

**Safety Bulletin**  
*Environmental Health & Safety*

**Removal of Bottled Drinking Water – Solutions**

In this present economy, we have all been asked to reduce budgetary expenses. The University is also committed to maintaining our sustainability initiative. Did you know there is an easy way to do both? If you have a bottled drinking water program in your department, consider removing the unit and utilizing water from the tap. Most of us drink water from the faucet while at home, and the city water in New Haven is of consistent high quality. If desired, a local filtration unit can be used to provide hot and cold water, however there still may be an expense (rental or purchase) involved with these units, as well as energy required for providing on-demand heating and cooling. Water from the faucet can simply be refrigerated, or micro-waved, to desired temperature. The following information is from a previously printed Safety Bulletin article.



tap water is, on average, 500 times cheaper than bottled water.\*  
**boycott the bottle.**

\*The Standard Institute of Water and Environmental Management (SIEM) - *Water from the Tap is Cheaper than Bottled Water* - November 2008

Environmental Health and Safety occasionally receives inquiries about the quality and safety of tap water from drinking fountains and sink faucets at campus locations. In New Haven, all campus locations are connected to public water supplies, i.e. "city water." This city water is provided by the South Central Connecticut Regional Water Authority ("SCCRWA"), from a combination of lakes and aquifers. Source water is treated at the Authority's plants and distributed to customers throughout the New Haven region. Treatment includes filtration, chlorination, and the addition of fluoride (to aid in the prevention of cavities). The water is also treated to prevent corrosion of both the supply and customer water piping.

Public water supply companies are required to test numerous samples of their water each month, both from their sources and from customer taps. These results are compared to U.S. Environmental Protection Agency and Connecticut Department of Public Health regulations as required by the Federal Safe Drinking Water Act. An annual Water Quality Report is sent to all customers. If testing identifies any immediate health concerns, the water company is required to inform the public through media outlets including TV, radio, and newspapers. For 2003, the SCCRWA was required to test for 76 different regulated contaminants. Only 16 of these contaminants were detected, and all of these were below regulated levels.

A common concern is lead and copper levels in drinking water. Both of these metals, if present in high levels, may cause health problems. Elevated levels of these metals usually come from corrosion of customer piping. The water company is required to test customer tap water to determine if additional corrosion control treatment is warranted. For 2003, customer lead and copper levels were well below those levels requiring additional corrosion control.

Several suggested methods to reduce corrosion-caused contamination are to run water for several minutes in the morning prior to consumption, to use only cold water for drinking (hot water causes increased corrosion), and use frequently used faucets for drinking water.

Many consumers have switched to bottled waters for consumption for taste or aesthetics purposes. In fact, bottled water is subject to less stringent testing requirements, is about 500-1000 times as expensive, doesn't contain fluoride, and in many cases is obtained from tap water by the bottling company. Often taste issues can be resolved by simply refrigerating tap water in a reusable container.

If anyone in the campus has a concern in a particular area, or with particular contaminants, EHS will work with the SCCRWA to identify and review specific test results from their extensive testing. Water samples can also be provided to the SCCRWA for their review on a case-by-case basis.

***Environmental Health & Safety***

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## Vehicle Idling – Stop Your Engines

### THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

REGISTRATION	TICKET NO. <b>A321012</b>
VIOLATION DATE	TIME
LOCATION OF VIOLATION	
EMPLOYEE	INSPECTOR NO.
VEHICLE MAKE	

### NOTICE OF IDLING VIOLATION

Pursuant to the responsibilities of my office as a representative of the Department of Environmental Protection, I have taken the opportunity to provide you with this informational pamphlet about the environmentally hazardous, unhealthy and surprisingly costly effects of idling.

