

Safety Bulletin

Yale ENVIRONMENTAL HEALTH & SAFETY



Energy Conservation in the Laboratory

Modern research and teaching laboratories are highly specialized locations that focus intense human activity, resources, and energy towards solving problems, expanding knowledge, and teaching students. They rely upon expensive and sophisticated equipment and tools, and have very demanding indoor environmental requirements, making laboratories one of the most energy-consuming of all places on most college and university campuses.

Ventilation: Ventilation is the single greatest energy consumer in laboratory buildings. Yale's Systems Engineering and EHS are working on ways to safely reduce excessive ventilation rates. If your lab has a fume hood, keep the sash as low as possible, and keep room doors closed to maintain appropriate differential pressures. Additionally, when working after hours only utilize the HVAC override timers for an appropriate amount of time that you will be occupying the lab and if you leave earlier than planned position the override timer to the off position.

Autoclaves and Glassware Washers: Running this kind of equipment only partially full is just as energy and water wasteful as doing so at home with a dishwasher or washing machine. Instead, try to only run these energy hogs when they are full.

Biological Safety Cabinets: If this equipment is not going to be used for at least 30 minutes, it is more efficient to disinfect the unit after work and then turn it off. Remember to wait at least 5 – 10 minutes before starting work after turning a unit back on to achieve proper airflow rates.

Room and Task Lighting: Turn lights off if you leave for more than 10 minutes. Older fluorescent lamp systems were damaged by repeated on and off switching, but new styles are not. In addition, if you have local spot or task lights, please remember to also switch those off.

Computers: Even with the newer "power saver" features, computer monitors still consume significant quantities of electricity when left on. It is recommended that you actively turn off your monitor when leaving for the day.

Freezers and Refrigerators: Freezers and refrigerators are among the largest single electricity users in laboratories. Over time, these devices become less efficient due to dust coated heat exchange coils and ice and frost build-up inside. Frost and ice make it difficult to find stored items, extending the time doors are left open. Save energy (and your samples!) by keeping freezers and refrigerators well-organized and by periodically defrosting them.

Chemicals: Order chemicals in the smallest size container needed. Unused chemical containers are one of the most frequent chemical wastes generated on campus, and this can be avoided by purchasing smaller containers to begin with. Reducing chemical waste reduces transportation and handling, and reduces disposal costs and energy.

Other Electrical Equipment: Turn off non-essential laboratory equipment when not in use.

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Laser Pointers: Buyers Beware!



Laser pointers are now available with more power and less controls than ever before. Lasers, including laser pointers, are regulated by the Food and Drug Administration (FDA) and Center for Devices and Radiological Health (CDRH), but it is still easy to procure devices not meeting their requirements. A Yale researcher was readily able to purchase a laser pointer which did not meet any of the FDA requirements just last month. The pointer he

purchased was, unknowingly to him, powerful enough to seriously damage a person's eye and burn materials if used improperly. The pointer in question has been replaced with a safer model.

Here are some facts about laser pointers:

- A device marketed as a laser pointer is limited to a maximum of 5 mW in the visible range (400 to 700 nm). Much research has been done documenting the relative safety of lasers in the visible range at the 5 mW or less power level.
- Lasers from 2 to 200 mW are readily available on the internet in a variety of colors, with green becoming more popular. These devices are marketed as laser pointers even though they may exceed the 5 mW limit.
- Anything exceeding 5 mW is a class 3B laser. It is illegal to promote such devices as laser pointers.
- Class 3B lasers are capable of causing direct beam eye injuries. They can also burn some materials. 3B lasers are required to have key control on/off switches and appropriate labels.

Using a laser pointer? Never point it at another human and never look directly into the beam. Never aim a laser pointer at a reflective surface. Never view a laser pointer using an optical instrument such as a microscope. Check the label and heed the cautions. Call EHS if you have questions about your laser pointer.

Buying a laser pointer? Be sure it is FDA/CDRH approved. EHS strongly suggests the purchase of only class 2 laser pointers with wavelengths in the 630 to 680 nm range. Power output must not exceed 5 mW. All laser pointers should have a danger or caution label indicating power output, wavelength and aperture indicator. Be sure before you buy! If you do receive one that is not properly labeled, return it for a refund. (See sample label above.)

