Waste Not!!! (Waste Minimization)

As a large quantity generator of hazardous waste, Tulane University must have a program in place to reduce the volume and toxicity of hazardous waste that we generate. “Waste minimization” is any action that reduces the quantity of chemical waste that must be shipped off-site for disposal as hazardous waste. Two basic waste minimization techniques are source reduction and recycling.

Source Reduction, the most desirable method of waste minimization, can be defined as any activity that reduces or eliminates generation of hazardous waste at the source. Here are some specific practices by which source reduction can be achieved:

- Implement a departmental or laboratory waste minimization policy and train employees on that policy.
- Evaluate laboratory procedures to determine if less hazardous or non-hazardous materials can be substituted.
- Avoid accumulation and disposal of unused/expired chemicals with a good materials management/inventory control program.
- Reduce the scale of experiments to the minimum size necessary to achieve research/experimental objectives.
- Avoid use of reagents containing arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.
- Replace mercury-containing equipment (thermometers, manometers) with non-mercury-containing equipment. (The OEHS will gladly recycle your mercury-containing equipment at no cost to you.)
- Do not mix non-hazardous waste with hazardous waste.

Recycling is another waste minimization option; it can be defined as using a waste material for another purpose, treating/reusing it in the same process, or reclaiming it for another process. Here are some specific practices by which recycling can be utilized to minimize hazardous waste:

- Re-circulate unused or excess chemicals within your department.
- Re-distill used solvents.
- When solvents are used for cleaning, use contaminated solvents for the initial rinse, and new solvents for the final rinse.

Each laboratory manager or Principal Investigator should make waste minimization an active and ongoing component of their overall laboratory management strategy. The success of Tulane’s Waste Minimization Program is dependent on the willingness and active participation of the University community. For questions regarding Tulane’s Waste Minimization Program, or the Hazardous Waste Management program as a whole, please contact Michael Kopaigorodsky at mkopaigo@tulane.edu or (504)988-2865.

Tulane University Environmental Health & Safety Audit

This fall, there will be a comprehensive voluntary self-audit of Tulane University campuses conducted by an experienced environmental health and safety consulting group. The scope of the audit will be to evaluate Tulane activities and facilities for compliance with federal, state, and local environmental health and safety regulations. The audit process will provide direction for Tulane’s EH&S compliance programs for the foreseeable future. The University’s decision to support this process is consistent with their mission statement, as well as the mission statement of OEHS, and is wholly supported by Tulane Administration.

The consulting group of Woodard & Curran has been chosen to perform the audit. Woodard and Curran has audited over 300 colleges and universities including Harvard, Columbia, Princeton, Wake Forest, Notre Dame, George Washington University, Brown, Tufts, and Yale. The audit team is scheduled to be on Tulane’s campuses October 3-7, 2011 for the environmental phase of the audit and November 7-11, 2011 for the safety phase of the audit.

OEHS will be communicating more in depth audit information to targeted departments and operations through the use of emails, telephone calls, letters, personal visits, and various meeting forums, i.e. Administrative Council, Open Town Hall meetings, DSR meetings, etc. OEHS asks that if you are selected for the auditing process, please provide truthful and comprehensive responses to the auditors. For additional information, contact the OEHS at 988-5486 or visit our website at: http://tulane.edu/oehs.
Bicycle Safety

Bicycles are fun, relatively inexpensive, and an extremely efficient means of transportation. They are enjoyed by both adults and children alike. Unfortunately, reports show that in a typical year 700 riders are killed and 540,000 visit hospital emergency rooms with injuries. Defensive riding with bicycles is extremely important since bicycles share the road with much heavier and faster automobiles. Bicycles riders often experience the consequences of accidents with auto drivers who are distracted, speeding, or simply not observant. Protective safety gear and taking precautions in traffic are some of the best ways to keep safe while riding.

The National Safety Council provides specific tips for staying safe while bicycling:

- Get a copy of the traffic rules and obey all the regulations that motorists are required to follow. Bicyclists are not exempt from the traffic rules.
- Be familiar with your bike’s operation – don’t test it in traffic.
- Ride with traffic, not against it. Ride in single file and stay far to the right, avoiding sewer grates, glass, opening car doors and debris.
- Stay a safe distance from vehicles in front. Never hitch onto a car.
- Be especially careful at intersections, and use hand signals to indicate turns well in advance of turning. Letting a car’s driver know your intentions may save your life.
- When making a left turn in heavy traffic at an intersection, it is usually safer to dismount and walk the bike across the intersection.
- Wear bright, easily seen clothing during the day and try to avoid night riding. If it is necessary to ride at night, use reflective clothing and make sure your bike has a rear red reflector, a white front reflector, a red or colorless spoke reflector on the rear wheel, an amber or colorless reflector on the front wheel, pedal reflectors, a bell or horn and a rear view mirror. A bright headlight is also recommended at night.
- Two thirds of bicycle fatalities are caused by head injuries. Wear a helmet that meets the Consumer Product Safety Commission standard. Suitable helmets have a stiff outer shell to distribute impact forces and deflect sharp objects, an energy absorbing liner at least one half inch thick, a chin strap and fastener, and they should be lightweight and cool for maximum comfort.

