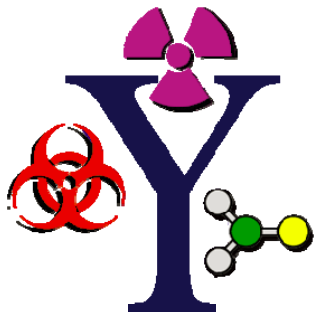


Fall Issue

October 1, 2007



YALE UNIVERSITY OFFICE OF ENVIRONMENTAL HEALTH & SAFETY

Safety Bulletin

Particle Emissions from Laser Printers

This summer, an article published in the journal "Environmental Science and Technology" documented elevated exposures to ultra-fine particles from laser printers in an office building in Australia. This report, which identifies specific makes and models of laser printers as "high-emitters," has received wide-spread media coverage and generated some questions and concerns from Yale staff and students.

Some of the media coverage of this report has lead people to believe that the study found that emissions from these printers were a health hazard. This is actually not correct. The study looked at the ultra-fine particle emissions from laser printers in a particular office building, but not at any related health effects. It was also a very limited study involving only printers already in use in the building, and only 3 of these printers were tested under controlled conditions. Variables such as toner age, print quality, and print density were recognized as influential but not studied. In addition, several inconsistencies found in this study also suggest that further evaluation is needed.

While this article does identify specific printer makes and models as being high emitters, we are not recommending that these models be replaced at this time. However, we continue to recommend that printers be located in areas with adequate ventilation, and be maintained and cleaned per manufacturer's recommendations. If you have additional concerns or questions regarding printers or any other equipment in your work area, please contact the Yale OEHS office at 785-3550.



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Safety Articles Wanted

OEHS invites submittals from anyone who is interested in having an article published in our safety bulletin. Please be sure that the articles are related to environmental health and safety issues.

For further information, please contact Tamara either by email (tamara.hall@yale.edu) or telephone (785-3550).

Employee Award of Excellence



OEHS has initiated an Award of Excellence program to recognize our employees whose work embodies and demonstrates an ethic of consistent, high-quality service to our department and the campus at large. The program was developed by our new Director, Pete Reinhardt, and introduced during our recent strategic planning retreat. Linda Mouning, Senior Administrative Assistant, received this first ever OEHS award for her strong organizational support to our controlled substances and biological safety cabinet certification programs. Shown from left to right are Stephanie Perry (OEHS Business Administrator), Pete Reinhardt, Linda Mouning, and Stephanie Spangler (Deputy Provost). Please join us all in sharing congratulations with Linda for her cheerful attitude and work well done!

INCIDENT BLOTTER

A small sampling of incidents OEHS provided responses to during the past few months...

June, 2007

Description: Ergonomic issue identified; Employee injured trying to empty a waste cart

Extremely heavy, small volume waste had been erroneously discarded in the bottom of a waste cart and then covered with regular trash making the heavy material not visible to custodial staff. When custodian tried to empty cart into a dumpster, a back injury was sustained.

Resolution:

Heavy material was disposed manually in smaller groupings. Trash weight limits were reviewed with area building employees and ergonomic assessment of the procedures was conducted by OEHS.

Lessons Learned:

Always be aware of the effects that your actions may have upon others around you. Call OEHS for ergonomic assessments when a work process is in question.

July, 2007

Description: Defrosting freezer causes small flood

A freezer in a laboratory was defrosted without any mechanism to contain water. Nearby research groups were not informed of the action taken to defrost the freezer and were subsequently impacted by the uncontained water from the frost melt.

Resolution:

Bleach was added to the water, allowed to sit for 20 minutes, and then the spilled liquid was cleaned up.

Lessons Learned:

Always plan for large volumes of water whenever defrosting a freezer. Place booms and trays under freezer to contain water. Notify all in vicinity of defrosting plans and date.

August, 2007

Description: Glass tube snapped causing splash to eye

A glass tube containing mouse blood snapped during handling, sending a few drops of blood into researcher's eye. Researcher was working in a bio-safety cabinet but was not wearing face or eye protection.

Resolution:

Individual wiped face and eyes with towel and reported to YHP Urgent Visit. Lab area was decontaminated and cleaned.

Lessons Learned:

Substitute plastic or other unbreakable containers for glass whenever possible and especially for hazardous material experiments. Always wear safety glasses when working in a laboratory and wear a face shield when there is a potential for splashes to the face. Immediately wash and rinse affected area for 15 minutes at an eye-wash and seek medical attention.

Director's Corner—Get Personal With Protective Equipment

Every OEHS training session covers Personal Protective Equipment or PPE. What do we really mean?

It depends on the hazard. Protect your eyes from flying debris with safety glasses. Protect your head from falling objects with a hard hat. Protect your hands from chemicals with gloves. Protect your eyesight from splashing liquids with goggles. Name the hazard, and we can help you find the appropriate PPE.

People who have been injured can tell you why PPE is important. The use of PPE is second nature for people who work in hazardous environments, or with hazardous materials. They don't think twice about reaching for eye or hearing protection.

