

EH&S Laboratory Safety Unit Newsletter

September 2022

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Environmental
Health and Safety



Seasonal Reminder: Laboratory Safety Training

With the start of a new semester comes new student researchers. This is a reminder that all research and clinical Students, Staff, and Faculty are **annually required** to take EH&S Laboratory Safety Training. Make sure that every new student in the lab completes safety training before beginning work! Instructions for enrolling in training through MyPath can be found on the EH&S [website](#).

Chemical Inventory Update

After an eight-year effort, the Laboratory Safety Unit has completed its initial inventory for all Research and Clinical Labs in Chematix! Following the initial inventory, **labs are responsible for maintaining their inventories by adding and removing chemicals from Chematix**. Annual reconciliation of all chemicals in the lab is **required** and is verified during regularly scheduled safety inspections. The Laboratory Safety Unit will continue to supply barcodes for all laboratories. Information regarding chemical inventories can be found [here](#) on our website. If you have questions or require additional barcodes, please email Chematix_Support@safety.rochester.edu. Chematix help sessions will still take place on Wednesday afternoons via Zoom between 3- 4 pm. (<https://rochester.zoom.us/j/99512173513>)

Laboratory Safety Unit

Carolyn Place (LSU Manager) 402-4676

Sonia Rosenberger (BSO) 275-3014

Donna Douglass (AA) 275-2402

Sarah Briggs (Safety Specialist) 448-9400

Abby Davis (Safety Specialist) 448-9856

Julie Conyer (Safety Specialist) 233-4013

WEBSITE: WWW.SAFETY.ROCHESTER.EDU MAIN PHONE: 275-3241

FAX: 274-0001

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Biosafety Updates



- For those who missed our last Newsletter, please read the biological safety cabinet certifier update [here](#).
- With the start of a new semester comes new student and employee researchers. Just a reminder to offer the Hepatitis B vaccine, and, if applicable, revise your Institutional Biosafety Committee ([IBC](#)) L/LAB form.

Hepatitis B vaccine: Per OSHA's Bloodborne Pathogens Standard, all employees working with human blood, bodily fluids, tissues, cells, or cell lines are required to sign the Hepatitis B vaccine declination form or get the vaccine through University Health Service (UHS).

- <http://www.safety.rochester.edu/ibc/BBPResource.html>

- Even though most people have been offered the vaccine since OSHA's Bloodborne Pathogens Standard first instituted the requirement in the 1990s, UR is still required to document the offer or declination.

IBC L/LAB Form: For labs handling materials that require IBC approval, add new personnel to the front page and file with the IBC by sending to the IBC Coordinator or your EH&S Laboratory Safety Specialist.

- In your lab orientation, clearly indicate what to dispose of (and not dispose of) in red bins, sharps containers, and non-reusable Stericycle containers:
 - Red bins and sharps containers for Biosafety Level 2 waste. For more, see EH&S policy/procedure [BS020](#).
 - Not in red bins:
 - Hazardous chemicals that require disposal through Chematix.
 - Empty drug vials
 - Any volatile chemicals such as TriZol - vapors will be released every time the bin is opened.
 - Metal objects larger than a razor blade
 - Electronics waste.

LSU Webpage Reminder!

Our webpages offer important program information, guidance, and compliance documentation. Highlights include sections for New Principal Investigators, a material request form, and a streamlined Chematix section. Also included is a clear listing of the EH&S Laboratory Safety Specialists, informing PIs and lab members of whom to contact for inspections and general safety questions. A good place to start is our [Homepage](#), [New PI Page](#), or our [Safety Central](#) page.

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Laboratory Incident Review

Recently, an incident occurred in the Medical Center where bleach was mixed with hydrochloric acid, resulting in the formation of chlorine gas (pictured right). Chlorine gas (Cl_2) is a yellow-green, toxic gas that is heavier than air. It is also corrosive to the skin and mucous membranes, and can react with other substances to potentially form explosive compounds. Chlorine gas has a pungent odor, similar to bleach, which serves as a warning sign of potential exposure.



In this particular instance, the chemicals were mixed in a container that could be moved to the fume hood. The mixture was then allowed to vent in the hood until the chlorine gas had dissipated and the container was safe to handle. However, the volume of chemicals mixed together, and whether or not they are contained, will determine how the situation is handled on a case-by-case basis.

