

## Inside This Issue

## Is Winter Weather Driving You Crazy?



Well, it happened. You woke up this morning to a blanket of white or worse, the landscape covered in a sheet of ice, and you're totally unprepared for the extra time you'll need to get yourself out the door and safely into work. Some of you may have the option of staying home, but for most of us reality hits and we go through the tiring, often frustrating, trek into work. It may seem obvious, we really should be ready for this, but a lack of planning may find us rushing to make it to work on time.

So while your child is sitting in front of the television getting an early start on what is usually forbidden on school days, or oblivious to the world still sound asleep in their bed, take a deep breath, have that cup of coffee, tea or cocoa and remember, it's one thing to be late, it's another to never make it to your destination. If you haven't already done so, prepare yourself for the many more winter mornings in New England.

Make sure you have plenty of windshield washer fluid, a good scraper and a brush in your trunk. Consider having a good set of winter-rated tires (look for the Mountain/Snowflake symbol on the tire sidewall) installed on all four (not just two) wheels, even if you have AWD.

Be sure you give your car an extra few minutes to warm up with the heater and defroster going. Clear off the snow and ice from your car. That includes the bumpers, the lights, (front and back) and the roof! There's nothing worse than getting stuck behind a vehicle and being pounded with snow and ice from their rooftop. Even if you don't project missiles toward the car behind you, you may find yourself blocking your own rear window.

Don't push your luck. Driving fast or even the posted speed limit in snow or icy weather may make you less late, but you might find yourself never making it if you hit a patch of ice. Adjust your driving to suit the conditions. Remember to keep a safe distance behind the car in front of you to give yourself the extra time you may need to stop. Watch out for black ice. Just because you don't see ice, doesn't mean it's not there. Black ice is nearly transparent and drivers can overlook it or just not see it.

If you're planning a long car trip this winter, and you know the weather will be bad, pack your car with some safety equipment such as flashlights and extra batteries, a first aid kit, maps of the area you'll be traveling, your cell phone charger, waterproof matches and high calorie, non-perishable foods such as peanut butter and crackers, granola bars, trail mix and candy bars. Don't forget the water bottles, a few blankets and an extra set of clothing for each person in the vehicle may not be a bad idea either.

Remember Mark Twain's quote, "If you don't like the weather in New England, just wait a few minutes"? Be prepared for the weather to change and to change quickly. Spend a few minutes before bed each evening to check on what the weather will be like in the morning. You'll be ready for that extra time you'll need getting yourself to work the next day without the frustration and aggravation setting in.



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### EHS Web Training Links

- Bloodborne Pathogen for Laboratory Personnel: [info.med.yale.edu/bbp](http://info.med.yale.edu/bbp)
- Bloodborne Pathogen for Clinical Personnel: [info.med.yale.edu/bbpclinical](http://info.med.yale.edu/bbpclinical)
- Chemical Hazardous Waste: [www.yale.edu/ehs/onlinetraining/hazwaste/chemicalwaste.htm](http://www.yale.edu/ehs/onlinetraining/hazwaste/chemicalwaste.htm)
- Dry Ice: [www.yale.edu/ehs/Documents/training/dryice.pdf](http://www.yale.edu/ehs/Documents/training/dryice.pdf)
- General Awareness-Research Materials Shipping: [www.yale.edu/ehs/powerpoint/GeneralAwareness.htm](http://www.yale.edu/ehs/powerpoint/GeneralAwareness.htm)
- Laboratory Chemical Safety: [info.med.yale.edu/chemsafe](http://info.med.yale.edu/chemsafe)
- Laser Safety Awareness: [www.yale.edu/ehs/onlinetraining/laser/lasersafety.htm](http://www.yale.edu/ehs/onlinetraining/laser/lasersafety.htm)
- P.I. Orientation of Yale's Biosafety Manual: [www.yale.edu/ehs/onlinetraining/Biosafety/BioAdmin.htm](http://www.yale.edu/ehs/onlinetraining/Biosafety/BioAdmin.htm)
- Shipping Biological Substance-Category A: [www.yale.edu/ehs/Documents/Bio/shipcategorya.pdf](http://www.yale.edu/ehs/Documents/Bio/shipcategorya.pdf)
- Shipping Biological Substance-Category B: [www.yale.edu/ehs/powerpoint/categoryB.htm](http://www.yale.edu/ehs/powerpoint/categoryB.htm)
- Radiation Safety Basics Part 1: [www.yale.edu/ehs/onlinetraining/RadiationSafety/RadiationSafety.htm](http://www.yale.edu/ehs/onlinetraining/RadiationSafety/RadiationSafety.htm)
- Tuberculosis Awareness: [www.yale.edu/ehs/onlinetraining/TB/TB.htm](http://www.yale.edu/ehs/onlinetraining/TB/TB.htm)
- Universal Waste: [www.yale.edu/ehs/onlinetraining/universalwaste/universalwaste.htm](http://www.yale.edu/ehs/onlinetraining/universalwaste/universalwaste.htm)
- X-Ray Diffraction: [www.yale.edu/ehs/powerpoint/X-RayDiffraction.htm](http://www.yale.edu/ehs/powerpoint/X-RayDiffraction.htm)

