



SAF•T•GRAM

“A gram of safety is worth a pound of cure!”



<http://www.earthday.org/>

Earth Day is an important day to stop and think about how you affect the environment and what you can do to help protect it. Earth Day was initiated by Senator Gaylord Nelson of Wisconsin, who said he was determined to **"forcibly thrust the issue of environmental quality and resources conservation into the political dialogue of the nation."** He manifested the nation's environmental cause through what started as a 'teach-in' to protest the government's environmental ignorance. His accomplishment in the environmental arena eventually led to fundamental legislation, including the Environmental Policy Act (1969), the Clean Air Act (1970), the Clean Water Act (1977) and fuel efficiency standards for automobiles.

The first Earth Day was April 22nd, 1970. It was a time when cities were buried under their own smog and polluted rivers caught fire. For over 30 years, on April 22nd, millions of people have united to heed this urgent call to action and celebrate the environment.

To find out more about what you can do to help the environment visit

Earth Day Reality Checks & How You Can Do Your Part

495 million

Number of dollars U.S. consumers spend on gasoline every day

Carpool, use public transportation or drive a fuel efficient car. Keep your tires properly inflated and you will get better gas mileage.

8 billion

Number of dollars U.S. consumers lose daily because of idle electronic functions such as lit display clocks, memory chips, and remote control functions

Buy energy efficient appliances and turn off or unplug electronics you are not using.

550,000

Number of trees saved if you recycled all the newspaper in the U.S. on one average Sunday

Make sure all of your printer paper is 100% post consumer recycled. Buy products with less packaging and recycle paper, plastic and glass.

4281

Number of acres of rainforest lost every hour worldwide

Plant a tree because trees absorb carbon dioxide and make clean air for us to breathe. Please visit Oklahoma's Tree Bank at: <http://okplanttrees.okstate.edu/resources/organizations/tb/centennial.html> or you may call them at 405/330-4701.

3

Percentage saved on the average heating bill for every degree a household lowers its thermostat in the winter

Weatherize and insulate your home, and consider double-pane windows. Clean or replace dirty air conditioner filters as recommended. Keep your water heater insulated and the thermostat no higher than 120 F°. Run your dishwasher only when it's full. Take shorter showers. Showers also account for 2/3 of all water heating costs.

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**1
You**

Dispose of wastes properly. Here's the good news - you are the solution to water pollution! Generally, anything that enters a storm drain flows directly - without treatment - into local creeks, streams, and rivers, and eventually to the ocean, threatening water quality for humans and wildlife. Please visit our link to the [Stormwater Newsletter](#) for more information.

Also, several cities in the metro area have household hazardous waste collection centers which provide an environmentally safe means for their citizens to dispose of household hazardous waste (HHW), mostly at no cost.

Disposal Sites for HHW

Tulsa Metro Area : <http://www.metrecycle.com/> The Metropolitan Environmental Trust coordinates and promotes recycling and environmental events in the metropolitan Tulsa area. The M.e.t. operates [11 recycling centers](#) and conducts environmental events through out the year to encourage, educate, and facilitate recycling.

Norman Area: (405)329-1023 **MAY 5TH IS NORMAN'S HHW DAY!**
<http://www.ci.norman.ok.us/utilities/sanitation/disposalsiteshhw.htm>

Oklahoma City Area: Household Hazardous Waste Collection Center at SW 15 & Portland. Open Tuesday through Friday 9:30 a.m.-6 p.m., and on Saturday 8:30-11:30 a.m. For more information call 682-7038.

Midwest City Area In a combined effort with the Central Oklahoma Metropolitan Environ-

mental Association (COMEA), Oklahoma's first permanent Household Hazardous Waste Facility was opened in Midwest City October of 2002. The permanent facility is open by APPOINTMENT ONLY. There is no fee for Midwest City residents or members of COMEA. Got some painting to do? Items that are received in good condition that can be reused will be issued upon request **FOR FREE!!!** If you have questions about what may be available for reuse or If you have any questions or would like to make an appointment, please contact the Stormwater Quality Department @ 739-1352.

Edmond Area Edmond Residents are allowed to use the Oklahoma City Facility at SW 15th and Portland. Proof of residency with a valid driver's license and current utility statement is required. Charges will be applied to the resident's monthly utility bill following receipt of invoices from Oklahoma City. For more information please call 359-4541.

"IF 25% OF AMERICAN HOMES USED 10 FEWER BAGS EACH MONTH, WE'D SAVE 2.5 BILLION BAGS EACH YEAR!"

2006 OU PAPER RECYCLING TOTALS

CAMPUS	TONS RECYCLED	NUMBER OF TREES SAVED
OU-Health Sciences Center	88.39	1,486
OU-Norman	225.6	3,889
OU-Tulsa	8.74	148

MAKE EVERY DAY EARTH DAY!