The active ingredient in bleach is sodium hypochlorite (NaOCl). When mixed with ammonia or acids, the chlorine atom in sodium hypochlorite reacts to form chloramine and/or chlorine gas. Unfortunately, sodium hypochlorite, ammonia, and a variety of acids are common ingredients in cleaning products, which has given rise to the adage, “never mix household cleaners.” Additionally, alcohols, such as ethanol and isopropyl alcohol (IPA), also react with bleach to create chloroform gas (CH_3Cl), which is another toxic gas that can cause injury or even death. As ethanol and IPA are commonly used disinfectants in laboratories, it is extremely important to always look at the active ingredients of any cleaners you plan on using in the lab or at home.

Some best practices to prevent accidental mixing of chemical cleaners include:

- storing bleach in a separate location from other cleaners, or using secondary containment for cleaners stored in the same location,
- AND, thoroughly rinsing drains after using one cleaner before using another, to dilute residual chemicals.



If you accidentally mixed bleach with an incompatible chemical, or believe you have been exposed to any potentially toxic material, evacuate the area immediately and call Public Safety at 275-3333.

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PPE Highlights

Lab coats- There are three main kinds of lab coats used at the University:

- **General Lab Coats:**

- Material should be a polyester/cotton blend (80/20 or 70/30), with a minimum of 65% polyester for a wet or chemical lab. These lab coats provide a barrier between clothing and general protection from incidental contact with chemical, biological, and radiological materials. They also provide minor splash protection from low to moderately hazardous chemicals in small quantities. ***Is not suitable for use with flammable materials.**



General

- **Static Discharge Lab Coats:**

- The material has a pinstripe or checked microfilament that will protect against static discharge. These lab coats are often used in optics and clinical labs, electrical settings, or labs with electrically sensitive equipment. ***Not designed for chemical or flame protection.**



Static Discharge

- **Nomex® Lab Coats or Fire-Resistant/Fire-Rated Lab Coats:**

- The material is fire-resistant treated cotton meant to be used when working with flammable liquids and pyrophoric materials. Certain Fire Rated (FR) lab coats may also offer additional chemical barrier protection.
- Recommended manufacturers are Workrite® or Bulwark®.



Fire-Resistant

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Chematix How-To Guide

(1) Add Container to My Inventory:

1. Enter Chematix and select the "Inventory" tab
2. Click "Add Chemical Container(s) to Your Inventory"
3. Search chemical by name or CAS number

HINT: select "contains" to the right of the "Chemical Name" box to expand search and find more results

4. Fill out all information fields marked with a red bar
5. Scan or type in barcodes *exactly as they appear* on the label (including # and all 0s)

(2) Remove Empty Container from My Inventory:

1. Enter Chematix and select the "Inventory" tab
2. Click "Quick Container Status Change"
3. Scan or type in barcode exactly as it appears on the label (including # and all 0s)
4. Select "Consumed by experiment" from the drop-down menu
5. Click "Change Container Status"
6. Remove barcode from container, triple rinse, and discard or recycle

HINT: to increase efficiency EH&S recommends saving discarded barcodes on a sheet of paper and removing several containers at once when the sheet

(3) Remove Wasted Container from My Inventory:

1. Enter Chematix and select the "Waste" tab
2. Click "Create Waste Card"
3. Click "Pure Chemicals in Individual Containers"
4. Scan or type in barcode exactly as it appears on the label into "Barcode" box
5. Select Accumulation Start Date, Container Type, and Laboratory
6. Click "Refresh"
7. Click "Generate Waste Card"
8. Print waste card and affix to waste container

REMINDER: some chemicals may be marked "exempt from inventory" but they are not exempt from hazardous waste practices and must be disposed of through Chematix

(4) Complete Annual Reconciliation:

1. Scan all chemicals into a txt. type document (Note Pad for Windows, Text Edit for Mac,) save a document for *each individual room*
2. Enter Chematix and select the "Resources" tab
3. Click "View My Locations"
4. Select the room you wish to reconcile
5. Click "Upload Scanned Chemical Barcodes"
6. Paste scanned barcodes into box *HINT: do NOT scan directly into box*
7. Click "Send to Chematix"
8. Click "Return"
9. Click "Manage Discrepancy"
10. Address discrepancies until "Reconciliation Complete" button is clickable
11. Click "Reconciliation Complete"

NOTE: all laboratories must be reconciled annually, even if they do not contain chemicals



Can't wait? Contact **Chematix Support** at
chematix_support@rochester.edu
(585) 275-2431



Join us every
Wednesday at 3 PM
on Zoom
Zoom ID: **995 1217 3513**

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