## Power Up Safely

Extension cords are important accessories for temporarily powering electrical appliances, equipment, and other devices, especially indoors and out around the holiday season. However, they are often taken for granted and misused, increasing the potential for electrical fires and other problems. Consider the following points when using or selecting an electrical extension cord:



- Inspect all extension cords before use. Check for fraying or broken insulation, and any damages to the plug or receptacle. Note the current rating and/or wire thickness the cord is rated for.
- Remember that extension cords are meant only for *temporary* use. Equipment or devices that will always need an extension cord to power them must either be moved closer to an electrical outlet or a new outlet must be installed within proximity of the fixed power cord on the device.
- Extension cord wires vary in thickness according to the current (amperage) they can safely carry. Low amperage lighting and consumer electronics can generally be safely handled with 16 or 14 gauge wire, while most power tools and appliances should be at least 12 gauge. If in doubt, compare the known circuit capacity with the cord.
- Only use grounded (3-prong) extension cords. Never remove a grounding prong or try forcing a differently-configured plug into an outlet.
- The longer the extension cord, the greater the electrical resistance over the cord, resulting in the loss of current along the route. For long distances (greater than 50 to 100 feet), increase the thickness of the wire by selecting the next *smaller* gauge number. Since circuit breakers may not trip fast enough with long distances, be sure to use only extension cords that have integral GFCI protection.
- When using an extension cord where other people may be walking, use gaffer's tape or plastic runway trays to minimize trip hazards.
- Extension cords used in wet or damp locations should be labeled for wet/damp locations.
- Extension cords that will be subjected to heavy use and potential physical damage need to be labeled "hard usage". Heavy thermo-plastic cords are more suitable for hard use.
- No matter where they are used, be careful not to overload circuits by "daisy chaining" extension cords or power strips.

Prepared in Consultation with Yale Physical Plant Electrician Lou Brangi.

## New Employee Spotlight



Miguel Berrios joined our staff at Environmental Health and Safety in August 2009. Miguel comes to Yale with previous work experience in the management and shipping of hazardous waste.

He holds a B.S. in Management Information Systems from Southern Connecticut State University and is working with the Environmental Affairs Section as a Health and Safety Technician III. His major responsibilities will be collecting, processing and lab packing hazardous waste from generators on campus as well as assisting in the radioactive and medical waste programs. Please help us welcome Miguel to our staff.

## What's New on the Web?

### Laboratory Waste Handling Procedures and Tools

EHS has developed new web pages to assist laboratory employees in the proper handling and disposal of hazardous and regulated wastes. Find links to tools, online training, as well as policy and program guides. Visit: [www.yale.edu/ehs/labwastehandlingtools.htm](http://www.yale.edu/ehs/labwastehandlingtools.htm).

Review EHS's new "[Laboratory Waste Handling - Essential Practices](#)" video. This will provide you with an overview of how waste is handled on campus and the importance of proper waste handling, collection and storage in the laboratory.

### EHS Connects With Sustainability Efforts On Campus

Yale President Richard Levin has committed to transforming Yale into a sustainable institution on both a national and international level. EHS has taken steps and is assisting research laboratories to become more energy efficient and reduce exposures, while educating staff and students on how they can save energy, and reduce costs and waste. We encourage you to browse the new web pages and review some past and ongoing sustainable success stories:

[www.yale.edu/ehs/sustainability/intro.htm](http://www.yale.edu/ehs/sustainability/intro.htm).

Please contact us for more information, to highlight your own success story or to see how you can get involved.

## Labeling Medical Waste



Please remember, you must label all medical waste cardboard box/bag units and plastic containers with the building and room number where

the waste was generated.