**Remember to:
REDUCE, REUSE AND RECYCLE**

Surplus Chemicals

In an effort to reduce waste at the University (saving \$\$\$ and other resources), the EHSO has established a surplus chemical program. These chemicals are in good shape, mostly unopened, and available free of charge to University departments. For a complete list, visit the HSC EHSO website at <http://w3.ouhsc.edu/ehso/SurplusOKC.htm> OR EHSO-NORMAN at <http://w3.ouhsc.edu/ehso/SurplusNorman.htm>.

Change to Pharmaceutical Drug Waste Disposal Procedures

The vendor providing biomedical and pharmaceutical drug waste disposal for OU has modified the disposal procedure for pharmaceutical drugs. Unfortunately, the 2006 Laboratory Safety Manual updates had already been published when we learned of this change (see <http://w3.ouhsc.edu/ehso/labman/2006update.pdf> to print your updates). Look to see the following updates in procedures in the 2007 updates.

Pharmaceutical drugs which are not a controlled substance or listed as a hazardous drug or hazardous waste should be sent back to the supplier/vendor whenever possible. When this is not possible, the drugs may be disposed through Stericycle, our biomedical waste disposal vendor. According to Stericycle, place the drugs in a sturdy box (not a biomedical waste disposal box), provide a list of the drug names with the box, mark the box "Pharmaceutical Drug Waste", and call 405/813-3100 for pickup. Be sure to indicate that it is a pharmaceutical drug pickup you are requesting. To set up a new account, contact Mr. Bill Rooth at **405/313-8237**.

Unused or expired drugs should never be poured down the drain or "flushed". Wastewater treatment will not remove most drugs, so ultimately, those drugs may end up in our lakes and streams and may be potentially consumed by aquatic organisms.

**MAY 5TH IS
NORMAN'S
HOUSEHOLD
HAZARDOUS
WASTE DAY!
CALL 405/329-
1023 FOR
DETAILS!**

UW Professor Pleads Guilty in Waste Case

http://seattletimes.nwsourc.com/html/localnews/2003607035_uwprof08m0.html
http://seattlepi.nwsourc.com/local/306457_dump08.html

A respected University of Washington (UW) pharmacology professor reportedly became a felon when he acknowledged dumping a flammable substance down a laboratory sink and then trying to conceal his actions. When the professor found out that getting rid of potentially dangerous chemicals in his lab would cost \$15,000, he decided to find a cheaper way, and reportedly dumped ethyl ether down the sink.

The professor pleaded guilty in federal court to violating the Resource Conservation and Recovery Act by flushing ethyl ether. In June 2006, UW health and safety inspectors found three metal and two glass containers of ether in the lab which, because of the age of the substance, required disposal.

According to reports, the professor didn't want to spend the estimated \$15,000 cost, which would have come out of a lab operations fund, so he "took an ax" to some of the containers and flushed the contents

down the sink. He then reportedly tried to cover himself by preparing a false voucher from a fictitious company indicating he'd properly disposed of the substance. UW inspectors discovered the voucher was fake and alerted authorities.

Ethyl ether is highly flammable. Ether is subject to peroxide formation in opened containers if not protected from exposure to air. Using the ax was particularly dangerous because peroxides are potentially explosive.

The professor He could face up to five years in prison and a fine of \$250,000 for knowingly disposing of a hazardous waste without a permit.

At the University of Oklahoma, the EHSO budgets for routine disposal of hazardous wastes generated on campus. If your lab or department uses ethyl ether, be sure to:

- Purchase ethers in small quantities and only order them when needed.

- Date containers of ether when opened.
- Frequently test opened containers of ethyl ether with peroxide test strips (which can be ordered through a laboratory supply catalog) and write the concentration of peroxide on the label of the container or a sticker applied to the container. When the peroxide concentration reaches 25 ppm, contact the EHSO for disposal.
- Closed containers of ethers should be discarded after one year from purchase or by the date identified on the container label. Contact the EHSO for disposal.

Departments that improperly manage chemicals such that expensive disposal endeavors are required may become responsible for the disposal costs. Be sure to prudently manage these materials to prevent this from occurring.

USE A CEILING FAN TO COOL OFF YOUR HOUSE. IT CONSUMES AS LITTLE ENERGY AS A 60-WATT BULB, WHICH IS ABOUT 98 PERCENT LESS ENERGY THAN MOST CENTRAL AIR CONDITIONERS.

Injuries and Near Misses

Have you ever experienced an unsafe condition, a near miss, or an accident on campus that could have, but did not cause injury? With safety programs in place, despite fine attention to detail, conscientious training, preventive measures and protective equipment, accidents or near misses will occasionally happen. It is very important that on each and every occasion, the circumstances and consequences are reported so that the EHSO and management may properly study these, learn from the events and, if appropriate, take steps to prevent a recurrence. "Near miss" occurrences need to be reported in order that the possibility of a recurrence, possibly with more serious consequences, might be prevented.