## 3-MINUTE LIMIT IT'S THE LAW

This pamphlet is not a summons or notice of violation to which you must respond. It's just a reminder that unnecessary idling is illegal everywhere in our state. Why? Because exhaust fumes created by idling pollute the air and create a public health hazard – and because running your motor vehicle while stationary is inefficient and a costly waste of fuel. This law applies to all cars, trucks, taxis, buses and motorized construction equipment.



#### IDLING REDUCTION IS OUR GOAL IN CT

This is just a friendly reminder to do your part to reduce engine idling, conserve our natural resources and help us all breathe a little easier. Thank you.

*John McCann*  
Commissioner

Winter finally seems to have ended, bringing the start of warm weather, budding of leaves and flowers, the chirping of birds, the spring season, and.....the ozone season. Ground level ozone, or smog, is formed by the reaction of pollutants, including those from vehicle exhaust. Vehicle exhaust can also be a significant contributor to particulate pollution (fine particles), especially from diesel engines, carbon monoxide, and carbon dioxide, contributing to global warming.

There is an easy way to reduce the amounts of these vehicle exhaust pollutants. Turn off your car, truck, or bus engine when it is not necessary to have it running. This will also decrease the amount of fuel burned (which saves money), saves wear and tear on the vehicle's engine, and will reduce the vehicle's occupants' exposure to exhaust. A typical truck will burn one gallon of diesel an hour while idling, decreasing engine life, and because it is not moving, more likely cause exhaust to enter the vehicle cabin. Idling near air intakes or buildings can also cause exposure to building occupants.

Truck and delivery drivers can get in the habit of completing their paperwork before starting the engine. Loading dock areas should be posted with anti-idling signs. Bus drivers can

shut-off their engines while waiting, especially in front of school areas, where diesel exhaust is suspected of increasing childhood asthma rates. And we've all seen the person who sits in their idling car talking out the window for many minutes.

Eliminating unnecessary idling just makes good sense, however in Connecticut, it is also the law. In fact, state law prohibits idling for more than three minutes, with certain exceptions, such as to operate auxiliary equipment to bring to manufacturer's recommended operating temperature, to defrost windows, and when it is below 20°F. Which hopefully it will not be until the late fall!

Pollution from diesel engines is a widespread problem across New England and it significantly contributes to air pollution, especially in urban areas. Diesel exhaust is made up of small particles, known as fine particulate matter. Fine particles pose a serious health risk because they can easily pass through the nose and throat and lodge themselves in the lungs. When inhaled repeatedly, the fine particles in diesel exhaust may aggravate asthma and allergies or cause other serious health problems including lung cancer. EPA New England is working to advance cleaner diesel engines, promote pollution control technology, prevent unnecessary idling and ultimately, make the black puff of smoke that can come from these engines an image of the past. There are a number of actions that you can take to reduce the diesel emissions as well.

To help separate idling fact from legend, the Connecticut Department of Environmental Protection (DEP) commissioned its own "myth busting" team and is showcasing the findings in a video parody of the popular television show, "Mythbusters." This is part of DEP's innovative, low cost strategy to build public awareness of the effects of idling.

Like their Discovery Channel counterparts, the "scientists" at work in the DEP production, "[Wastebusters - Idling Myths](#)," conduct rigorous experiments and analysis to definitively prove that idling vehicles do waste fuel and unnecessarily pollute the air.

For more information about the DEP's anti-idling efforts, please visit their website at: [www.ct.gov/dep/idlingisfuelish](http://www.ct.gov/dep/idlingisfuelish).

#### Highlights

- Diesel exhaust contains fine particles which can aggravate asthma and cause lung damage as well as premature death. Diesel Engines last a long time (20-30 years).
- EPA has classified diesel particulate matter as a likely human carcinogen.
- All six New England states have childhood asthma rates above 10 percent.

## Biennial Reminder

### BIENNIAL REMINDER FOR CONTROLLED SUBSTANCES:

Please remember that all investigators working with controlled substances are obligated by federal and state law to maintain accurate records of their inventory and each use. In addition, on or about May first of every odd numbered year, each laboratory must also perform an additional physical inventory of their entire stock of controlled substances. The type, strength, and quantity of all controlled substances must be recorded at this time, and the person who conducted the inventory must also date and sign the record.

