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 Safety-First Mindset Takes No Vacation

by Carolina Vigil Hernandez

On Monday December 12th, CGC and CSSO held a Cookie Decorating Event for graduate students and postdocs in the Chemistry Department.

Icing, glitter gel, sprinkles, and candy treats were passed around making the gingerbread and the chocolate chip cookies sparkle and glow. The smell of coffee, tea, and hot chocolate in the middle of the day, two weeks away from Christmas, established a very warm and welcoming environment for all the students.

CSSO introduced the topic of oven (baking) safety to the event, as a reminder to always keep the Safety-First mindset on. A pair of black oven mitts was raffled among the attendees, and the winner said he had plenty of oven mitts already, but he would pass them to a friend that needed a pair.

It is fantastic to see everyone come together, and here is to many more events in the coming year!
Merry Christmas and Happy New Year to all our readers,

Carolina Vigil Hernandez
CSSO president and a hopeless cookie enthusiast

IN THIS ISSUE

Preparing Your Lab For The Holidays

by Sam Lauro

THE HOLIDAY SEASON IS AN EXCITING TIME FILLED WITH FAMILY, FRIENDS, AND GOOD EATS- BUT BEFORE YOU GO ON YOUR VACATION, MAKE SURE YOUR LAB SPACE IS READY FOR YOUR DEPARTURE! LABS TEND TO BE VERY EMPTY THE LAST WEEK OF DECEMBER, SO MAKE SURE YOU CAN RING IN THE NEW YEAR WITHOUT ANY INCIDENTS!

Perform maintenance checks on equipment that will be running over the break. Maybe that glovebox needs a new gas tank or some pump oil could use a change!

Coordinate schedules with your lab mates - is anyone planning on being in lab over the break? Make sure the buddy system is in place! If the lab will be empty, make sure the last person knows what to shut down and locks up!

Submit your waste - who doesn't want to start the new year with a clean lab space? Plus, it helps minimize waste build up. You need to submit it every 6 months anyway, so this is a great time to take care of this chore.

Communicate about any ongoing experiments- we all want to come back to the gift of good data, but make sure there is a plan if things go haywire. Tell anyone who will be around what possible hazards could occur and how to react. If its complicated and dangerous, those experiments can wait until the new year…think of them as a new year resolution you know you will achieve!

Backup your computer! The break is a great time for computer systems to roll out updates, so don't lose that open paper draft to an update!

Plan for the unexpected - we've had power outages, water boil notices, and great freezes occur in the past. Make sure your lab group keeps track of what equipment is in use and experiments that are ongoing. Having a record of this will make responding to any of these situations significantly easier!

Celebrate! You and your lab mates just got through another intense year of classes, experiments, paper publishing and presentations. Once you all close down the lab and log that last waste, grab a beer and spread some cheer, because y'all are prepared to have a great, safe holiday.

Chemistry of Baking

by Jessica Hellinger

The holidays are here, and that means it's time to break out the holiday recipes! However, you don't want to spend all night baking two dozen cookies just to end up with a burnt mess. So how do you avoid ruining your batch of cookies? By understanding the science behind baking!

Dough

First mix together your dry ingredients. The flour provides structure to the dough, and when mixed with liquids can create gluten. Leaveners like baking soda and baking powder release carbon dioxide in the presence of acid / moisture, respectively. They're what give cookies a light and fluffy texture. When it comes to flavor, sugars add sweetness and salt will intensify the sugar and all other flavors.

Next, mix together your wet ingredients. Liquids, either milk or water, help to form gluten and carbon dioxide when mixed with flour and baking soda, respectively. Eggs bind the dough together, with the fats in egg yolks tenderizing the cookie while the whites add structure. Other added fats can include oils or butter, which add flavor. And don't forget the vanilla.

Now, you mix together the wet and dry ingredients into a dough, roll it into individual cookies and bake.

Baking

Once your cookies go into the oven they go through several different stages. The cookies spread out as the butter melts. As the structure of the cookie loosens, water mixes with baking soda to release carbon dioxide, causing the cookies to rise. The cookie begins to set, starting at the edges where the dough is the thinnest. This occurs as the proteins in the egg denature, and the starch in flour absorbs more and more water in a process known as gelatinization. At the hottest areas of the cookie, (the edge and bottom), sugar will start to caramelize, resulting in browning. Caramelization occurs at 365°C. This is described by the maillard reaction, where sugars and amino acids react to form a complex range of molecules that give cookies their aromas and flavors. Finally, the cookies are removed from the oven to cool. The sugars harden, for crispy edges and bottoms, and air is released causing the cookies to deflate, and their ready to eat!

