

Handbook for Laboratory Safety Officers
in the
Department of Chemistry and Biochemistry

The Ohio State University

Provided by
The Department of Chemistry and Biochemistry Joint Safety Team

Revision 2018/08

Disclaimer

This information has been compiled by the Department of Chemistry and Biochemistry Joint Safety Team (JST), and is meant to serve as a guide for Laboratory Safety Officers (LSOs) and researchers working in research labs within *this* department. Every effort has been made to ensure that the information contained within this document is correct at the time of writing. While efforts are made to update this information as changes occur, it is ultimately the responsibility of the PI, the LSO, and the researchers to know and adhere to the current department safety policies.

The most up-to-date version of this document can be found at the JST website at <https://chemistry.osu.edu/safety/jst>

For information concerning any changes to the departmental PPE policy, please contact the Safety Office or visit the PPE section of their website at <https://chemistry.osu.edu/safety/ppe>

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Departmental Contact Information

Building Coordinator:

- Use these numbers for a building problem or emergency during normal working hours:

North Campus (NW, CE, EL, MP, CBEC):

Kevin Dill : 614-292-2669, CBEC 165

Walter Williams: 614-292-3979

email: cbc-facilities-management@osu.edu

Bio-Side of Campus:

Carol Barnes: 614-292-5517, email: barnes.829@osu.edu, BioSci 148A

After-hours building problem or emergency:

- I.e. lab flood or no heat

Call FOD (Facilities Operations and Development) help desk, also known as Service2Facilities at 614-292-HELP (4357) to report the problem.

Do not use email as a primary means of communication for after-hours building emergencies.

Chemical Safety:

Safety Coordinator:

John Herrington: 614-579-3569, email: herrington.5@osu.edu

Hazardous Waste Coordinator:

Don Tong: 614-597-3298, email: tong.2@osu.edu

Joint Safety Team (JST):

Email: cbc-jst@lists.osu.edu

JST is always looking for new members

EHS Safety Engineer:

Mitch Baker: 614-292-1284 ext.42127, email: baker.779@osu.edu

For research-related injuries needing medical attention:

Seek treatment at:

1. OSU University Health Services,

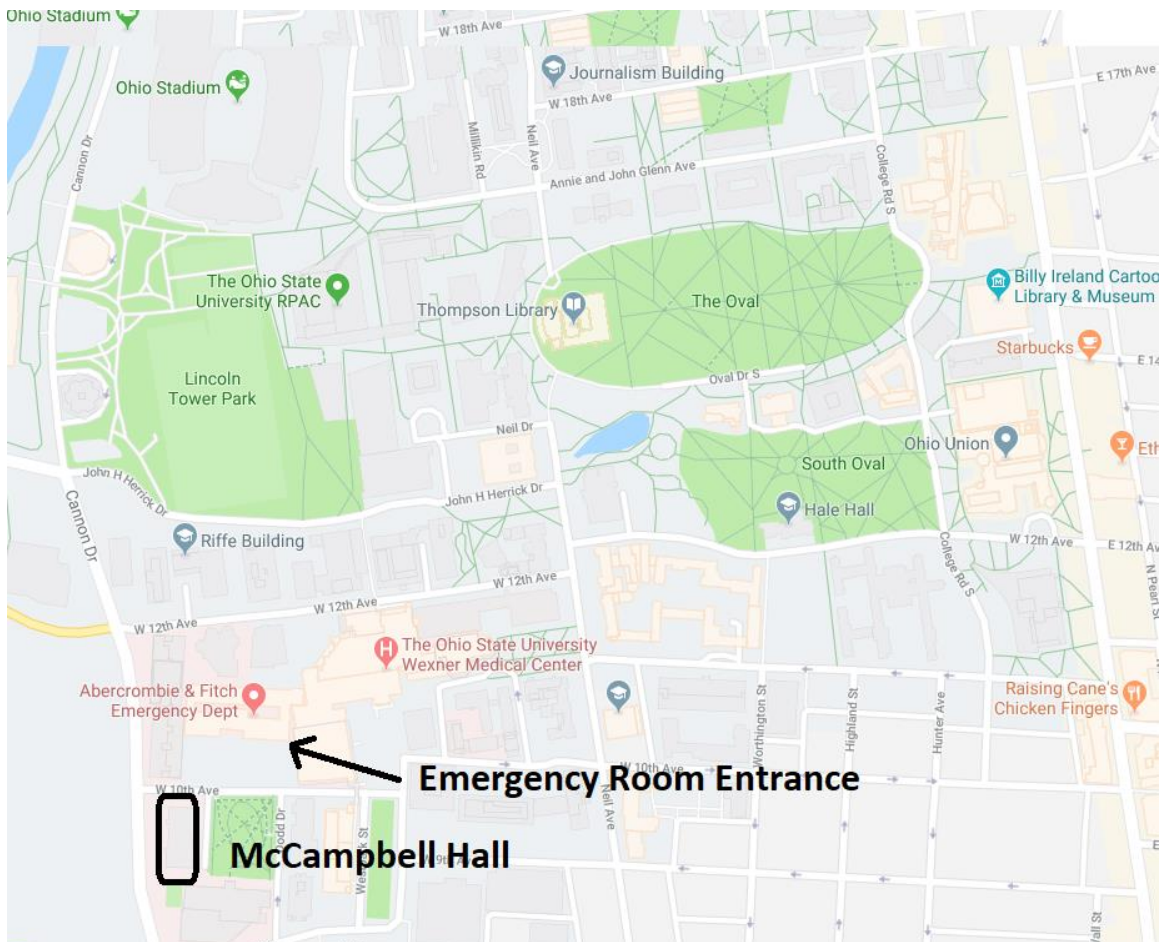
2nd floor McCampbell Hall
1581 Dodd Drive
Columbus, OH 43210

Treatment given at this facility is for workers' compensation – do not go to the Student Health Center

2. The Ohio State Wexner Medical Center Emergency Room

410 W. 10th Avenue
Columbus, OH 43210

*If your injury is serious enough to warrant a trip to the ER, **do not drive yourself!** Depending on the severity of your injury, either call 911 or have a labmate go with you.*

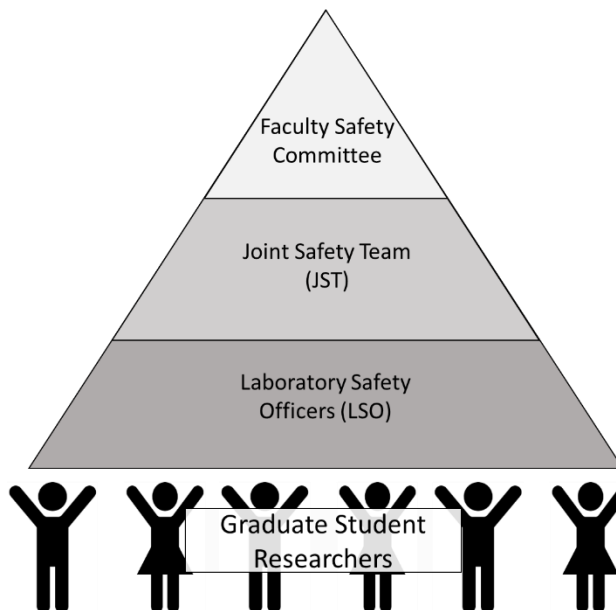


Roles and Responsibilities within the Department of Chemistry and Biochemistry

Each active chemical research laboratory in CBC **must** have a laboratory safety officer (LSO).

Faculty Safety Committee:

This committee is a group of staff and faculty who meet once a month to review PPE compliance numbers and laboratory violations. They develop safety related policies, which are voted on by all CBC faculty before being implemented.



Joint Safety Team (JST):

The Joint Safety Team is a group of graduate students dedicated to promoting safe laboratory culture within the department. They meet once a month together with staff, once a semester with Lab Safety Officers (see below) and attend Faculty Safety Committee meetings (see above). The role of the JST is to communicate the policies and concerns set by the Faculty Safety Committee to LSO's and the rest of the department.

JST also maintains an up-to-date list of LSO's and facilitates LSO turnover.

Laboratory Safety Officer (LSO):

Each active research group in CBC is **required** to designate a Laboratory Safety Officer (LSO) who acts as a point of contact between the JST and their research group. LSOs attend semesterly LSO meetings with the JST and receive frequent JST emails. LSOs must ensure their research groups are informed of new safety related information and are meeting department safety standards. Typically, a LSO facilitates research group training documentation, maintains the group's Chemical Hygiene Plan (CHP), maintains inventories on ChemInventory and ESHA and is involved with the yearly Environmental Health and Safety (EHS) laboratory

inspections. LSOs should check eyewash stations weekly, conduct regular laboratory walkthroughs and educate their lab members on proper chemical hygiene and PPE guidelines. (See Responsibilities of LSO section for more detail)

Graduate Students, Post-docs, Undergrads, Visiting Researchers and Staff Researchers:

All researchers active in laboratory spaces must abide by the safety policies dictated by the department. All researchers should use appropriate Personal Protective Equipment (PPE), dispose of waste correctly, and obtain laboratory specific training on applicable instruments and techniques.