Researchers do not need to submit or otherwise forward this inventory, but it must be maintained in your laboratory for at least three years, separate from other records and readily available for potential regulatory review from either the federal Drug Enforcement Administration or the CT Drug Control Division. Although there is no standardized format for this inventory, a sample is available from EHS at our website (listed below). If you have any questions about this or other requirements associated with controlled substances, contact your Safety Advisor or call EHS at 785-3550.

(<http://www.yale.edu/oehs/Documents/consub/biennialsampleform.pdf>).

## Gas Recycling Initiative

### Does your lab have unwanted gas lecture bottles that still contain viable product?

If you have lecture bottles that are in good condition but you no longer have a use for the gas, EHS has a program where these lecture bottles are safely transported to a facility in Romulus, Michigan where they are analyzed via a Fourier Transform Infrared Spectroscopy (FT-IR) to confirm their contents. This licensed facility will then redistribute these gases to other colleges, universities or industries that purchase the gas cylinders for a fraction of the purchase price.

Since the gases are not considered hazardous waste, it is an effective waste minimization process that also saves thousands of dollars in disposal costs. One lecture bottle can cost over one thousand dollars to safely dispose. This program also keeps valuable gases out of the hazardous waste stream. To date, EHS has successfully redistributed nine lecture bottles containing argon, deuterium, neon, sulfur hexafluoride, hydrogen bromide, 2-methylpropene and chlorodifluoromethane, iodotrifluoromethane. Please contact EHS Environmental Affairs at 785-3551 for more information.

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## Safe Work Habits for Safe Laboratories

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The responsibility for laboratory safety rests with each and every lab worker. Protect yourself and your co-workers by working carefully to avoid spills, broken glassware and fires. Common laboratory techniques, practices or procedures carry some risk of exposure or mechanical injury. Appreciating what these risks are and how to work safely with them will help keep you from having an accident.

- Laboratory safety manuals should be kept available for all laboratory staff.
- All persons who use laboratory equipment must wear proper personal protective equipment (PPE) when performing tasks and experiments.
- Shorts, sandals, open-toed shoes, and bare feet are prohibited in the laboratory.
- Tie back long hair and remove loose dangling jewelry.
- There is no eating, drinking, smoking, chewing of gum or tobacco, application of cosmetics, or storage of food in laboratories.
- You should not operate laboratory equipment unless you are familiar with the hazards that exist with the use of the equipment. If you are unsure, speak with your PI or laboratory manager for training in how to use it properly and safely.
- Be sure emergency phone numbers are posted by all telephones.
- Familiarize yourself with the location of emergency shower and eye wash stations and how to use them.
- Know the proper evacuation route for your building area and the point of assembly after evacuation.
- Know how to use a fire extinguisher, especially in laboratories working with hazardous materials and flammables.
- Do not smell or taste chemicals or mixtures of chemicals.
- Always use a chemical carrier or other form of secondary containment when transporting hazardous chemicals such as flammable, toxic, and corrosive liquids.
- Oral pipetting is prohibited. Use mechanical pipetting aids for all pipetting procedures.
- Familiarize yourself with the MSDS sheets and procedures associated with hazardous materials when working with them.
- Keep combustibles away from open flames.
- Be sure all flammables and hazardous materials are properly contained and stored when not in use.
- Use caution when handling hot glassware. Use tongs or heat resistant gloves when handling hot glassware.
- All hazardous waste should be transferred to its proper container. The University disposes of hazardous waste regularly. If you are unsure of the proper disposal for your waste, contact EHS for information on the correct procedure.
- Routinely check to be sure the laboratory's supply of PPE is adequate and operational.
- Be sure to check natural gas and/or pneumatic flexible lines for cracks or leaks.
- Ensure all fume hoods are working properly. Pay attention to the sash, light fixture and exhausting ductwork.
- Visually inspect laboratory glassware for traces of chemicals from previous use.
- Check chemicals for shelf life expiration.

