Quarterly SAFETY Newsletter

FILL 'er UP... The Bottle or the Tap...Which Will You Choose?

We don't often stop to consider the value of tap water, but it plays an important role in our everyday lives. Tap water delivers public health, support for our growing economy, protection from the threat of fire, and the overall quality of life we enjoy as citizens of Hampton Roads – all at an affordable price.

It's one thing to fill up your water bottle at home in your kitchen sink or at the office, but what about when you're out and about? Cafés and restaurants around Hampton Roads have partnered with the **TapIt**™ program to give you free access to clean water on the go.

You can pay **a dollar** or more for a bottle of designer water or, for that same dollar, you could refill a **20 oz** sports bottle from any Hampton Roads faucet over **1,500** times. Your dollar goes a long way when it comes to tap water!

Fill 'er up! Grab a reusable bottle (or two) and take your tap to go! Whether you're heading to work, the gym, the park or just hanging around the house, keep a bottle of tap water handy. You'll fulfill your thirst without emptying your pockets! That's savings that is good for the environment AND your wallet!

At W&M, we installed water bottle refilling stations to promote the use of tap water over bottled alternatives. And are working to increase the number of stations throughout campus. The W&M Student Environmental Action Coalition (SEAC) promotes "Take Back the Tap" to de-incentivize bottled water consumption. Look for the refilling stations in Admissions, Sadler Center & the Law School.

Did You Know

- Approximately **22 billion** water bottles end up in landfills each year.
- It takes **hundreds of years** for the bottle to degrade.
- Only **about 1/4** of plastic bottles get recycled.

NOTE: Portions of this article are re-printed from askHRgreen.org, "TAP VS. BOTTLED WATER," http://askhrgreen.org/tap-vs-bottled-water/

Stay Cool When You Work—Know the Symptoms of Heat Stress

Heat Rash

*Red bumps or blisters on the skin

*Itchy skin

*Heat rash usually fades when the skin is allowed to cool.

Heat Exhaustion

*Headache or dizziness

*Weakness and wet skin

*Thirst, nausea or vomiting

Heat Stroke

*Confusion, unable to think clearly

*Faints or collapses

*Stops sweating

Resources: www.osha.gov, www.cdc.gov

SAFETY

Door Chock Hazards

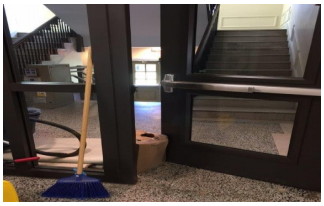
Anyone remember Charlie Chocks? Charlie Chocks was the spokes character in the 1960s for the Chocks line of children's vitamins, the first chewable vitamin for children. His job was to encourage children to take their vitamins.

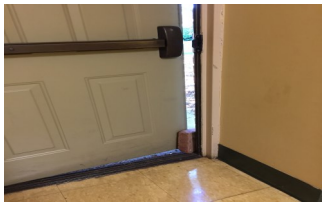
At W&M we have a different kind of chock that comes in many shapes & sizes. And, unlike Charlie Chocks, your EH&S Team's job is to **DISCOURAGE** their use.

I am talking about door chocks used to prop open both interior and exterior doors of campus buildings. This summer, we observed numerous types of objects used to prop open doors, particularly exterior doors, that included rolled-up exterior door mats, broken pieces of bricks/cinder blocks, rocks, buckets, sand bags, and wooden shelving. This practice introduces several safety concerns.

The primary concern is ***Fire Safety***. Most often, the doors being propped open are ***fire-rated doors***. A fire-rated door, or fire door, is a passive fire prevention feature used to protect an opening through a fire-rated wall for the purpose of preventing the spread of fire. **Fire doors are designed to be closed at all times.** The only exception is if they are held back by magnetic hold open devices that will release the door upon activation of the fire alarm system. A fire door that has been modified can no longer confine smoke and fire to its source, and may not provide occupants valuable time to evacuate. During fire drills, EH&S noted that chocks were often forgotten or difficult to remove and may also cause a potential delay in the emergency evacuation process. Lastly, propping open a fire door creates an unacceptable university risk by deviating from Building Code & Fire Safety requirements.