What if the chance of injury is small? Do you still need PPE? Think of it this way: A small-risk task done every week is really a big-risk task. Getting injured may be just a matter of time. Sandals are great on the beach, but they don't belong in a laboratory.

The variety of PPE available today is amazing. It comes in all sizes, types and applications. Kevlar gloves protect food service workers who use knives. Kevlar chaps protect grounds workers who use chain saws. Think PPE isn't hip? Look at all the new colors and styles.

You can easily find and order them via Yale's online catalog—SciQuest. A search for safety glasses turns up 200 pages, including those available from on-campus stockrooms. You can buy eye protection specially made for small faces, or to fit over prescription glasses. "Kevlar gloves" results in over 40 pages. See <http://www.yale.edu/procurement/eprocurement/> You don't have to guess. Give us a call at 785-3550, and we can help you assess your hazard and find the most appropriate PPE for your job.

It is a good sign to see a workplace where PPE use is common. People who use PPE encourage a culture of safety. Laboratories are safer from all hazards when people wear safety glasses, gloves and lab coats. Construction sites are safer when workers wear hard hats and high visibility vests. In these places, safety is a higher priority. Aisles tend to be clear and trip hazards are removed. People may wear PPE to protect just themselves, but widespread PPE use protects others as well.



A special note to supervisors: PPE usually isn't optional—it's mandatory. Call us for an explanation, but you need to be a leader by setting an example, making PPE available, insisting on its use, and taking action when your staff doesn't comply. A safe workplace is where the appropriate PPE is used by 100% of your employees, 100% of the time. Don't settle for less.

Don't forget PPE at home. Wear your seat belt. Protect yourself from the sun with a broad-brimmed hat. I won't mow my lawn or blow leaves without hearing protection and safety glasses. Both are inexpensive and readily available at any home supply store.

We all want different things in life, but life is always better without injuries. Why take the risk? Whatever work you do, take a moment to think about how PPE could protect you. Then get personal and use it.

Used and Second-Hand Scientific Equipment

At first glance, the increasing variety and quantity of high technology equipment available for sale over the internet and through auctions, box lot purchases and "going out of business sales" seem to offer terrific opportunities. While such venues are often very attractive due to their pricing, non-standard purchases like these can carry serious risks. For example, manuals and specification sheets may not be available or, if they are, may not be associated with the exact model or production run of your device. What was the device previously used with? Was it used with any hazardous materials? Was it decontaminated prior to your receipt? Do you have a certificate of decontamination from a reputable source? Is the device off-spec and therefore not even considered of original quality? Is it gray market to begin with, or does the device carry a warranty? And if so, does the warranty legally extend to you as a secondary purchaser?

Everyone may love a bargain, but we don't want that bargain to have unexpected consequences for you or others. Equipment with potential environmental, health, and safety hazards should only be secured through reputable suppliers.



EHS Web Links

- www.yale.edu/oehs
- info.med.yale.edu/bbp
- info.med.yale.edu/bbpclinical
- info.med.yale.edu/chemhaz
- info.med.yale.edu/chemsafe
- www.yale.edu/oehs/TB/index.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

Research Administration

In these days of ever-increasing rules and regulations, conducting research in a compliant manner has never been more important - or complex. A good source of information that can help simplify this task is the University's Office of Research Administration (ORA). If you don't already know of them, take a moment and look at their website at www.yale.edu/researchadministration/. In addition to the policies and guidance developed by ORA, there are a series of links to the many departments with responsibilities for assisting investigators in this area.

Safety Advisory: Mass Flow Controllers

Mass flow control (MFC) devices are widely used in the semiconductor industry and also in many research areas where the precise flow control of liquids or gases is required. In simple terms, there are two components to a MFC: the actual flow controlling element ("valve") and its electronic controller. Users of these devices should be aware that MFCs are recognized in the industry as a "high rate of failure device" that can pose significant potential hazards (http://www.bmpcoe.org/bestpractices/internal/oakri/oakri_51.html).

MFCs are available in two different default modes, default open or default closed. Default open means that when the MFC is turned off (or power is accidentally shut-off), the actual valve element remains open, allowing gas (or liquid) to continue to flow. This kind of MFC should not generally be installed in any research or production system since it can cause an on-going but unintentional delivery of material. Instead, only default closed MFCs should be used. Default closed units automatically stop the flow of material once the MFC is turned off, whether purposely or due to a power interruption or failure. This is especially important wherever flammable or toxic gases are used. If your work absolutely requires a default open MFC, contact OEHS to arrange an evaluation in advance. Whether default open or closed, it is essential that the MFC be periodically calibrated to required flow rates, and also to verify proper function.



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, take required trainings, and report unsafe conditions to your supervisor or our office.

Safety Bulletin Committee:

Whyndam Abrams
Brenda Armstrong
Tamara D. Hall-Walcott
Cathleen King
Robert Klein
Tammy Stemen

Safety Training



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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.