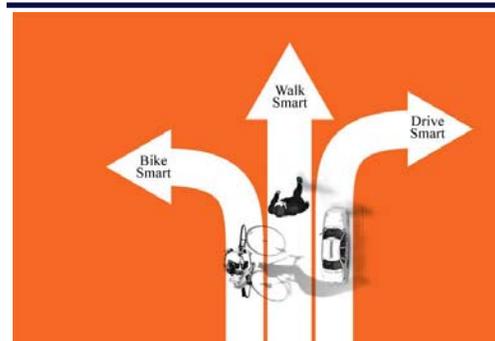
Have a laser pointer that does not have labels? Are you sure it is less than 5 mW? Need help or have questions on any laser safety issues? Call George Andrews, EHS Laser Safety Officer, at 737-2832 or send an e-mail to lasersafety@yale.edu for assistance.

Yale Shuttle Buses Now Equipped With Bike Racks

In efforts to increase the use of public transportation, bike racks have been installed on the front of the Yale Shuttles. Bike racks are also installed on CT Transit buses. The racks allow cyclists to take longer commute trips than they normally would, by allowing part of the trip to be made by transit. Further, if a cyclist finds her/himself stuck in the dark, in bad weather, or with a flat tire, being able to put a bike on the bus to finish a trip is a nice option. Holly Parker, Yale's Director of Sustainable Transportation, is working to improve biking options as a way for members of the Yale Community to commute to campus. Visit the parking and transit website: <http://www.yale.edu/parkingandtransit/alternatives/index.html> for information on sustainable ways to travel.



Street Smarts Campaign



On Sunday, October 19th, 2008 New Haven launched its "Street Smarts" campaign to enhance road safety for pedestrians, bicyclists and motorists. Mayor John DeStefano called Street Smarts "an effort to build awareness so that streets will not just be for cars, but also for pedestrians and cyclists." The effort was driven by local groups that gathered more than 2,000 signatures seeking improvements to make New Haven streets safer.

The program's objectives are to encourage sensitivity among all three user groups (pedestrians, bicyclists and motorists), enlist community support for the sharing of New Haven roads, sensitize drivers to the fact that pedestrians and bicyclists are legitimate road users, educate pedestrians and bikers about minimizing risks to their safety, and to explain the operation of pedestrian facilities such as crosswalks and pedestrian signals.

Among the city's partners in the effort are the New Haven Police Department, Elm City Cycling, Yale University, Yale-New Haven Hospital and the New Haven Safe Streets Coalition.

For information on the city's campaign visit: <http://www.cityofnewhaven.com/StreetSmarts/index.asp> or the New Haven Safe Streets Coalition website at (<http://www.newhavensafestreeets.org/>). Find out how you can do your part in promoting safer streets for all forms of transportation in the City of New Haven and in your own home town.

Quoting Mayor John DeStefano, Jr. "Street Smarts goes beyond simply obeying the traffic regulations or driving below the speed limit. Street smarts calls for your attentiveness at all times, your patience with others and your willingness to share the road".

July 2008

Description: Chemical Splash to Eye

OEHS received a call on the emergency line reporting that a lab researcher using a syringe to draw up a small amount of Trizol, a toxic chemical, was splashed to the forehead near her eye. She was not wearing any safety glasses.

Resolution: Researcher was instructed to wash her face and eyes at the eye-wash for 15 minutes and have a lab mate accompany her to Urgent Visit for follow-up. EHS contacted Urgent Visit and informed them of the incident and faxed an MSDS to them. Researcher was seen and suffers no long term effect from this exposure.

Lessons Learned: Eye protection must always be worn in a laboratory when working with hazardous materials.

July 2008

Description: Sewer Odor in Lab

Laboratory reported a sudden strong sewer type odor in their laboratory.

Resolution: EHS responded and determined that odor was coming from a floor drain. When traps dry out, sewer odors may back up into the room. Water was poured into the drain and the odor dissipated. Because this drain is not normally used, mineral oil was later added to the trap to prevent water from evaporating and odors returning.

Lessons Learned: Try running water in sinks and into floor drains if a sewer odor is detected. Pour mineral oil into drains that are rarely used.

