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# Safety *first*

BRINGING A SAFETY WORKPLACE TO ALL MEMBERS OF THE CHEMISTRY BUILDING

## Pizza Inspections—PPE In The Lab

For our second round of pizza inspections the Safety Strategy Team decided to focus on personal protective equipment (PPE) in the lab. To make sure no lab groups have an unfair advantage for this and future inspections we have grouped labs by type of work. For this inspection we went through all of the analytical lab groups in the building.

For this inspection the following items were taken into account:

- Everyone wearing safety glasses when in the lab.
- Everyone wearing labcoats when working in the lab.
- Everyone wearing gloves when using or touching chemicals or equipment.
- Extra safety glasses being available and easily accessible for visitors and guests.

Many labs did a good job when it comes to PPE but one lab stood out. Based on these criteria the winner of this round of pizza inspections is the McCrory lab.

No Eating or Drinking	Wear Safety Glasses	Wear FR Lab Coat	
<b>McCrory Group Synthesis Lab</b>		Chemistry 4630	
Flammable Liquids	Corrosive Materials	Flammable Gas	Acute Toxicity (Fatal or Toxic)
<b>Contact Personnel</b>			
Name: Charles McCrory / 4807 Chem	Name: <input type="text"/>	Phone: <input type="text"/>	
Phone: 763-8060 (W) / (650)862-2725(H)	Phone: <input type="text"/>		
Name: Christopher Peters (1606)	Name: Tracy Stevenson (1500C)	Phone: <input type="text"/>	
Phone: 763-4527 (W)	Phone: 764-7316 (W) / 358-6922 (C)		
	<b>Emergency Contact</b> U-M Police 911	<b>Non-emergency Contact</b> OESH (734) 647-1143	
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## Safety Glasses Reminder

There has been a noticeable uptick in the amount of people found not wearing safety glasses when entering or even working in labs. **Please remember that safety glasses must be worn at all times by everyone in the lab.**

ALSO—Normal prescription glasses are not an acceptable replacement for safety glasses and safety glasses must be worn over the glasses or prescription safety glasses must be worn. For staff, faculty, graduate students and postdocs, vouchers for prescription safety glasses can be obtained by contacting Christopher Peters at [chrpeter@umich.edu](mailto:chrpeter@umich.edu)

# Lessons Learned

## Eye Exposure

A graduate student was working with a solution of diethyl ether, 2,5 dibromophenol, sodium hydroxide and hydrochloric acid. When the separatory funnel was being opened the pressure in the vessel caused the contents to be splashed on his face. The student was wearing correct PPE at the time but a small amount dripped down behind his glasses and safety glasses and got into his right eye. The student immediately rinsed his eye and sought medical attention.

The student was taken to the ER to get looked at and it was determined there was no damage to his eye or vision loss from the incident.

This incident shows us the need for using proper PPE. The student was lucky to not have any injuries from this incident mainly because he was wearing safety glasses. Although this incident was an accident please keep in mind that if an experiment has a chance that it could splash liquid additional PPE such as a splash shield and/or goggles may be needed.



## Needlestick Incident

A graduate student was working in a glovebox when they accidentally touched a microsyringe that had been left in the bottom of the box by a previous user causing a small finger cut through the gloveboxes glove.

Luckily the student did not feel any pain or irritation from the incident so it does not appear they had any exposure. However this incident had the potential to be very serious

This incident shows the necessity to clean up after yourself after each use when using shared equipment. Even if the user of that microsyringe knew it was there and was planning on cleaning it up in the future there was no way for lab mates to know it was there.



# Security Incident

On November 2nd, 2016 there was a security incident in the building. A young woman wandered into the building that morning and began acting erratically on the first floor by doing things such as setting her purse in the middle of the hallway and mumbling to herself.

Some time later the person traveled upstairs to the 4th floor. She was reported on the 4<sup>th</sup> floor to be looking into labs and trying door handles. She claimed she was in the hospital and had an appointment that she was waiting for. The female also appeared to be disoriented, incoherent, and under the influence. DPSS was called to handle the situation. The female was escorted out of the building and taken away by an ambulance. This incident exemplifies the importance of keeping your lab secure and having doors shut at all times. If this person were able to wander in to an open lab, she could have touched hazardous materials that could have injured her, or have created an unsafe situation for members of the lab

If you see any one that looks suspicious in the building/lab, you have to right to know who they are and what they are doing. If you are uncomfortable or feel unsafe confronting the person, do not hesitate to contact Tracy or Chris to deal with the situation.



## Flashback Arrestor

One of the most common things being found recently during the inspections, is lack of a flashback arrestor on hydrogen tanks. These items prevent sparks or flames from igniting the hydrogen and traveling back up into the tank which has the potential of being catastrophic. These arrestors attach to a hydrogen regulator with minimal effort.

Flashback Suppressors items can be ordered through Cryogenic Gases at 313-835-5513. The one recommended is item number SGD8491-F and can be reset if needed (other kinds are one time use and can be accidentally tripped by pressure changes).



# ACS Changes

With the increase in laboratory injuries and deaths both in academia and industry the American Chemical Society is in the process of making some changes to make their publications more safety oriented.

In the most recent issue of ACS Central Science, the Editor-in-Chief Carolyn R. Bertozzi wrote a wonderful article entitled "Ingredients for a Positive Safety Culture". This article goes through recent incidents in the past year and what we can learn from them.