Wed, Sept 26, 2007	01:00 PM - 03:15 PM
Thurs, Oct 04, 2007	10:00 AM - 12:15 PM
Thurs, Nov 08, 2007	01:00 PM - 03:15 PM
Tues, Dec 11, 2007	10:00 AM - 12:15 PM

Biosafety Level 3 Training

Mandatory for employees prior to initiating experiments with agents classified at BL2+, BL3, or BL3+. Please call 785-3550 to schedule.

Bloodborne Pathogens Training

These mandatory training sessions consist of an initial training seminar that new "occupationally exposed" employees must attend and a retraining seminar that must be attended each year by personnel occupationally exposed to human materials or bloodborne pathogens. Please note the appropriate training session to attend.

Initial Training

Thurs, Sept 27, 2007	09:00 AM - 11:00 AM
Wed, Oct 17, 2007	09:00 AM - 11:00 AM
Tues, Oct 30, 2007	09:00 AM - 11:00 AM
Thurs, Nov 15, 2007	01:30 PM - 03:30 PM
Wed, Nov 28, 2007	01:30 PM - 03:30 PM
Wed, Dec 05, 2007	01:30 PM - 03:30 PM
Tues, Dec 18, 2007	09:00 AM - 11:00 AM

Annual Retraining

Tues, Sept 18, 2007	09:00 AM - 10:00 AM
Wed, Oct 10, 2007	01:30 PM - 02:30 PM
Wed, Nov 14, 2007	10:30 AM - 11:30 AM
Thurs, Dec 20, 2007	01:30 PM - 02:30 PM

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.

Tues, Sept 18, 2007	10:30 AM - 11:30 AM
Thurs, Oct 11, 2007	01:30 PM - 02:30 PM
Wed, Nov 14, 2007	09:00 AM - 10:00 AM
Wed, Dec 19, 2007	01:30 PM - 02:30 PM

Laboratory Chemical Safety

Required training for laboratory personnel working with chemicals.

Wed, Oct 17, 2007	01:00 PM - 02:30 PM
Tues, Nov 13, 2007	09:15 AM - 10:45 AM
Wed, Dec 12, 2007	09:15 AM - 10:45 AM

Safety Orientation for Non-Lab Personnel

This course combines three required training classes for non-lab staff in one condensed session. New or existing non-lab employees who require training may attend.

Wed, Oct 03, 2007	08:30 AM - 09:40 AM
Wed, Nov 07, 2007	08:30 AM - 09:40 AM
Wed, Dec 05, 2007	08:30 AM - 09:40 AM

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.

Wed, Sept 19, 2007	09:00 AM - 10:00 AM
Thurs, Oct 18, 2007	01:00 PM - 02:00 PM
Tues, Nov 06, 2007	09:00 AM - 10:00 AM
Thurs, Dec 13, 2007	11:00 AM - 12:00 PM

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.

Wed, Oct 03, 2007	10:00 AM - 12:00 PM
Wed, Nov 07, 2007	01:00 PM - 03:00 PM
Wed, Dec 12, 2007	10:30 AM - 12:30 PM

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.

Tues, Oct 16, 2007	02:00 PM - 03:00 PM
Wed, Nov 07, 2007	11:00 AM - 12:00 PM
Thurs, Dec 06, 2007	02:00 AM - 03:00 AM

Radiation Safety Orientation

Mandatory course for personnel working with radioactive material or frequenting an area where radioactive materials are stored or used.

Tues, Sept 25, 2007	01:00 PM - 03:45 PM
Thurs, Oct 11, 2007	09:30 AM - 12:15 PM
Tues, Oct 23, 2007	01:00 PM - 03:45 PM
Thurs, Nov 08, 2007	09:30 AM - 12:15 PM
Tues, Nov 20, 2007	01:00 PM - 03:45 PM
Thurs, Dec 06, 2007	09:30 AM - 12:15 PM
Tues, Dec 18, 2007	01:00 PM - 03:45 PM

Radiation Survey/Spill Training

Hands on radiation safety class concentrating on performing contamination surveys and handling incidents involving radioactive material. This is supplementary to the Radiation Safety Orientation class and intended for those with little or no previous radioactive material work experience. Refreshments served. Please call 737-2140 to schedule.

Confined Space Training

This session is designed to provide information regarding the identification, evaluation and control of confined space hazards and to insure that employees who must enter such locations are trained and apprised of Yale University's Confined Space Entry Program. Please call 785-3550 to register to attend this training.

Tues, Oct 02, 2007	09:00 AM - 10:00 AM
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Office Ergonomics

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

Interactive Web Training Bloodborne Pathogens

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

Bloodborne Pathogens Clinical

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

Chemical Safety

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

Chemical Hazardous Waste

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

Safety Orientation

<http://learn.caim.yale.edu/rcr>

Tuberculosis Awareness Web Training

<http://www.yale.edu/oehs/TB/index.htm>

The Office of Environmental Health & Safety's training room is located at
135 College Street, in the lower level

Remember to log onto Yale's Training and Certification website at:
<http://www.yale.edu/training> to complete your Training Requirement Assessment