New DES “Spill Clean-up Assistance” Phone Number

301-314-2000  By Russell Furr, Director

Spills happen. Most are small and easily cleaned up by the person making the mess. Occasionally we have larger chemical spills that can’t be contained or are a threat to the health and safety of others. In those cases, the first priority is to make sure everyone is safe and then call 911. In between those two extremes are the chemical spills that are safely contained but assistance may be needed or wanted. To help in those situations, DES has activated a direct call number for requesting spill clean-up assistance.

As a reminder, DES staff are on-call 24 hours a day, seven days a week. During regular business hours, this number will be answered by DES. After regular business hours, it will be answered by the University of Maryland Department of Public Safety (UMDPS), who will contact appropriate DES on-call personnel.

This new number will not change any previously established plans or procedures. It is for non-emergency spills only. If you have an emergency, call 911.

For more information, contact John Follum at 301-405-3163 or jfollum@umd.edu.

Smoking and Fire Safety

By Luisa Ferreira, Assistant Fire Marshal

According to the U.S. Fire Administration, almost 1000 people are killed in home fires caused by cigarettes and other smoking materials. A few precautions can reduce the risk of fire.

• Smokers should use sturdy ash trays for the disposal of cigarette butts.
• It’s always a good idea to wet the ashes before emptying the ash tray into a trash receptacle.
• Impairment from drowsiness or intoxication can increase your risk of fire, so avoid smoking when impaired.
• Never smoke in a home where medical oxygen is used since oxygen accelerates combustion.
• It is usually safer to smoke outside, but still important to dispose of cigarette butts safely. Use cigarette urns and ashtrays instead of tossing cigarette butts onto the grass or mulch. Strong winds can turn small embers into a raging fire in a matter of minutes.

SMOKING AT WORK

The State of Maryland prohibited smoking in enclosed workplaces in the Clean Indoor Air Act of 2007. An employer may be cited and fined for noncompliance by Maryland Occupational Safety and Health (MOSH). At UMD, the distance a person may smoke outside a building increased from 15 feet to 25 feet in September of 2011. Please use the cigarette urns and cigarette receptacles provided for the safe disposal of cigarette butts.

Faculty, staff and students interested in quitting smoking should contact the University Health Center for free assistance.

For more information, go to www.health.umd.edu/quitsmoking.
**Nitric Acid’s Oxidizing Power**
*By Karen Kelley, Manager, Laboratory Safety and Industrial Hygiene*

Two small explosions occurred in laboratories at UMD over the past year from mixing nitric acid waste with organic waste. One explosion caused a fire and injured two students.

Nitric acid is a powerful oxidizing agent and ignites on contact or reacts explosively with a variety of organic substances. According to Bretherick’s Handbook of Reactive Chemical Hazards, nitric acid is the reagent most often involved in violent chemical reactions, decompositions or explosions. This is due to the fact that nitric acid, unlike other oxidants, still functions as such when cold and dilute, and the oxidation is always accompanied by gas evolution, sometimes very slow but progressive.

DES recommends using vented caps for nitric acid waste solutions and other pressure generating waste streams, such as piranha and aqua regia. Circumvent® caps are designed to allow the passage of air to equalize pressure in containers. The caps are available in one size and will fit many bottles, including most 4L, 2.5L and wide mouth 500 mL containers. The caps are available from DES.

**CAUTION:** The cap is designed to vent slowly and WILL NOT release pressure from a fast or immediate reaction. If you expect an immediate reaction, allow the materials to react and vent before affixing and tightening the cap. Allow piranha and aqua regia to cool before adding to a waste container and capping.

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**GO Green with the Green Office Program**
*By Aynsley Toews, Project Manager, Sustainability*

The Green Office (GO) Program is a voluntary, self-guided initiative that promotes best environmental practices in the workplace. The program supports and encourages sustainable behaviors, recognizing that our actions have an impact on the environment. Since Fall 2011, the GO Program has grown to more than 100 participating offices, including office of the Provost, the Vice President of Student Affairs and the Vice President of Administration and Finance.

The program consists of a series of checklists and tools that guide offices through three levels of certification. The program operates through a network of Green Office representatives (GO Reps) in offices across campus. We provide training for GO Reps and ongoing support through the duration of the program. All program supplies are provided at no cost and include posters, stickers, draft text, PowerPoint presentations, and incentives.

For more information on the program, visit www.greenoffice.umd.edu.
Liquid nitrogen (often abbreviated LN2) is often used in labs to cryopreserve viable biological agents. The nitrogen is held in a super-cold state at a very low temperature. Due to the extreme cold (-196°C), it is a significant hazard in the laboratory, quickly causing tissue damage when it contacts the skin. This is compounded by the thick vapors that form when it evaporates, which reduce visibility and can lower the oxygen concentration in the air if used in a small space. If you work with LN2 in the lab, please take a moment to make sure your tanks and dewars are located in a well-ventilated area.

Vials immersed in liquid nitrogen may explode violently when removed. UMD has experienced explosions like this in its laboratories. Wear face and eye protection at all times when working with LN2. Plastic vials (even Nunc vials with silicon O-rings) used for storing cells in liquid nitrogen are designed to be used in the liquid nitrogen vapor phase. When immersed in the liquid phase, the liquid nitrogen frequently enters vials around the cold O-ring.

When vials are removed to room temperature, the liquid nitrogen in the vial immediately begins to boil. Usually it escapes harmlessly past the seal. Occasionally (about 1 out of 1000 vials), the seal is too tight, and the pressure causes a violent rupturing of the vial, sending shards of sharp plastic rocketing in unpredictable directions with sufficient energy to lacerate the face and cause severe eye injury. When removing vials from liquid nitrogen, wear safety glasses in addition to full face shields.

To take the online training for Safe Handling and Use of Cryogenic Liquids, visit http://essr.umd.edu.
With winter rapidly approaching, it is important to remember that employees can experience injuries partly due to weather conditions. Many of these injuries are related to slips, trips and falls around icy or wet conditions. Though we can’t control the weather, we can provide you with some tips to follow to help minimize the likelihood of an injury.

• Don’t be in hurry. Whether walking or driving, if the weather turns bad, give yourself extra time to make it to work to eliminate the need to feel like you have to hurry.

• Wear shoes that are appropriate for walking on icy sidewalks that will provide traction on wet slippery surfaces. If you feel the need, carry your dress shoes to change into once you get to work. Avoid wearing boots or shoes with smooth soles or heels.

• When exiting your vehicle, pay attention to the condition of the area immediately where you will be stepping when getting out of the car. Make sure your feet are under you to help prevent any slipping and that you have a good base when getting in or out of your car. Use the vehicle for support. As you move away from your vehicle, take short steps to maintain your center of balance over your feet. Spreading your feet out slightly (like a penguin) and extending your arms out from your sides while walking on potentially icy areas, increases your center of gravity.

• Facilities personnel will do their best to keep designated walkways and entrances as clear and safe as possible, so don’t take short cuts over snow piles and areas that have not been cleared and could be icy.

• Pay attention to building entry ways. Don’t assume that once you’re inside you can let your guard down. Rain and snow can make these areas wet and slippery.

• Use handrails when they’re available and if both hands are full once you get in the building, use the elevator if there is one.

• If you do feel yourself falling, relax as much as possible when you begin to fall and try to avoid landing on your knees, wrist or spine but rather a flesher part of your body like your side.
  - If possible, roll with the fall by twisting and rolling backwards rather than falling forward.
  - Bend your back and head forward so you won’t slam your head on the pavement as your feet shoot out from under you.
  - Toss whatever you may be carrying to protect yourself rather than the load.