Environmental Health and Safety (EHS):

EHS is a part of Facilities Operations and Development (FOD) and they assist the university community in providing and maintaining a safe and healthy work environment. Every year (typically in the summer) a safety engineer from EHS will conduct an inspection with each individual research lab in the department. Typically, the LSO or the PI will accompany the EHS safety engineer through their lab during the inspection.

Responsibilities of a Laboratory Safety Officer (LSO)

Overview

1. ChemInventory
2. OSU EHS System and EHSAssist Website
3. Chemical Hygiene Plan
4. Yearly EHS Laboratory Inspections
5. Laboratory Walk-through forms
6. Contact with JST
7. Educate on Chemical Hygiene and PPE Guidelines
8. New researcher onboarding (Training Documentation)
9. Train next LSO

Detailed Description of LSO Responsibilities

1. Maintain a ChemInventory admin account with a current chemical inventory uploaded for your group (<https://www.access.cheminventory.net/>)
 - Contact computer support to give admin rights to LSO or create new research group
 - asctech@osu.edu
 - Or have previous LSO (with admin access) create or edit new LSO's account to have admin access
2. Ensure your lab has an up-to-date information with the OSU EHS System and EHSAssist (see Important Websites section)
 - Make sure all SOP's are digitally uploaded into the Chemical Hygiene Plan (CHP) on the EHS website
 - templates for SOPs can be found on the JST website
 - Make sure that all of your lab members have taken all of the appropriate/required safety quizzes on the EHS website.
 - Documentation of completed quizzes should physically be in your lab's CHP binder
 - PI should also have safety training documentation in CHP
 - Ensure your inventory is uploaded to the EHSAssist website

3. Documentation for lab-specific training must be completed for any lab members using specialized equipment or chemicals (anything with a SOP)
 - A form for each student or training technique should be included in the CHP binder
 - On the JST website there is a training documentation template you can use

4. Be the contact for Mitch Baker – EHS Safety Engineer at OSU
 - Mitch will contact PIs once a year to conduct a laboratory inspection during the summer
 - PIs *should* forward Mitch's yearly email to their respective LSO, but don't be afraid to reach out to Mitch directly to schedule your laboratory inspection

5. Every **month** the LSO should conduct a walk-through of the lab space and complete the checklist and have your PI sign the form.
 - Eyewash stations should be tested **weekly** – document test date on tag or inside CHP
 - If your documentation sheet/tag is not visible from the eyewash station, post a note or sign indicating where safety inspectors can find documentation
 - PDF of walkthrough form is available on the JST website
 - Keep these forms on file for your EHS inspection. After your EHS inspection, you can dispose of these sheets
 - These informal monthly walkthroughs will prepare you for the yearly EHS inspection

6. Read emails to the LSO listserv sent from Joint Safety Team (JST)
 - JST/faculty/staff will send important updates and information occasionally via email – read these and communicate to your group the pertinent information that may apply to your group
 - Attend LSO meetings

7. Educate labmates on chemical hygiene and PPE guidelines
 - LSOs should be proactive in ensuring lab members are following PPE guidelines outlined by the department (see PPE Guidelines in this guidebook)

- Eyewear, lab coats and gloves (where appropriate)
- LSOs should be able to answer lab members' questions about waste, waste disposal, instrument safety and technique protocol
- LSOs should educate lab members of the importance of laboratory safety to improve departmental safety culture

8. New researcher training and documentation

- New researchers include any person with the intent of working in your lab:
 - First year rotation students
 - Visiting scholars
 - Post-docs
 - Undergraduate researchers
 - *High schoolers (contact Mitch Baker to help setup their student accounts)*
- Must complete safety quizzes on EHS website – print their training record to include in CHP

9. Train the next LSO to be appointed in your group (see below)

- Contact the JST (cbc-jst@lists.osu.edu) with any LSO change so it can be documented and information can be directed to the new LSO

Training a New LSO and LSO Transitions

The JST suggests training a new LSO *up to a year prior* to the current LSO's departure. The longer a new LSO can shadow the current LSO, the more successful the transition will be.

Timeline

1. Discuss with PI about designating a new LSO up to one year prior to when you plan on graduating
2. If the training period will be longer than a semester, inform the JST of your trainee so we may add them to the listserv (be sure to specify you are training a new LSO, not transferring the role)
3. Use the LSO Responsibility List (previous page) as a checklist as you train the new LSO
4. Be sure to train the new LSO on your research lab specific procedures and techniques, such as waste generation and disposal and other protocols
5. Invite the new LSO to all JST sponsored LSO meetings

6. Ensure the new LSO has administrative or supervisor roles within the following websites:
 - a. ChemInventory
 - b. EHS website
7. Ensure the new LSO has the lab specific username and password for EHSAssist – this login information does not change with a new LSO
8. It is suggested to include your trainee LSO in the EHS lab inspection process
9. **To complete the LSO transition, email the JST that you have completed training and are transferring the LSO role.**

Direct any questions or concerns to: cbc-jst@lists.osu.edu

Ohio State Department of Chemistry and Biochemistry

Personal Protective Equipment (PPE) Policy

In an effort to better reflect the safety practices of research labs in industry, the department of Chemistry and Biochemistry at OSU has implemented a PPE policy. **As the LSO for your group, you are responsible for making sure that all personnel in your lab understand and comply with this policy.** Inspections will be carried out monthly to ensure the appropriate protective equipment is being worn at all times.

Minimum Required Items for all laboratory spaces:

1. Department issued laboratory coat
 - Clean lab coats can be obtained at any time from Celeste 180 or BioSci 129 (Key in BioSci 148A)
2. Eye safety glasses or chemical splash goggles
 - Each lab is responsible for purchasing their own safety glasses. The following styles meet the requirements of the PPE policy:
 - Chemical splash goggles of various styles along with standard face shields
 - Non-prescription safety glasses and safety glasses that fit over regular prescription glasses. These glasses are designed for impact only (and not for chemical splashes)
 - Prescription safety glasses with permanently attached top and side shields (again, not designed for chemical splashes). The department will cover the cost of prescription safety glasses with valid eyewear prescription – to get a pair of prescription safety glasses visit: <https://chemistry.osu.edu/safety/chem/glasses> and follow the instructions there
3. Long pants or skirts to ankles
4. Closed toe shoes

PPE Guidelines:

- PPE zones should be defined by physical barriers (doors, Plexiglas, tape, etc.) for clarity. It is okay to pass through a PPE required space without your equipment however, if an individual stops for any reason in the middle it could be considered a violation. PPE should also be worn while transporting chemicals through the hallways.

- Researchers should remove their lab coats when they leave a laboratory area and enter a non-PPE zone (safety glasses okay). Additionally, PPE should **NOT** be worn in any area where food or drink is present (lunch/breakrooms, offices, etc.) and should **NOT** be worn in the restrooms.

PPE Exemptions:

If a PI has a concern about a specific area of their laboratory space, the PI must contact the faculty safety committee to discuss their concern.

Failure to Comply with PPE Policy:

- **Individual Warning System:**
 - First Violation: The individual and PI will be notified of the infraction. Their PI should discuss safety culture in the lab and communicate the student's responsibility to comply with the PPE policy. The individual will receive a DocuSign document by email that must be signed by both the researcher and the PI.
 - Second Violation: The individual will be required to meet with the Department Safety Committee to explain why they are not complying with the PPE policy.
 - Third Violation: The individual will receive a "U" (Unsatisfactory) grade for the research course for that term. The student will meet with the appropriate vice chair (Vice Chair of Graduate Studies for graduate students or Vice Chair of Administration for others). Non-student researchers will meet with department chair and disciplinary action may be taken.
 - Fourth Violation: The individual will receive a second "U" on their transcript and will be barred from working in a research lab at OSU.

This individual warning system applies to anyone performing research in a research lab within the Department of Chemistry and Biochemistry at OSU, including (but not limited to): graduate students, postdocs, undergraduates, high school students, visiting scholars, faculty and staff.

- **Research Lab Warning System (PIs):**
 - First Violation: Warning
 - Second Violation: If the same student or another student from the same group receives another warning, the PI will be required to meet with the Department Safety Committee to discuss safety culture in their lab.

