

P.U.R.P.L.E. Safety

Quarterly Newsletter

Northwestern

RESEARCH SAFETY

Promoting University Research Practices and Laboratory Excellence in Safety

Research Over the Holidays

As we approach the holidays, Research Safety would like to remind everyone that it is especially important to engage in good safety practices during these times when campus staff and operations are reduced. If you plan on conducting research, on or around the holidays, please be sure to follow the guidelines below:

- Avoid working alone when carrying out dangerous and potentially dangerous experiments or experiments that require multiple people to do so safely.
- If you are working alone, ensure that another lab member knows when you will be working in the lab (regardless of safety concerns).
- Check that engineering controls (such as fume hoods and biosafety cabinets) and safety equipment (such as fire extinguishers and eyewash stations) are present and working properly.
- Make sure that the appropriate PPE and equipment are available in the lab to conduct research safely.
- Have the NUPD phone number (**EV: 847-491-3456; CHI: 312-503-3456**) readily available for contact in the event of an emergency.

PSA: Research Safety will be hosting an Open House on the Evanston Campus on January 29th, 2025 in Hogan 5170. Stay tuned for more details to come!

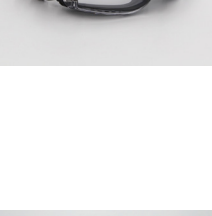
Testing for Peroxides

Peroxide formers are organic or inorganic compounds that can auto-oxidize with atmospheric oxygen to form potentially explosive peroxides. Compounds containing alpha-hydrogens adjacent to an alpha-atom (often oxygen) are susceptible. Examples include diethyl ether, tetrahydrofuran, dioxane, and cyclohexene.

NU requires monthly testing and documentation of these chemicals. Peroxide test strips, [testing instructions](#), and labeling stickers are available at our offices in Evanston and Chicago.

Testing procedure:

1. Sample prep: If peroxide concentration exceeds 100 mg/L, dilute with distilled water or peroxide-free ether; ensure pH is between 2 and 12.
2. Testing:
 - Aqueous solutions: Immerse strip for 1 sec; after 5 sec, compare color to provided color chart.
 - Organic solvents: Immerse for 1 sec, let solvent evaporate, then dip in distilled water for 1 sec; compare color after 5 sec.
3. Interpretation: If color differs or exceeds the darkest [scale](#), repeat or dilute and retest.
4. Action: If concentration exceeds 10 ppm, contact Research Safety for disposal.



Quick Reminders

- Poorly fitting eye protection does not provide adequate protection
- Check for a proper seal and fit before beginning work and get a new pair if anything feels off
- Check for scratches, cloudiness, or other obstructions to the frame or lense and obtain a new pair if present
- Prescription safety glasses are available to students at a 90% discount; contact Iwona Spath for more details
- Research safety provides safety glasses, safety goggles, and face shields to the NU research community on both campuses available in our offices or at the PPE vending machine in Evanston (near Tech MG67)

Academic Lab Safety: Where Are We Now?

Despite decades of high-profile lab accidents, many academic research safety cultures remain fragmented and underdeveloped. A 2020 Nature Chemistry review highlights these widespread deficiencies in safety practices and brings to light several concerning statistics:

- **There is no centralized national database to-date for tracking lab accidents or near-misses**
 - **25-38% of lab personnel admitted they'd been involved in an unreported accident or injury**
 - **Only 18% of academic researchers reported conducting risk assessments before starting work**
 - **25% of lab personnel receive no training on specific hazards before use**
 - **15% of researchers believe safety rules interfere with productivity; 23% say they hinder discovery**
 - **Some faculty still view lab exposures or accidents as "part of the job"**
- Building a strong safety culture starts from the top- when leadership and Principal Investigators choose to model safe behavior and prioritize safety in their labs, the next generation of researchers learns to do the same. At Northwestern, we're committed to fostering a culture where safety, collaboration, and discovery go hand in hand. Let's bust these safety statistics and lead the academic research world by example.