In the article she also mentions some significant changes to upcoming publishing guidelines to ACS publications in order to encourage safety awareness both in the authors and readers of the articles. She writes:

*"ACS also hopes to contribute to safety awareness beyond our campus walls through its publishing activities. Starting at the beginning of 2017, all ACS publications will require experimental details to address and emphasize any unexpected, new, and/or significant hazards or risks associated with the reported work. There are two different important aims in asking for this additional information. First, as the primary source of chemical information, it is crucial that we use the literature to educate researchers about the risks inherent in the experiments we publish. Second, we hope that making this information required and widely available will change how this and future generations of scientists think about safety as integral to their role in the chemical enterprise. It is a professional requirement and a chemist's responsibility in this world. Just as experimental details are turned into lab notebook entries for future findings, the community will then implement these better habits in their own papers and continue to catalyze the responsibility for safety throughout our industry. Finally, we do not want the most crucial of these safety notes to be sequestered only in the experimental sections. Particularly when unanticipated hazards or risks become apparent in the process of scientific inquiry, either in data acquisition or analysis, we want authors to highlight that information in results and discussion sections, perhaps even in the abstract."*

The full article can be find here: <http://pubs.acs.org/doi/full/10.1021/acscentsci.6b00341>



**ACS**  
Chemistry for Life®

# Ergonomics Corner

## Biosafety Cabinet Ergonomics

Working in a biosafety cabinet can result in an increased risk of musculoskeletal injury risk due increased reaching over the air vent. Take care to ensure you've set-up your workstation optimally to reduce injury risk.

## Poor Postural Ergonomics

Awkward shoulder posture and extended reaching when using a standard pipette filler and long seriological pipettes are amplified due to the glass barrier and need to reach over the air vent.



## Improved Ergonomics

- Adjust the height of the biosafety cabinet
- Adjust chair height and height of footring/footrest
- Organize work to keep frequently used items as close as possible
- Place a low provided garbage bin within as close of a reach as possible
- Use ergonomic pipette filler and shorty seriological pipettes
- Obtain elbow rest if needed
- When purchasing a biosafety cabinet an NSF certified with as large of an opening as safely possible, e.g. 12" to 14" & a sloped window is preferable

## OSEH Coffee and Conversation

- ◇ On Wednesday, January 18th from 9-11am in the Chemistry Atrium, the Occupational Safety and Environmental Health Department (OSEH) will be holding a "Coffee and Conversation" meeting where everyone is welcome to come and ask safety questions (and drink free coffee).





Examples of how NOT to handle lab waste



## MDEQ Inspections

On August 17th, 2016, the University of Michigan had an unannounced visit by the MDEQ. During this inspection they went through several buildings on Central Campus including the Chemistry Building.

During his time in the building he visited the 3rd and 4th floors of the '88 building. No issues or violations were noted

by the MDEQ inspector in the Chemistry Building. The inspector even mentioned how helpful lab staff was and how good of a job they were doing.

The three big things we need to keep looking out for are labels that are blank or missing labels, improper waste containers and funnels left in waste bottles.

Funnels left in waste bottles can cause spills if knocked over and is considered an "open container". Waste labels must be fully filled out and include a list of all chemical constituents in them. It also has to be specific so items like "organic solvents" or acid waste are not acceptable.

**No issues or violations were noted by the MDEQ inspector in the Chemistry Building.**

If you have questions about waste please feel free to

contact Christopher Peters at [chrpeter@umich.edu](mailto:chrpeter@umich.edu) or Laurie MacDonald at [laland@umich.edu](mailto:laland@umich.edu).

**UPCOMING INSPECTION**  
Always Be Ready!



Although the MDEQ inspection that we had been expecting for the last several years is over now there is always the possibility for an inspection from other organizations such as MIOSHA, DEA, DHS, or even another from the MDEQ. We must always strive to keep our labs in compliance both for the regulators and to keep ourselves and our lab mates safe.

## Events

Classes Begin	Jan 5, Wed
MLK Day—No Classes	Jan 16, Mon
Spring Break Begins	Feb 25, Sat
Classes Resume	Mar 6, Mon
Honors Convocations	Mar 19, Sun
Classes End	Apr 18, Tue
Study Days	Apr 19, Wed Apr 22-23, Sat-Sun
Examinations	Apr 20-21 Thur-Fri & Apr 24-27 Mon-Thur
Commencement	Apr 27-30, Thur-Sun

## Dry Ice/LN2

### Dry Ice

Dry ice is available from 10:00am-11:00am and from 2:00pm-3:00pm Monday-Friday in room A601

### Liquid Nitrogen

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

Large dewars of liquid nitrogen can be ordered by emailing [chrpeter@umich.edu](mailto:chrpeter@umich.edu) or [steventi@umich.edu](mailto:steventi@umich.edu) at least one business day before it's needed.



## Contact Information

### Package Shipping

Richard Rice — [riceij@umich.edu](mailto:riceij@umich.edu)

### Waste Issues

Laurie MacDonald — [laland@umich.edu](mailto:laland@umich.edu)

### Safety Issues/Concerns

Christopher Peters — [chrpeter@umich.edu](mailto:chrpeter@umich.edu)

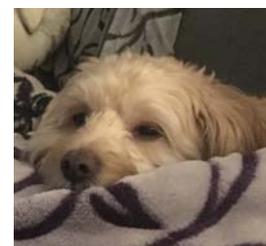
Tracy Stevenson — [steventi@umich.edu](mailto:steventi@umich.edu)

### Vertere Chemical Inventory Questions

Anson Pesek — [ahpesek@umich.edu](mailto:ahpesek@umich.edu)

### Maintenance Requests

Routine Work Request Form on Chemistry Intranet



This puppy wants you to come home safe