Tips on Basic Pest Control

Here are some simple suggestions for handling pest problems in the home and in the workplace. Most pest problems can be handled by minor changes in food storage practices. Plastic, sealable containers are a great way to store grain products such as rice, grits, cereals, etc. Refrigeration is another good food storage option.

Pests such as ants, roaches, gnats and weevils are commonly referred to as “intrusion pests.” Eating only in designated dining areas (i.e., not at your desk, in bed or on a sofa!) and washing soiled dishes/utensils quickly are good practices that will help control intrusion pests. Also, always wash/rinse out any recycled cans or plastic food containers before putting them in recycling containers.

The German cockroach is frequently carried indoors (in boxes, luggage, and purchased products) by unsuspecting humans. Other pests generally travel on their own to arrive at their destination. Frequent visual inspections and good sanitation practices are the keys to controlling pests.

The best way to avoid rodent problems is exclusion—that is, keeping them out of the building. Rodents prefer living outdoors, except in cold weather, because they are partial to warmth. Rodents mark passageways with their urine which attracts other rodents who follow the scent. By closing the opening or obstructing the passageway (exclusion), that pattern of travel is broken. In order to exclude rodents, any openings or penetrations (pipes and electrical wiring) in the exterior perimeter of the building must be identified and sealed. One method to close or seal an opening is to pack it with steel wool and caulk over it.

These are a few simple and inexpensive pest control tips but none of them are foolproof. You may need a pest control professional to help solve pest problems with mechanical and/or chemical treatments. But hopefully, your environment will be a little cleaner if you follow these tips.
Summer Heat and Illness

Summer can bring unusually high temperatures that may last for days or weeks. During this time, there is the potential for individuals to be affected by the heat of the sun. When the body is exposed to extreme temperatures, serious harm can occur. Even short periods of high temperatures can cause individuals to experience serious health problems. According to the Centers for Disease Control (CDC), people suffer heat-related illness when their bodies are unable to compensate and properly cool themselves. The body normally cools itself by sweating. But under some conditions, sweating just isn't enough. In such cases, a person's body temperature rises rapidly. Very high body temperatures may damage the brain or other vital organs. Heat-related health problems are preventable, and knowing the risk factors that affect the body’s ability to cool itself, the conditions related to risk, and the signs/symptoms of heat illness can protect you.

There are several factors that can affect the body's ability to cool itself. They include high temperature and humidity, direct sun exposure, and no breeze or wind. Conditions related to risk include age, obesity, fever, dehydration, heart disease, mental illness, poor circulation, sunburn, and prescription drug and alcohol use. Those at greatest risk of heat-related illness include infants and children up to four years of age, people 65 years of age or older, people who are overweight, people who overexert during work or exercise, and people who are ill or on certain medications.

The signs/symptoms of heat-related illness may vary. Someone with a mild reaction to heat may have a rash called "prickly heat" or painful muscle spasms, called heat cramps, during or after activity. A mild reaction may also include fatigue or dizziness. You may notice a change in physical or mental performance and an increase in accidents. A person with a moderate reaction or heat exhaustion will have some or all of the following symptoms: excessive sweating; cold, moist, pale or flushed skin; thirst; extreme weakness or fatigue; headache; nausea; lack of appetite; rapid weak pulse; or giddiness and, if not properly treated, the victim may collapse. In severe cases of heat illness, a heat stroke may result. The victim’s face is flushed red and their skin is hot and dry with no sweating. They develop a severe headache with deep, rapid breathing. They have a very high fever and may become delirious. They may become unconscious, have convulsions, or lapse into a coma. This condition is fatal unless emergency medical treatment is obtained.