This is extremely important because if the box or container leaks or injures another person we need to quickly verify the contents from the lab that generated the waste. EHS will not pick up medical waste containers that do not have this information. Failure to properly label your boxes will delay their safe removal.

## Research Materials Shipping – New Shipment Request Forms

In response to researcher feedback and suggestions, EHS has developed three new Research Materials Shipment Request forms (RMSRs). One is for Non-Regulated Biological Materials shipped within the United States, the second is for Newly Synthesized Chemicals shipped within the United States, and the third is a Pre-Authorized Shipment Request.

**Non-Regulated Biological Materials** – Use this form if the biological material you are shipping:

- does not contain human or animal pathogen(s), including prions,
- is not a material or cell line of human or animal origin,
- is not a genetically modified microorganism infectious to humans or animals, including defective pathogen vectors, or a genetically modified organism containing a human or animal pathogen,
- is not a genetic element or plasmid associated with the pathogenicity or toxicity of organisms,
- Is not a toxin of biological origin,
- Is not a plant pathogen or plant pest,
- is not packaged with dry ice or liquid nitrogen, and is being shipped within the United States.
- instant approval will be provided via the “Thank you” page.

**Newly Synthesized Chemicals** - Use this form if the chemical material you are shipping;

- is newly synthesized in your laboratory,
- is to be used solely for scientific experimentation, analysis, or research purposes within the United States,
- does not have hazardous properties (e.g. flammability or corrosivity),
- is not packaged with dry ice or liquid nitrogen, and is being shipped within the United States.
- instant approval will be provided via the “Thank you” page. Because the “Thank you” page is used to provide the recipient with basic safety information and serves as an MSDS, the “Thank you” page must be included with your package and a copy kept in your laboratory records.

For newly synthesized chemicals being sent from the Chemistry Department Stockroom to the Keck Facility, the only submission required is the YPED form used for sample submission. EHS and Keck Facility staff worked to combine information required by both groups on the YPED sample submission form. The sample submission form will serve as an MSDS for these samples.

**Pre-Authorized Shipment Request** – Pre-Authorized (PAN) Shipments are those shipments that have been previously submitted using a Research Materials Shipment Request form. Once reviewed and approved by EHS, the shipper will receive an email which will include the Pre-Authorization Number (PAN) and its expiration date.

A Pre-Authorization Number (PAN) may only be used:

- to ship the same material,
- to the same recipient, and
- to the same institution as outlined in your PAN.

For all other shipments please submit a standard **Research Materials Shipment Request**. Whenever possible, a PAN will be issued by EHS.

If you have suggestions or comments about the EHS Shipping Program, please contact us at (203) 785-3550 or email us at [ehshazmat@yale.edu](mailto:ehshazmat@yale.edu).

For additional information, please visit our website at <http://www.yale.edu/ehs/hazmatship.htm>.

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Search on: Yale Environmental Health and Safety

EHS offers a wide variety of safety trainings for the Yale community in classroom sessions, as well as online.

Be sure to complete your Yale training assessment at: [www.yale.edu/training](http://www.yale.edu/training) to find out what type of training is required for your job duties.

For classroom sessions, the EHS training room is located in the lower level of 135 College Street, room LL15. To find out about upcoming classroom session dates and times, visit Yale's training website at: [www.yale.edu/training](http://www.yale.edu/training) or call EHS at 737-3211.

*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:**

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

## Incident Blotter

**December 2009**

### Description: Spontaneous Explosion of Wide Mouth Dewar Flask

In a research laboratory, a dry ice Dewar flask that was used as a trap spontaneously exploded a few minutes after dry ice was added and before the vacuum system was turned on. This Dewar flask was inside a fume hood and had a protective plastic mesh around part of it so much of the flying glass was contained by the mesh and no one was injured.

### Resolution

This equipment had been used this way on a consistent basis for the past 5 years. Although we were unable to definitively determine the cause of the incident, it is suspected that there was an unseen crack in the Dewar flask. The protective mesh had not been positioned to the top of the Dewar flask, thus the top third was not covered and the glass from this portion shattered throughout the fume hood.

### Lessons Learned

There is a potential for these types of Dewar flasks to have unseen cracks and shatter unexpectedly. In order to prevent injury, they should be positioned securely in the back of a fume hood. Dewar flasks with a protective plastic mesh, should have the mesh positioned so that no part is unprotected. A safer alternative is a Dewar flask that has a fully protective aluminum housing. In this instance the lab purchased a new Dewar flask with the protective aluminum housing.



