



SAFETY MATTERS

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Promoting a Safety Culture at Columbia University

By Lu Salamy, Safety Advisor

According to the American Chemical Society, safety culture is an organizational mind-set that promotes safety and encourages leaders to become advocates of safety and safety education. Almost 10 years ago, Stanford University led a first-of-its-kind Task Force focused on advancing safety culture in research laboratories on their campus.

The Task Force focused on three distinct groups contributing to academic research: laboratory researchers who conduct benchtop experimentation, faculty and principal investigators (PIs), and institutional organizations including Environmental Health & Safety and the office of the Dean of Research. These three groups were considered critical stakeholders, essential to the advancement of safety culture in academic research laboratories. The initial review concluded that while the university had several characteristics and practices in place that are emblematic of an optimal laboratory research safety culture, they were not present in all areas. Leaders of the task force determined a need for universally instated practices and elements to support the advancement of a "more active laboratory safety culture at Stanford."

A significant finding from the Stanford Task Force was related to the high turnover of research students and staff performing most of the benchtop work in academic research laboratories. The safety practices in place help to improve and maintain a safety conscious environment at Stanford, but turnover creates knowledge gaps in safety practices at the bench. The Stanford Task Force emphasized the importance of PIs as custodians of responsibility, authority and accountability within their laboratories. PIs hold their roles for extended periods; they are best suited to ensure that policies and expectations are reinforced with the changing of research staff.

At Columbia, cultivating a healthy safety culture throughout the University, especially in research spaces, is integral to advancing academic research. On January 31, 2024, EH&S hosted the first ever Safety Culture Town Hall at Columbia. Students, staff and faculty from the School of Engineering and Applied Science (SEAS) were invited to gather for refreshments and conversations about safety culture in academic research at Columbia. Nearly 40 individuals from the research community came to Lerner Hall to participate. The event featured a panel discussion on the importance of safety as an fundamental part of academic research, featuring safety partners: James Vichiconti, Cleanroom Director, CNI Labs; Adrian Brügger, Ph.D., Director, Robert A. W. Carleton Strength of Materials Laboratory; Will Hunnicutt, Ph.D. Manager, Robert A. W. Carleton Strength of Materials Laboratory; Jeff Fitts, Ph.D., Executive Director, Columbia Electrochemical Energy Center; and Joe Viola, Lab and Technology Mgr., Dept. of Biomedical Engineering.

Building on the success of the inaugural event, EH&S is planning to expand the Town Hall meetings to a series with the objective of facilitating an ongoing, collaborative discussion among EH&S personnel and researchers from various schools and departments. By addressing perceptions and expectations, EH&S aims to enhance the understanding of safety practices and foster a more cohesive safety culture within laboratories, and to promote a symbiotic relationship between EH&S and researchers. The meetings are intended to create a platform for open communication, collaboration, and understanding. EH&S believes that this initiative will contribute significantly to the development of partnerships with researchers, faculty and departmental personnel leading to a safer work environment and compliance with university policy. We hope to see you at the next one!



https://web.stanford.edu/dept/EHS/cgi-bin/lscft/sites/default/files/Stanford_Task_Force_Report.pdf

Understanding Chemical Exposure Assessments in Laboratory Environments for Enhanced Safety

By Mercedes Courter, Health and Safety Specialist II

Chemical exposure assessments in laboratory settings can play a pivotal role in ensuring the safety and well-being of research personnel. Laboratories are dynamic environments where various chemicals are handled, posing potential risks to individuals working within them.

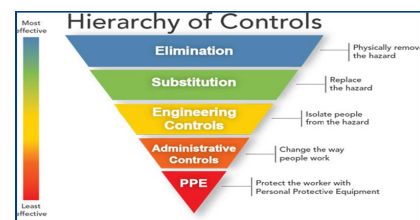
Chemical exposure assessments involve the systematic identification and evaluation of potential risks associated with handling chemicals. This process is critical for risk management and aligns with regulatory requirements aimed at safeguarding the health and safety of laboratory workers. Chemical exposure routes can take various forms, including inhalation, skin contact, and ingestion, making a thorough assessment essential for mitigating potential hazards.