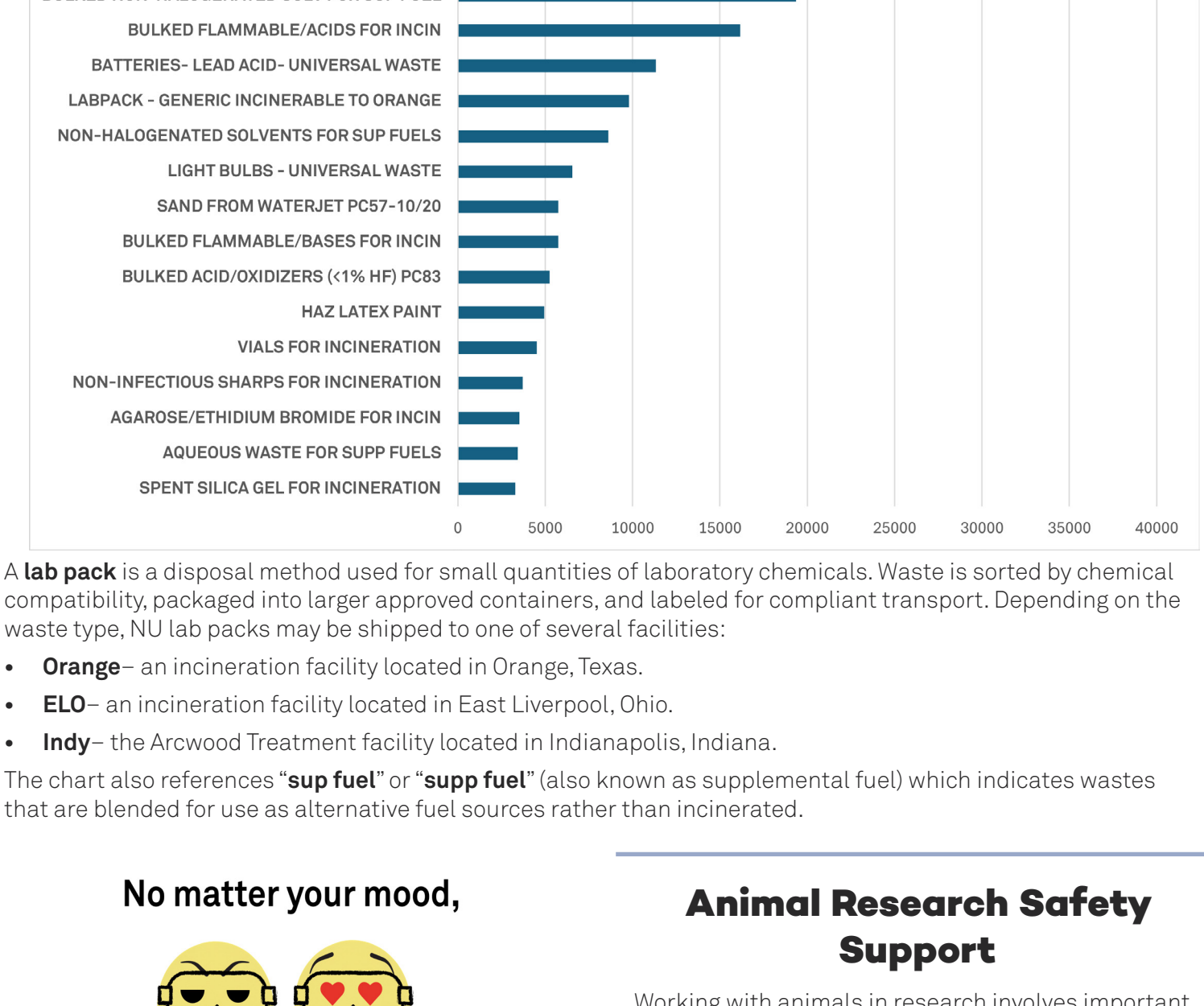
Laser Inventory Update

Our Laser Safety Program continues to make great strides! Of an estimated **960 lasers** across both the Chicago and Evanston campuses, 730 have been inventoried and verified—**covering roughly 75% of all reported lasers**. Throughout this process, previously unreported lasers are being identified and added, while lasers no longer present on campus are being removed from the system. Just last week, our laser intern discovered 70 additional lasers to include in our database. On the Evanston campus, 96% of active laser labs have now been inventoried, while Chicago is nearly complete at 98%. A huge thank-you to Jack Shimon, our laser intern, for his diligent work and continued effort to bring our Laser Safety Program up to speed!

Where Our Chemical Waste Goes: A Year in Review

Managing chemical waste is a behind-the-scenes effort (thanks, [Arcwood Environmental](#)!) that keeps our labs running safely and sustainably. To give our community a clearer picture of what this looks like, the figure below highlights the types of chemical waste—both hazardous and non-hazardous—generated across the Chicago and Evanston campuses, 1801 Maple, and University Facilities from September 2024 through September 2025.

