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CSSO COMMUNICATIONS

CHEMISTRY STUDENT SAFETY ORGANIZATION

The Official Newsletter of the Chemistry Student Safety Organization

Website: https://sites.utexas.edu/csso/

Email: CSSO@cm.utexas.edu

The Importance of Near-Miss Reporting

by Juliette Strasser and Adrian Rylski

The beaker of acid slips and nearly tips over, but you catch it just in time. You trip while carrying a chemical back to the desiccator but manage to recover before it falls. You nearly cut yourself with a stray, uncapped razor blade on your bench, but notice it before you grab it. Near-misses like this happen nearly every day in lab, and it can be tempting to breathe a sigh of relief that nothing happened, hope that nobody noticed, and move on with experiments.

Jon Thompson, a fifth year in the Crooks group, reflects that he "added piranha to aqua regia waste because someone had mislabeled it," and it nearly exploded in the hood. Incidents like this "highlight the need to correctly label your waste," says Jon. By sharing incidents like this with his group, hopefully fellow lab mates will label their waste immediately and correctly, not leaving room for error. "You can't avoid a hazard if it's not identified," adds another graduate student in the department.

It can be intimidating to report accidents for fear that you will be lectured or punished. It can also feel embarrassing to narrowly avoid a preventable incident. "Accidents happen, and people don't like the word mistake or to be told that they were wrong," says Aigerim Galyamova, a fifth year in the Crooks Group. "Near-miss reporting allows you to reflect on your actions that were potentially hazardous." Near-miss reporting is incredibly important because it serves as a learning and teaching experience so that mistakes are not repeated.

To transform an incident into a learning experience, incidents should be promptly reported through the proper avenues. EHS has a thorough reporting portal and FAQs on their website. Once incidents are reported, they are "tracked and investigated by safety professionals so that preventative measures can be implemented," according to the EHS website. The incident reporting form is ano-

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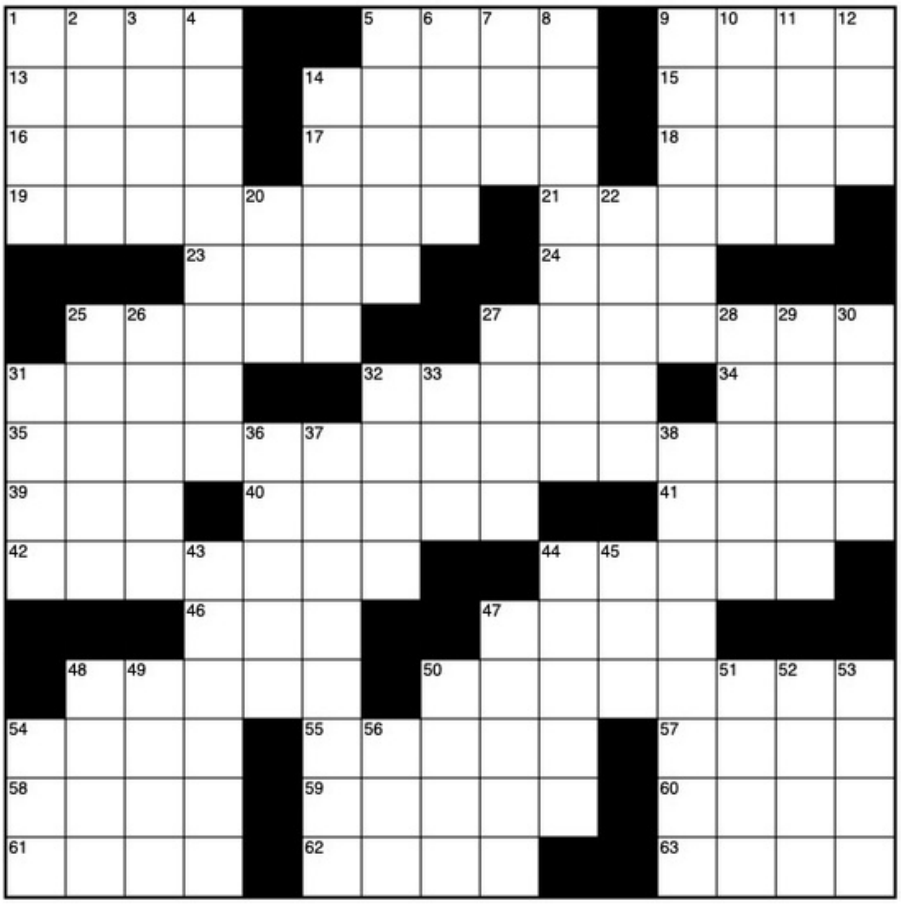
Editor-in-Chief: Mary King