**Safety Belts are for Everyone, All the Time**

Most of us know how it feels. The trouble is, ALL of us should know how it feels. Like this: secure, safe and familiar.

It's easy enough to feel that way. Whenever you get into a car or truck—before you do anything else—buckle your safety belt. Unfortunately, some of us still don't. Here's why it matters:

Safety belts save lives. In 2007 there were 41,059 highway fatalities, the leading cause of death for people under 35. Safety belts can prevent death in about half of these accidents. Even short trips and lower speeds are risky. 80% of traffic fatalities occur within 25 miles of home and at speeds less than 40 miles an hour.

Safety belts reduce the severity of injuries for good drivers and bad. Cars are engineered to give you "room to live" in a serious accident—but only if you and your passengers wear safety belts. A safety belt is necessary even in cars with air bags. Although air bags increase the effectiveness of a safety belt by 40 percent, they are never meant to be used without a safety belt. To learn more, check out the powerful video, "Room to Live," on You Tube, by Trish Van Pilsun, a reporter for KMSP in Eden Prairie, Minnesota.

It's the law. In Connecticut, police officers—including the Yale Police Department—can and do issue tickets and a \$37 fine to drivers and passengers who are not wearing a safety belt. The safety belt and child safety seat campaign, "Click It or Ticket," continues to be high priority. Any vehicle, any time. In 2004 (the most recent data available), over 70,000 citations for safety belt were issued in Connecticut.

We've made tremendous progress. The first comparable safety belt use survey in Connecticut was done in 1995 and recorded a 59 percent belt use rate. Safety campaigns have increased safety belt use in Connecticut to 76 percent in 2000 and 82 percent in 2005. That's a 23 percentage point increase since the first survey.

Still, one of six vehicle occupants fails to use a safety belt. Safety belt usage is over 90 percent in Australia, Germany, France, Canada and the United Kingdom. Those countries have much lower traffic fatality rates.

Take a stand that just might save a life. Buckle up. Don't start the car until your passengers do. Tie a ribbon on your wiper knob as a reminder. In a few weeks it'll feel strange to sit in a car not while wearing a safety belt. That's how it should feel.

For more information, contact Pete Reinhardt, Director of Environmental Health & Safety: 737-2123 or peter.reinhardt@yale.edu.

**Farewell Santo!**

EHS sincerely thanks Santo Galatioto for his long-term service to the University community. As one of the original members of the Joint Labor: Management Health and Safety Committee, Santo served as an effective voice of reason for evaluating and resolving problems and hazardous conditions. His honesty and integrity have been well appreciated by all sides of the table, as has his ability to "call it as he sees it" – no matter who or what!

While Santo has cast a long shadow and will not be forgotten, his humor and sense of purpose will be sorely missed. We wish him the very best for a long, happy, and engaging next phase of life.

EHS Web Training Links

- info.med.yale.edu/bbp
- info.med.yale.edu/bbpclinical
- www.yale.edu/oehs/onlinetraining/hazwaste/chemicalwaste.htm
- info.med.yale.edu/chemsafe
- www.yale.edu/oehs/onlinetraining/TB/TB.htm
- www.yale.edu/oehs/onlinetraining/RadiationSafety/RadiationSafety.htm

Office of Environmental Health & Safety
135 College Street, New Haven, CT 06510
Telephone: 203-785-3550
Fax: 203-785-7588
<http://www.yale.edu/oehs>

Director: Peter Reinhardt

How you work can have a major influence on others so always consider your actions in terms of potential impact and what steps are necessary to prevent harm or injury. Become familiar with and observe established safety requirements and procedures in your work area, use any required protective equipment, and report unsafe conditions to your supervisor or our office.

Safety Bulletin Committee:

Whyndam Abrams
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Anthony Kosior, YSM Facilities

EHS Employee News

EHS welcomes **Marilyn Mesner** as our new receptionist. Marilyn joins us from the ITS call center, where she worked for three years. As many people's first contact with EHS, Marilyn's positive and helpful attitude will be an asset to our department.

Steve Kapetan joined our staff as an EAS Health and Safety technician. Steve has 20 years experience managing radioactive waste. He has also worked with hazardous and medical waste and has HAZWOPER, DOT and IATA training along with extensive radioactive spill response and decontamination experience. He is an excellent addition to our staff.