And don't forget about EHS' Chemical Redistribution Program. If you have any unopened, non-expired chemicals in your laboratory available for redistribution, contact EHS at 432-3219.

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## Spring Outdoor Safety

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The weather is finally getting warmer and most of us are ready to spend more time outside enjoying the wonderful weather... manicuring our lawns, planting gardens, and cooking out. That means tools such as lawn mowers, garden tools and other power equipment are coming out of the garage, along with the outdoor grill. Remember the following precautions to prevent injuries:

### Lawn Care Equipment

- Make sure all equipment is in good repair.
- Be sure blade guards are in place on all cutting and trimming equipment.
- Wear proper eye protection when using equipment.
- Store gasoline-powered equipment away from ignition sources, such as a water heater or pilot light. It's best to store equipment outside, or in a storage shed.

### Propane Tank Safety

- Be sure to get the right type of couplings if you exchange your tank. There are three basic types and they are not compatible; however, two of the fittings will appear to go together, but will leak profusely when the tank is turned on.
- Light the grill immediately after turning on the gas, do not allow gas to build up or it could flash when ignited.
- After use, turn off the gas and the valve at the bottle so that gas will not escape and build up.

### Handling Gasoline Safely

- Use only approved containers marked for gasoline use. Never store gasoline in glass jars, soda bottles, or milk jugs.
- Never use gasoline to clean skin, clothes, auto parts, or floors.
- When refueling equipment, make sure the engine is off and cool. Don't risk spilling gasoline on a hot engine.
- Don't smoke while using gasoline.

### Outdoor Cooking Safety

- Be sure to set up your grill away from structures, especially overhangs.
- Don't use a grill in the breezeway or balcony of an apartment.
- Don't pour lighter fluid on coals that are already hot. This can cause a flash fire. The flames may have died down, but there's still tremendous heat in the charcoal.
- When using a gas grill, turn the gas on and immediately light the grill. Don't allow gas to build up before lighting.



*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  
George Andrews  
Brenda Armstrong  
Deborah Farat  
Cathleen King  
Robert Klein  
Tammy Stemen**

## HAZMAT Shipping Training Update

The shipment of hazardous materials, also referred to as dangerous goods, is regulated by a variety of federal and international organizations. The US Department of Transportation (DOT) regulates the transport of hazardous materials when transported via roadways in 49 CFR. The International Air Transport Association (IATA) developed the Dangerous Goods Regulations based on the International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air. In addition there are multiple federal agencies that regulate the import and export of biological, chemical, and radioactive materials.

EHS has developed a new web based General Awareness training outlining the requirements for shipping and exporting hazardous materials. This new training is required for anyone that may be involved in any aspect of shipping hazardous materials such as biological, chemical and radioactive materials. This includes administrative personnel working in departments or areas of campus using hazardous materials. An email will be sent to affected people with a link to the training. If you feel that you need this training and do not receive the email notice please contact EHS at 785-3550 or via email at [safetytraining@yale.edu](mailto:safetytraining@yale.edu). This training will not authorize people to ship hazardous materials, but reviews the training requirements and shipping procedures that EHS has established to comply with the various shipping regulations.

Following your review of the General Awareness training, you may require additional shipping training. EHS has developed the following web based programs for your convenience:

### **Dry Ice Shipper's Training:**

This training program covers the requirements for shipping only dry ice with no other hazardous materials. Although less stringent than shipping other chemicals, there are training requirements that must be completed before shipping dry ice. Following your review of the training materials there is a required web based quiz to verify completion of training and understanding of the material presented. The training is available at: <http://www.yale.edu/oehs/Documents/training/YALEdryice.pdf>.