Crossword: A Chemistry Safety Song

by Sydney Povilaitis



ACROSS

1 Bohrium's atomic number (in Roman numerals)
5 Frat party attire, perhaps
9 You may want to neutralize a strong one before sending to EHS
13 Microscope part with a special wipe
14 Head, shoulders, KNEES, and toes
15 Sound reverberation
16 Prefix meaning "internal"
17 Multicultural Disney World attraction
18 Metal hydroxides traditionally obtained by leeching wood ashes in water
19 Like an acid pipette tip, or an instagram pic
21 Deadly virus named after an African river
23 Above
24 ___ Tin Tin
25 Ecigs
27 HEAD, shoulders, knees, and toes
31 Japanese beef
32 A bit of thyme
34 Hug, kiss, hug
35 Head, shoulders, knees, and TOES
39 24 hr. cash source
40 Italian farewells
41 Jackson 5 hairdo
42 Head, SHOULDERS, knees, and toes
44 Jack of nursery rhyme fame
46 Deli order
47 Backyard construction
48 Type of electromagnetic wave
50 Like a safe electrical outlet, or a naughty child
54 Low carb, high fat diet
55 European country with a small white dog breed named after it
57 Roof overhang
58 Opposite of gauche in Newman projections
59 Type of gas discussed in many chemistry classrooms
60 Store
61 Hammer or screwdriver
62 Concentration in Beer's Law or the speed of light in Einstein's theory of special relativity
63 Gambling machine

DOWN

1 One might be treble or bass
2 ____, vidi, vici
3 Global (abbr.)
4 12C, 13C, and 14C, for example
5 Gradually narrow
6 How most music was stored in the 1990's and 2000's
7 Classic Pontiac muscle car
8 One of many between Mars and Jupiter
9 Fit in
10 Nomenclature for a carbonyl bonded to a carbon group
11 Type of butter you might rub on your body
12 Greek goddess of dawn
14 Fathers, in Paris
20 Night before a holiday
22 Actor Jason of "Orange is the New Black" and "American Pie"
25 Italian namesake of a unit of electrical potential
26 Fission weapon
27 Exams taken by many a grad school applicant
28 Shower scrubbie
29 Apply, as force
30 Just okay
31 Unit of energy
32 Max or avg
33 Pile in a dog park
36 Microbial model organism
37 Like N2, O2, and H2
38 Moh's scale
43 Medicinal product with an isomer of THC
44 One of the Austin creeks
45 Little, in Marseilles
47 Ms.'s south of the border
48 Nevada city
49 10^-18 prefix
50 Joy
51 Children's book author Roald
52 Salad dressing ingredient (abbr.)
53 ____. of Chemistry
54 Kit ___
56 Lemon or lime suffix

Answers on Page 4

SOP Writing Basics

by Mary King

Standard operating procedures, or SOPs, are crucial components to a properly functioning and safe lab. Here are some answers to your most burning questions on how to write up a good one.

What is an SOP?

A set of written instructions on how to perform an experiment or protocol safely and effectively, typically written by the lab member most familiar with the process.

Why should I write one?

- SOPs are not only an amazing resource for trainees, but also as a reference guide for everyone in the lab!
- Stop unsafe and improper lab practices. Mishandling of equipment and instrumentation can cause a host of problems.

What should I write one for?

Any complex procedure or protocol that your lab performs often and/or has safety concerns! A few examples:

- Operation & maintenance of lab equipment
- Experimental protocols
- Waste disposal
- Software (SOPS aren't limited to the bench!)

Okay, I wrote an SOP. Now what?

- Test it out! Ask one of your labmates if they'll use the SOP to perform the procedure. Have them take note of what is clear and what needs more explanation. Revise and repeat.
- Create a shared folder (Box, Drive) where your lab stores all SOPs for easy access and updates.
- Print them out and keep in the lab.
- Keep them up-to-date!

Table of contents for a quality SOP

- ❍ Prepared by __
- ❍ Date created/last update
- ❍ Safety section
  - PPE needed
  - Emergency + safety contacts
  - Emergency procedures
- ❍ Materials/equipment needed
  - Include catalog/part #s
- ❍ Protocol
  - Step-by-step instructions of the procedure using easy-to-follow language
  - Tip: Use pictures, drawings, and diagrams that are clearly labelled
- ❍ Troubleshooting tips

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-nymous, and once incidents are processed, EHS makes them available on their website via a “Lessons Learned” feature. When used correctly, the anonymous reporting/near-miss portal is a valuable tool for graduate researchers.