- Third Violation: The PI will be required to meet with the Department Chair and it will be noted in their annual evaluation. This may affect salary decisions or result in referral to university HR department.
- Subsequent Violations: Same as third violation

- **Violation Forgiveness:**

For both individual violations and research lab violations, the violation will be voided after two years. For example, if a researcher had a first violation on 1/1/2017 and second violation on 1/1/2018, the first violation will be voided on 1/1/2019 such that the individual would have one violation (instead of the original two) between 1/2/2019 and 1/1/2020. If no other violations by that individual took place, the researcher would be violation-free after 1/2/2020.

Laboratory Inspections

Annual EHS Inspection

The annual EHS inspection is scheduled by the LSO/PI with Safety Engineer Mitch Baker, and typically lasts 20-40 min. These lab inspections are conducted with the intent to reduce risk, determine compliance with Federal and State regulations and to promote a culture of safety. The EHS lab inspection typically covers your lab's CHP, updating of inventory list in EHSAssist, online EHS and lab-specific training processes and documentation, and general in-lab safety compliance. LSOs should obtain a copy of the updated laboratory inspection checklist provided by EHS (found at https://ehs.osu.edu/sites/default/files/lab_inspection_checklist.pdf) and do a walkthrough of their lab while consulting the list to prepare for their EHS inspection. This self-inspection process allows groups the opportunity to raise awareness of the risks while promoting a safe laboratory working environment. There is also a monthly self-inspection checklist available for LSOs to use during their monthly walkthroughs at the JST website (<https://chemistry.osu.edu/safety/jst>).

Inspection results are shared directly with researchers and departments. Following the inspection process, EHS provides the PI with an email detailing any violations that may have been found, and whether follow-up with these violations is necessary. Either the PI or the LSO will then need to check EHSAssist after inspections to see if their safety infractions require a written plan of correction in response to the violation. Responses need to be submitted through EHSAssist within 14 days of the inspection.

More details can be found at: <https://ehs.osu.edu/laboratory-inspections>

Departmental Inspections

Unannounced inspections are conducted monthly by members of the Faculty Safety Committee, and consist of short walkthroughs of the labs. These unannounced inspections are to check that:

- All persons in the lab are wearing proper PPE
- Eyewash inspection tags are updated
- Waste containers are properly labeled
- Other concerns of the Faculty Safety committee

Labs should refer to the LSO self-inspection checklist (see above) and the department PPE policy (<https://chemistry.osu.edu/safety/ppe>) for more specific items.

Examples of PPE Scenarios

Cold Rooms

- All PPE is required (one glove off to open door, carry lab coat with you to cold room, safety glasses). The lab may keep one large, clean lab coat in the cold room at all times for common use.
- Use a pail or cart (if applicable) when transporting chemicals to and from the cold room (secondary containment).
- Limit storage of hazardous chemicals inside the cold room; keep an inventory of what you keep stored in cold room storage.
- Turn the lights off when finished in the cold room.
- The cold room door should remain locked when not in use.

Laser Labs

- Lab coats are prohibited near laser tables.
- The appropriate eye protection should be worn with consideration to the laser power and wavelength being used.

Shared Instrument Rooms

- All PPE is required (one glove off to open door, carry lab coat with you to shared instrument room, safety glasses) by default. PPE requirements may vary for different facilities if they have requested exemptions – check with the facility manager if you need clarification.
- Use secondary container to transport samples to and from the shared instrument room.
- Do not use any instruments without prior training and certification and documentation, ensure you have FOM access.
- Always ask for help from the instrument TA or an experienced user if you are unsure.
- Always leave the equipment in the same or better condition than you found it.

Transporting Chemicals

- Wear appropriate PPE when transporting chemicals, no gloves on door handles.
- A secondary container must be used to hold the original container at all times.

- Secondary containers must be able to contain all of the materials in the event of a spill or breakage of the original container.
- Individuals transporting chemicals through public spaces must be familiar with the material's hazards and know what to do in the event of a spill.
- Use the freight elevator (if one is available) when transporting chemicals between floors, no gloves on elevator buttons. Stairs should only be used if elevators are unavailable.

Radiation Safety: Emergency Spill Response

Contact information:

During normal office hours: Radiation Safety Section EHS (292-1284)

During off-hours: Radiation Safety Emergency response (614) 561-7969

1. Minor Spill of Radioactive Material (< 100 microcuries)

1. **Notify:** Notify persons in the laboratory or affected area that a spill has occurred.
2. **Shield the Source:** Cover the spill with absorbent pads. If possible, the spill should be shielded, but only if it can be done without further contamination or without significantly increasing radiation exposure.
3. **Prevent the Spread:** Confine the movement of all potentially contaminated personnel and evaluate for contamination before allowing them to leave the location.
4. **Clean Up:** Use disposable gloves and remote handling tongs. Carefully fold the absorbent paper and pad. Insert into a plastic bag and dispose of in the radioactive waste container. Include all other contaminated materials such as disposable gloves.
5. **Survey:** With smear wipes, and if appropriate with a survey meter, check the area around the spill, hands and clothing for contamination.
6. **Report:** Report the incident to the Radiation Safety Section of Environmental Health and Safety (292- 1284) within 24 hours. If the spill occurs during off hours, the Radiation Safety emergency response cell phone number is (614) 561-7969.

2. Major Spills of Radioactive Material (> 100 microcuries)

1. **Clear the Area:** Notify all persons not involved in the spill to vacate the laboratory or affected area.
2. **Call for Help:** During normal office hours, notify the Radiation Safety Section - Environmental Health and Safety at 292-1284. During off-hours the Radiation Safety emergency response cell phone number is (614) 561-7969.
3. **Shield the Source:** Cover the spill with absorbent pads. If possible, the spill should be shielded, but only if it can be done without further contamination or without significantly increasing radiation exposure.

4. **Prevent the Spread:** Confine the movement of all potentially contaminated personnel and evaluate for contamination before allowing them to leave the location.
5. **Close the Room:** Leave the room and lock the door(s) to prevent entry. Placard the door so that no one inadvertently unlocks the door or enters the room.
6. **Clean Up:** Performed under the guidance of Radiation Safety personnel.

3. Personnel Contamination

1. **Notify Radiation Safety:** Radiation Safety must be notified immediately of any incident involving personnel contamination, regardless of the radionuclide or activity. During normal office hours, notify the Radiation Safety Section of Environmental Health and Safety at 292-1284. During off-hours the Radiation Safety emergency response cell phone number is (614) 561-7969.
2. **Decontaminate:** Begin decontamination of skin surfaces immediately with soap and warm water. Contaminated clothing should be removed and stored for further evaluation by Radiation Safety. Decontamination should continue until no activity is detectable, but not to where effectiveness of the skin as a barrier is destroyed. Decontamination efforts should cease when the skin starts to become thin and reddened. The health of the skin should be maintained to minimize absorption and internal deposition of radioactive material.

Important Websites for LSOs

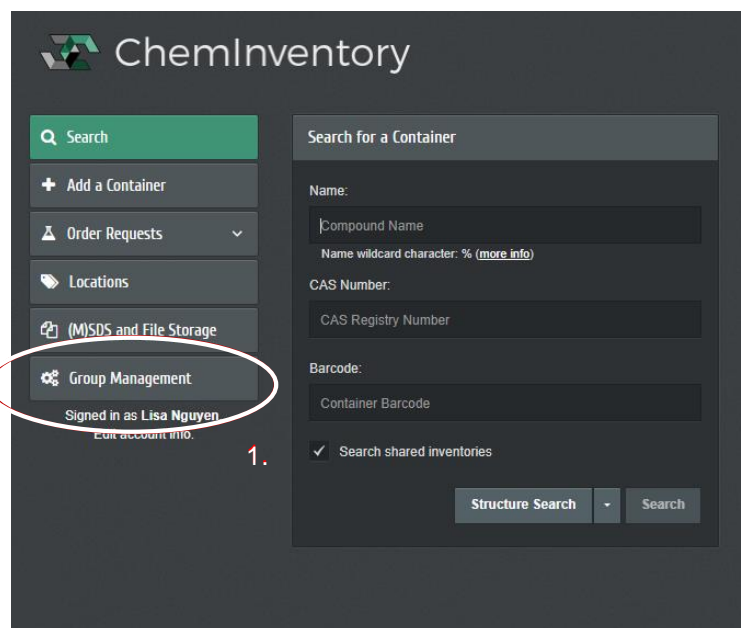
As an LSO, there are several important websites that you and your lab will visit frequently. These include:

- *ChemInventory*: The unofficial department-wide shared inventory system. Designed to reduce waste generation.
- *Ohio State EHS System*: Hosts EHS training modules, Chemical Hygiene Plans, as well as waste pickup/service requests.
- *EHSAssist*: The EHS-official inventory system. Safety infractions from EHS lab inspections can also be addressed here.