Each waste stream is consolidated into containers, drums, or lab packs and shipped to the appropriate treatment or disposal facility based on compatibility and regulatory requirements. While safe disposal is essential, the most impactful step happens much earlier in the process: reducing the amount of hazardous waste we generate in the first place. Choosing non-hazardous or less hazardous materials when possible, scaling down experiment sizes, and sharing surplus chemicals all help decrease the environmental footprint of our research activities. Small decisions in the lab add up—supporting both safety and sustainability across our campuses.

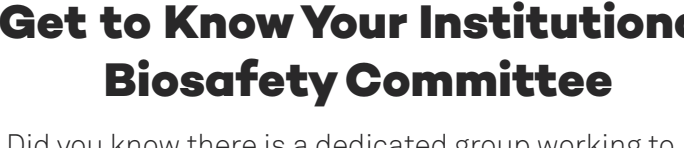


A **lab pack** is a disposal method used for small quantities of laboratory chemicals. Waste is sorted by chemical compatibility, packaged into larger approved containers, and labeled for compliant transport. Depending on the waste type, NU lab packs may be shipped to one of several facilities:

- **Orange**– an incineration facility located in Orange, Texas.
- **ELO**– an incineration facility located in East Liverpool, Ohio.
- **Indy**– the Arcwood Treatment facility located in Indianapolis, Indiana.

The chart also references “**sup fuel**” or “**supp fuel**” (also known as supplemental fuel) which indicates wastes that are blended for use as alternative fuel sources rather than incinerated.

No matter your mood,



Keep Calm and Stay Safe

You're important.

Northwestern | RESEARCH SAFETY

Get to Know Your Institutional Biosafety Committee

Did you know there is a dedicated group working to keep you and the community safe from biohazards? The Northwestern [Institutional Biosafety Committee](#) (IBC) brings together approximately 30 faculty, laboratory staff, biosafety professionals, and local community members to help labs conduct biological research safely. The IBC oversees biological materials on both campuses and approves the safety measures that will be taken as those materials are used in research. Labs document their materials and safety practices in biological registrations for committee review and approval using the [eIBC registration system](#).

Get Involved or Get Assistance

- Need help? Are you starting a project involving biological materials? Our team is here to help you determine best lab safety practices. We can also help you complete and submit your lab's biological registration for IBC review and approval.
- Volunteer! We are always looking for new members to join the IBC. Volunteering on the committee is a great way to contribute to our safety culture and to learn the ins and outs of biosafety practices here at NU.

Contact us at [ibc@northwestern.edu](#) or visit the [IBC website](#) to learn more!

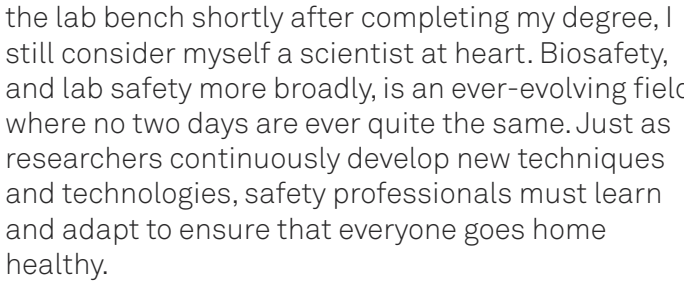
RAM Reminders

All radioactive material users please ensure all radios and waste are secured in the laboratory on a daily basis and before the upcoming holiday breakers. Please put in for RAM waste pickup requests whenever possible to reduce the amount of material across campus.

If your lab plans to order RAM that will arrive during the winter recess, please notify RSO [Emma Ross](#) before December 19th.

Employee Spotlight

We're introducing a new Employee Spotlight section to highlight the talented staff who support our safety programs across each campus. Each issue will feature a member of our team and showcase the skills, expertise, and experiences they bring to our office and to the broader University community.



My name is Rob Foreman, and I was recently promoted to Director for Research Safety, Chicago, while continuing to serve as the university's Biosafety Officer. I have been at Northwestern for over 11 years, beginning my time here as the Associate Biosafety Officer.

Before that, I earned my PhD in Microbiology from the University of Chicago. Although I stepped away from the lab bench shortly after completing my degree, I still consider myself a scientist at heart. Biosafety, and lab safety more broadly, is an ever-evolving field where no two days are ever quite the same. Just as researchers continuously develop new techniques and technologies, safety professionals must learn and adapt to ensure that everyone goes home healthy.

