

Safety Notes

Lab Safety Issue

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Mercury Phase Out at NMSU

The NMSU Mercury Phase Out program is an effort to comply with sewage discharge requirements and to reduce the health risk by minimizing the amount of mercury and mercury products in use (see Mercury Phase Out under the News or the Policies sections on the EH&S web site).

What is Mercury?

Mercury, also called quicksilver, is a naturally occurring liquid metal element that is found in minute amounts in oceans, rocks, and soil. However, overexposures can lead to serious health problems. Mercury can be introduced into the body by inhalation of mercuric vapors, absorption or ingestion.



A silver pool of Mercury

Mercury Health Hazards

The dangers of mercury are well documented. It is a toxin that accumulates and the body can not dispell. Overexposures affect your ability to feel, see, taste, and move, and can result in serious neurological symptoms. The Mad Hatter of 'Alice in Wonderland' was a reference to 18th century workers driven crazy by exposure to mercury in the preparation of beaver fur top hats. Short term exposure to certain forms can cause painful death.

Liquid metallic mercury is poorly absorbed through the skin, however it gives off a colorless and odorless vapor at room temperature. Humans retain about 80% of inhaled mercury vapor. In a spill, the liquid evaporates into the air exposing those nearby. The lungs readily absorb the mercury into the blood. (cont'd page 3)

Check Your Exhaust Hood

EH&S recently completed a lab safety equipment inspection for NMSU. The 425 inspections included annual certification of 218 exhaust hoods campus wide. We test exhaust hoods based on the average air flow velocity in feet per minute. The ideal is 100 ft/min and the minimum is 80 ft/min. This minimum insures proper air flow and keeps potentially harmful chemical vapors contained inside the unit.

A Simple Flow Indicator

If you do not have a velocity gauge, you can add a simple indicator to make sure you have adequate flow. Simply tape a strip of tissue paper to the bottom edge of your sash. The air flow should be enough to have some inward pull on the tissue paper. Leave this strip there year round to use as an indicator that the hood is working and air is flowing into the hood. The OFS Work Desk (646-7114) should be called if there are any problems relating to the function of the hood, such as low or no air flow. (cont'd page 4)

TRAINING CLASSES

Employee & HazCom Class
Nov 3 & 17 at 1:30-4 pm
Dec 3 & 17 at 1:30-4 pm

Lab Standard Classes
Nov 20 at 9-11 am
Dec 3 at 9-11 am

Rad Safety I Class
Nov 12 at 1:30-4 pm
Dec. 17 at 1:30-4 pm

Rad Safety II Class
Nov 19 at 8:30-11:30 am

HazWst Mgmt Classes
Nov 19 at 1:30-4:30 pm
Dec 23 at 1:30-4:30 pm

Register via the EH&S web

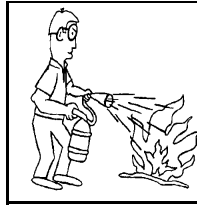
How to Use A Fire Extinguisher

Only use an extinguisher if you have been trained and after you know help is on the way.

REMEMBER use the acronym "**PASS**" to properly operate a fire extinguisher.

Pull the safety pin on extinguisher
Aim extinguisher hose at the base of the fire
Squeeze the handle to discharge the extinguisher
Sweep hose across base of the fire from side to side

More information on extinguisher types and use is given on EH&S web site under Fire Safety Programs.



Fire extinguisher training is available. Please contact the NMSU Fire Department at 646-2519 to make arrangements.



Safe Lifting Tips

- Stand close to the object
- Spread feet wide to straddle
- Squat, bending knees & hips
- Keep head up & back aligned
- Lift with your legs
- Keep load close to the body
- Do not twist when lifting, pivot with your feet



Refrigerators/Freezers Disposal Requirements

University and Branch Campus departments should be aware of the requirements for disposal of refrigerators and freezer units. These requirements address safe reuse and regulatory obligations. These requirements apply to any NMSU refrigeration/freezer units including the small apartment-style refrigerators.



Unwanted refrigerator awaiting cleaning

Cleanliness

Generally if the unwanted unit is operational, in good condition, and reasonably clean, it may be sent as surplus to NMSU Property for either redistribution on campus or sold at auction. However, if it has been used to store chemical, radioactive, biological, or potentially infectious materials, the owning department is responsible for ensuring that it is thoroughly cleaned and decontaminated before the unit is referred to surplus. After cleaning EH&S is to be notified and will check/certify the unit as cleaned/decontaminated. OFS will move the unit to Property.

Refrigerant

Federal regulations require that the unit refrigerant be managed in a fashion that prevents release to the atmosphere. So in the event the refrigeration unit is not working the owning department is also responsible for the proper removal and disposal of the refrigerant. Following the above cleaning/certification (if needed), OFS will move the unit to the HVAC shop where the refrigerant will be removed and properly discarded. The unit can then be sent for disposal as scrap metal. Additional details and the form are given in the Policy/Procedure section on the EH&S web site (<http://www.NMSU.edu/~safety>).

If you have a concern or question about a University-related environmental health or safety matter, call or email. Under the NMSU EH&S Policy, your supervisor is the first contact for your work area, but you are welcome to call on unresolved problems. You can remain anonymous.

Mercury Phase Out (cont'd from page 1)

Mercury in Wastewater Discharge

In addition to the health hazards, the accidental releases into the campus sanitary sewer system can result in substantial expense. Under the agreement with the city, mercury levels in NMSU wastewater can not exceed 0.0002 mg/l, which is one part in five billion. All NMSU personnel need to exercise great care in disposal of hazardous or unknown materials. Mercury or mercury compounds must never be disposed via the drain, even in a minute quantity.