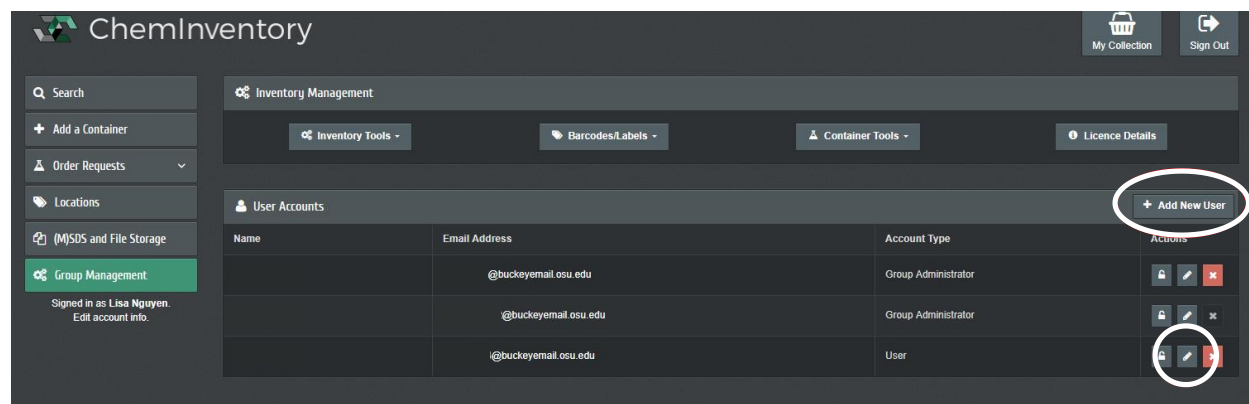
ChemInventory

ChemInventory is the unofficial department-wide inventory that was adopted in an effort to reduce waste generation from unwanted chemicals throughout the department. Research groups share their inventories with other groups in the department with the idea that groups can borrow small amounts of chemicals from each other while trying out new reactions/experiments or in the event of an unexpected backorder. If your lab participates in chemical sharing, be sure to keep good records of who from which lab is borrowing how much of what chemicals, and always remember to email the designated lab contact about sharing chemicals – *do not show up to their lab unannounced*.

ChemInventory can be accessed at <https://access.cheminventory.net/>. At this point, your group's inventory should at least be setup. If you are a new LSO and need access, you can either talk to Computer Support in Newman-Wolfrom or the previous LSO can give you access according to the following instructions:



1. After logging into the ChemInventory website, click on “Group Management on the left-hand side of the screen.



2. You can either add the LSO as a new user by clicking “ + Add New User”, or edit their existing account by clicking on the pencil button in the row corresponding to their name and email.

You can also add new lab members to the system from this screen (this process is not automatic once they join a lab). It's also a good idea to add your PI as a Group Administrator as well.

Create a New User

Please enter details for the new user below. A password will be automatically generated and sent to the user on account creation.

User's Email Address:
 Email (e.g. abc12@example.com)

User's First Name: User's Last Name:
 First Name Last Name

Please choose an account type for the user below.

Account Type: (more info)

- User
- Group Administrator**
- Order Handler
- User
- Read-Only

- Regardless of which method you use in Step 2, your screen will look similar to this – you need to change the LSO’s account type from “User” to “Group Administrator”. This will give them editing privileges for your group’s inventory.

ChemInventory

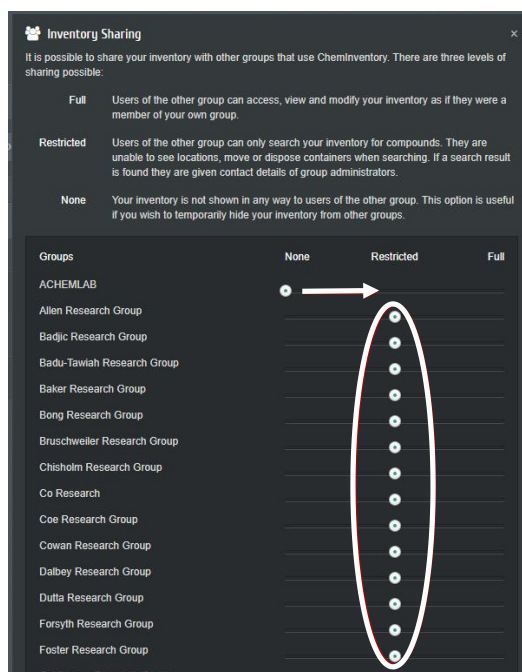
Inventory Management

Inventory Tools - Barcodes/Labels - Container Tools - Licence Details

Import from Excel
 Export your Inventory
 OSU Excel Export
Inventory Sharing
 Warned Users
 Table Columns

Name	Email Address	Account Type	Actions
	@buckeyemail.osu.edu	Group Administrator	[Lock] [Edit] [Delete]
	!@buckeyemail.osu.edu	Group Administrator	[Lock] [Edit] [Delete]
	@buckeyemail.osu.edu	User	[Lock] [Edit] [Delete]

- Once you have the group members sorted out, you need to make sure your inventory is being shared with the department. From the Group Management page, use the Inventory Tools menu to select “Inventory Sharing”.



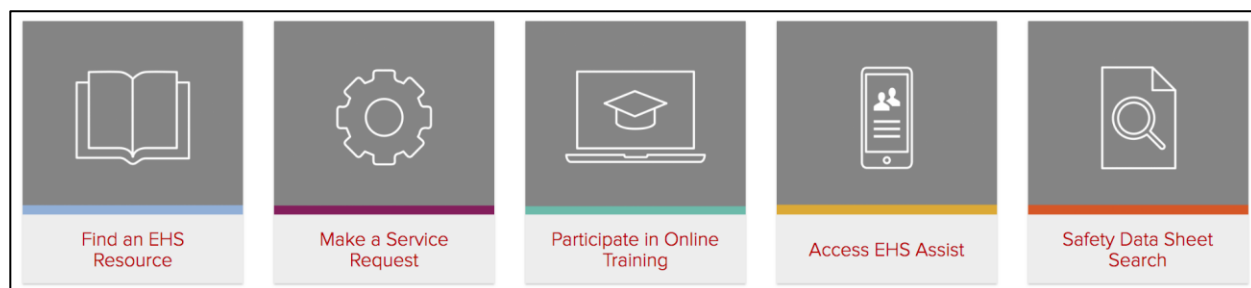
- In the menu that pops up, change all of the sliders from None → Restricted. The “Restricted” option will allow other labs to view your inventory without being able to edit it.

From time to time, as new groups are added to the department, it will be necessary to go back and repeat this step to share your inventory with the new groups.

Ohio State EHS System

The OSU EHS system can be found at <https://ehs.osu.edu> - you will use this website to manage your Chemical Hygiene Plan, waste pickup and supply delivery requests (if you have EHS pick up your waste), and online training modules for your group, as well as access the SDS database system provided by the school.

After navigating to this page and scrolling down, you should see a bar of icons just below Brutus and the emergency numbers:

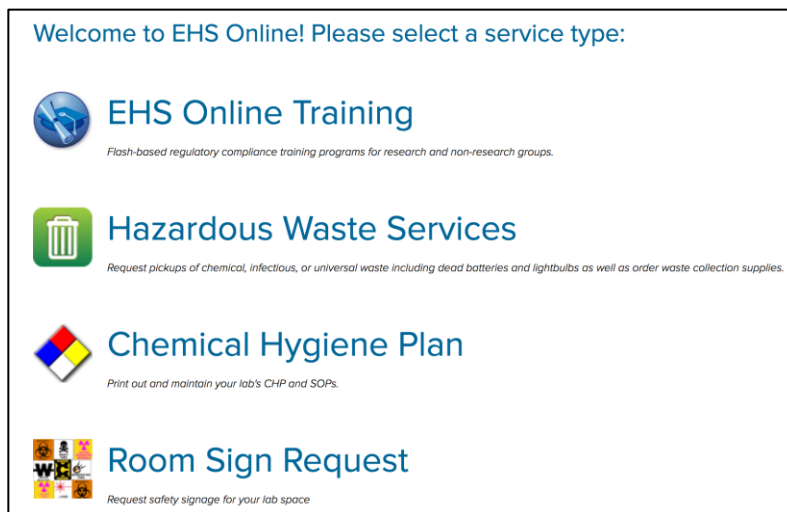


The last three icons will probably be the most useful to you as an LSO.

- **Participate in Online Training**

This is where you will complete your online EHS training, manage your group's training, and print out training records.

After clicking this icon, you will be presented with a number of menu choices:



- *EHS Online Training:* Use this link to complete your required EHS online training modules, as well as manage the training for your fellow group members. The easiest way to manage your group's training is to create a training group – you can add yourself (as the LSO), your PI, and the JST president as supervisors, and then after discussing with your PI the relevant training modules, you can add these as required for the group (either required once or required yearly).