### **Shipping Biological Substances – Category B**

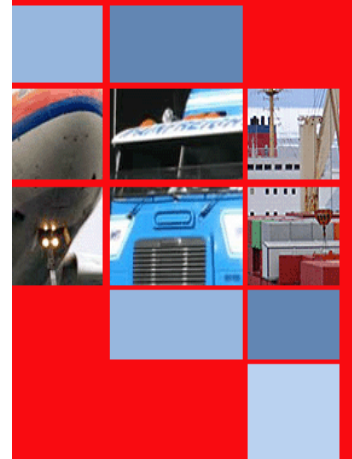
This training program covers the requirements for shipping biological materials based on the following definition: Shipments of human or animal materials including those materials that may contain known or potential Risk Group 2 or 3 infectious agents if transported for diagnostic or investigational purposes. In addition, this training also covers the requirements for shipping dry ice. Note: This training does not meet the requirements to ship Infectious Substances – Category A, see below.

### **Shipping Infectious Substances - Category A:**

This training program covers the requirements for shipping both Biological Materials and Infectious substances based on the following definition: Shipments of cultures or stocks of infectious agents as well as genetically modified microorganisms. In addition, this training also covers the requirements for shipping dry ice.

Before shipping any hazardous material; dry ice, biological materials, chemicals, or radioactive materials, a HAZMAT Shipment Request must be completed and forwarded to EHS. The form is available on the EHS web site at <http://www.yale.edu/oehs/Documents/lab/LABhazmatchecklist.pdf>. EHS personnel will review the shipment request and ensure the shipper has completed the appropriate training. If the shipment is for chemical or radioactive materials a member of the EHS Shipping Team will be assigned to do the shipment. Please submit all HAZMAT Shipment Request forms as far in advance of the desired shipment date as possible. If you have any questions regarding these changes please refer to our website at <http://www.yale.edu/oehs/hazmatship.htm> or contact Deb Ferry or Kevin Charbonneau at 785-3550.

## SHIPPING HAZARDOUS MATERIALS



# Safety Training

## Biosafety Training

This training covers work practices, safety equipment and facility requirements used to work safely at Biosafety Levels 1 and 2. Incident response and emergency spill clean up protocols are also reviewed.

Wed. Apr. 22 <sup>nd</sup>	10:00AM -12:30 PM
Wed. May 20 <sup>th</sup>	1:00 PM -3:30 PM
Wed. June 17 <sup>th</sup>	10:00AM -12:30 PM

## Biosafety Level 3 Initial Training

Mandatory for employees prior to initiating experiments with agents classified at BL2+, BL3, or BL3+.

Fri. Apr 24 <sup>th</sup>	2:00 PM – 4:00 PM
Fri. May 29 <sup>th</sup>	2:00 PM – 4:00 PM
Fri. June 26 <sup>th</sup>	2:00 PM – 4:00 PM

## 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 training covers the exposure control principles and practices encompassing engineering controls, work practices and personnel protective equipment.

Wed. April 8 <sup>th</sup>	9:00 AM - 11:00 AM
Thurs. April 23 <sup>rd</sup>	1:30 PM – 3:30 PM
Tue. May 5 <sup>th</sup>	9:00 AM - 11:00 AM
Thurs. May 21 <sup>st</sup>	1:30 PM – 3:30 PM
Tue. June 2 <sup>nd</sup>	9:00 AM - 11:00 AM
Thurs. June 18 <sup>th</sup>	1:30 PM – 3:30 PM

## 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 reviews the biological safety cabinets, their limitations, proper use techniques, and certification and repair procedures.

Wed. April 15 <sup>th</sup>	1:30 PM - 2:30 PM
Tue. May 12 <sup>th</sup>	9:30 AM - 10:30 AM
Wed. June 17 <sup>th</sup>	1:30 PM - 2:30 PM

## Office Ergonomics

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

## Laboratory Chemical Safety

This required training covers the hazards of chemicals in the workplace, including information on hazard classes and exposure limits. Training on personal protective equipment selection and use is also given during this course.