During my time at Northwestern, I have been proud to contribute to Research Safety's growth into a robust and dynamic program. I am excited to serve as Director and play a role in this next chapter of research at Northwestern.

Thanks for tuning in! We'll be back next quarter with more updates and best practices- stay safe until then!

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Incident Response and Reporting

If you or someone in the laboratory is injured while conducting research or engaging in other research related activities, be sure to follow the proper steps to receive care and report the incident.

First and most importantly, get medical attention to address the injury as soon as possible! If an injury requires a researcher to visit an urgent care center or hospital, be sure to visit a facility that accepts your insurance. It is a good idea to confirm which urgent care centers accept your insurance now, so you know where to go in these cases. If you feel ill after an injury or potential exposure, seek medical attention as this could be due to delayed effects.

In all cases, report the injury. Submit an incident report as soon as you are able using the Risk Management [Incident Reporting System](#).

Graduate and undergraduate students should report injuries as “*injured non-employees*” while **post-docs and staff** should report injuries as “*injured employees*”. Keep all information, paperwork, and bills/invoices from any emergency room or urgent care visit as these will be needed to file any claims related to the injury should a cost be incurred.

Glasses and Goggles and Shields, Oh My!

The eyes have plenty of enemies in the lab - glass shards, sawdust, chemical splashes, vapors, sparks, and so much more. Yet for some reason, eye protection remains one of OSHA's top ten annual violations, accounting for over \$6 million in penalties every year. Yes, we know eye protection doesn't look the most fashionable, but neither will your eye if it's the victim of a lab incident.

From safety glasses to splash goggles and face shields, there's no shortage of options. Knowing when to use each can make all the difference between a near miss and an injury.

Choosing the Right Eye Protection

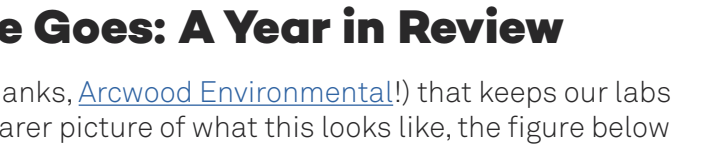
Type	Best for	Features	Example Hazards
Safety Glasses	Moderate impact or small splashes	<ul style="list-style-type: none">• Protects from most flying particles and debris, dust, and minor splashes• Not sealed• Not for use with concentrated chemicals• Impact resistant	<ul style="list-style-type: none">• Dry chemicals or small volumes of liquids• BSL-2 microorganisms; human/non-human materials• Cutting glass tubing• Changing compressed gas cylinders
Safety Goggles	Splash, vapor, and dust protection	<ul style="list-style-type: none">• Forms a liquid-proof seal around eyes• Protects from splashes, fumes, mists, and dust• Impact resistant	<ul style="list-style-type: none">• Bulk chemical transfer• Cryogenic liquids• Reactive or pyrophoric materials• Soldering or hot metal work• Pressurized glassware
Face Shields	Extra protection for high-risk tasks	<ul style="list-style-type: none">• Must be worn over glasses or goggles• Protects from splashes, sprays, and projectiles• Use with reactive, corrosive, or hot/ cold materials	<ul style="list-style-type: none">• Large quantities of hazardous or corrosive chemicals• Cryogenic liquids• Explosive or reactive materials• Vacuum apparatus work
Laser Eye Protection	Laser work	<ul style="list-style-type: none">• Blocks specific laser wavelengths• Must be labeled with wavelength range and optical density (OD) value	<ul style="list-style-type: none">• Any Class 3B or 4 laser• Biomedical, optics, or physics laser applications

Fire Extinguisher Training

Looking for a fun and interactive way to take a quick break from the lab? Schedule a group fire extinguisher training session! Fire extinguisher training is offered in two parts. Part 1 is completed online, and Part 2 is a hands-on, in-person training where users will practice fighting a digital fire using a laser-driven infrared extinguisher. It's a great opportunity for some light team building while gaining valuable hands-on safety skills. Departments can even plan sessions for new students or staff—groups of up to six can train at a time, and we can stagger sessions throughout the day to make sure everyone gets the chance to participate. Contact [safety-training@northwestern.edu](#) for more information and to register.

