A Word from the Director of WSU OEHS
Tom Perez

Communication is key for all aspects of the work we do. At the Office of Environmental Health and Safety (OEHS) we strive to communicate our message of safety in everything we do. Safety cannot be an afterthought, it must be with us at all times at work and at home. Safety becomes an attitude, or a culture, when we have it become part of our work and daily lives. With that being said, please contact OEHS if you have any occupational health or safety concerns. We’re here to keep you safe.

The university has published Emergency and Safety Procedure flipcharts for faculty, staff and students. A wide variety of topics are covered. The Office of Risk Management has a web based version on their department’s home page. Take time to read these procedures. It may come in handy one day.

Environmental health and safety compliance goes hand-in-hand with a safety culture. One of the things we do is to continually review new and existing rules and regulations that impact the daily operations of the university. Controlled Substances used in research activities is a topic that needed our attention recently. University researchers who possess such material are required, by law, to follow established DEA and state regulatory rules. OEHS has developed a Controlled Substance Program to help our research community navigate through the complex world of state and federal regulations and avoid non-compliant situations. More information can be found on our website.

http://oehs.wayne.edu/

What to do if you break a Mercury Thermometer
by Nawana Lawson

Report mercury spills to OEHS at 577-1200 for prompt clean-up.

Cleaning Up Small Mercury Spills
OEHS requires that persons who wish to clean up mercury spills must be properly trained in currently acceptable methods. This training will be provided and documented by OEHS. Persons who are not trained are not to clean up such spills, regardless of the amount of material spilled or previous practices followed. (cont. on page 3)
HEAT STRESS

by Rob Moon

As spring arrives and summer approaches, it's once again time to alert ourselves to the signs and symptoms of heat stress. Mild heat stress symptoms include excessive sweating, muscle cramps (heat cramps) during or after work, and tiny red bumps on the skin and a prickling sensation (prickly heat). Heat stress can also cause irritability, mild dizziness, or weakness.

If you experience these symptoms, you should rest in a cool area, drink water or other fluids, and place moist, warm compresses over cramping muscles or use a mild drying lotion for prickly heat.

If heat stress isn't treated when the first mild symptoms are evident, it can progress to much more serious conditions. The main symptom of heat stroke is cold moist, pale skin. It is usually accompanied by nausea, headache, dizziness and a weak, rapid pulse. The main symptom of heat exhaustion is hot, dry, flushed skin. Hot red skin is usually accompanied by an irregular pulse, dizziness, confusion, and sometimes by loss of consciousness or convulsions. In the event that you or someone in your work area experiences any of these symptoms, call for medical help immediately. While you are waiting for medical help to arrive take immediate steps to cool the person down. Move the person to a cool area and keep them lying down. Remove their outer clothing and if conscious give them water or other fluids while rubbing their arms, legs, and trunk to improve circulation.

In general, it takes about a week for your body to adjust to working in hot weather. This adjustment is called the acclimatization period. As the temperature starts to rise into the 80's it is important to drink lots of water. After about a week or so your body automatically adjusts to the heat, and stops losing minerals by perspiration. If you go on vacation or and are out of the heat for more than a week or two, your body will need another week of exposure to again adjust to hot weather. Once your body is acclimatized to work in hot weather, a slight increase in the amount of salt on your food should be able to replace any minerals lost through perspiration.

Heat Stress doesn't need to happen if you know how to keep you cool. When the temperature rises:

-Drink plenty of water or other nonalcoholic fluids
-Wear proper clothing (a cotton tee shirt is better than no shirt at all)
-Use fans and ventilation provided in your work area
-Here are some additional links that all at risk should review: OSHA's campaign to prevent heat illness in outdoor workers

OSHA Heat Stress Card

Protecting Against UV Radiation

The Unrecognized Dangers of New Laser Pointers

Source: Laser Institute of America.

For almost twenty years, laser pointers have been used in the classroom and boardroom for the purpose of improving presentations. These pointers are mass-produced and appear almost toy-like due to their low-cost and miniaturized design. These laser pointers are limited in power output, which is measured in milliwatts (mW). A typical pointer used for presentations has long been limited to 5 mW of output power, plenty of power to see the “spot” when indoors, yet relatively safe.