However, the anonymous reporting via EHS can seem like incidents disappear into a black hole, where they’re only shared selectively with students. Adrian Rylski, a fourth year in the Page and Anslyn groups, won the departmental Safety-First Leadership Fellowship for 2021-2022 by proposing a revamp to the near-miss reporting system for the department so that graduate students can use and learn from the near-miss incidents directly. When asked about what motivated the idea, he claimed, “near-miss accidents offer valuable information to accidents that could have happened, but didn’t, and it is important to learn from these situations to help out our fellow lab mates from making the same mistakes.” The purpose of his proposal is to create a method of enabling us, as researchers in the lab, to learn from each other and help make sure we make it home safe each day after doing our experiments.

Ultimately, near-misses can be valuable learning experiences for opportunities to fix unsafe procedures or equipment in the lab. Before a beaker of acid falls again, you can make sure that it is placed in secondary containment inside a hood, with an acid spill kit nearby. After tripping, you can survey the scene to see what you tripped over, then remove the hazard from the walkway. If you almost slice yourself, you can make a note to keep a piece of Styrofoam around that you can stick your blades into. When dealing with potentially hazardous chemicals and situations, it is essential to use near-misses as learning experiences and share them with those around you.

Safety May Land You a Job (or Cost You One!)

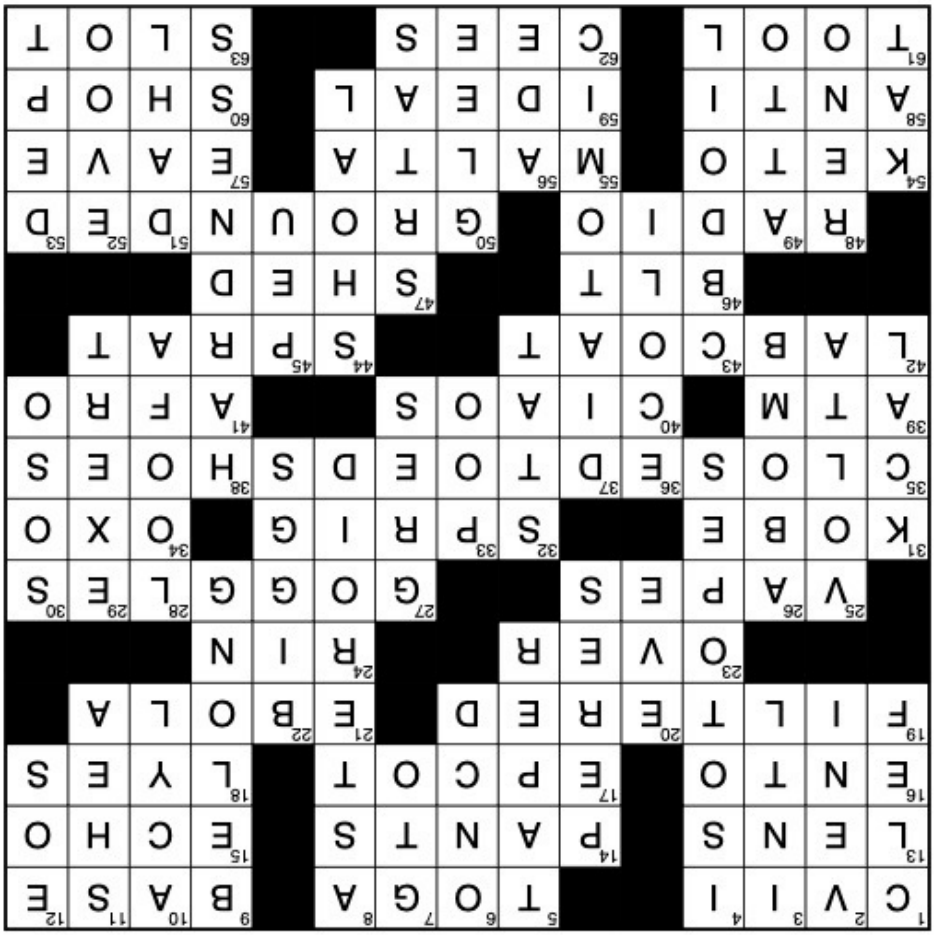
by Samantha Lauro

Safety is first and foremost about preventing harm to yourself or others, but did you also know it could affect your future job prospects? Recruiters are not just looking for the most technically proficient and personable candidates - they are also looking for the safest, too!

Discussions with ExxonMobil recruiter Tony Go during his “Safety in Industry” seminar revealed that **during the interview process your conduct and mindset towards safety is being evaluated** just as much as all the other components. Safety is a highly valued attribute for industries and organizations across the globe. A safety-oriented working culture leads to a more organized, productive environment. It leads to more well-thought out experiments, more progress, and happier employees. A single accident on the job can cost an organization their reputation, resources, and significant loss - so to minimize the risk they want employees who will work safely. Safety is taken so seriously that you may get officially reprimanded for not using a crosswalk in a parking lot or not holding the railing on the stairs!