If an accident occurs that causes injury, complete the forms found at:

- Oklahoma City campus - <http://admin-scb.ouhsc.edu/person/Forms.html#W11>
- Tulsa campus - <http://tulsa.ou.edu/hr/Workers%27%20Comp%20Packet%20Revision%207-1-2006.doc>
- Norman campus - <http://www.ou.edu/risk/forms.htm>

If an incident or near miss occurs with no injury, for Oklahoma City and Tulsa employees, complete the form found at <http://w3.ouhsc.edu/ehso/forms/IncidentOnlyNearMiss.doc>. For Norman employees, complete the same form identified above for those with injuries.

If you have any questions, contact the EHSO on your campus.



LAB SAFETY CORNER

Don't throw away your lawn waste, leave your grass clippings on the lawn or use them for composting. You'll save time, money and landfill space.

Working with Human Cell Lines: What the ATCC Published Biosafety Level Really Means

Be careful when relying on ATCC product description biosafety levels for working with human cell lines/strains. While ATCC may state that the material is BSL1, both CDC (<http://www.cdc.gov/od/ohs/biosfty/bmbl4/b4ah.htm>) and OSHA (http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=21519) state that in the absence of test data, human cell lines should be considered BSL2. (Per OSHA - "Cell lines that are procured from commercial vendors or other sources with documented testing to be free of human bloodborne pathogens and which have been protected by the employer from environmental contamination may be excluded from the BPS (Bloodborne Pathogen Standard).")

According to ATCC's website, ATCC classifies "cultures and related products by biosafety level (BSL) for purposes of packaging for safe shipment" (see <http://www.atcc.org/common/technicalInfo/BiosafetyLevels.cfm>). Shipment is regulated by the United States Department of Transportation (DOT) which has different rules and definitions than OSHA or CDC. So the BSL1 on the ATCC product description is an identification of the potential hazard for shipping purposes only.

ATCC also states on <http://www.atcc.org/common/technicalInfo/faqCellBiology.cfm#Q57>, "It is not feasible to test every cell line for the presence of every possible adventitious agent. **It is strongly recommended that all human and other primate cell lines be handled at the same biosafety level as a cell line known to carry HIV or hepatitis virus.** At the very minimum all cell manipulations should be carried out using mechanical pipetting devices in a vertical laminar flow biosafety cabinet and all contaminated material should be decontaminated before washing or disposal."

Therefore, human cell lines/strains should always be handled at BSL2 and all personnel handling the material should be trained in the Bloodborne Pathogen safety training course (see https://www.ouhsc.edu/ehso/training/new_logon.asp or https://www.ouhsc.edu/ehso/training-norman/new_logon.asp) unless it can be documented that the cells have been tested for all human bloodborne pathogens.

Mercury Spills

Source: <http://www.epa.gov/epaoswer/hazwaste/mercury/faq/spills.htm>

When elemental mercury is spilled, it forms droplets that can accumulate in the tiniest of spaces and then emit vapors into the air. Mercury vapor in the air is odorless, colorless, and very toxic. Health effects caused by mercury depend on how much has entered your body, how it entered your body, how long you have been exposed to it, and how your body responds to the mercury. All mercury spills, regardless of quantity, should be addressed immediately.

What NEVER to do with a mercury spill

- **Never** use a vacuum cleaner to clean up mercury. The vacuum will put mercury into the air and increase exposure. The vacuum appliance will be contaminated and have to be disposed as hazardous waste.
- **Never** use a broom to clean up mercury. It will break the mercury into smaller droplets and spread them.
- **Never** pour mercury down a drain. It may lodge in the plumbing and cause future problems during plumbing repairs, and City wastewater discharge regulations prohibit drain disposal.
- **Never** wash mercury-contaminated items in a washing machine. Mercury may contaminate the machine and/or pollute sewage.
- **Never** walk in an area which might contain mercury contamination. Shoes will absorb and become contaminated with around mercury.



Spills: Less than or equal to the amount in a thermometer

Mercury can be cleaned up easily from the following surfaces: wood, linoleum, tile and any other like surfaces. If a spill occurs on carpet, curtains, upholstery or other like surfaces, contact the EHSO.

