to the Maryland Emergency Management Agency web site (<http://memaportal.mema.state.md.us>) and look under the Disaster Preparedness link.

Special points of interest:

- Look for **Fire Safety in Off-Campus Housing** information under www.des.umd.edu
- **The DES Annual Report for 2004-2005 is now available.** www.des.umd.edu/general/AnnualReport04_05.pdf
- **Not sure what is avian flu (bird flu) and how to prevent infection?** www.cdc.gov/flu/avian
- **Look for the DES display at Maryland Day - April 29, 2006**
- **June is National Safety Month**

CHECKLIST

- Are home and its contents fully and properly insured? Is flood damage insurance necessary?
- Post emergency numbers by the phones. Include out of state numbers.
- Teach children how, and when, to dial 911.
- Show everyone how and when to safely turn off the water, gas and electricity at the main switches.
- If you turn the gas off, a professional MUST turn it back on to avoid the possibility of an explosion or gas leak.
- Install smoke detectors on each level of the house especially near bedrooms.
- Get a fire extinguisher and make sure everyone knows how to use it and where it's kept.
- Put together a Disaster Supplies Kit.
- Conduct a home hazard hunt and find safe spots at home for each type of disaster.
- Take a first-aid and CPR class.
- Find two routes out of every room in the home.

Online Resources www.des.umd.edu

- Information and Programs by DES divisions.
- Environmental, Safety and Health Training classes schedule.
- Information for laboratory workers, principal investigators, supervisors, facilities and trades staff, and compliance officers.
- Environmental Safety's forms, permits and documents.

Department of Environmental Safety
3115 Chesapeake Building
College Park, MD 20742
301-405-3960
301-314-9294 Fax

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Mercury Thermometer Exchange Program

Environmental Affairs Office

As part of DES's commitment to **Pollution Prevention, Waste Minimization, and "Thinking Green"** we are reinstating the mercury thermometer exchange program this semester. Mercury spills from broken thermometers are the most common type of hazardous material cleaned up on campus. Not only do mercury spills cost the University valuable resources to properly clean



up and dispose of, but they are also toxic to the environment and could pose a chronic health risk to the laboratory personnel. The campus community should follow the prevention and spill response procedures listed under the online Hazardous Waste Generator training (www.des.umd.edu) then click on online training.

DES will provide a suitable mercury-free thermometer for every unbroken mercury thermometer offered for exchange. There is no limit to the number of thermometers you can



Cleveland Taylor/John Follum

receive and **all costs will be incurred by DES**. These Enviro-Safe thermometers manufactured by H-B Instruments, are non-toxic, and calibrated to NIST Standards.

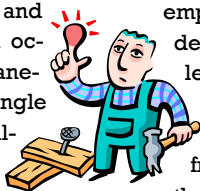
Please, refer to www.des.umd.edu this Spring for more details.

You can learn more about mercury exposure, management and exposure prevention at the EPA's web site: www.epa.gov/epaoswer/hazwaste/mercury/iq.htm and www.epa.gov/mercury/effects.htm. Information of mercury management for the State of Maryland can be found at: www.mde.state.md.us/program/landprograms/hazardous_waste/mercury/index.asp.

Occupational Injury vs Occupational Illness

Workers' Compensation Office

The Occupational Safety and Health Act (OSHA) defines an occupational injury as an instantaneous incident that occurs in a single work shift. An occupational illness is defined as something that is due to an exposure in the work environment and occurs over time.

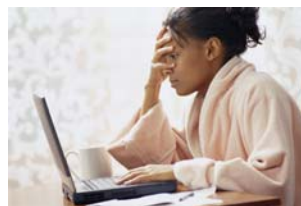


employment status are eligible for accident leave if injured on the job. Accident leave is available for injuries/accidents only. The injured employee continues receiving a check from the University at 2/3 of the gross pay which is non-taxable.

If an employee is temporarily disabled due to an illness (i.e. carpal tunnel syndrome), the employee

Compensation differs for an injury and an illness. University employees in regular

will be compensated with temporary total benefits (TTB) paid by the University's workers compensation insurance. TTB is also 2/3 and is based on the employee's average weekly wage 13 weeks prior to the diagnosis of the illness.



