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ISSUE 8 ○

# Safety *first*

BRINGING A SAFETY WORKPLACE TO ALL MEMBERS OF THE CHEMISTRY BUILDING

## Emergencies Can Happen Anywhere

This newsletter talks a lot about lab accidents and incidents but we must remember that incidents can happen anywhere both on campus and elsewhere in life.

In the last few months we have had several medical emergencies in our building that thankfully due to quick reactions to those around them turned out okay.

In one incident a student fainted in lab at the beginning of class (when the GSI was lecturing) and luckily the GSI and labmates were quick to get help and have the student sit down and rest until they emergency responders arrived. In another incident a person started having a seizure in the SLC but staff there were quick to call for help and get the person into a private room where she could rest until an ambulance arrived.

These are two recent examples but incidents like this happen all the time. Never hesitate to call 911 if you see anyone fainting or having a medical emergency. The American Red Cross and other organizations also offer CPR/First Aid classes to be able to better assist others in case of emergency.



## Wrenches for Stuck Cylinders

Now that we are getting colder out please keep in mind that gas cylinders often have stuck caps due to the temperature changes from going outside to inside.

If you have this issue please remember that the dock has specialized wrenches that can safely and easily open stuck cylinder caps. Please see Christopher Peters or Hawaii Maliga at the dock to borrow one of these wrenches.

# Lessons Learned

## Chemical Exposure

A graduate student was heating a reaction vessel containing ~250ml dichloroethane, 10g potassium carbonate, 14g of potassium hydroxide, and small amounts of TBA Br and the student's lab-made ligand. The temperature probe was not properly attached to the reaction causing it to heat up more than expected and causing pressure to build up in the vessel. When the graduate student noticed this mistake they attempted to move the probe and fix the issue but the pressure had already built up causing it to spontaneously spray out from the vessel and onto their face and chest.



The student immediately removed the contaminated clothing and went in to the safety shower for 15 minutes. After rinsing, the student did not feel any pain or irritation from the areas the solution got on them but the student was extremely cold and shaking from the cold safety shower. The student then went to OHS to get looked at by medical professionals and returned to work shortly after.

The shower caused flooding in the hallway, as well as lab modules below the lab on several floors but there were no additional injuries.

This incident shows us the importance to always double check experiments when you start them to make sure everything is set up correctly. In this case, if it had been noticed the temperature was not going up due to the temperature probe not being in the solution, it could have been fixed before the solution overheated.

# Lessons Learned

## Needlestick

A graduate student was working with a needle containing acetonitrile, potassium hexafluorophosphate and cyano-phenylpyridine when they accidentally poked the middle finger on their right hand with the needle. The syringe was empty at the time of the incident but the needle was still contaminated and had the potential to inject a small amount of chemicals into the student's hand. Due to this concern the student was sent to UHS to get checked out and was released back to work a short time later. Luckily in this incident there were not any serious ramifications.

Although it is rare, anytime someone gets poked by a contaminated needle they should have medical professionals look at it. Injection is the quickest way to get a chemical into your bloodstream and can cause serious issues if not treated immediately.



## Spill While Moving Equipment

A graduate student was moving a piece of equipment and did not realize there was a partially filled bottle of tetrahydrofuran still attached to the machine with tubing. When moving the equipment the bottle was pulled over and fell onto the floor and broke spilling approximately 2L of the solvent.

The lab quickly put spill pads and paper towels on the liquid to soak up the material and put them in waste pails. The room was then allowed to sit empty to get rid of any remaining odors. Luckily, this incident was contained immediately and none of the solvent got into drains.

This incident was caused by a simple mistake of not checking all connections before moving the equipment. It could have just as easily happened when taking apart equipment for repair or maintenance.

When moving a piece of equipment with a lot of wires and/or tubes connecting parts it is a good idea to have a second person double check that everything is disconnected before moving it.