Laboratories are subject to a myriad of regulations and guidelines governing chemical usage. The Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), and other regulatory bodies enforce standards that laboratories must adhere to. Compliance with these regulations is not only a legal obligation, but also contributes to creating a safe working environment. Understanding and following the regulatory framework is fundamental to the success of chemical exposure assessments in laboratories. Two examples of these regulations are 29 CFR 1910.1450 – Occupational Exposure to Hazardous Chemicals in Laboratories (commonly known as “The Lab Standard”), and the National Fire Protection Association (NFPA) 45 – Standard on Fire Protection for Laboratories Using Chemicals.

A comprehensive exposure assessment begins with a thorough pre-assessment. During this phase, EH&S personnel will review the laboratory’s standard operating procedures (SOPs), safety protocols, emergency response plans, and the Laboratory Assessment Tool and Chemical Hygiene Plan (LATCH). At this time, the laboratory will also be asked to submit a [Hazard and Risk Evaluation Assessment](#) form.

Once these materials have been thoroughly reviewed, a chemical exposure assessment proceeds to the identification and evaluation of potential risks associated with specific chemicals used in the laboratory. Exposure monitoring, air sampling, and other assessment tools are employed to quantify and analyze the concentration of chemicals in the air, on surfaces, and in other relevant mediums. Common hazards may include carcinogens, irritants, and sensitizers. Understanding the characteristics of each chemical is crucial in determining the appropriate control measures.

Finally, EH&S will compare the results against industry standards and best practices. Based on the findings of the chemical exposure assessment, recommendations will be offered to mitigate exposure, if necessary. The [Hierarchy of Hazard Controls](#) will be employed to find the best controls that work for the lab while still promoting a safe and productive work environment.



**2023 Lab Safety Champions
Awarded by
Environmental Health and
Safety**

Kevin Bath
Michael Campbell
Alison Pischedda

Honorable Mention

Stephen Rayport
Mark Underwood

COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

Safety Culture

Based on surveys in laboratories evaluating chemical safety, waste management, compressed gas safety, and other topics.

Chemical exposure assessments in laboratory settings are indispensable for creating a safe and healthy work environment.

All labs are encouraged to review their LATCH regularly to ensure personnel are familiar with the materials in use and ensure that all information is up to date. The [Columbia University Chemical Hygiene Plan](#) is also a great reference for information on best practices.

If you would like an assessment performed for your lab, please contact the Occupational Safety team at occsafety@columbia.edu, or fill out the [Hazard and Risk Evaluation Assessment](#) form.

Spring and PPE

Warmer weather is on the way, but stay safe in the lab with proper PPE!



Long pants or the equivalent, closed shoes, a laboratory coat, gloves, and protective eye wear.

No shorts or sandals!

Waste Anesthetic Gas Users

Reminder to complete the [Waste Anesthetic Gas Training, TC6850](#), on RASCAL!

Principal Investigators

Approximately 80% of PIs have already completed the new new [Principal Investigator Research Safety Responsibilities Training](#) module highlighting the unique responsibilities for supporting the health and safety of laboratory personnel, in addition to their research goals.

PIs who need to complete the training may do so on [RASCAL](#).

Dangerous Goods: A Competency-based Training and Assessment Approach

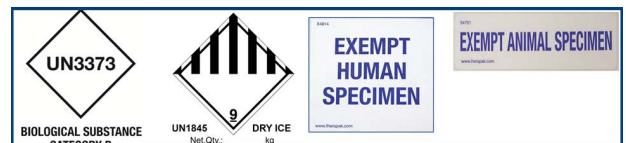
By Cody Cameron, BioSafety Officer II

As of 2023, the International Air Transport Association (IATA) requires a form of documented, competency-based training for all personnel involved in the shipping of dangerous goods. IATA does not prescribe an individual or preferred instruction method but provides a framework for shippers to assess the proficiency of personnel conducting shipping duties with dangerous goods. Whether through on-the-job training, virtual simulation, self-study, or physical classroom instruction, it is up to the discretion of the employer or "training designer" to determine the course content based on available resources and specific activities being conducted with dangerous goods. Within this framework, function specific training can be adapted to reflect the responsibilities of the personnel handling dangerous goods, whether packaging, completing shipping documents, classifying the material, reporting spills, or storing specimens after receipt. Records of training and competency-based assessment must be maintained, which include, "evidence which shows that personnel have been assessed as competent to perform any function for which they are responsible."