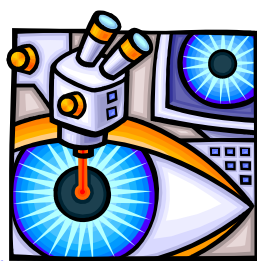
For more information contact the Workers Compensation Office at 301-405-5466.

Marlene Rains

Laser Safety. What Could Your Eyes Be Missing?

Radiation Safety Office

The use of lasers in research has dramatically increased in the past 10 years. Lasers are used in all kinds of laboratory equipment as both the primary and ancillary tool for experimentation, measurement and interaction with matter.



The safety standards that applied to lasers 5 years ago do not apply to the faster lasers that science has developed in

recent years. These lasers are capable of delivering femtosecond (10^{-15} seconds) bursts of laser light!

The fast lasers still are a hazard as they also affect the eyes. The ocular tissue damage depends on the wavelength of the laser beam.

In accordance with the ANSI Z136.3 guidelines, each laser requires a specific type of protective eyewear, and factors that must be considered when selecting Laser Safety Eyewear include: laser wavelength and peak irradiance, optical density

(OD), visual transmittance, field of view, effects on color vision, absence of irreversible bleaching of the filter, comfort, and impact resistance (Bader, O., Lui, H., **Laser Safety and the Eye**. Retrieved January 17, 2006, from www.derm.ubc.ca/laser/eyesafety.html).

Contact your Laser Safety Officer at (301)-405-3985 for assistance in selecting the appropriate eye protection.

For more information on laser hazards and eyes go to: www.eyesafety.4ursafety.com/laser-eye-safety.html

Steve Hand

Biological Laboratory Security

Biological Safety Office

Laboratory security is an integral part of an effective safety program. Follow these steps to ensure a secure working environment in your laboratory:

1. Keep doors locked when laboratory is unoccupied.
2. Keep stocks of microorganisms and toxins locked during off hours.



3. Keep an accurate record of chemicals, stocks, cultures, and project materials.
4. Notify UM Department of Public Safety if materials are missing from your laboratories.
5. Inspect all packages arriving at the work area, and report suspicious packages to UM Department of Public Safety.



6. When research is completed for the day, ensure that chemicals and biological materials have been stored properly and securely.
7. Never prop open exterior doors.
8. Keep keys and key cards in your possession.



Please contact the Biosafety Office (301-405-3975) for more information.

Danger: Ice! The Kind You Drink!

Dining Services employees take the precautions required to ensure that ice machines in their facilities are kept clean and sanitary for the protection of consumers. Students and staff can drink their beverages with confidence when the ice comes from one of these dispensers. But what about ice from a hallway bin—outside of a lab in an academic building—or from a back room in another location on campus?

Such ice may be fine for preserving a scientific specimen or for externally soothing one's sore muscles. Unless it is known that the ice bin was emptied, sanitized and re-filled, and that the scoop itself was

properly cleaned, this ice could be unhealthy to put in your drink.

Ice scoops should be stored appropriately and not buried in the ice bin. Ice machine owners on campus who cannot ensure that clean scoops are always available, and who do not provide consistent maintenance, and therefore cannot guarantee safe conditions for human consumption should either



remove the machine or label it with the wording: "Ice Not for Human Consumption."

Departments are advised to label each machine they own with this message if applicable. Signage may also be obtained by submitting on-line

work requests (for "minor alterations") through the Facilities Management - Work Control web site (www.facilities.umd.edu).

Space Heater Safety

Fire Marshal's Office

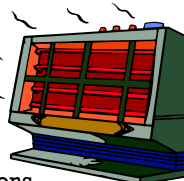
The U.S. Consumer Product Safety Commission reports there were about 9,900 residential fires and approximately 190 deaths per year associated with portable space heaters for the years 1999-2002.

Although the Maryland State Fire Prevention Code allows the use of these heaters, the usage must be in accordance with the manufacturer's instructions and the fire prevention code. The following tips will assist in the safe use of space heaters:

- Only use on a hard, level surface (such as ceramic tile floor).
- Maintain at least a three-foot clearance from combustible materials such as

bedding, clothing, drapes, etc.).