You can set up and manage training groups as follows:

Home | Training | **Groups** | Report | Profile | Icon Guide | Log Out

My Training Report Help

	Program	Service Area	Required By	Progress
✓	Cryogenic Materials Training	Research Safety	Training Group	Completed 8/31/20
✓	Silica Dust Awareness Program	Occupational Health & Safety	Training Group	Completed 8/30/20
✓	Personal Protective Equipment	Occupational Health & Safety	Training Group	Completed 8/30/20
✓	Laser Safety	Radiation Safety	Training Group	Completed 8/30/20
✓	Lab Standard Training	Research Safety	Training Group	Completed 8/30/20
✓	Fume Hood Safety	Research Safety	Training Group	Completed 8/29/20
✓	Flammable Liquids	Occupational Health & Safety	Training Group	Completed 8/29/20

Program Listing

Area: Select a service area...

Home | Training | **Groups** | Group Members | Report | Profile | Icon Guide | Log Out

Request a New Group


Group Membership

This feature allows supervisors to manage, assign and maintain training for their group. To create a new group, click the "Request a New Group" button. Once your group has been created you can edit and manage the new group. To begin assigning training, pick the group from the list then choose, "View Group Members". From this page you can add or remove personnel from your group.































	Group Description	Supervisor(s)
<input type="radio"/>	Training Group	LSO, PI, JST President

1. Click here to setup a new group and manage your group once it is created.
2. Click here to create a new group and fill out the required information (group name, reason for creating group, and check "yes" if this is for your research group). There may be a small delay before your group shows up – you should get an email from EHS saying it has been approved.
3. Once your group has been created, go back to this page. Your group should now show up – click the radio button next to the group name to start assigning modules.

	Group Description	Supervisor(s)
<input type="checkbox"/>	Training Group	LSO, PI, JST President

Begin adding training by selecting a training program from the dropdown menu. Choose if the training is required annually. Finish by clicking the  icon to add new training.

Notify Group Members as Training is Added (when checked, group members will receive an email each time a new training module is added.)

	Required Training	Annual?	Report
	Select a program...	<input type="checkbox"/>	 
	Building Emergency Action Plan (BEAP)		 
	Chemical Safety		 
	Chemical Spill Cleanup		 
	Compressed Gas Cylinder Safety		 
	Cryogenic Materials Training		 
	Flammable Liquids		 
	Fume Hood Safety		 
	Lab Standard Training		 
	Laser Safety		 

4.?

- After completing step 3, the webpage will look something like this. Here you can add required training modules. Some are required by EHS depending on the type of lab, others should be required based on the research activities of your lab. Select the module and click the lightbulb with the plus sign to add it as required for your training group. You can also come back to this page later to generate PDF/Excel training reports by training module to add into your CHP.

Training Modules Required by EHS:

Chemical/BSL1 Lab:

- Laboratory Standard (one-time)
- Building Emergency Action Plan (BEAP; one-time)
- Lab specific hazards

BSL2 Lab:

- Laboratory Standard (one-time)
- Building Emergency Action Plan (BEAP; one-time)
- BSL2 Safety (one-time for ALL lab staff)


- Bloodborne Pathogen (BBP) Initial/Annual Refresher (only for individuals working with BSL2 materials; **must be completed yearly**)
- Lab specific hazards

Radioactive Materials (RAM) Lab:

- Radiation Short Course (one-time)
- RAM Annual in-lab training
- Laboratory Standard (one-time)
- Building Emergency Action Plan (BEAP; one-time)
- Lab specific hazards
- *Also BSL2 (one-time) and Bloodborne Pathogen (BBP) Initial/Annual Refresher (only for individuals working with BSL2 materials; **required yearly**) if the risk is present*

5.

Group Management

You can add a new group member by either typing their name or their OSU name, # into the search box provided. Choose if the group member will be a "student" or "supervisor". The supervisor role allows for the ability to manage and view a groups training records. Click the  icon to add the new member. To review the list of current members of your new group, click the "Review Group" link. This will refresh the page and show all of the current members of your group. [\[more\]](#)

Send Training List to All Members

Send Training List to New Members as Added

My Training Group

Member Name (or name.#): <input type="text" value="Search..."/>		<input type="radio"/> Student <input checked="" type="radio"/> Supervisor	<input type="button" value="Clear"/>
Student	Status	Report	
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		
Lab Member	Training Completed		

1 - 17 of 17 Page 1 of 1

6.

5. After adding required training, go to the "Group Members" tab to add people to your group.
6. Search for your lab members by name.# or just name. To add them to the group, choose whether they are a student or a supervisor and click the + button to the left of the search box. **Most lab members should be**

students. The group LSO, PI and the JST president should be added as supervisors.


Your lab members must have previously signed into this system at least once for them to show up in the dropdown list. If you can't find them, have them login to the "Participate in Online Training" section from the EHS homepage and check again.

7. After an individual has completed all of their required EHS training, you can generate a PDF report to print and add into your CHP.































Home | Training | Groups | Group Members | Report

Profile | Icon Guide | Log Out

Group Management

You can add a new group member by either typing their name or their OSU name, # into the search box provided. Choose if the group member will be a "student" or "supervisor". The supervisor role allows for the ability to manage and view a groups training records. Click the  icon to add the new member. To review the list of current members of your new group, click the "Review Group" link. This will refresh the page and show all of the current members of your group. [\[more\]](#)

My Training Group

Member Name (or name.#):	Search...	Student	Status	Report
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 
	Lab Member		Training Completed	 

Once they have completed the required training, you can generate PDF/Excel reports here for module completion by person to add to your CHP.

- **Hazardous Waste Services:** Use this link to request waste pickup through EHS of chemical, biological or universal (light bulbs, CFLs, Hg-containing devices, etc.) waste or to request supply deliveries for things like plastic carboys to store waste, bio waste boxes and red bags, 5-gallon buckets, etc. As of the time of this writing, EHS waste pickup is included in the portion of grant money that goes to the university, so there is no additional charge to your research group to use this service.
- **Chemical Hygiene Plan:** Use this section to create a Chemical Hygiene Plan for your lab or to make edits to your current CHP. This part is pretty explanatory to use...be aware that any chemical and operation you name specifically in your CHP will require a SOP to be uploaded with it before it will be considered complete. Once you are finished making your edits, click the "Confirm CHP is valid." button on

the Summary/Review page to make sure you have included all of the required materials. After it has been verified, you will have the option to print out everything or individual sections. The program will auto-generate a bunch of the front material for your CHP.

- *Room Sign Request:* Use this section to request door signs for your labs (the ones that have the hazard symbols and emergency contact info)...keep track of when you order them, sometimes they take a while and it's necessary to call the number listed on this site.

- **Access EHS Assist**

Click on this icon to access the EHSAssist program – more details about this site can be found in the next section.

- **Safety Data Sheet Search**

Click on this icon to access the SDS database provided by the university (“ChemWatch”). It contains an extensive list of SDS sheets from many different manufacturers and specialty chemical companies, but is a little overwhelming to navigate.

You must be connected to the campus internet to access this database.

EHSAssist

EHSAssist is where your lab’s official inventory record is kept – this is the one consulted by EHS, Homeland Security and the DEA.

You can access EHSAssist from the EHS homepage, <http://ehs.osu.edu> - scroll down and click on the button with a yellow bar that says “Access EHS Assist”. You will then see a login screen with the OSU logo (enter *your* name.# and OSU password and accept the BuckeyePass 2FA), then you will see a different login screen with a tan-colored box of text in the top right corner. In this second login screen, you need to enter the username and password given to your PI – there is one EHSAssist account per lab and the account info should just be passed from LSO to LSO (or obtained from your PI depending on their preferences). If you are a new lab, or the previous LSO didn’t share this info with you and your PI doesn’t know it, just contact Mitch Baker (baker.779@osu.edu) and he can get you in.

EHSAssist Login Information:

Username:

Password:

Once you get past all of the login screens, you will see two or three sections in your EHSAssist:

The screenshot shows the EHS Assistant dashboard. At the top, it says "EH&S Assistant" in red and "Log Off" in red. Below that, there is a "PI:" label followed by a blacked-out box. The dashboard is divided into three main sections:

- RAM:** Contains links for "Inventory/Disposals", "Waste Pickup", "PI's Permit Limits", and "Training".
- CHEM:** Contains links for "Inventory", "Reports", "Inventory Annual Review Statement", and "Last Inventory Review Date: 04/30/2017".
- INSPECTIONS:** Contains links for "Uncorrected Inspection Violations" and "Print Inspection Report".