Today, we are faced with a new danger to that eyesight—one that is not yet recognized as an immediate threat or device manufacturers skirt established regulations limiting “laser pointer” output power by renaming the devices as “hand-held lasers” or “scientific devices.” Due to the increased power levels, these lasers are a real, immediate and often unrecognized danger. While seen as a novelty, or a “bigger is better” solution, a laser emitting 50 mW or more can immediately cause an injury upon exposure, permanently affecting eyesight. A 200 mW laser, even 100 yards away, may cause permanent damage in less than 1/10th of a second (less than the time to blink!). The media has reported on injuries that have occurred due to irresponsible or uneducated use of these devices. (Continued on page 3)
What to do if you break a Mercury Thermometer

(continued from page 1)

For purposes of expediency, a spill of mercury of less than a tablespoonful can be safely cleaned up by personnel in the laboratory if they have been trained by OEHS and follow the procedure which follows. If the amount spilled exceeds this amount, you must evacuate the area, call Public Safety at 577-7777 as well as contact OEHS at 577-1200 for the clean-up.

Procedure:
- Evacuate the spill area. Before people leave, be sure that their shoes, clothing, and other articles have not been splashed by mercury. Secure the area, cordon it off with barrier tape, and keep all persons out of the area except those cleaning up the spill.
- Lower the room temperature. The cooler the room temperature, the less mercury vapors will be released into the air.
- Turn off ventilation systems or air conditioning which may circulate the spilled mercury vapors to other areas of the building. Contact the Facilities Planning and Maintenance Service Center (577-4315) to assist you in accomplishing this.
- Close interior doors.
- Open windows.
- Determine the amount of Mercury spilled. If greater than a tablespoonful, contact OEHS immediately.
- Contain the spill. Don’t allow it to run into cracks or crevices, drains, etc.
- Assemble the clean-up supplies. These supplies may be a special mercury spill kit, or a special mercury vacuum. NOTE!: NEVER USE A HOUSEHOLD VACUUM CLEANER OR SHOP-VAC TO PICK UP MERCURY SPILLS!
- Dress appropriately. Remove hand jewelry (it can combine chemically with mercury), wear rubber gloves and boots, and safety glasses.
- Pick up all visible mercury droplets. A strong halogen flashlight is a very helpful tool to help in this very tedious task. An index card is also a helpful and disposable tool, which you can carefully use to gather up beads of mercury. Adhesive tape or duct tape may also be used to stick to beads and pick them up.
- Place all beads into an unbreakable plastic seamless bottle. Never put mercury into a tin can, as it will run right through its seams. Glass bottles can break, so they are less desirable.
- Place the bottle of mercury into a Zip-lock bag. Label the bag with the green hazardous waste label, obtainable from OEHS. The proper name on the description line is “ELEMENTAL MERCURY WASTE”. IT IS HAZARDOUS WASTE!
- Contaminated clothing and carpeting must be carefully removed and disposed.
- Use the mercury spill kit, as instructed, to bind up any mercury that may remain and which may be invisible to the naked eye.
- NEVER place mercury or mercury contaminated items in the regular trash.
- Monitor the spill zone for mercury vapors. OEHS has equipment and operators trained in the use of mercury vapor detection devices.
- VENTILATE as long as possible!

Remember to enter the tagged mercury residuals on the OEHS website, so that they may be disposed of in accordance with Hazardous Waste disposal requirements.

The Facts on Hand Sanitizers

by Scott Browne

Manufacturers claim that using hand sanitizer can reduce the bacteria on your hands by 99.9%. This may not be altogether true. In studies examined by the FDA, hand washing is shown to reduce diarrheal illnesses by 89%, whereas sanitizer reduces such illnesses by only 71%. Other studies demonstrate that sanitizer has little effect on bacteria that cause respiratory illnesses.

In terms of food service operations, the FDA recommends using sanitizer to supplement hand washing, but never as a substitute for a proper hand wash. When hand washing is supplemented with hand sanitizer, studies show a slower redevelopment of bacteria on the skin. For sanitizer to be effective, be sure to choose one with an alcohol content of at least 60%. After properly washing your hands, rub a dime-size amount on your hands.

In short, hand sanitizer is a great addition to good hygienic practices, but a proper hand wash is irreplaceable!