# Safety Tips

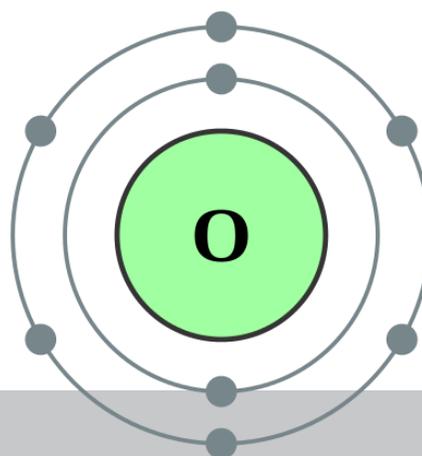
## Liquid Oxygen Creation in Vacuum System

We have had several near missing on campus involving liquid oxygen creation in cold traps.

Liquid oxygen is an extremely dangerous substance that reacts with most organic materials including items commonly used in experiment setups like Teflon tape and vacuum grease. When liquid oxygen comes into contact with organic materials it will react violently and may even explode

When a schlenk line is set up so that air is pulled through a vacuum trap while being cooled with liquid nitrogen it may cause liquid oxygen to form and condense into the trap.

To prevent liquid oxygen formation cold traps should be set up under nitrogen atmosphere only and should never be set up so that normal lab atmosphere gets pulled through them.



If the cold trap was accidentally set up incorrectly and you believe you may have created liquid oxygen please do the following:

- Gently close the hood if possible and back away from the experiment
- Have everyone in the room evacuate, put signs on the door to prevent anyone from going in if possible.
- Contact your PI immediately. They will be able to guide you through what to do next.

# Labcoat Laundering Program

In 2019 it was announced that University Laundry Services would be closing and would no longer clean our labcoats. The University has since been working on finding a new vendor for labcoat cleaning.

Beginning in 2020 we are able to use Sohn Linen for labcoat laundering.

The cost of this new vendor service is as follows:

Costs:

- \$5.95/FR Labcoat
- \$2.95/White Labcoat
  - The first time the labcoats are sent out there is an additional one time cost of \$2.10 per labcoat for chipping.

The lab coats currently have a 4 week turnaround time and are returned/picked up at the beginning of each month.

To send your labcoats for laundering for the first time place the labcoats in a clear plastic bag with a cleaning form (this can be emailed to you by emailing Christopher Peters at [chrpeter@umich.edu](mailto:chrpeter@umich.edu)). Once that's done place the entire bag in the clear bin in the dock hallway outside of room 1612.

Once your labcoats have been chipped (after the first laundering) they can be washed simply by putting the loose coats in the blue bin outside of room 1612.

We are still looking at additional options for labcoat cleaning and we will update you when more are available.



**Sohn**  
LINEN SERVICE  
WWW.SOHN.LINEN.COM | 800.292.8889

**AUTHORIZATION TO CLEAN CUSTOMER OWNED ITEMS**

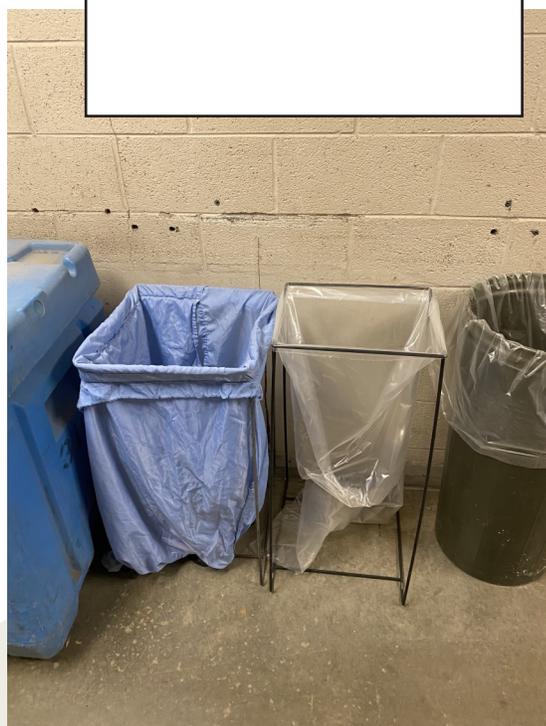
NUMBER OF GARMENTS: \_\_\_\_\_ FR \_\_\_\_\_ White  
INITIAL CHIPPING COST PER PIECE: \$2.10  
LAUNDERING COST PER PIECE (CIRCLE): \$5.95/FR or \$2.95/WH  
\*\$20 minimum for scheduled monthly deliveries; \$30 minimum for call-ins