EHS-EAS also welcomes **Jamie Cox** as Laboratory Assistant technician. Jamie will be primarily working within the biomedical waste program as well as delivering waste supplies to our customers. Jamie is a hard-working individual who has proven himself as a great asset to the EAS team.

Tammy Stemen, CHP, was appointed as the University's Radiation Safety Officer. Formerly an Assistant Radiation Safety Officer, Tammy has been with EHS for 18 years of increasing responsibility. Many of you know Tammy from the numerous trainings she does, through the radioactive materials purchasing program, or her review of research protocols.

Ben Fontes, the University's Biosafety Officer, was elected President of the American Biological Safety Association (ABSA). Ben's term as President-elect began in October, and he will assume duties as President of the Association in October, 2009. From www.ABSA.org; "The American Biological Safety Association (ABSA) was founded in 1984 to promote biosafety as a scientific discipline and serve the growing needs of biosafety professionals throughout the world."

EHS would like to recognize **Michael Kaseta** as its semi-annual "Award of Excellence" recipient. As a Safety Advisor technician, he has unfailingly performed numerous inspections of safety-related devices and operations, delivered radioactive materials to end users, and has always been available to assist his coworkers. Michael has just accepted the newly-created EHS Information Specialist position. In his new role, Mike will provide support to all EHS sections and will be responsible for information and document development and control activities to ensure compliance with regulatory and institutional requirements.

New Rad Safety Training

EHS announces a new two part training course for Radiation Safety Orientation. You no longer need to complete three hour classroom training!

Radiation Safety Basics Part I-Web Training is now the first step for your required radiation safety training. It is for personnel working with radioactive materials or frequenting an area where radioactive materials are used or stored.

Log onto: <http://www.yale.edu/oehs/onlinetraining/RadiationSafety/RadiationSafety.htm> to complete the new online training course. Once you have successfully completed the quiz at the end of this course, you will receive an email reminding you to register for Applied Radiation Safety-Part II.

Applied Radiation Safety Part II is the instructor led portion of your mandatory radiation safety requirement. After receiving the confirmation email upon successfully completing Part I, log onto the Yale training website at: <http://www.yale.edu/training> and register for the classroom session most convenient for you. Your requirement will be complete after your classroom training.

Remember: both trainings are required to fulfill your Radiation Safety training requirement. For questions, please call 737-3211.

135 College Street Building Renovations

Due to building renovations, the OEHS 135 College lower level training room will not be available for training classes for the upcoming months. Training classes will continue to be held, but the location(s) vary. Please check with OEHS prior to your classroom session for the current training location. Call OEHS at 785-3211 or email safetytraining@yale.edu for more information.

Safety Training

Fall 2008 EHS

Biosafety Training

This is a mandatory course for employees working with pathogens classified at Biosafety Level 2. The course focuses on good microbiological practices, safety equipment, and containment. We also review emergency response procedures and Yale Biosafety Policies. This course is ideal for new employees and can also provide helpful tips and valuable information for experienced personnel.

November 19, 2008	1:00 PM -3:30 PM
December 10, 2008	10:00AM -12:30 PM

Biosafety Level 3 Training

Mandatory for employees prior to initiating experiments with agents classified at BL2+, BL3, or BL3+. Please call 785-3211 to schedule.

Bloodborne Pathogens Training for Lab and Clinic Personnel

Required annually for laboratory and clinic personnel working with human materials, including blood, body fluids, unfixed tissues, human cell lines, or bloodborne pathogens. This course is offered as 1) initial training for new occupationally exposed employees; and 2) annual retraining.

Initial Training

October 30, 2008	9:00 AM - 11:00 AM
November 12, 2008	1:30 PM - 3:30 PM
November 19, 2008	9:00 AM - 11:00 AM
December 4, 2008	1:30 PM - 3:30 PM
December 17, 2008	9:00 AM - 11:00 AM

Annual Retraining

November 6, 2008	9:30 AM - 10:30 AM
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BBP Training Online:

Bloodborne Pathogens for Lab Personnel
<http://info.med.yale.edu/bbp>

Bloodborne Pathogens Clinical Personnel
<http://info.med.yale.edu/bbpclinical>

Safe Use of Biological Safety Cabinets

This training briefly explains how biological safety cabinets work, limitations of biological safety cabinets, proper technique when working in a biological safety cabinet, and certification and repair procedures. It is recommended for anyone that uses a biological safety cabinet.