Exploded Dewar flask with original protective plastic mesh after explosion.

A new Dewar flask with fully protective aluminum housing.



# EHS Safety Training

## Biosafety Training

Mandatory for employees prior to initiating work with agents classified at Biosafety Levels 1 and 2. Classroom only.

## Biosafety Level 3 Initial Training

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

## Bloodborne Pathogens

Required annually for laboratory and clinic personnel working with human materials, including blood, body fluids, unfixed tissues, human cell lines or bloodborne pathogens. Available online and in classroom.

## Chemical Hazardous Waste Training

This is an interactive training course in chemical waste management on the proper collection, storage and labeling of chemical wastes. Available online only.

## Chemical Safety for Laboratory Personnel

This required training covers the hazards of chemicals in the workplace, including information on hazard classes, exposure limits, and personal protective equipment. Available online and in classroom.

## Office Ergonomics

Call EHS to schedule a personal assessment with your Safety Advisor. Be sure to visit Yale's Ergonomic website at: [www.yale.edu/ergo](http://www.yale.edu/ergo) for more information.

## Powered Industrial Vehicles

This annual training is mandatory for personnel who operate a powered industrial vehicle or PIV. Call to schedule.

## 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. Employees must first complete the online session "Radiation Safety Basics-Part I" prior to enrolling in the classroom session.

## Respiratory Protection

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

## Safe Use of Biological Safety Cabinets

This training reviews the biological safety cabinets, their limitations, proper use techniques, and certification and repair procedures. This is a classroom only training.

## 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. This is a classroom only training.

## Shipping and Transport of Biological Research Materials

Required for anyone that may be involved in any aspect of shipping research materials such as biological, chemical and radioactive materials. This includes administrative personnel working in departments or areas of campus using research materials. For more information please visit: [www.yale.edu/ehs/traininghazmat.htm](http://www.yale.edu/ehs/traininghazmat.htm)

## Tuberculosis Awareness Training

Mandatory training for personnel in a clinical setting with potential exposure to TB positive patients. Available online or in classroom.

## EHS Web Trainings

### Bloodborne Pathogens for Lab Personnel

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

### Bloodborne Pathogens for Clinical Personnel

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

### Laboratory Chemical Safety

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

### Chemical Hazardous Waste Training

[www.yale.edu/ehs/onlinetraining/hazwaste/chemicalwaste.htm](http://www.yale.edu/ehs/onlinetraining/hazwaste/chemicalwaste.htm)

### Dry Ice Shipper's Training

[www.yale.edu/ehs/Documents/training/dryice.pdf](http://www.yale.edu/ehs/Documents/training/dryice.pdf)

### General Awareness: Research Materials Shipping and Export Controls

[www.yale.edu/ehs/powerpoint/GeneralAwareness.htm](http://www.yale.edu/ehs/powerpoint/GeneralAwareness.htm)

### Laser Safety Awareness

[www.yale.edu/ehs/onlinetraining/laser/lasersafety.htm](http://www.yale.edu/ehs/onlinetraining/laser/lasersafety.htm)

### P. I. Orientation of Yale's Biological Safety Manual, Procedure & Policies

[www.yale.edu/ehs/onlinetraining/Biosafety/BioAdmin.htm](http://www.yale.edu/ehs/onlinetraining/Biosafety/BioAdmin.htm)

### Shipping Infectious Substances – Category A

[www.yale.edu/ehs/Documents/Bio/shipcategorya.pdf](http://www.yale.edu/ehs/Documents/Bio/shipcategorya.pdf)

### Shipping Biological Substance – Category B and Exempt Human or Animal Specimens

[www.yale.edu/ehs/powerpoint/categoryB.htm](http://www.yale.edu/ehs/powerpoint/categoryB.htm)

### Radiation Safety Training

Radiation Safety Basics–Part I Web Training  
[www.yale.edu/ehs/onlinetraining/RadiationSafety/RadiationSafety.htm](http://www.yale.edu/ehs/onlinetraining/RadiationSafety/RadiationSafety.htm)

### Tuberculosis Awareness

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

### Universal Waste

[www.yale.edu/ehs/onlinetraining/universalwaste/universalwaste.htm](http://www.yale.edu/ehs/onlinetraining/universalwaste/universalwaste.htm)

### X-Ray Diffraction

[www.yale.edu/ehs/powerpoint/X-RayDiffraction.htm](http://www.yale.edu/ehs/powerpoint/X-RayDiffraction.htm)

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