A high level of demonstrated proficiency is required for personnel conducting the assessments and must be specific to the activities or functions conducted by the dangerous goods handler. To meet the competency-based training requirements, IATA certified personnel from EH&S are available to conduct an assessment for any individual shipping dangerous goods. All personnel shipping or receiving dangerous goods must complete the applicable training course(s) in RASCAL before the assessment. Anyone planning a shipment of dangerous goods is strongly encouraged to contact EH&S for guidance at hazshipping@columbia.edu. EH&S will observe and guide researchers in the preparation of a dangerous goods shipment to ensure safety and compliance.

Contact EH&S for complimentary shipping labels



Change your clock,



CHANGE your batteries



Meet the EH&S Staff



Samira Joussef-Pina
Biosafety Officer

Samira Joussef-Pina has been a Biosafety Officer at EH&S for three years. Growing up in Venezuela, Samira was able to enjoy the world's tallest waterfall (Salto Angel) with a height of over 3,212 feet. Her first job was as a Post Doc at Case Western Reserve University in Cleveland, Ohio. She is very determined but always wears a smile. For this reason, she identifies her personality with a crab, hard shell but soft on the inside!

There are many sides to Samira, from the side who likes to wind down after work with meditation, to the other who likes to go out with friends and try new things and enjoy new experiences. One of her favorite things to do is to take long walks to learn more about New York City. If Samira could live anywhere in the world she would pick Thessaloniki, Greece as it feels like home to her.

She loves to travel and is planning a trip to either Italy or Bali. Always putting others before herself, even though she would like to see Bali, she will most likely go to Italy with a family member who has never been there. Along with her interest in learning more about NYC and other parts of the world, she is also interested in wormholes, blackholes, and time. Her favorite quote, "Correlation does not imply causation" reminds her that even though things seem related, sometimes things just happen randomly.

Important Battery Service Update

In an effort to enhance efficiency, improve compliance, and ensure a safer environment, EH&S is pleased to announce updates to battery disposal service in ICRC. Effective November, 2023, all battery collection containers have been centralized in the ICRC lobby next to the front desk. Service will now be provided on a monthly basis. All building occupants are encouraged to utilize the new centralized collection point in the lobby, ensuring that every battery finds its way to proper disposal. Be on the lookout for additional building updates in the coming months!



Hadler da Silva
Senior Safety Advisor

If you think you have seen Hadler da Silva before, it was possibly on the subway or at a bus stop (see photo). Hadler has been a longtime Columbia affiliate, starting in



June of 2015 as a trainee in the PRIMER (Program to Inspire Minority and Underserved Undergraduates in Environmental Health Science Research) Program at the Mailman School of Public Health. He joined the Perzanowski lab in 2017, and after graduating from Mailman with his MS degree in Environmental Health Science with a Toxicology concentration, EH&S was fortunate to have him join the team in 2022. Today, Hadler is a rising star, having been promoted to Senior Safety Advisor in 2023. Perhaps his inspiration for becoming a safety expert was growing up in Goiania, Brazil where in 1987 scrap metal hunters stole a radiotherapy source from an abandoned hospital, ultimately leading to the accidental contamination of hundreds of people! Hadler's first job was also related to safety as he collected tickets and ensured kids didn't get hurt in the bouncy castle at a Brazilian restaurant.