Prevention of heat-related illnesses involves using common sense measures to keep cool. Remember the following practices:

- Avoid hot foods and heavy meals—they add heat to your body.
- Drink plenty of fluids and replace salts and minerals in your body. Do not take salt tablets unless under medical supervision. Don't drink liquids that contain alcohol, or large amounts of sugar—these actually cause you to lose more body fluid. Also avoid very cold drinks, because they can cause stomach cramps.
- Dress in cool, loose clothing and shade your head and face with hats or an umbrella. Wear sunglasses and apply sunscreen of SPF 15 or higher (the most effective products say "broad spectrum" or "UVA/UVB protection" on their labels) 30 minutes prior to going out. Continue to reapply it according to the package directions.
- Limit sun exposure during mid-day hours if you must be outside and in places of potential severe exposure such as beaches.
- Pace yourself when working outside if you are not accustomed to working or exercising in a hot environment. Start slowly and pick up the pace gradually. Monitor the condition of your co-workers and have someone do the same for you. Especially monitor individuals who are at a greater risk of suffering from a heat-related illness. If exertion in the heat makes your heart pound and leaves you gasping for breath, STOP all activity. Get into a cool area or at least into the shade and rest, especially if you become lightheaded, confused, weak, or faint.
- Stay indoors and, if at all possible, stay in an air-conditioned place. If your home does not have air conditioning, go to the shopping mall or public library - even a few hours spent in air conditioning can help your body stay cooler when you go back into the heat. Electric fans may provide comfort, but when the temperature is in the high 90s, fans will not prevent heat-related illness. Taking a cool shower or bath or moving to an air-conditioned place is a much better way to cool off. Use your stove and oven less to maintain a cooler temperature in your home. Call your local health department to see if there are any heat-relief shelters in your area.
- Allow several days to become adjusted and acclimated to the environment before attempting any vigorous exercise or work, and gradually work up to it if you travel to a place that is hotter. You will have a greater tolerance for heat if you limit your physical activity until you become accustomed to the heat.
- Do not leave infants, children, or pets in a parked car. Even with the windows cracked open, interior temperatures can rise almost 20 degrees Fahrenheit within the first 10 minutes.
- Provide plenty of fresh water for your pets, and leave the water in a shady area.

File Room - Helpful Tips to Reduce Potential Injuries

To reduce potential injuries to back and shoulders consider using a cart that has an upper section such as the one in this picture, so as not to bend excessively or carry heavy items from one area to another.

Another recommendation is to reduce the overstuffed file folders that exceed the folder’s capacity and potentially over task the employee’s hand, wrist, arm, shoulder, back, etc. Use more smaller-sized folders.

Typical weights of office items:
- Copy paper, single ream = 5.5 lbs.
- Copy paper, whole box = 42 lbs.
- Laptop computer, in case = ~ 15.5 lbs.
- 2 inch 3-ring binder full = 4 lbs.
- Overstuffed pocket style folder = 4 lbs.

Lack of Lab Ventilation Can Cause Fatalities

A pharmaceutical worker in Nova Scotia working with trimethylsilyldiazomethane (TMSD) died when chemical fume hoods were not operating due to roof work in his building. When inhaled, TMSD can cause fatal lung damage. At least one other chemist has died after spilling TMSD. These incidents show the extreme importance of properly operating laboratory ventilation.

The work conducted in a laboratory, and its scale, must be appropriate for the physical facilities available and for the quality of the ventilation. Most laboratories at Tulane are designed for an air exchange rate of 4-12 room air changes per hour. Every fume hood at Tulane is required to exhaust at a rate of 80-125 feet per minute and must have a continuous monitoring device (vaneometer, airflow alarm, etc.) to allow convenient confirmation of adequate hood performance before use. (Do not bypass these safety devices. If your hood alarm always seems to sound or light up, it may need calibration or something may be wrong. Contact Facilities Services to check out the situation.) If for some reason a hood is not equipped with an airflow monitoring device, the hood should not be used. OEHS provides annual certification of all chemical fume hoods and should be contacted if there is a problem with a particular hood.

In the event that a fume hood alarm sounds, lights up, or flashes, or if the vaneometer indicates that the exhaust rate of the fume hood is inadequate, cease work with dangerous or volatile chemicals immediately. Notify OEHS as well as Facilities Services and do not use the hood again until adequate performance has been confirmed.

Be familiar with the chemicals in your area. (Check the Material Safety Data Sheets or chemical literature for information about the chemicals.) In the event of a spill or leak of an extremely toxic substance such as TMSD, evacuate the area and contact Tulane Police for your campus. Tulane Police will notify the OEHS emergency response team.

Always make sure that there is a safe environment for the projects that will be performed in your lab. Ensure the fume hood is working properly prior to use, and be prepared for emergencies if something should go wrong.

New Hazardous Waste Specialist

OEHS would like to announce that Michael Kopaigorodsky is the new Hazardous Waste Specialist for Tulane University. Formerly working on the Uptown Campus as an Environmental Health & Safety Specialist, Michael K. has agreed to take on the challenge of running the hazardous waste disposal program on all Tulane campuses. In addition to hazardous waste, Michael will also be involved with emergency response and chemical spill incidents. Michael K. can be reached at (504)988-2865 or mkopaigo@tulane.edu. Please welcome Michael and contact him with your hazardous waste questions and needs.

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