W&M Fire-Rated Doors with Door Chocks — Summer 2017



EH&S is finding that fire doors are often chocked open in order to allow access for contractors and crews working on summer projects who normally do not have building access.

Other issues created by chocking open exterior doors include:

1) Energy waste due to introduction of warmer outside air into conditioned spaces
2) Decreased building security
3) Fire protection system equipment damage from condensate
4) **MOLD** due to moist, humid air condensing on cooler surfaces coupled with outside mold spores entering the building.

In Summer 2016, propping open exterior doors created indoor residence hall conditions much like a terrarium and resulted in excess of 50 mold assessment concerns from the end of August through the first week in November, almost all of which had findings of surface mold due to condensate formation on walls, ceilings and other surfaces.

What can you do to help? Spread the word about door chock hazards, and if you need a door held open to do your work, submit a FM Service Request or contact EH&S for assistance.

BUILDING ACCESS OPTIONS

Contractors consider coordinating with your Supervisor or Contract Administrator to obtain W&M 930 numbers & ID cards for your crew. Residence Life can then give you access to their buildings.

NOTE: Temporary Hires will need a background check first before applying for a 930 number.

Resources: *Charlie Chocks:* http://advertisingiconmuseum.org/inside/c01/3237094.html; *Fire Safety Door sign: http://www.safetysignsservice.com.au/media/catalog/product/cache/1/; Fire-rated doors and Wedges: http://www.safetysignsservice.com.au/media/catalog/product/cache/1/*

SAFETY Doesn't Happen By Accident

Power Cord Wiring...EXPOSED!

On February 28, 2017, a W&M employee received **1st** and **2nd degree burns** to the right hand when the employee attempted to push a partially inserted plug into an electrical outlet. The cause of the burn was an electrical arc due to cord insulation that pulled loose from the plug exposing the inner wires to damage.

One of the more misunderstood modes of cord overheating is insulation breakdown. Frayed cords can cause overheating when the insulation is defeated, and strands of the hot wire touch strands of the neutral or ground wire. This causes a parallel short circuit and arc.

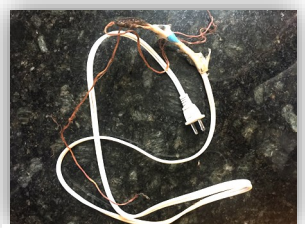
Power cords can become frayed or damaged from heavy use, age, or excessive current flow through the wiring. Cord damage can also result when the cord is pinched, caught between or punctured by heavy objects such as the legs on a desk. Also cords placed under stress, such as when a heavy appliance or tool is hung by its cord, will eventually damage the cord or plug.

During the injury follow-up, EH&S and the FM Chief Electrician discovered **6 more power cords** used in the vicinity of the electrical accident where the insulation had come loose leaving the internal wires exposed. And, within the past 3 years, the EH&S Team identified faulty cords on various equipment around campus to include vacuum cleaners, buffers, heat guns, laboratory hot plates, IT power rack and sound booth cords, extension cords, and most recently a contractor's power tool, a Heavy Duty Hole Hawg, that was plugged into an outlet with a missing faceplate.

Extension Cord Electrical Fires

Extension cords are a common, convenient and easy way to provide electrical power to a tool or equipment whose power cord cannot reach an outlet. But in spite of their benefit, extension cords are one of the most abused and misused items at home and in the workplace. Moreover, they are **the leading cause of electrical fires**. The most frequent conditions leading to these fires are short circuits in the cord, overloading, damage, and misuse. In addition, cord insulation is subject to many effects which can cause it to fail such as electrical stress (current overload) coiling excess cord that causes heat build-up, mechanical damage, vibration, excessive heat or cold, dirt, oil, corrosive vapors, moisture from processes, or just the humidity on a muggy day.

Did You Know: A recent fire at the University of Iowa science building was linked to an extension cord. Damage was estimated at $1.5 million.



Extension cord involved in an office fire at W&M.

At W&M, the condition we see most often are **extension cords** [and power strips] used to power **heat-producing devices** like toasters, coffee pots and microwaves. According to OSHA, heat-producing devices must be plugged directly into a wall outlet. When used with an extension cord, especially a two-wire, ungrounded type, the cord can overheat and damage the wiring as well as the insulation. This may take a while, possibly even years, before the cord fails. This time delay may contribute to user misconceptions about proper extension cord selection and use.