If discharge limits are exceeded, penalties of \$10,000 per day could be assessed. One lab thermometer contains enough mercury (about 2.7 grams) to cause NMSU to exceed acceptable concentration levels in our sewer discharge continuously for a month. Any mercury spill or suspected release should be reported immediately to EH&S.



A broken thermometer removed from a NMSU sink trap

NOTE

If you work in a lab or deal with chemicals at NMSU, you must attend EH&S training.

Also all new full time employees are required to attend the Employee & HazCom Class.

Class times and registration are available via the safety web site

Phase-out Program

The easiest way to prevent exposure and limit risk of improper disposal is to reduce the number of mercury filled thermometers. Non-mercury thermometers can be used in most applications where mercury thermometers have been traditionally used. If your application requires a mercury thermometer for higher accuracy and precision, then we recommend that the thermometer be Teflon coated to prevent spills when broken.

All mercury thermometers in general labs should be removed for disposal and any remaining mercury, or mercury-containing compounds, be identified and reported to EH&S (via the web inventory system at <http://www.NMSU.edu/~safety/inventory-link.htm>).

Mercury Spills

In the event of a mercury spill, do not attempt to clean it up yourself. Post a sign indicating a mercury spill, move everyone from the immediate area, and call EH&S at 646-3327. After-hours contact NMSU Police at 646-3311. They will in turn contact EH&S.

Hand Washing - best way to remove toxins & germs

Hand washing is one of the most important (and easiest) practices to prevent contamination & absorption of harmful materials.

EH&S recommends that you wash your hands and other exposed skin thoroughly as soon as possible:

- Following use of any hazardous chemical, radioactive, biological or infective material, and
- Following the removal of protective gloves.

Use antibacterial, (not harsh or abrasive) soap.

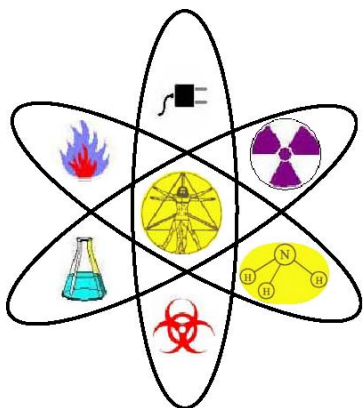
Additional information on the why, when and how of hand washing to prevent contamination by germs is given on the Center for Disease Control web site at

<http://www.cdc.gov/ncidod/op/handwashing.htm>



Environmental Health & Safety

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Holiday Safety

Decorations Holiday decorations should be selected for both their beauty and resilience. Select decorations made to last for the entire holiday period. Artificial Christmas trees are safer, but if a real tree is used, keep it away from heat and provide plenty of water. Place decorations to minimize hazards, don't place where they would block walkways and obscure your vision.

Food Preparation: Follow proper techniques when preparing your holiday feasts. Keep food preparation areas clean and foods properly refrigerated. Clean up promptly and don't leave things out of the refrigerator too long.

Electrical Safety: Only use electrical items that are approved by the Underwriters Laboratories (UL). Always check to ensure that cords are intact, lights are not broken and never overload the outlets. When no one is enjoying the decorations turn them off. Remember to always think safe and enjoy your holidays!

Also see Office Holiday Tips under Fire Safety Programs on the EH&S Safety web site.

Surge Protectors & Extension Cord Use

Every year, thousands of fires result from surge protectors, power strips, extension cords, and electrical cording. Listed below are some related tips for safety (also see Surge Protectors in the News or Program sections on the EH&S web site).

- Extension cords and portable power strips are for temporary use only and are not to be used as permanent wiring or outlets. If additional outlets are needed they are to be installed. Call the OFS Work Desk (646-7114) to get an installation estimate.
- Retail surge protectors are designed for only light loads such as computers, printers, and low amperage equipment. They are not to be used for fans, heaters, coffeemakers, and equipment with similar loads.
- Use only surge protectors that have an internal circuit breaker. With these the breaker will trip to prevent fire, if over-loaded or shorted.
- All units should be UL (Underwriters Laboratory) or Electrical Testing Laboratories approved.
- If the unit or its wiring becomes hot to the touch, immediately remove the unit. The electrical load and the unit need to be checked for overloading.
- Surge protectors are not suitable for or to be used in moist areas.
- Each surge protector is to be plugged into a outlet and not "daisy-chained or piggy-backed." This is where a unit is plugged into another surge protector or portable power strip. This practice causes overloading.
- Do not locate a surge protector or power strip where the unit would be covered with carpet, furniture or any other item that will limit or prevent air circulation.
- Check all surge protectors on a regular basis to ensure that they are not damaged and fully engaged in the outlets.
- Never use a three to two prong adapter to power a surge protector or power strip. It should always have a three-prong grounded plug.

Exhaust Hood Check

(cont'd from page 1)

Excess flow

On the other hand, it is not desirable to have air flow in over 120 ft/min as excessive velocities can cause turbulence that release chemical vapors back into the room.

Sash height

All exhaust hoods that passed the minimum requirements were posted with a certification and a yellow tape indicating the maximum normal operating height for your exhaust hood sash. It is important to keep the sash at or below this level. Opening the sash will often decrease the air flow velocity which could allow vapors to escape into the room.

If your exhaust hood did not meet the minimum velocity requirement, it was not certified and a work order was turned in for repair.

If you have an exhaust hood, please take a moment to make sure it has been tested within the last year. The equipment inspection is tied into the NMSU Haz-Com web database (at <http://www.NMSU.edu/~safety/inventory-link.htm>).

If your safety equipment has been checked it is displayed within the database summary for your room. However, new labs are being opened while others are being closed or remodeled. So, if you notice that your hood was missed, please contact EH&S at 646-3327 or via email.



Typical Exhaust Hood