

Waste Minimization

Mark Banister

An on-going challenge for us at Carnegie Mellon is to minimize the environmental effect of the wastes we produce. We have a formal Waste Minimization Plan that addresses this issue. The four main elements of the plan are presented here, along with some specific things that YOU can do to help us in our efforts toward environmental responsibility.

Source reduction (#1 choice)

- Buy the smallest amount of chemical possible; buying something in bulk that will not be needed COSTS us money!
- Substitute harmful chemicals with less hazardous; use less of the chemical as well, if you can.
- Maintain your chemicals properly so they don't become unusable waste (through deterioration or expiration).
- For laboratories, contact EH&S when you need a chemical—perhaps we can set up a "gift" from another campus location to avoid having to buy more.
- Try to extend the life of computer equipment -- go an *extra* year or more before replacement, especially monitors that contain hazardous lead.

Recycling and Reuse (#2 choice)

- Re-cycle used oil and spent solvents.
- Use the University Center recycling center.

Treatment of by-products (#3 choice)

- Perform bench-top neutralization of waste, in lab experiments

Waste Disposal minimization (#4 choice)

- Segregate chemicals properly to prevent contaminating an otherwise less-hazardous waste source.
- Find substitutes for heavy metals (mercury, barium, lead, cadmium, chromium, silver, selenium, arsenic); these items are difficult to dispose of in a responsible fashion.

For further information on Waste Minimization or disposal, contact Mark Banister at markb2@andrew.cmu.edu.

Best Practices - Laboratory Hoods

Jeff Harris

Hoods are more than just local exhaust ventilation devices for protecting against

personal exposure to vapors in air. Hoods also provide a physical barrier between lab workers and chemical reactions. The hood protects from fire, spills, and possible explosions.

The following are recommended as Best Practices for Operating Laboratory Hoods:

1st- Ensure your hood has been tested and certified. A "GO" sticker, where the last date tested is within the year, should be posted on the hood. Never operate hoods with "STOP" stickers. Contact EH&S to certify new hoods, re-certify expired hoods, or if you suspect the hood is not working adequately.

2nd- When not working in the hood, the sash should be closed. You may need to leave the hood slightly open, usually just a few inches, to maintain a balance of the overall airflow within the lab. Capture velocity and the exhaust of toxic or flammable vapors are most efficient when the sash is lowered. Additionally, the sash provides a physical barrier protecting lab workers from splashes, spills, and possible explosions.

3rd- The hood is not intended primarily for storage of chemicals or equipment. Keep stored items to a minimum and Do Not Block the Intake Vents or Baffles.

4th- Loose debris & materials (such as paper) can be drawn in to the exhaust ducts. This may obstruct the duct, hinder operation of the fan, or even pose a fire hazard. Secure these items with tape or paperweights to prevent this type of incident.

5th- Be prepared for power loss to the hood. Know Emergency Shut-down Procedures when running dangerous or volatile reactions. Experiments may not be left unattended in the hood, unless the process is pre-approved by the Principle Investigator.

Breast Cancer

Celia Rajkovich



A new radiation approach being tested at Stanford University Medical Center could shorten the overall treatment time for

women with breast cancer. Participants will receive a single dose of radiation at the time of surgery rather than the usual daily dose over a six-week period. The daily dose is inconvenient for women who work, care for young children or live far from a treatment site, not to mention the extra stress from having to endure such a long treatment.

The trial should tell the center whether this accelerated form of radiotherapy is safe, feasible and effective in controlling cancer recurrence in the breast for women who have a lumpectomy.

Each year 182,000 women are diagnosed with breast cancer and 43,000 die; 1,600 men will be diagnosed with breast cancer and 400 will die.

Mammograms are among the best early detection methods. Please visit links at <http://www.nationalbreastcancer.org> or <http://www.theBreastCancerSite.com> and click on the pink square to help provide 31 mammograms this month. Why not shop online from the more than 160 stores- a portion of the sale goes toward the fund. Many local retailers sell items from manufacturers who contribute portions of sales. If you are looking for that final tax deduction buy stamps.

The Postal Service also sells Breast Cancer Fund the Cure stamps. A pane of 20 can be purchased for \$9.00, the extra gets donated and you are given a receipt. Stock up to avoid trips or just buy online at <http://www.usps.com>.

Winter Car Care

Jim Gindlesperger

With winter already on us, you already should have taken the necessary precautions to make sure your car is ready for adverse weather conditions. If you haven't done that, though, there is still time. Stress to vehicles increases during the winter months, so it makes good sense to do everything we can to avoid potentially major problems.