Your EH&S Team developed thorough guidelines for you on extension cord selection & use. If you would like more information, please refer to our EH&S Extension Cords Safety document or **give us a call** ...we are happy to help!

SAFETY Mulching for Erosion Control

Polluted stormwater runoff is commonly transported through **municipal separate storm sewer systems (MS4)** and then discharged, untreated, into our local water bodies like Lake Matoaka and College Creek. To prevent this from happening, W&M has identified three high priority areas to target for pollutant control. They are: 1) Nutrients Management; 2) Erosion Control; & 3) Plastics Diversion. On page 1 of this newsletter, we talked about how to divert plastics by promoting Tap Water over Bottled Water. In this article, we want to share with you how we control erosion through the use of mulch, retention/detention basins and native plants.

Spreading **mulch** over bare soil **is** an **effective** way **to reduce erosion**. To provide effective erosion control against rainfall, mulch must completely cover the exposed soil. Using heavier forms of mulch on steep slopes or in windy areas often provides more effective erosion control, since it is less likely to move. Mulch is also heavier than straw and less likely to shift in high winds.

Loose mulch is most effective when it is applied evenly over the exposed soil on relatively flat ground. Using a layer approximately 1 to 2 inches thick is effective on soil with a downward slope that decreases less than 1 foot vertically for every 2 feet of horizontal distance. Note that on steeper slopes, loose mulch is effective only in layers up to 4 inches deep.

Facilities Management's Landscape crew typically mulch in the Fall to essentially "put the plants to bed" for the winter. According to John McFarlane, FM's Associate Director, Gardens and Grounds, there are **several advantages to mulching**. First, mulch helps to keep down the weeds which tends to lessen our use of chemicals for weed control—a fact that contributes to supporting another of our high priority areas—Nutrients Management.

Mulch helps to **regulate soil temperature** to keep the soil beds from getting too hot or too cold. Mulch also helps to **retain moisture** which is important during the high temperatures and low rainfall conditions we experience during July and August. Mulch or wood chips are also spread on our campus footpaths as an effective means to **prevent slips and falls**.

Erosion problems develop when W&M community members **take short cuts through the plant mulch beds**. Over time, these short cuts wear a path into the mulch and **form a channel** for **stormwater runoff** that carries with it soil and other nutrients necessary to maintain the beautiful landscapes you see around campus.

Thank you for our beautiful and sustainable campus landscapes!

Another way we control sediment and nutrient runoff is by planting **native plants** within and in areas uphill of our **retention and detention basins** to slow down stormwater runoff. Additionally, our retention and detention basins collect stormwater and slowly release it at a controlled rate to prevent flooding and erosion to areas downstream. W&M has several of these basins throughout campus. FM Gardens and Grounds arranges for and annual cleanout at the stormwater outfall pipes and once every five years, will sample the basin sediment for pollutants. The testing includes: Total Petroleum Hydrocarbons (TPH); Diesel Range Organics (DRO); TPH Gasoline Range Organics (GRO); TCLP; RCRA 8 metals; and wet density of the soil.

Approximately 3 years ago, we changed how we manage the native grass, ***Panicum verigatum,*** located along the banks of the Lake Matoaka dam on Jamestown Road. Formerly, our Gardens and Grounds personnel would re-seed the area every year. Now they allow the grass to come up throughout the growing season. They then let the seed heads mature and drop their seeds to create a **natural cycle of re-seeding**. Then, in late February to early March, the Landscape crew cuts down the grass and the growing cycle begins all over again.

Native grass, *Panicum verigatum,* located along banks of Lake Matoaka dam on Jamestown Rd.

References EPA National Pollutant Discharge Elimination System (NPDES): https://www.epa.gov/npdes/stormwater-discharges-municipal-sources

SAFETY Hazardous Waste Disposal

Summer research is fully underway this year with requests for hazardous waste pick-ups from the labs coming in to EH&S Team members weekly and sometimes daily. We want to extend a HUGE **"Thank You"** to our science faculty and summer research assistants for their diligence in completing the Hazardous Waste container labels and Request for Disposal forms. Your attention to detail makes our job providing you Environment, Health & Safety services a summer Breeze!