GINGERSNAPS

1/2 Cup Brown Sugar
1/2 Cup White Sugar
3/4 Cup Butter
1 Eggs
2 Cups Flour
1 Tsp Salt
1 1/2 Tsp Baking Soda
2 Tsp Ginger
2 Tsp Cinnamon
1/4 Tsp Cloves
1 Tsp Vanilla Extract

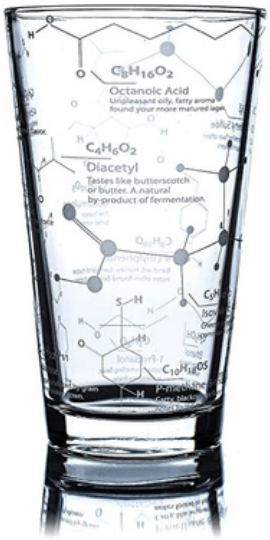
1. Preheat overn to 324 degrees
2. Cream together butter and sugars until light and fluffy, mix in eggs and vanilla
3. In another bowl, mix four, salt, baking soda, ginger, cinnamon and cloves
4. Mix together wet and dry ingredients
5. Chill in refridgerator for at least 30 min
6. Scoop dough and roll into 1 inch balls, roll in sugar and place on backing sheet
7. Bake for 12-15 min

Gifts For The Chemist In Your Life

by Alli Smith

Looking for the perfect gift for the chemist in your life? Look no further!

A.



B.

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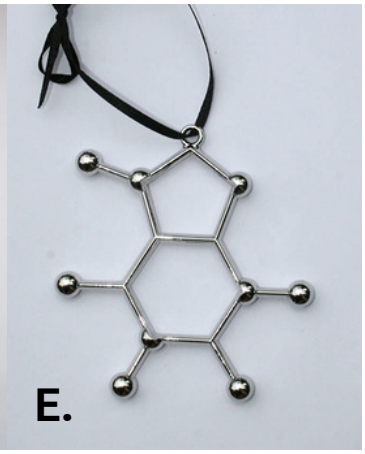

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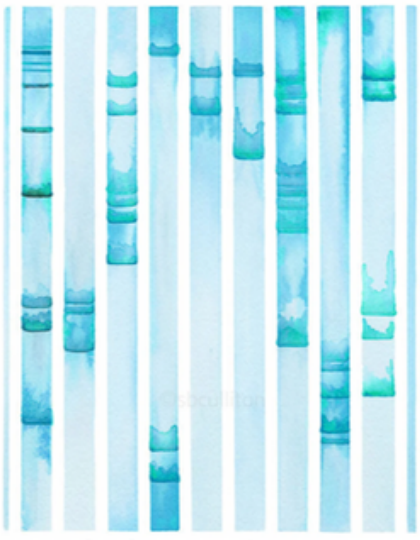

G.

A. Science of Beer Glass
B. Chemistry Inspired Cookie Cutters
C. Atomic Tie for all your conference needs
D. The Lab Bag
E. Caffeine Ornament for the best Chemis-tree
F. Electrophoresis 7, Science Inspired Art
G. Chemistry Playing Cards

Coming soon...

Sweets & Safety Seminar Series

Care about safety? Like sweets? Why not have both?

The Sweets & Safety Seminar series will begin next semester (Spring 2023)!

Safety Day is Back for Spring 2023!

A SAFETY VIDEO COMPETITION WILL TAKE PLACE AGAIN SPRING 2023!

RESEARCH LABS AND FRI STUDENTS ARE WELCOME TO PARTICIPTE

...BE ON THE LOOKOUT FOR GREAT PRIZES, PLENTY OF SAFETY DISCUSSIONS, AND AN IN-PERSON EVENT IN APRIL TO CELEBRATE

MORE INFO TO COME IN JANUARY, MIGHT BE A GOOD IDEA TO START THINKING ABOUT NEAR MISSES :)

Near Miss Reporting

by Adrian Rylski

Near miss reporting is a fundamental component of a well-running safety culture. It is essential for all of us to share findings so that we can learn from each other.

Every time we are in the lab, we are exposed to hazards, and with that exposure comes risk. From the time someone stumbles over a misplaced LN2 dewar, to the time a mislabeled or unlabeled chemical reacts with something it should not have, or the time a chemical spills because the container was compromised, we get lucky and avoid the worst of the situation. The thing about these situation's effects is that they are unplanned, and that they could be mitigated had we known about these events happening in the past to someone else. By learning from each other, we can keep everybody safer.

With anonymous reporting, there is no blaming, shaming, or punishing, but rather a path towards correcting unsafe actions and learning how to keep them from happening again in the future. The purpose of this safety initiative is to encourage the use of a near-miss report form (https://forms.gle/qBtjkSRHst3WgN1x7) that takes less than three minutes to complete and will provide learning experiences to our peers on how to avoid having others experience unsafe conditions and potential accidents. With the importance of near-miss reporting, we are incentivizing near-miss submissions by awarding monthly selected winners for participating!

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!