- **RAM:** If your lab has a radioactive materials permit, you will use this section of the website to manage your relevant inventory, see your permit limits, initiate waste pickups, and see relevant training. If your lab used to have a RAM permit that is no longer active, this section will probably still show up but you can just ignore it. If your lab has never had a RAM permit, this section may or may not be there.
- **CHEM:** This is going to be the most useful tab...
 - **Inventory:** This is where you (or the person in the lab responsible for inventory management) will maintain the official record of your inventory. The site is kind of old and clumsy, and as a result you can only upload or delete items one at a time. If you get to takeover a forgotten inventory, move labs (and have a bunch of room numbers to change) or are in a new lab you can email Mitch Baker (baker.779) and he can help you do a bulk update of this inventory. Don't abuse his help – this inventory needs to be routinely updated as much as possible.
 - **Reports:** You can use this link to generate different reports (as either PDFs or Excel spreadsheets) of your inventory. This is useful if you need to do an

Appendix A audit or as a starting point if your lab wants to start an additional inventory management scheme.

- **Annual Review Statement:** Once a year, you (the LSO) or the person in charge of your lab's inventory needs to click on this link to certify that your inventory on EHSAssist is up-to-date. This is checked as your annual EHS lab inspection, so make sure it gets done before then. A good system is to do major inventory checks in the spring/early summer and certify it's correct so you are all ready to go for the summer EHS inspection.
- **INSPECTIONS:** This tab is important after your EHS Inspection!
 - **Uncorrected Inspection Violations:** After EHS conducts your annual lab inspection, any violations that were found in your lab will be listed here. Any violations listed here are required to have a corrective plan submitted through this tab within 14 days of your inspection date – talk with your PI about their expectations with this. Some PIs may want to handle this themselves, some PIs are fine with you (as the LSO) taking care of this, just find out which way they prefer.
 - **Print Inspection Report:** After a corrective plan has been added to the link above, click on this link to generate a report to print out and add to your Chemical Hygiene Plan. It's also probably a good idea to save a copy of this as a PDF and add it to your communal group electronic storage place so you have a digital copy – the site will eventually delete old inspection reports.

Helpful Websites

Don't forget about these resources if you have more questions!

JST Safety Page – <https://chemistry.osu.edu/safety/jst>

Safety Coordinator's Page – <https://chemistry.osu.edu/inresources/safety/chem>

EHS Research Safety Information Page – <https://ehs.osu.edu/research-biosafety>

What is Needed in a Chemical Hygiene Plan (CHP)?

A Chemical Hygiene Plan (CHP), defined by the Occupational Safety and Health Administration (OSHA) as part of the Department of Labor, is a “written program stating the policies, procedures, and responsibilities that protect workers from the health hazards associated with the hazardous materials used in that particular workplace”.

At The Ohio State University, the CHPs are laboratory-specific and need to be developed and maintained in each laboratory. The electronic record of CHPs can be developed and retrieved from the Environmental Health and Safety (EHS) website: <https://ehs.osu.edu/> The hard copy of the CHP for each laboratory needs to be accessible to all personnel performing research in the lab, and they need to be aware of the content of the CHP.

Below are some of the most important elements contained in a CHP:

- **Standard Operating Procedures (SOP):** SOPs serve to educate researchers as to the standard ways to safely handle equipment and chemicals, and should contain training documentation for each SOP. Prominent hazards such as acutely toxic chemicals and equipment with safety and/or maintenance concerns (such as an inert atmosphere glovebox) require dedicated SOPs.
- **Training Documentation:** Training documentation in your CHP needs to include results from both the EHS online training modules (<https://ehsapps.osu.edu/secure/apps/Training/Training.aspx>) and the lab-specific training records (<https://chemistry.osu.edu/safety/jst>). These trainings serve to demonstrate laboratory personnel’s knowledge toward laboratory safety and proficiency in handling hazardous materials and equipment.

If you make your CHP online through the EHS website, it will guide you through every step of the process. EHS will also check to make sure your online CHP is complete (“verified”) before your annual lab inspection.

Remember that your CHP is a living document, and should be updated with new SOPs and training records as often as necessary.

Chemical Waste Disposal

Tips for Waste Disposal

- If metals are contained in the waste, provide the oxidation states
- All solvents must be listed (including water)
- Avoid using formulae or shorthand notation (e.g. don't write DCM, instead use dichloromethane)
- Labeling a bottle as "chromium waste" and the like is **UNACCEPTABLE**. Listing the contents (such as "5g chromium oxide in water") is acceptable
- Hazardous chemicals such as cyanide, hydrofluoric acid, water reactive, mercury, etc. should be in separate containers that are properly labeled
- Do not combine different or incompatible types of hazardous wastes. For example, **acids and bases, metal salts and solvents, oils and water**

Chemical Waste Disposal Guidelines

Solvent Waste Disposal

- Each lab has been given a red, polyethylene safety can equipped with a flame arrestor for the collection of *liquid* organic wastes ONLY. Acids, bases, reactives, oxidizers, molecular sieves, silica gel, and highly toxic compounds should NOT be disposed of in the red safety cans; see below for the disposal of those types of wastes. Small amounts of solid organic waste that are freely soluble can go into the safety cans; large amounts should be collected separately. Water can also go into the cans if it is contaminated with organics. Record the amount of water. Keep in mind that it is very expensive to incinerate water, so try to use as little as possible.
- IT IS VERY IMPORTANT to record on the yellow, hazardous waste tag all the necessary information, which should include: building and room numbers, person or persons responsible for the safety can and solvent waste disposal, date of each entry, quantity and name of each compound, and initials of the person making each entry. PLEASE DO NOT USE ABBREVIATIONS, FORMULAE, OR STRUCTURES when filling out the tag; try to use IUPAC rules whenever possible. The total should be near 18L.
- Full safety cans (leave extra head space in the summer time) must be taken down to the yellow, flammable safety cabinet located outside in the loading dock behind **Evans, Newman-Wolfrom and Celeste** prior to the first working day of the week. Your building key (MUA44) will open the lock on the cabinets. Those in **CBEC** can take their cans to the cabinets inside CBEC 162A in the loading dock (using your

BuckID card to open the lock). The safety cans are picked up, emptied (bulked), and returned by EHS on the same day. **PLEASE RETRIEVE YOUR EMPTY CANS BY THE FOLLOWING DAY.**

- Cans that are not in compliance with the above rules **WILL NOT BE EMPTIED**. If the safety can is defective or broken, EHS will tag it and notify you. Please see the Safety Coordinator or call EHS at 614-292-1284 for replacing parts or defective cans.

Pump Oil

- Used pump oil that is **NOT** contaminated with heavy metals or other materials that would make it hazardous waste can go to the Safety Office. Please call to make an appointment (**614-597-3569 or 614-597-3298**).

Spill Kits

- Refer to the spill kits for instructions on spill cleanup. The spill should be contained in the 5-gallon pail and disposed of as hazardous waste. See the Safety Office for a replacement Spill Kit (0013 EL, 480 CE, or CBEC 163).

Non-Toxic Solid Waste (Silica gel, molecular sieves, etc.)

- Silica gels and other non-toxic solid wastes should be placed in a galvanized solid chemical disposal can (available from the Safety Office). **DO NOT** put glass, paper, plastic, free liquids, or hazardous wastes into the can. Free or standing liquids automatically turn the non-hazardous waste into hazardous wastes which must be dealt with separately. When the can is nearly full, place it in front of the cylinders cage by the yellow safety cabinets in the loading dock behind Evans or the designated cabinet in CBEC 162A.

Empty Solvent Containers (Metal)

- Before they are discarded, **ALL** empty chemical containers must be rinsed. Rinse containers of organic reagents first with a compatible solvent and then with water **AND COLLECT ANY WASHING (rinsate) THAT MAY BE CONTAMINATED WITH HAZARDOUS WASTE**. Triple rinse the containers, allow to dry, and dispose of them **WITH THE CAPS REMOVED**. Apply a "Triple Rinsed" label (available from the Safety Office) or **handwrite "Triple Rinsed"** before disposal. Refer to **Glass Disposal (below)** for solvents in glass containers.