Tue. Apr. 14 <sup>th</sup>	1:00 PM - 2:30 PM
Wed. May 13 <sup>th</sup>	9:15 AM - 10:45 AM
Tue. June 16 <sup>th</sup>	1:00 PM - 2:30 PM

## Chemical Safety Training Online:

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

## Chemical Hazardous Waste Training

This is an interactive training course in chemical waste management on the proper collection, storage and labeling of chemical wastes. This course is only available on the web at: [www.yale.edu/oehs/onlinetraining/hazwaste/chemicalwaste.htm](http://www.yale.edu/oehs/onlinetraining/hazwaste/chemicalwaste.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.

Wed. Apr. 1 <sup>st</sup>	8:30 AM - 9:40 AM
Wed. May 5 <sup>th</sup>	8:30 AM - 9:40 AM
Wed. June 3 <sup>rd</sup>	8:30 AM - 9:40 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.

Tue. Apr. 21 <sup>st</sup>	10:00 AM - 12:00 PM
Wed. May 6 <sup>th</sup>	1:00 PM - 3:00 PM
Thurs. June 11 <sup>th</sup>	10:00 AM - 12:00 PM

## Powered Industrial Vehicles

This training is mandatory for personnel who operate a PIV (Powered Industrial Vehicle). The training is in two parts, and consists of a combination of formal and practical hands-on instruction, and an evaluation of the operator's performance at the workplace. Annual renewal will only require part two: demonstration of competency. Call 785-3211 to participate in the next group training session and to arrange for an evaluation.

## 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.**

Tue. Apr. 7 <sup>th</sup>	3:00 PM – 4:00 PM
Wed. May 6 <sup>th</sup>	9:00 AM – 10:00 AM
Mon. June 8 <sup>th</sup>	1:00 PM – 2:00 PM

## Radiation Safety Training

Mandatory two (2) part training: Basic and Applied, for personnel working with radioactive material or frequenting an area where radioactive materials are stored or used.

Personnel must complete Applied Radiation Safety-Part II to fulfill their requirement. Registration for Part II will be open to enrollees 24 hours after completion of Radiation Safety Basics-Part I. 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](http://www.yale.edu/oehs/onlinetraining/RadiationSafety/RadiationSafety.htm)

**Radiation Safety Classroom Sessions: Applied Radiation Safety-Part II**

Tues. Apr. 7 <sup>th</sup>	1:00 PM – 2:30 PM
Thurs. Apr. 23 <sup>rd</sup>	9:30 AM – 11:00 AM
Tues. May 5 <sup>th</sup>	1:00 PM – 2:30 PM
Thurs. May 21 <sup>st</sup>	9:30 AM – 11:00 AM
Tues. June 2 <sup>nd</sup>	1:00 PM – 2:30 PM
Thurs. June 18 <sup>th</sup>	9:30 AM – 11:00 AM

## Tuberculosis Awareness Training

A mandatory training for personnel in a clinical setting with potential exposure to TB positive patients. In order to receive your requirement credit for this course you must complete and pass the quiz at the end.

Wed. Apr. 8 <sup>th</sup>	1:30 PM – 2:30 PM
Thurs. May 14 <sup>th</sup>	9:00 AM - 11:00 AM
Wed. June 10 <sup>th</sup>	1:30 PM – 2:30 PM

**Tuberculosis Awareness Training Online**  
**Tuberculosis Awareness Web Training**

[www.yale.edu/oehs/onlinetraining/TB/TB.htm](http://www.yale.edu/oehs/onlinetraining/TB/TB.htm)

EHS training sessions are held in the EHS training room, located at 135 College Street, Lower Level, Room.

Call EHS at 785-3211 or email: [safetytraining@yale.edu](mailto:safetytraining@yale.edu) if you have any questions regarding training or for additional information.