Hadler likes to enjoy NYC by finding new food spots and showing off his footwork in dancing bachata, merengue and forro. He would love to live in Medellin, Colombia as the people and food are great and the climate is amazing! The capybara reminds him of himself, chill and friendly. He always looks for the silver lining in any situation. His curiosity in understanding how the world works and finding solutions to problems is an asset to finding that silver lining. A true Brazilian, his favorite sports team is the Brazilian National soccer team. He is a guitarist who would love to learn more about other art forms such as painting and drawing and loves to work out and cook new recipes. Most of his spare time outside of work is spent pursuing his PhD in Public Health concentrating on Environmental and Planetary Health Science at the CUNY School of Public Health.

His respect for others and the planet is evident as he wishes for everyone in the world to have healthy food, clean water and clean air. The best piece of professional advice he has received is to "network, as someone you meet today may be the someone who recognizes you in the next phase of your career". With his positive attitude there is no doubt Hadler will go far in his career as he keeps his favorite quote in mind, from *The Alchemist*, by Paulo Coelho: "And, when you want something, all the universe conspires in helping you to achieve it".

"3...2...1, Contact!"

By Christopher Pitoscia, Director, EH&S

Most research laboratories at Columbia University store or use hazardous materials of one type or other, such as potentially infectious biological microorganisms, flammable, corrosive or reactive chemicals, radioactive substances, or combinations thereof. Coupled with the everyday possibility of slips, trips, and falls, and the physical hazards of handling sharps and other research instruments, work in a laboratory can lead to accidents, injuries, and emergency situations. Should an emergency occur in or around a research laboratory, the importance of reaching the appropriate responders and individuals knowledgeable about the space and the research within is paramount. All personnel should be aware of the following:

- During a medical, police or fire emergency, contact 9-1-1 and Public Safety
- During normal business hours, contact EH&S directly, if the emergency is laboratory-related
 - CUIMC - (212) 305-6780
 - Morningside, Manhattanville, LDEO, Nevis - (212) 854-8749

Columbia University Public Safety is on campus 24 hours/day, 7 days/week, 365 days/year. Their dedicated staff are the primary responders and always reachable in the event of an emergency. EH&S should also be called during business hours in the event of a laboratory emergency; after-hours, Public Safety will reach EH&S, as needed. Researchers are strongly encouraged to save Public Safety's and EH&S' contact information in their personal cell phones.

During an after-hours or weekend emergency, Public Safety and EH&S may need to reach laboratory personnel if an incident impacts a lab. To aid in making these contacts successful, a new lab door sign template is being installed at CUIMC and Morningside. The updated version replaces the static information on prior editions of the sign with a simple space for the names of the occupants and instructions to contact Public Safety for updated laboratory occupancy and contact details. These contact details are downloaded periodically from the Laboratory Information Online Network (LION) database and shared with Public Safety; thus, it is imperative that laboratories keep this information up to date. Instructions on updating contact information in LION are available at <https://research.columbia.edu/sites/default/files/content/EHS/Lab%20Safety/LATCHguide.pdf>. EH&S also sends a trimesterly email (Subject: Action Required: Update Emergency Contacts in LION) to remind laboratories to keep their information current. Finally, the new signs also contain phone numbers and direct dial QR codes which can be used in case of emergency to reach Public Safety and EH&S.