Cleanup Instructions

- Remove everyone from the area where cleanup will take place. Shut door of impacted area.
- Make sure there is adequate ventilation in the room. Turn on exhaust fans, if present. If adequate ventilation is not present, do not proceed and contact the EHSO.
- Put on rubber or latex gloves.
- If there are any broken pieces of glass or sharp objects, use a forceps or tongs to pick them up with care. Place all broken objects on a paper towel. Fold the paper towel and secure it in a zip lock bag.
- Locate visible mercury beads. Use a squeegee or cardboard to gather mercury beads. Use slow sweeping motions to keep mercury from becoming uncontrollable. Take a flashlight, hold it at a low angle close to the floor in a darkened room and look for additional glistening beads of mercury that may be sticking to the surface or in small cracked areas of the surface. Note: Mercury can move surprising distances on hard-flat surfaces, so be sure to inspect the entire room when "searching."
- Use an eyedropper to collect or draw up the mercury beads. Slowly and carefully squeeze mercury onto a damp paper towel. Place the paper towel in a zip lock bag and secure.
- After you remove larger beads, put shaving cream on top of small paint brush and gently "dot" the affected area to pick up smaller hard-to-see beads. Alternatively, use duct tape to collect smaller hard-to-see beads. Place the paint brush or duct tape in a zip lock bag and secure.

OPTIONAL STEP: It is OPTIONAL to use commercially available powdered sulfur to absorb the beads that are too small to see. The sulfur does two things: (1) it makes the mercury easier

✓ CHECK LIST

Items needed to clean up a small mercury spill

1. 4 to 5 ziplock-type bags
2. trash bags (2 to 6 mm thick)
3. rubber or latex gloves
4. paper towels
5. cardboard or squeegee
6. eyedropper
7. duct tape, or shaving cream & small paint brush
8. flashlight
9. powdered sulfur (optional)



to see since there may be a color change from yellow to brown and (2) it binds the mercury so that it can be easily removed and suppresses the vapor of any missing mercury. Where to get commercialized sulfur? It may be supplied as mercury vapor absorbent in mercury spill kits, which can be purchased from laboratory, chemical supply and hazardous materials response supply manufacturers.

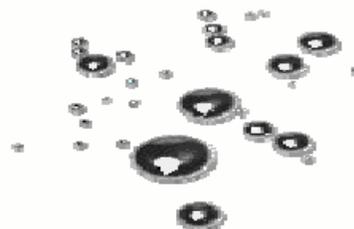
Place all materials used with the cleanup, including gloves, in a trash bag. Place all mercury contaminated material into the trash bag and label it as "Mercury Waste". Contact the appropriate EHSO to arrange for pick-up and disposal.

Spills: More than the amount in a thermometer

Cleanup Instructions:

1. Isolate the area.
2. Turn down temperature.
3. Open windows.
4. Don't let anyone walk through the mercury.
5. Don't vacuum.

Contact the EHSO.



Compressed Gas Cylinder Safety

Compressed gases present a unique hazard in that they can pose both physical and health hazards. The gases may be flammable, combustible, explosive, corrosive, poisonous, inert, or a combination of different hazards. The large amount of potential energy resulting from compression of gas makes a compressed gas cylinder a potential rocket or fragmentation bomb. Thus, careful procedures are necessary for handling the various types of compressed gases, the cylinders that contain them, the regulators or valves used to control their flow and the piping used to confine them during flow. The television show MythBusters showed a compressed gas cylinder going through a concrete block wall. See the link for a very short clip that demonstrates the hazard. <http://www.youtube.com/watch?v=rLTK4wsVPjQ>

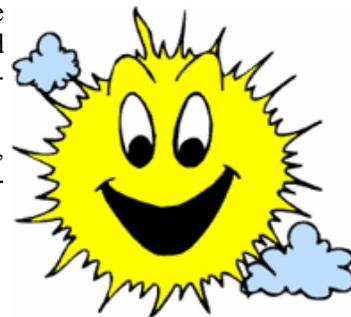
Please refer to the Laboratory Safety Manual for information on the safe use and handling of compressed gas cylinders: Oklahoma City/Tulsa: <http://w3.ouhsc.edu/ehso/labman/labsafetymanualtoc.htm>
Norman: <http://w3.ouhsc.edu/ehso/Normanlabman/NormanLaboratorySafetyManual.htm>



No Sandals In the Lab

Summer's here and with it hot weather, shorts, tank tops, and sandals. Please remember that sandals and other open-toed shoes should not be worn in areas where hazardous or biological materials are used or stored. Sandals should also not be worn when working with sharp equipment, such as scalpels, forceps and needles. Every year there are injuries in laboratories to toes, feet and legs from spilled chemicals, broken glass, and dropped materials on unprotected skin. Keep your toes protected in the labs. If you must wear open-toed shoes to campus, keep solid shoes in the lab and change for working hours.

And if keeping safe isn't enough incentive, the appendix to the OSHA lab standard states, "Wear shoes at all times in the laboratory but do not wear sandals, perforated shoes, or sneakers."



The Saf•T•Gram is published by the University of Oklahoma Environmental Health and Safety Office

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