COATS DROPPED OFF BY: \_\_\_\_\_  
CUSTOMER (LAB) NAME: \_\_\_\_\_ SHORT CODE: \_\_\_\_\_  
ADDRESS: U-M, Chemistry Building 930 North University ROOM: \_\_\_\_\_  
ROUTE AND DAY: 17-T (Tuesday) E4W

\*DO NOT place garments into a blue bin until after they are tagged & chipped. Place any untagged garments in a clear plastic bag & put this form inside of the bag with the coats. There will be two bags on the dock - one with a blue bag for coats that have already been tagged and one with a clear bag for coats that have not yet been tagged. Place the bag with untagged coats into the clear plastic bag in the designated stand on the dock.

I UNDERSTAND THAT SOHN LINEN IS NOT RESPONSIBLE FOR ANY LOSS OR DAMAGE TO CUSTOMER'S GARMENTS.  
CUSTOMER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS SOHN LINEN FROM ANY CLAIMS OR DAMAGES ARISING FROM DEFECTIVE PRODUCTS OR GARMENTS.

SIGNATURE OF OWNER OR MANAGER: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_



## Winter Safety on Campus



The University of Michigan Ann Arbor Campus currently has over 21 miles of roads and over 168 miles of sidewalks. Due to this huge scale during and after winter storms it sometimes take a while for everything to get cleaned up. Often, after a storm some sidewalks still are not fully cleared the next morning. Please use caution whenever walking on campus during or after a storm. Even when the sidewalks appear to be clear it may not be salted so there may be slippery spots.

In the Chemistry building we keep pails of salt inside near each entrance in case there are icy spots near the doors. Additionally, on very rare occasions, extreme weather and/or extreme cold may cause the University to trigger their "Emergency Reduction in Operation" procedure which closes all of campus except for select personnel. Please check with your labs supervisors to see what their procedure is for severe weather.

*Often, after a storm some sidewalks still are not fully cleared the next morning.*

**UPCOMING INSPECTION**  
Always Be Ready!



The Chemistry Building is due for a MDEQ inspection in the near future. Although MDEQ inspections primarily focus on issues with chemical waste, we also must be prepared for MIOSHA and other regulatory agencies at any time. Please make sure your lab is always in compliance with health and safety regulations.

## Events

Classes Begin ..... Jan 8, Wed  
 Martin Luther King Jr Day .....Jan 20, Mon  
 Spring Break.....Feb 29, Sat—Mar 9, Mon  
 Classes End ..... Apr 21, Tues  
 Study Days..... Apr 22, Wed, Apr 25-26 Sat-Sun  
 Examinations ..... Apr 23-24, Thur-Fri, Apr 27-30, Mon-Thur  
 Commencement Activities.....Apr 30-May 3, Thurs-Sun

## Dry Ice/LN2

### Dry Ice

Dry ice is available from 9:00am-10:00am and from 1:00pm-2:00pm Monday-Friday in room A601.

### Liquid Nitrogen

Department dewars are accessible 24 hours a day outside of room A602 for small (under 15L) liquid nitrogen quantities.

Large dewars of liquid nitrogen can be ordered by emailing [chrpeter@umich.edu](mailto:chrpeter@umich.edu) by noon one business day before its needed.



## Contact Information

### **Package Shipping**

Hawaii Maliga — [hmaliga@umich.edu](mailto:hmaliga@umich.edu)  
 Phone—615-5034

### **Waste Issues**

Laurie MacDonald—[lanald@umich.edu](mailto:lanald@umich.edu)  
 Phone 764-7325

### **Safety Issues/Concerns**

Christopher Peters—[chrpeter@umich.edu](mailto:chrpeter@umich.edu)  
 Phone—763-4527

Tracy Stevenson—[steventi@umich.edu](mailto:steventi@umich.edu)  
 Phone—764-7316

### **Chemical Inventory Questions**

Anson Pesek—[ahpesek@umich.edu](mailto:ahpesek@umich.edu)  
 Phone—647-8932

### **Maintenance Requests**

Routine Work Request Form on Chemistry Intranet

Baby Henry Wants You To Be Safe