Glass Disposal and Syringe Disposal

- Clean (triple rinsed), dry glassware (broken or not) should be placed into rigid boxes for disposal. The boxes are available in three locations: 1) The Safety Office (outside of 470 Celeste Lab), 2) CBEC 162A, and 3) near Rooms 0013/15 of the Evans basement. The boxes must be taped for support – the tape is available from the Safety Office. When the box is full, tape the top lid closed and write “Glassware Trash” on the box to indicate that it is ready to be picked up by the custodians. Place the full box in the hallway outside of your lab. Please do not crush the glassware in the box. These boxes will be disposed of in the open dumpster outside of Evans Lab or in CBEC. Boxes that are open, compromised, wet, or suspected of containing chemicals WILL NOT BE PICKED UP. Sharp objects or objects that look “medical” in nature such as blades, syringes, syringe needles, etc., must be boxed separately before being placed into the glass disposal boxes. Sharps that are biohazardous (have been in contact with human pathogens or human fluids or other biological materials) CANNOT go into the glass boxes...see the Safety Office for more information. Contaminated glassware contaminated with compounds such as phosphomolybdic acid, vanillin, KMNO_4 , etc., and TLC plates must be disposed of as hazardous waste and cannot go into the disposal boxes. Alternatively, large 4L solvent bottles can be reused for waste containment or recycled after being triple rinsed.

Uncontaminated Acids and Bases

- Acids and bases that are free of other types of waste (such as heavy metals), can be neutralized to a pH of 7 and poured slowly down the drain. **WARNING!** Mixing acids and bases can be extremely dangerous for many reasons, including spattering and the generation of heat. Take proper precautions by wearing personal protective equipment, using buffering solutions, and adding small quantities of dilute solutions.

Unknown or Unlabeled Materials

- The Safety Office (or EHS) DOES NOT ACCEPT unlabeled chemicals. Refer to the “Disposal of Materials of Unknown Composition” policy on the Safety webpage (<https://chemistry.osu.edu/sites/chemistry.osu.edu/files/Unknown%20%28Unlabeled%29%20Chemical%20Identification%20Policy%20and%20Form.pdf>). For each unknown, an unknown profile must be completed. See the Safety Office for details.

Toxic Waste Disposal (Reagent Waste)

- Those wastes such as unwanted or outdated reagent waste, heavy metal waste, highly toxic or carcinogenic materials and contaminated items must be LABELED properly (no formulae, structures, or abbreviations). If not in their original containers, use sturdy, closed containers. These wastes are to be given to the Hazardous Waste Specialist or the Safety Coordinator; call or email us to make arrangements (614-597-3569 or 614-597-3298, tong.2@osu.edu or herrington.5@osu.edu). Hazardous waste can also be picked up by EHS after placing a request online. See the Hazardous Waste Specialist if you need the self-adhesive labels (or order online from EHS) or over-pack containers. It is NOT acceptable to label waste as “Chromium Salts” or “Tin waste”; ALL salts and components MUST be listed.

Metallic Mercury and Mercury Compounds

- Used metallic mercury should be given to the Safety Office in capped, labeled bottles. Small mercury spills should be cleaned up with a hand-pump or a mercury vacuum. The mercury vacuum can be obtained from the Safety Office during normal working hours (bring your OSU ID with you). MERCURY WASTE is now VERY DIFFICULT to dispose of in this country and it is very expensive...avoid generating it if possible. ALL MERCURY WASTE MUST BE PACKAGED AND LABELED SEPARATELY FROM ALL OTHER WASTE. Broken thermometers and contaminated glassware can be sent to a reprocessor; package it separately as well. Non-mercury thermometers can be treated as contaminated glassware (see above).

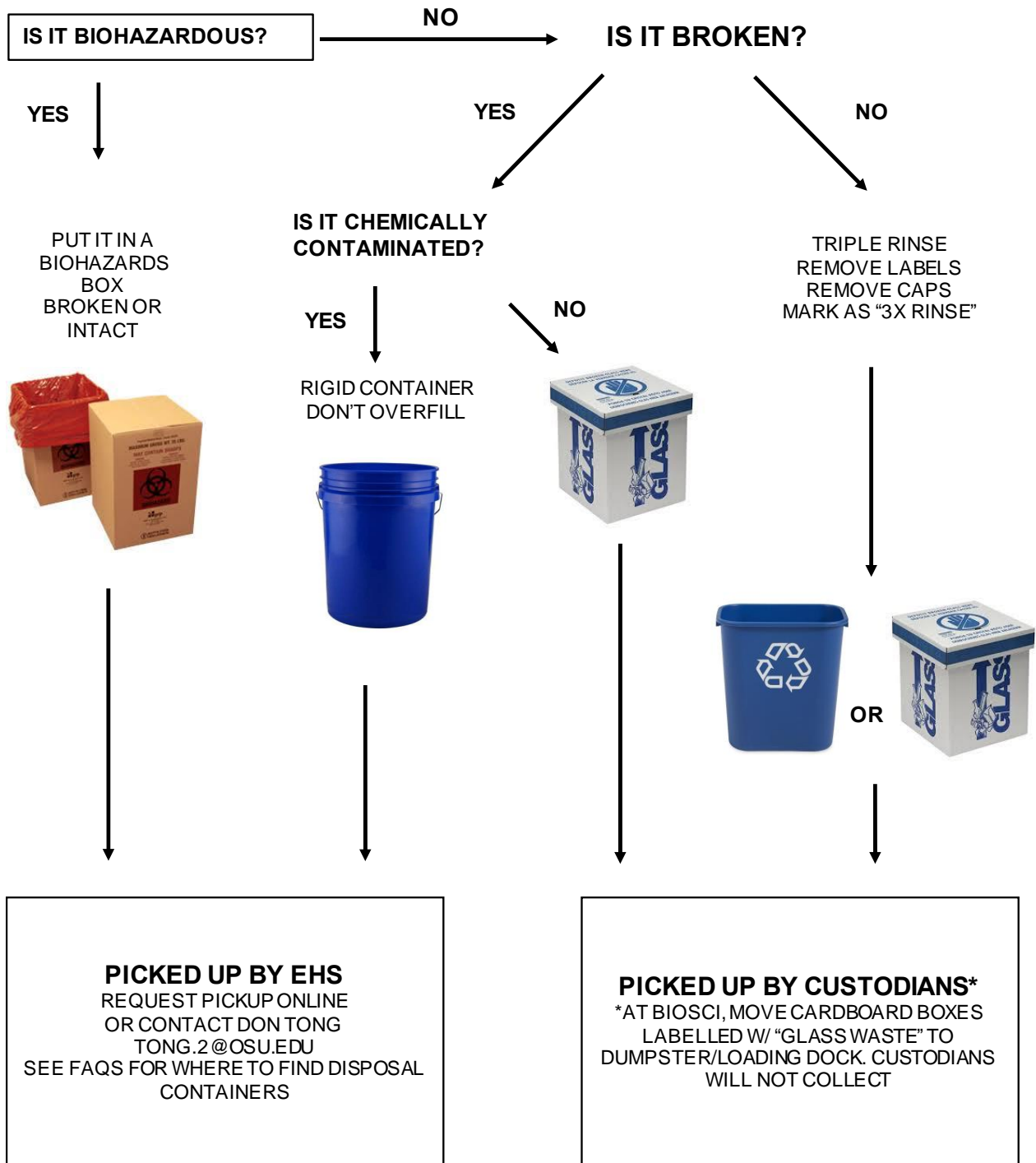
Biohazardous Material

- If your lab also generates biohazardous waste, it must be disposed of separately from the chemical waste. Biohazard boxes and liners can be ordered from the EHS website under Hazardous Waste Services. All solid objects that are considered biohazardous material must be disposed of in a red biohazard bag placed in a biohazard box. When full, arrangements can be made online through EHS for pickup using the same request system as mentioned above. Any liquid waste generated (buffers from gel electrophoresis, Western blots, buffers contaminated with ethidium bromide, etc.) should be collected in a sturdy, closed container (such as a plastic carboy) and disposed of with EHS as well. Uncontaminated buffers (has not touched any kind of bio-reagents, and does not contain any nitrate salts, cyanide salts, heavy metals, ethidium bromide, etc.) can be poured down the drain.

If you have further questions or are generating a type of waste not listed above, contact John Herrington (herrington.5@osu.edu) or Don Tong (tong.2@osu.edu) for assistance.

If your lab has chemical reagents that are still usable but are no longer wanted/needed, don't dispose of them! Please consider donating them to the chemical recycling program so others can use them. Don't forget to check the Recycling Group inventory through ChemInventory for any reagents your lab may be able to use! For more information please visit <https://chemistry.osu.edu/safety/chem/crp>.

Graphical Guide to Glassware Disposal



Graphical Guide to Sharps Disposal

SHARPS (I.E. NEEDLES, RAZORBLADES, SYRINGES, SCALPELS, ETC.) ALWAYS GO IN A PRIMARY CONTAINER



IS IT BIOHAZARDOUS?

YES

PUT PRIMARY CONTAINER IN A BIOHAZARDS BOX



NO

**ALL SHARPS
PICKED UP BY EHS**
REQUEST PICKUP ONLINE
OR CONTACT DON TONG
TONG.2@OSU.EDU
SEE FAQs FOR WHERE TO FIND
DISPOSAL CONTAINERS

CBC Chemical Recycling Program (CRP)

The Chemical Recycling Program is a run by Hazardous Waste Specialist Don Tong. The program acquires chemical containers from research labs that have relocated or retired. Collected chemicals are typically in their original manufacturer's container and do not undergo any additional purification.