- Do not use extension cords to supply electric space heaters.
- Ensure your space heater is tested and approved by a recognized testing laboratory (such as Underwriters Laboratory).
- Read and follow the manufacturer's safety instructions before use.
- NEVER leave a space heater on when you go to sleep or you are not at home.
- If you use a kerosene heater you must



use the proper fuel (Type 1-K clear kerosene), ventilate properly, and DO NOT re-fuel inside your home.

- Finally, ensure that your home has working smoke detectors on every level of the house, inside every bedroom, and outside the bedrooms in each sleeping area.

For more information on winter safety tips or heating safety please go to the DES web site (www.des.umd.edu), click on the Fire Marshal's Office link, and scroll down to the information section. Or call DES to speak to a Fire Safety Specialist at 301-405-3960.



SAFETY TALK

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- Director:** Maureen Kotlas
mkotlas@umd.edu
- Chief Editor:** Lizzette Vargas-Malpica
lmalpica@umd.edu
- Editorial Board:** Chris Benas
Greg Douglass
Maureen Kotlas
Marlene Rains
Stacey Spinella Crossan
- Contributors:** Bill Guffey, Deputy Fire Marshal
Chris Benas, Chem Hygiene Officer
Cleveland Taylor, Chemist
Janet Peterson, Assistant Director
John Follum, Env. Affairs Manager
Keith Williams, EH&S Specialist
Marlene Rains, Workers' Comp Mgr
Richard Miller, Industrial Hygienist

Para información en español llame al 301-405 7528 o consulte www.des.umd.edu y después haga click en "documentos en español".

www.des.umd.edu

Spring Cleaning

Keith Williams, EH&S

As a change in the weather approaches, we are reminded of the age old tradition of "Spring Cleaning". In private homes this usually means cleaning out attics, closets, and the garage of old, unnecessary items. Here at the University, it can be a time of removing unnecessary chemicals or radioactive waste from the laboratories and other hazardous materials from throughout the campus.

As a new semester starts, new personnel will be involved in some labs and not familiar with the "history" of some items in the lab. What better time to dispose of old experiment results or residue before they become "unknowns." There is no charge associated with hazardous waste pickup requests for most labs, but once a chemical container becomes unknown, there is a charge of \$110 per container regardless of its size.

Take the time to get some "Spring Cleaning" done and help us to help you keep your laboratories and facilities cleaner, safer, and less cluttered.

Laboratory Safety

Occupational Safety and Health

The Department of Environmental Safety responded to several hazardous chemical emergencies in 2005. These included:

- A small chemical fire in the Energy Research Building was caused by electrical arcing from the experiment's wiring. The fire caused no damage to the facility, but the building and adjacent street were closed for several hours while county firefighters and University personnel worked to stabilize the experiment.
- A researcher in the Chemistry Building splashed several drops of acid onto her face causing minor skin burns.
- A container of sodium hydride spontaneously caught fire in the Chemistry Building.
- A researcher in Martin Hall spent several

days in the hospital after he was cut by broken glass and received chemical burns to his eyes, face, arms and feet when a bottle of fuming nitric acid waste exploded. The building and street were closed for several hours and contractual decontamination was performed the following day.

Investigation of accidents/injuries in laboratories frequently reveals insufficient attention to the proper management of required safety programs. Laboratory workers must be trained to effectively respond to any emergency situation. Accidents are not avoidable, but resulting injuries and significant property damage usually are. Ask yourself these questions:

- Do lab workers wear protective clothing, gloves and eye protection when working with hazardous chemicals?

Chris Benas

- Is there a written Chemical Hygiene Plan in the lab that details hazards, precautions and procedures for work with chemicals?



- Do lab workers know where emergency equipment such as eyewashes and deluge showers are located and how to use them?
- Do all laboratory employees receive training on the physical and health hazards associated with the experiments?

Laboratory Managers have the ultimate responsibility to ensure that work is conducted in a safe manner as possible. If you have a question about effective control of laboratory hazards, contact DES for consultation.