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Mercury Awareness

As part of an active mercury waste and spill reduction program operating for the past decade in conjunction with the campus stockrooms, Yale Environmental Health and Safety (EHS) has successfully removed hundreds of mercury-containing thermometers and replaced them with non-toxic alcohol and spirit-filled thermometers. In addition, we have worked with major clinical departments here on campus to help replace traditional mercury-filled blood pressure manometers with newer (non-mercury) digital units. All removed units have been either transported for recycling or appropriate and safe disposal, and their removal has resulted in a marked decrease in mercury spills.

Although thermometers and blood pressure manometers are among the most obvious pieces of mercury-containing equipment, this toxic heavy metal is also found in many other items used by laboratories and support departments. Some of these items include old wall thermostats, weights in pendulum-style clocks, certain types of vacuum pumps (mercury "diffusion pumps"), mercury bubblers used in synthetic chemistry, some old gauges and valves, and a variety of other pressure or temperature regulating applications.

Please take a few minutes to look over your work area, and identify any equipment or devices that you know or believe contain mercury. Contact your Safety Advisor if you need assistance and also to obtain special identifying labels for the equipment. While not all equipment is suitable for replacement, knowing where mercury-containing equipment is will help ensure that this hazardous material is not accidentally thrown out or spilled when equipment is discarded or moved.

You may still replace any mercury filled thermometer for free! Bring them to any University stockroom and they will be replaced with a non-toxic or spirit-filled thermometer at no charge.

For further information about mercury and mercury-containing equipment, please contact your Safety Advisor or the EHS main office at 203-785-3550.

Replace your old mercury filled thermometer for free!

Bump Tests

Emergency eyewashes are critical safety devices in labs, shops, and clinics. Fortunately, they don't get used very often, so it's critical to test them regularly to help ensure they will function properly in an emergency. Studies show that the seconds immediately following an eye injury are often critical to minimizing damage.

All emergency showers and eyewashes on campus are tested annually by Yale Environmental Health & Safety to ensure proper operation and sufficient flow rates.

However, laboratory, shop, and clinical personnel should also flush ("bump test") their emergency eyewash stations for several minutes at least once per week to clear the supply lines of any debris or particles since these materials could result in further eye injury. Moreover, debris can either reduce or restrict water flow by obstructing nozzles, pressure-regulating devices and supply pipes.

To ensure easy access and safe use of eyewashes and safety showers:

1. Keep all passageways to eyewashes and safety showers clear of obstacles. This includes temporary storage of supplies, carts, etc. For emergency showers, also make sure the pull chain or handle is not blocked.
2. Ensure that everyone knows the location of the nearest eyewash and safety shower, and how to operate them.
3. Eyewashes should be checked routinely by laboratory personnel by "bump testing" or flushing them to run for several minutes once per week. Users must document the test in state-registered laboratories and most clinical spaces.

Be sure to contact your Safety Advisor if you need further information or have any questions.



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Safe Storage for Chemical Waste

A recent incident at another institution, which resulted in three researchers being injured and sent to the hospital, has once again served as a reminder of the hazards associated with nitric acid. It is believed that this latest incident involved several acids, possibly sulfuric, hydrochloric and nitric, which may have been mixed together in a waste container, causing it to over-pressurize and explode. Although this particular incident involved only acids, several other similar incidents which have occurred in recent years involve the reaction of nitric acid with organic materials such as ethanol.

Nitric acid is an extremely corrosive acid. It is also a strong oxidizer which reacts violently with many materials including organic compounds (alcohols, acetone, acetic acid), reducing agents (metal hydrides, formic acid, phosphorus acid) and metals (lead, zinc, aluminum). There are several variables which affect how violent the reaction may be, including the concentration of the nitric acid, the temperature, and the additional chemicals involved. For these reasons, it is important to review and confirm chemical compatibility prior to mixing nitric acid with any other compounds, as well as to understand how vigorous even an intentional reaction may be.

Containers which hold nitric acid solutions must be compatible with their contents, i.e., no metal, free of organic residue, and if the solution is suspected or known to react and off-gas, the container must be left uncapped or loosely capped until the reaction has stopped. Hazardous waste containers holding nitric acid solutions, which are required to remain capped at all times, can utilize a vented cap. These caps provide a gas permeable, but liquid tight barrier and are used to keep the container "closed" while preventing it from over-pressurizing. These vented caps can also be used on containers with reacting mixtures such as piranha solution. The Chemistry Department Stockroom sells vented caps which fit most 4L, 2.5L and 500ml reagent bottles. Contact EHS for a free sample of these caps. In addition, vented caps which fit 20L carboys are available from EHS at no charge.

If you have any questions regarding the handling and management of solutions containing nitric acid or any other chemical, please contact your EHS Safety Advisor or call the EHS office at 203-785-3550.

Slips, Trips and Falls



Learn to look with new eyes for these common safety hazards in your office.

Falls are the most common office accidents. They happen while people are walking, climbing stairs, even leaning back in chairs. Keep an eye out for telephone extension and electrical cords, open drawers, loose or worn carpeting, slippery floors, or packages left sitting in aisles. These can send even the most sure-footed for a nasty tumble.

File cabinets are a primary source of office injuries. Top-heavy drawers can cause a cabinet to topple over. Sharp corners of metal file cabinets can cause injuries. Drawers can pinch fingers if slammed shut. Open only one drawer at time, and close drawers slowly and carefully.

Correct these hazards when you can, and when you can't, point them out to others to prevent accidents.

Rules of the Road



Nearly one-third (32 percent) of all pedestrian fatalities occur between 8:00 p.m. and midnight.

Though you can see traffic coming from blocks away, you may be virtually invisible to them. The best way to protect yourself is to be aware, take extra care, and be visible.

Be visible. Wear bright clothes—neon is good, reflective is even better. Choose shoes and apparel that have reflective strips. Add some reflective tape to the items that don't. Use a reflective vest, a headlamp, or flashing light (red, blue, or green, work best). You can never be too visible.

Always run against traffic. You should be doing this all the time, but it is essential in low light conditions. Whenever possible, pick roads that have sidewalks or wide shoulders.

Pick a well-lit route. Even if it's not your favorite loop, choose a route on which you can see where you're going—and more important, drivers can see you.

Pick a known route. Don't go exploring new routes after dark. Stick to streets and areas you know well.

Grab a buddy. There's strength and safety in numbers. If you must run alone, always let someone else know your plan before you head out.

Always carry ID. In an accident, first responders will want to know who you are, who to contact and important medical information. Be prepared for the unexpected.

Ditch the headphones. Music, podcasts, and other distractions block out the sound of cars, dogs, cyclists, and other potential threats.

Trust your instincts. If something feels unsafe, trust your gut—especially in the dark.

Consider a safety app. Bolster your safety with a digital tool like the Bulldog Mobile App. You can provide the YPD with accurate information about yourself and your GPS location in the case of an emergency.