Shipping Reminders

Northwestern has implemented a new process for all outbound domestic and international shipments through the [eShip Global](#) platform. Only Research Safety is authorized to ship certain hazardous materials including chemicals, radiological materials, and lithium batteries. Labs are not permitted to ship radiological materials or lithium batteries without prior authorization from Research Safety. For chemicals and chemical samples, researchers must submit an Intent to Ship form in Lumen and wait for Research Safety approval. Please allow up to five business days for processing. Labs can ship biological samples on their own using their eShip global account, but will only be able to do this if the person setting up the shipment has completed the Safe Shipping of Biological Materials and Dry Ice training. This training is now available completely online and can be completed any time through [myHR Learn](#). Note that international shipments may require additional processing time.



Animal Research Safety Support

Working with animals in research involves important safety considerations. Northwestern researchers can email [animalresearchsafety@northwestern.edu](#) for guidance on risk assessments and safe handling procedures related to their animal protocols. Our support helps you minimize exposure risks, promote safe work practices, and streamline completion of the Occupational Health and Safety section of your animal protocol—often making the IACUC approval process smoother.

Marina Zelivyanskaya, DVM, RBP (ABSA), Associate Biosafety Officer specializing in Animal Research Safety, is available for in-person consultations to provide guidance or discuss specific research needs. Don't hesitate to reach out. Research Safety is here to make your work safer and your protocol submission process easier.

Transportation of Research Materials Between Campuses

The transportation of research materials between campuses using public transportation (CTA buses and trains), Northwestern intercampus shuttle buses, or personal vehicles is not allowed.

Research Safety recommends using a courier service for transporting research materials between campuses. The preferred vendor for this service is Arrow Messenger Service, which offers multiple levels of service based on the distance and time allotted for delivery.

For pricing and other details, visit the Northwestern Procurement and Payment Services [website](#) or contact [Research Safety](#) for any additional questions on the topic.

Transportation of Research Materials Within Campus Buildings

When transporting research materials outside of the laboratory, all sample containers must be closed to prevent leaks or spills and placed inside of a leak-proof secondary container. Research Safety recommends the use of a sanitizable tray or cart to avoid wearing gloves in public spaces. If materials must be carried by hand, they should be carried in a touch hand, and a non-gloved hand must be used to touch common surfaces (e.g., elevator buttons and door handles). Secondary containment should still be used when hand carrying any research materials.

Connect with RSSI

The [Research Safety Student Initiative \(RSSI\)](#) is dedicated to building a culture of safety through education, collaboration, and community. This fall, we're bringing you opportunities to learn, connect, and have fun while reinforcing best practices in the lab.

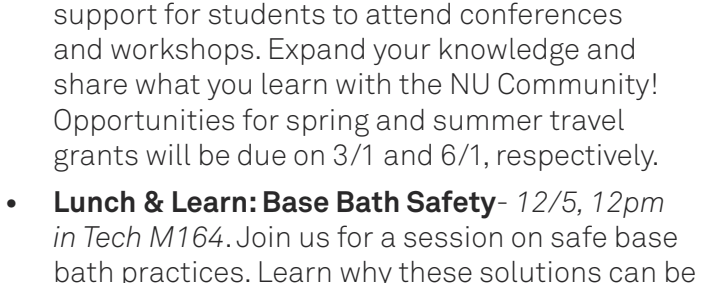
What We Did This Quarter!

- **Fire Extinguisher Training**- First-year students entering into Chemistry and Materials Science programs completed hands-on fire extinguisher training, organized and run by RSSI members.
- **Base Bath Survey Social (pictured below)**- We partnered with Underwriter Laboratories (UL) to learn about current base bath practices at NU and gather insights for our ACS Chemical Health & Safety manuscript.

What's Coming Up?

- **Travel Grants**- *Due 12/1*. RSSI is offering support for students to attend conferences and workshops. Expand your knowledge and share what you learn with the NU Community! Opportunities for spring and summer travel grants will be due on 3/1 and 6/1, respectively.
- **Lunch & Learn: Base Bath Safety**- *12/5, 12pm in Tech M164*. Join us for a session on safe base bath practices. Learn why these solutions can be hazardous, how to handle them properly, and tips to keep your lab compliant.
- **Safety Trivia Night**- *Date & Time TBA*. Test your safety smarts in a fun, competitive setting. Prizes, snacks, and bragging rights await!

Click [here](#) to see current RSSI events and RSVP options. Stay tuned for dates and registration links via email. These events are designed to make safety approachable and engaging- don't miss out!



October 2025 base bath social hosted by RSSI to survey the research community on current base bath practices.