Laser Safety

(Continued from page 2)

Children and adults alike have suffered permanent partial blindness because they do not recognize that there is an immediate danger.

There is an active debate about what should be done. Is the solution education, regulation or prohibition for this type of hand-held laser device?

with these output power levels have been around for decades. Due to their cost, size and complexity they have long been limited to research, industrial, entertainment and medical applications. In these settings, administrative controls limit access to the laser and safety training can be provided to users. However, in the public sector these methods are not being used.

The FDA currently requires any laser sold in the US to be marked with their hazard class, output power and wavelengths emitted. The public, and parents in particular, are cautioned against using any laser pointers with power greater than 5 mW. Precautions on the safe use of pointers can be found in a free bulletin on the Laser Institute of America’s website, http://www.lia.org/subscriptions/safety_bulletin/laser_pointer/. Further warnings can be found at the FDA site www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm237129.htm. The FDA does not prevent the sale of laser pointers within the USA; it only requires that the dangers are properly presented through labeling with hazard classification… terminology not commonly understood by the public.

In summary, common understanding of the danger presented by high-power hand-held lasers is not pervasive. Until the time that these lasers are statutorily banned, regulated through licensing or are widely recognized as a hazard, many more injuries will occur. The public should take note of these dangers immediately and keep these high-power, hand-held devices away from children and the untrained user.
Proper Fume Hood Usage

By Adam Niner

Chemical fume hoods are extremely useful ventilation devices that provide safety to a researcher working with various chemical materials. They are designed to direct the airflow in a certain path that reduces the researcher’s exposure to hazardous vapors. Even though these exhaust systems are designed for many experiment situations, bad habits and careless practices will compromise the safety that this fume hood provides. In the lab safety course taught by Wayne State’s Office of Environmental Health and Safety a basic guideline for proper fume hood use is discussed. The following will provide a solid base for the proper practices.

As with any experiment be sure to double check the properties and measurements of the chemicals before you begin, just in case an unforeseen event occurs. If you are uncertain that the hood will be able to handle the chemicals you are working with please contact our office.

Ensure you are well protected by wearing gloves, a lab coat, and a pair of appropriate goggles.

Raise the fume hood’s sash to the height marked on each hood. If the fume hood has horizontal panels, only have one side open at a given time. If you feel that the hood is not running at the proper speed, please contact our office as soon as possible. A simple test to check the flow is to place a Kim-wipe at the bottom of the sash and see if it is pulled inward. If the wipe is not moving or if it’s being drawn in at a high rate the fume hood may not be running at a safe pace.

When working with chemicals that have a high probability of combusting or splashing, wear proper PPE and ensure the glass shield is at ten inches to protect your body.

Avoid constant or rapid movements to prevent air from being pulled out from the hood and into the room.

Once all experiments are done clean up any spills or residue to ensure safety and to prevent experiment contamination.

When the hood is not in use please lower the sash to the closed position. The majority of the exhaust models on Wayne State’s campus draw less power when they are shut. Follow the above advice and you will work in a very safe and efficient research environment. If you have any questions regarding fume hoods, please feel free to contact our office.

Notes: Room air passes through the sash and is exhausted through a baffle into a plenum and outside; the glass panels slide only horizontally, but are enclosed in a frame that has vertical motion; note the energy monitor, which indicates the energy required to achieve the face velocity.

### Upcoming Classes

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<tr>
<th>Class Title</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Lab Safety</td>
<td>Monday, July 9</td>
<td>10:00 - 11:30am</td>
<td>Room 3125 Scott Hall</td>
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<tr>
<td>Basic Radiation Safety Training</td>
<td>Tuesday July 10</td>
<td>1:00 - 3:30</td>
<td>5424 Woodward, Suite 300</td>
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<tr>
<td>Biosafety</td>
<td>Wednesday, July 11</td>
<td>10:00 - 11:30am</td>
<td>Room 3125 Scott Hall</td>
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<tr>
<td>Shipping Dry Ice &amp; Biological Substances</td>
<td>Tuesday, July 17</td>
<td>1:30 - 3:30</td>
<td>Room 3125 Scott Hall</td>
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To register for upcoming classes, or to see more classes, visit [http://www.oehs.wayne.edu/training/laboratory-training.php](http://www.oehs.wayne.edu/training/laboratory-training.php)

**Contact Us:**

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