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Principal Investigator(s) Name(s) & UNI(s) : <input style="width: 100%;" type="text"/> </div> <div style="border: 2px solid red; padding: 10px; text-align: center;"> <p>24-hour contact person(s) for this laboratory and EH&S can be reached via Public Safety: (212) 305-7979</p> </div> <div style="border: 2px solid red; padding: 10px; text-align: center; margin-top: 10px;"> <p>In case of a Medical, Police or Fire Emergency call 9-1-1 and Public Safety: (212) 305-7979</p> </div> <p style="text-align: center; font-weight: bold; margin-top: 10px;">CUIMC Door Signs</p>	<div style="border: 1px solid black; padding: 10px; text-align: center; margin-bottom: 10px;"> <p>NO SMOKING, EATING, OR DRINKING</p> <p>LABORATORY</p> <p>PUBLIC SAFETY POTENTIALLY HAZARDOUS SUBSTANCES EH&S</p> <p> </p> <p>AUTHORIZED PERSONNEL ONLY</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>24-hour contact person(s) for this laboratory can be reached via Public Safety: (212) 854-5555</p> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-bottom: 10px;"> <div style="text-align: center;"> <p>Public Safety: (212) 854-5555</p> </div> <div style="text-align: center;"> <p>or</p> </div> </div> <p style="text-align: center;">99 on a campus phone</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>BUILDING: <input style="width: 80%;" type="text"/></p> <p>ROOM: <input style="width: 80%;" type="text"/></p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>PRINCIPAL INVESTIGATOR(s) Name(s) and UNI(s) :</p> <input style="width: 100%; height: 40px;" type="text"/> </div> <p style="text-align: center; font-weight: bold; margin-top: 10px;">Morningside Door Signs</p>
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Researchers should familiarize themselves with emergency procedures specific to their laboratory, including the nearest exit routes, the location of spill kits and emergency equipment such as eyewashes and overhead showers, and the phone numbers of laboratory contacts, Public Safety, and EH&S.

An ounce of preparation (and awareness) can be worth a pound of cure. Please contact EH&S with any questions about laboratory door signs or emergency response.

Are You Inspection Ready: Ensuring Inspection Readiness for Radiation Safety at Columbia

By Samuel Dindayal, Senior Health Physicist

In the world of research and academia, maintaining a high standard of safety and compliance is paramount. At Columbia University, this commitment is a cornerstone of EH&S' radiation safety program, and it is crucial that researchers, and EH&S, always stay inspection ready. Regulatory agencies from New York State or New York City may conduct unannounced inspections of the University's radiation safety programs, and laboratory practices must meet the highest standards.

What to Expect During Inspections:

Inspectors have the authority to review required records, conduct facility tours, observe the handling, storage, use, and disposal of radioactive materials (RAM), take measurements on radiation-producing equipment, and interview personnel in research laboratories. It is a comprehensive process aimed at evaluating the safety and compliance of the University's radiation-related activities.



Guidance from Radiation Safety:

While Radiation Safety provides guidance to all radiation-using laboratories, proactive measures are an important part of laboratory readiness. To help researchers stay inspection-ready, Radiation Safety has prepared a checklist that laboratories can use as a self-assessment tool. This checklist covers key areas to ensure compliance with radiation safety protocols.

Inspection-Ready Checklist:

- No food and drink consumption in the laboratory
- Proper lab attire is worn, and personal protective equipment is in use
- All laboratory members are current with radiation and lab safety training
- RAM users have appropriate knowledge about principles of radiation protection
- Packing slips of radioactive packages are kept for at least three years
- Monthly wipe test reports are completed with detailed information
- No-RAM use log for months when RAM is not handled
- RAM use documentation is current in LION
- RAM inventory is up to date
- Functional and calibrated portable survey meter is available (if applicable)
- Personnel dosimeters are properly used and stored (if applicable)
- Radiation shielding is intact, labeled, and in use (if applicable)
- Proper RAM waste container management is observed



Seeking Assistance:

If you need more help from Radiation Safety or have any questions, please contact us. You can reach us by phone at (212) 305-0303 or by email at rso-ehrs@columbia.edu. Your safety and compliance are our top priorities, and we are here to support you in maintaining the highest standards in radiation safety.

Let's collaboratively ensure our laboratories are always inspection-ready, fostering a secure and thriving research environment.

EH&S New Team Members

Emilio Vega - Associate Health Physicist
Anna Young - Health & Safety Specialist

EH&S Fun Facts

In 2023, EH&S processed 37,130 radiation monitoring badges for 3,838 individual badge wearers

EH&S Work Anniversaries

Kathleen A. Crowley - 25 years
Flavia Villegas-Landivar - 5 years

Editorial Staff: Kathleen Crowley, Chris Pitoscia, Pam Shively
Please share questions or comments with us at newsfeedback@columbia.edu