Last year 70% of vehicles tested in a AAA winter preparedness program had some type of deficiency. The most common problems were dirty air filters; dirty or low motor oil; worn belts and hoses; and insufficient anti-freeze protection. Getting these problems corrected is the right thing

to do, but these aren't the only things you should check for.

Make sure your battery is fully charged, and that the terminals are not corroded. Also, check the cables to make sure they are not loose. Then, check all your lights and turn signals to make sure they are working properly.

Check all your car's fluid levels, including brake fluid, power steering, automatic transmission, and windshield washer. Your owner's manual will tell you where and how to do this, or you can take your car to a reliable service station.

Look at your tires and be sure there is sufficient tread to give you good traction. Be sure to have snow tires on the driving wheels. Check the air pressure in your tires and compare it with the recommended pressures listed either in your owner's manual or on one of the door posts. Don't forget to check the spare tire, too.

Your windshield wipers must be in good condition or your visibility will suffer. If your windshield wipers streak, smear, "chatter" as they move across the surface, or leave a hazy film, it's time to replace them. Again, this is not a difficult do-it-yourself job, but a reputable service station can do it for you if you aren't comfortable doing it yourself.

And finally, consider putting together an emergency kit. Carry some flares, a blanket, gloves, first aid kit, chains, a small shovel, rags, water, cell phone, and even a small bag of sand or kitty litter to provide additional traction under your tires should you get stuck.

We usually can't avoid driving in winter, but if you have properly prepared your vehicle, the chances are good that you will have no problems. And Spring will be here in less than three months!

Training, January - March, 2003

Jim Gindlesperger

Call Extension 8-8182 to register for any of the following training classes, or to request that a particular class be conducted. **Classes will be held in the 3rd floor conference room of the FMS Building unless otherwise indicated.** Course descriptions can be found on the EH&S website.

Driving University Vehicles (Instructor: Outside Agency, coordinated by Jim Gindlesperger)

January 23, February 21, and March 14:
8:30 – 11:30 am

Forklift Safety (Instructor: Jim Gindlesperger)

January 10: 8:30 am – 11:00 am (NOTE: this training will be held at 6555 Penn Avenue)

Hand and Portable Power Tools (Instructor: Jim Gindlesperger)

March 13: 8:30 am – 9:30 am

Hazard Communication (Instructor: Mark Banister)

Call for training dates and times

Hazardous Waste and Lab Standard (Instructor: Mark Banister)

January 27 and March 31: 1:30 - 4:00 pm
February 27: 9:30 am - noon

Ladder Safety (Instructor: Jim Gindlesperger)

January 9: 8:30 am – 10:00 am
February 5: 1:00 pm – 2:30 pm

Machine Guarding (Instructor: Jim Gindlesperger)

February 20: 8:30 – 9:30 am

Radiation Safety (Instructor: Megan Marks)

Call for training dates and times

To Reach Us

Telephone: 268-8182

Fax: 268-6976

Web: <http://www.cmu.edu/ehs/>

New Grad Student Rep to Lab Safety Committee

Jeff Harris

Herb Miller (hbm@andrew.cmu.edu) is the newly appointed Graduate Student Representative to the Lab Safety Committee. Herb works in MSE and graduate students may contact him to communicate any lab safety needs, questions, or concerns.

Are you SAD?

Jim Gindlesperger

Do you feel irritable or unhappy? If so, it may be more than just the post-holiday blues. You may be suffering from a type of winter depression known as Seasonal Affective Disorder (SAD). This disorder is believed to be caused by a biochemical imbalance brought on by a shortening of daylight hours during the winter months. It affects an estimated 500,000 people every winter, and can be serious enough to prevent the victim from functioning normally without medical treatment.

SAD symptoms usually recur regularly each winter and continue until March or April, when daylight hours grow longer. Symptoms can include sleep problems, lethargy, overeating, increased appetite for carbohydrates, depression, social problems, anxiety, a loss of libido, and mood swings. Most sufferers also show signs of depressed immune systems, making them more susceptible to colds and infections.

To combat SAD, spend as much time as possible in sunlight, either by going for a walk or sitting by a large window. The more bright light you are exposed to, the better. Also, try to carefully manage your sleep patterns, with set times for going to bed and getting up in the morning.

Light therapy has also proven helpful, where patients are exposed to very bright lights for several hours each day. This is something you likely can't do for yourself, because ordinary light bulbs are not strong enough. Specialized lighting is necessary.

Counseling may also be beneficial, particularly in helping the sufferer learn to cope with the limitations of the illness. If you need counseling, take advantage of the university's Employee Assistance Program by calling 1-888-267-8126. Students may obtain counseling through Student Health Services in Morewood Gardens E-Tower.

The bottom line is that you don't have to suffer with this illness. Help is available if you recognize that you have a problem with Seasonal Affective Disorder.