November 5, 2003	1:30 PM - 2:30 PM
December 11, 2008	9:30 AM - 10:30 AM

Laboratory Chemical Safety

Required training for laboratory personnel working with chemicals.

November 11, 2008	9:15 AM - 10:45 AM
December 10, 2008	1:00 PM - 2:30 PM

Chemical Safety Training Online:

<http://info.med.yale.edu/chemsafe>

Chemical Hazardous Waste Training

An interactive training course in chemical waste management. This course is only available on the web at:

www.yale.edu/oehs/onlinetraining/hazwaste/chemicalwasate.htm

Safety Orientation for Non-Lab Personnel

This course combines three required training classes for non-laboratory personnel: Bloodborne Pathogens, Chemical Safety, and Radiation Safety. This training fulfills the annual requirement for bloodborne pathogen training.

November 5, 2008	8:30 AM - 9:40 AM
December 3, 2008	8:30 AM - 9:30 AM

Shipping and Transport of Hazardous Biological Agents

This course reviews the shipping regulations from the Centers for Disease Control, the Department of Transportation (DOT), and the International Air Transport Association (IATA). Packaging, permits, shipping declaration forms, labels, and emergency response are among items that will be addressed. This is a mandatory course for employees sending, transporting, or receiving infectious substances.

November 20, 2008	10:00 AM - 12:00 PM
December 16, 2008	1:00 PM - 3:30 PM

Powered Industrial Vehicles

This course is one part of a two part qualification to operate a PIV at Yale. Upon completion, you will need to schedule a 'hands on' session to demonstrate competency to operate the vehicle. Following successful completion, you will be certified to operate the PIV. Please call 785-3211 for to schedule a training session.

Office Ergonomics

Are you satisfied with your office workstation? Call your Safety Advisor to schedule a personal assessment.

Respiratory Protection Training

Respiratory protection training and fit testing is required initially and annually for all respirator wearers.

If you already have and/or wear a respirator, please bring it with you to this class so that you can be fit-tested.

November 12, 2008	9:00 AM - 10:00 AM
December 9, 2003	2:00 PM - 3:00 PM

Radiation Safety Training

Radiation Safety Basics Part I-Web Training is now the first step for your required radiation safety training. It is for personnel working with radioactive materials or frequenting an area where radioactive materials are used or stored. It is the prerequisite to the instructor lead classroom training; Applied Radiation Safety-Part II.

Applied Radiation Safety Part II is the second part of your mandatory radiation safety requirement. After you have successfully completed Part I, log onto the Yale training website to register for the classroom training most convenient for you. Your requirement will be complete after your classroom training.

Remember: both trainings are required to fulfill your Radiation Safety training requirement. For questions, please call 737-3211.

Radiation Safety Training Online:

Radiation Safety Basics-Part I Web Training
www.yale.edu/oehs/onlinetraining/RadiationSafety/RadiationSafety.htm

Radiation Safety Classroom Sessions: Applied Radiation Safety-Part II

November 6, 2008	9:30 AM - 11:00 AM
November 18, 2008	1:00 PM - 2:30 PM
December 4, 2008	9:30 AM - 11:00 AM
December 16, 2008	1:00 PM - 2:30 PM

Tuberculosis Awareness Training

This mandatory training class is for employees who work in patient care or outreach settings that may involve exposure to Mycobacterium tuberculosis.

November 13, 2008	9:00 AM - 11:00 AM
December 9, 2008	11:00 AM - 12:00 PM

Tuberculosis Awareness Training Online Tuberculosis Awareness Web Training

www.yale.edu/oehs/TB/TB.htm

Due to building renovations, the EHS College Street lower level training room will not be available for training classes for the upcoming months. Training classes will continue to be held, but the locations vary. Please check with EHS prior to your classroom session for the current training location. Call EHS at 785-3211 or email: safetytraining@yale.edu for more information.