Play it safe when you interview, as you are not only representing yourself but also your research group! In fact, a candidate who shows a poor attitude toward safety practices not only will likely fail the interview, but may also jeopardize the chances of other members in their research group being hired. On the other hand, **research groups with good safety practices and a strong safety culture may become preferential hires**. You represent your lab and your lab represents you - so just another reason to **keep your lab culture safe**!

Answers to Crossword Puzzle

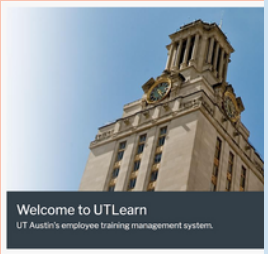


Safety Officers: Preventing Complacency in the Workspace

by Carolina Vigil Hernandez

We welcome the new lab groups in the Chemistry Department, and any novice safety officers!

If you have been given the role of safety officer, whether in a new lab or not, you have the power to improve the work environment by ensuring safety is everyone's topmost priority:



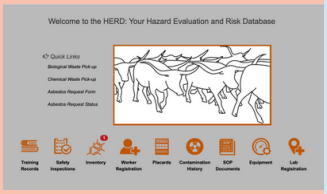
- Chase down new members that have not completed *all* the online safety trainings
- Ensure no-one enters the lab without a safety tour from you

- Perform monthly checks of all eyewash stations
- Restock first aid kits and spill kits

Inspect for PPE compliance, proper chemical storage, and clear sample labeling

Keep an organized and up-to-date inventory, with special attention to expiration dates of chemicals

Arrange lab clean-ups every few months to prevent containers from rusting or growing mold around the lab



Respond to EHS safety inspections through UT HERD, the database that manages lab evaluations, personnel, and chemical inventory

Check the EHS website (https://ehs.utexas.edu/) for the annual report or archived newsletters, and pass the knowledge to other group members.

Start safety discussions in the office/lab. Everyone should feel comfortable sharing near misses, and how they avoided or quickly fixed them.

Encourage a Safety Moment before every group meeting e.g., have the presenter share a cool anecdote or a potential hazard they face related to their research.

At CSSO we welcome everyone, especially the safety officers, to come and share any worries about their lab safety. It can lead to a Safety Moment or a whole new initiative to raise awareness and improve the safety culture of our department!

HOMEMADE HOT CHOCOLATE

STAVE OFF THE CHILL OR PRETEND YOU'RE IN A WINTER WONDERLAND WITHOUT ACTUALLY HAVING TO BE IN ONE*!

Ingredients (serving size: 4)

- 4 c. milk (whole, 2%, and unsweetened almond milk work great!)
- ¼ c. unsweetened cocoa powder
- ¼ c. granulated sugar
- ½ c. semisweet chocolate chips or chocolate bar, chopped
- ¼ tsp. pure vanilla extract
- Optional: 1/4 tsp chili powder, 1/4 tsp ground cayenne
- Garnish (optional): marshmallows, cinnamon sticks, whipped cream, and/or chocolate shavings

Instructions

1. Whisk milk, cocoa powder, sugar (and if you desire a spicy kick, chili powder and/or cayenne) in a saucepan over medium-low heat until warm.
2. Once the milk mixture is warm, add in chocolate chips and whisk until all chips have melted and mixture is smooth.
3. Stir in vanilla extract
4. Top with your favorite garnishes, and enjoy!

*KNOCK ON WOOD

Interested in joining CSSO?

Want to submit an entry to the newsletter?

We want to hear from you!

Reach out to us: CSSO@cm.utexas.edu

How to Join CSSO

by Juliette Strasser

CSSO is a great way to make an impact in the safety culture of the Chemistry Department. There are many avenues for participation, from creating safety content to leading activities in the department. If you're interested in joining CSSO, here are a few things you can do:

Email csso@cm.utexas.edu. This is our official email address! We'll add your email to our mailing list so you can attend the next meeting.

Reach out to an officer. Our officers and their email addresses can be found on our website, https://sites.utexas.edu/csso. If you're interested in a specific role, they can answer your questions and invite you to a meeting.

Message us on social media. We have accounts on Facebook, Instagram, and Twitter! If you see an interesting post, you can DM us and start up a conversation.

Nominate yourself for an officer position. When we send around the nominations, don't be afraid to show interest even if you haven't attended a meeting yet! Fresh members, leaders, and ideas are what keep CSSO going.

We have lots of spots for people to brainstorm, implement, and participate in safety events and activities, and we also have upcoming elections where we're looking for future leaders of CSSO. We would love to have you join us at future meetings and we look forward to potentially having you in the group!