Our next **Hazardous Waste Disposal pick-up** is on the schedule for **July 26, 2017**. We recognize that this date falls about a week shy of the end of the summer session when most of you will be cleaning out your labs in preparation for the new 2017-18 academic school year. Unfortunately, we were not able to extend our pick-up date into August because we are currently designated as a Large Quantity Generator (LQG). And, as a LQG, we are required to dispose of our hazardous waste through licensed transport and disposal companies no later than every 90 days.

Not to worry! Our next disposal pick-up will be on October 18, 2017. In the meantime, our EH&S Team will be available to relocate your lab waste to our Central Accumulation Area for on site storage. So keep sending us your emails and voice mail requests!

For information on **Hazardous Waste Management** or **"How to Request a Hazardous Waste Pick Up"**, please refer to our EH&S Hazardous Waste Management web page.

SAFETY Reminder - Chemical Inventory

It is time for the **ANNUAL CHEMICAL INVENTORY** updates to take place within all Departments with hazardous chemicals. All Principal Investigators (PIs), Building Managers, and Supervisors should complete a chemical inventory and email it to the Sandra Prior, slprio@wm.edu.

Deadline: August 15, 2017

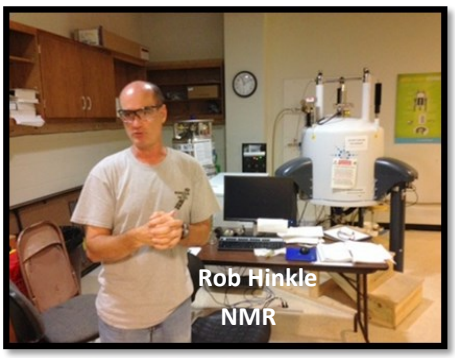
The chemical inventory shall include:

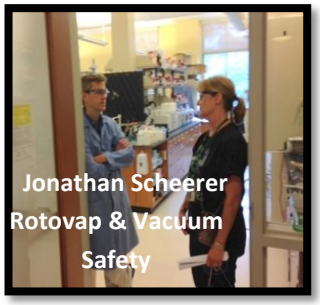
- Chemical Name
- CAS # (if available)
- State of the Chemical: Solid, Liquid, Gas
- Type of container: Glass, Plastic, Metal
- Manufacturer's Name

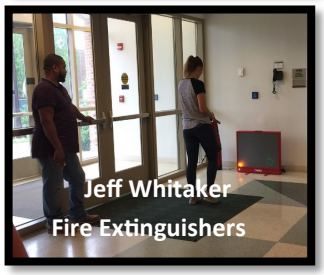
If you need a copy of your 2016 inventory, send Sandra an email request.

As part of the inventory process, a **chemical round-up** will be conducted. Any unused or unwanted chemicals should be disposed of by filling out a hazardous waste disposal form and contacting the EH&S department for a pickup.

SAFETY Summer Lab Worker Training







On May 30, 2017, the EH&S Team presented **Lab Safety for Summer Research Workers** to the **Chemistry** department's student employees, followed by a tour through department areas for faculty presentations on key safety topics like **rotovaps & vacuum safety, X-ray diffraction, cryogens handling and NMR & laser safety.** Then on June 5, 2017, we provided safety training for the **Biology** Department's summer student lab workers. Both training classes were well received and many of the attendees have followed up with EH&S team members for assistance and additional information on topics presented in their training. Overall, we are very pleased with the lines of communications we share with our Chemistry and Biology customers!

We started this training in 2013 in response to 6 safety incidents that occurred in our labs during Summer 2012. Since then, our summer lab incident rate dropped to ZERO!

MakeTheRightCall

EHS Office	Phone
Director, EH&S	(757) 221-2146
EH&S Officer	(757) 221-2288
EH&S Specialist	(757) 221-6450
EH&S Specialist	(757) 221-1523
Fire Safety Officer	(757) 221-2146

Summer Lab Worker Safety Training photos courtesy of Amy Wilkerson, Laboratory & Research Manager, Applied Research.