Chemicals may not be taken outside of the department without written permission from your supervisor/PI. Also, you cannot transport hazardous materials using the Campus Area Bus System (CABS).

To search the inventory of the CRP, visit the ChemInventory online inventory system (<https://access.cheminventory.net/>, look under Recycling Group). You can request ChemInventory access from your research group's LSO.

In order to request items from CRP, researchers must follow the following procedure:

1. Student/Researcher finds a chemical in the CRP using the ChemInventory search function.
2. The Student/Researcher asks their supervisor/PI to request the chemical.
3. The Supervisor/PI sends an email to recycling@chemistry.ohio-state.edu with the name of the chemical(s) and the name of the student requesting the chemical.
4. The Student/Researcher will bring safety glasses, a rubber transport bucket (secondary container), and their student ID to the CRP located in 1050 MP (open 10:00 to 10:30AM Monday – Friday).
5. Don or John will log the student ID and give the chemical to the Student/Researcher.
6. The Student/Researcher/Supervisor will update their EHSAssist and other group inventories (if applicable) as required.

The CRP does not currently accept returns or donations.

Researchers will no longer be able to search bins for their chemicals while at the CRP to save time. We will handle each customer one at a time and on a first-come first-served basis.

Note: The research group admin (LSO, PI or anyone with administrator access) should enable Full Access in ChemInventory (under Group Management > Inventory Management > Inventory Tools > Inventory Sharing ...) so items may be transferred from CRP to your research lab's ChemInventory.

Check Out Procedure for Researchers Leaving CBC

CBC HR has their own Exit Form that must be turned in to their office on or before your last working day. The form can be found in the HR office or online on the chemistry website under Grad > Chemistry Ph.D. Program > Resources https://chemistry.osu.edu/sites/chemistry.osu.edu/files/Exit%20Form_0.pdf

CBC HR Office: NW 1102

The CBC Exit Form is *required* for all employees of the department, such as graduate students or post-docs. Below is an overview of the components of this form:

- Name, Title, Employee ID and Last Day of Employment
- **Letter of resignation:** A typed letter of resignation. Include last working day, sign, and give a copy to your supervisor and HR office
- **Return keys:** See Building Coordinator of your building to return all keys (Kevin Dill, Walter Williams or Carol Barnes)
- **Update address and contact info:** Update your forwarding address and/or contact info at eprofile.osu.edu > Personal Information Summary link
- **Visit IT:** See Computer Support (NW 2105) to verify that your account has been disabled and return any OSU property/assets. Initials are required on the Exit Form.
- **Safety Check-out:** Schedule an appointment with John Herrington or Don Tong. They will check your fume hood for properly labeled and disposed materials. (See Chemical Waste Disposal section of this handbook)
- **Visa Holders:** Check out at the Office of International Affairs. J-1 visa holders be sure to fill out the J1 departure form and turn in a copy to the Service Center (100 Journalism Building)
- **Email:** Visit <http://my.osu.edu> to set email forwarding. Note that your continued use of an OSU email address is conditional of graduation or retirement.
- **OPERS:** Review your OPERS options

HR *requires* all *employees* to complete this form – this includes graduate students, post-docs, visiting scholars and research staff. The JST suggests undergraduate and high school researchers also review the components of the form to ensure a seamless departure. Particularly take note of the keys, *safety check-out* and email forwarding. The purpose of the **Safety Check-out** procedure is to ensure that hazardous wastes, unknown chemicals, unlabeled material, etc. are **NOT** left behind in the laboratory when researchers graduate or leave the department. This procedure is applicable to any and all types of researchers who are active in the laboratory.

Frequently Asked Questions

The following is a list of some of the most common questions that your research group may ask you as an LSO. If you still have questions, check out the JST website (<https://chemistry.osu.edu/safety/jst>) or the safety coordinator's website (<https://chemistry.osu.edu/inresources/safety/chem>), or email the JST at cbc-jst@lists.osu.edu.

“Where can I find...”

- **...Safety glasses?** Splash goggles and safety glasses can be purchased from the Chemistry Store in Celeste through eRequests. The Safety Office in Evans Lab also has a small supply of safety glasses and splash goggles. Make sure your lab has spare splash goggles and safety glasses for visitors!
- **...Prescription safety glasses?** If you require safety glasses with prescription lenses, the department may cover part of or the entire cost, depending on your prescription and frame choice. Prescription safety glasses can be ordered through eRequests – please visit <https://chemistry.osu.edu/safety/chem/glasses> for instructions on how to order and where to go to obtain them. If you still have questions about this process, please email the safety coordinator (herrington.5@osu.edu).
- **...Laser goggles?** If your lab works with lasers and you require laser safety glasses, please visit <https://chemistry.osu.edu/safety/chem/glasses> (bottom of page) for instructions on how to obtain them. You need to have an understanding of the types of lasers and specific wavelengths that will be in use.
- **...Clean lab coats?** Clean lab coats can be obtained from the Chemistry Store (180 Celeste) or BioSci 129 (pick up the key in BioSci 148 first). Please make sure to bring your dirty lab coat with you and place it in the bins at these same locations for laundering. A one-for-one switch helps ensure there is a supply of clean coats available.
- **...Boxes for *clean* broken glassware?** If your lab needs cardboard boxes for *clean* broken glassware, these can be picked up near the glassblowing lab in the basement of Evans, by John Herrington's office (near 0013/0015 Evans, they are flattened boxes) or from 480 Celeste or 162A CBEC. If you are on the other side of campus there are red cardboard recycling totes in the dock area of BioSci 126A. Please remember to only use these for clean glassware – they are disposed of in

the standard trash dumpsters. *These boxes are not to be used for bio hazard waste!*

- **...Labels for hazardous waste?** Visit the EHS website at <https://ehsapps.osu.edu/secure/apps/Hazwaste/RequestList.aspx> and login using your name.# and password. Click on “Create New Request”, then choose “Chemical” and “Supply Delivery”. The hazardous waste *tags* are small tags suitable for labeling things such as solid waste or sharps, while the hazardous waste *labels* are larger and will have space to list the contents. You order these labels individually, and they will be delivered to your lab. You can also obtain hazardous waste labels from the Safety Office.
- **...Door signs for lab entrances?** If you need to update the hazard or emergency contact information on the laminated door signs at the entrances to your labs, you can request new signs online to be delivered from EHS at <https://ehsapps.osu.edu/secure/apps/SignRequest.aspx>.
- **...Bio hazard boxes and liners?** Visit the EHS website at <https://ehsapps.osu.edu/secure/apps/Hazwaste/RequestList.aspx> and login. Under Hazardous Waste Services, click on “Create new Request”, then choose “Biological” and “Supply Delivery”. For every biological waste box you order, be sure and order the same number of biological waste bags to place inside.
- **...Replacements for Hg thermometers?** EHS has an exchange program in place to ensure the safe disposal of Hg thermometers. Fill out the form at <https://ehs.osu.edu/mercury-thermometer-exchange-request> to schedule a pickup of your Hg thermometers and to request replacements.
- **...Chemical spill kits?** If you need to replace parts or all of your chemical spill kit or need to request an additional kit, contact the safety office for assistance (herrington.5@osu.edu). An instruction sheet with a list of contents to attach to the kit can be found at <https://chemistry.osu.edu/safety/chem/forms>.
- **...Eyewash tags?** Additional eyewash tags can be picked up from John Herrington in Evans Lab or Carol Barnes (barnes.829@osu.edu) in 148A BioSci. Alternatively, you can make your own “tag” by simply making a table in Excel and affixing to the wall near the eyewash.
- **...Lab coat hooks?** Additional lab coat hooks can be picked up from John Herrington in Evans Lab or Carol Barnes in 148A BioSci for a limited time.

- **...First aid kits?** Remember to check your lab first aid kits for expired/missing components! If you need to restock your first aid kits or buy new kits, you can order them through Fisher Scientific via eRequests.
- **...the EHS online training modules?** Online training through EHS can be found at <https://ehsapps.osu.edu/secure/apps/Training/Training.aspx>.
- **...our online Chemical Hygiene Plan?** Your lab's online chemical hygiene plan can be found at <https://ehsapps.osu.edu/secure/apps/CHP/CHPList.aspx>. Use this web portal to print new copies of your CHP or make changes to it.
- **...our research group's Username/Password for EHSAssist?** Email your building's EHS safety engineer – Mitch Baker (baker.779@osu.edu). Keep the Username/Password written in your CHP and/or in this handbook.