Meeting MINUTES

Chemical Hygiene Committee

Date | time 5/18/2023 1:30 PM | Location Zoom

## In Attendance

Mark Woods, Chemistry Professor (Chair)| Scott Jaqua, Asst. Director of EHS, RSO, CHO | Lindsay Henderson, Laboratory Safety Specialist and Biosafety Officer | Shuvasree Ray, Chemistry Professor | Kim Brown, Biology Professor | Jen Morse, ESM Professor | Rolf Koenenkamp, Physics Professor | Becca Wilson-Ounekeo, ESM Lab Manager | Kaleb Hood, Student Representative from MME | Ben Perkins, Geology Professor | Nic Meier, Chemistry Stockroom Manager (SRTC) |

## Absent

Elliott Gall, MME Professor | Xavier Oberlander, Art Program Assistant | Mike Wendel, Biology Teaching Lab Manager | Shannon Roth, Director, Research Integrity & Compliance Operations | Emma Duehr Mitchell, COTA Workshops Coordinator

## 4/20/23 Meeting Minute Approval

Narrative:

* The committee unanimously voted to approve the 4/20/23 meeting minutes with no further changes needed.

## Lab Incidents (4/20-5/18/23) Discussion

Narrative:

* Nic presented the first incident to the committee: Liquid Nitrogen (LN2) was poured into a tall-and-skinny vacuum flask. After leaving the LN2 for a bit and setting up for other work, she came back to use the LN2 and reached for the flask and knocked it over. The flask imploded / exploded and showered the benchtop and floor with glass. Parts of the bottom of the flask was found in the hood nearby (~6ft away). No one was injured.
  + It is thought that the LN2 may have been a factor in the incident. The LN2 was from the previous day and may have condensed Oxygen in the dewar. This was poured into the flask and left for a little bit before it was tipped over. It is generally known that vacuum flasks implode when they are broken, but the spread of the glass and loudness of the explosion suggested some more factors were involved.
  + Lessons learned:
    - Use fresh LN2 (within one day), and pour out any remaining LN2 at the end of the day.
    - Use securing hardware (clamps or straps) or a flexible lab weight wrapped at the base of the flask. Use lower profile vacuum flasks if possible (though some of the tall and skinny flasks are used for vacuum traps in synthesis and clamped in place, they are not ideal when they are not secured).
  + Another related-near miss which has now been addressed by the lab is that an unattended bottle of THF (contained and capped) was on the bench near the vacuum flask.
* The second incident involved a spill of NaCHO3 during the organic phase of a procedure (MSS2), which popped off the cap, in an organic chemistry teaching lab. No one was injured. A member from the chemistry stockroom aided in the cleanup of the spill.
  + This is a common incident that occurs during this procedure. It takes some skill by the user to make sure the pressure from the CO2 accumulation does not build too rapidly. Shuvasree will add a line about pressure build up in the O Chem manual to help prevent this in the future.
* The third reported incident/near miss was reported by Scott. When he was walking through the South end of the 4th floor of SRTC, he noticed a student working on the 3rd floor patio (outside) with a graduated cylinder and a plastic container of clear liquid. She was in shorts, no lab coat, no gloves, and no eye protection. The student stated that she was doing research as part of the "Green Roofs" project with Olyssa Starry. Scott asked what chemical she was working with and she held up a bottle of vinegar (available from a grocery store). Scott mentioned to the student that this vinegar is the same acetic acid as she would use in a chemical lab, except for the concentration and that she should have a lab coat, gloves, and eye protection on for her own safety, but also for the perception of others working nearby (there were 6 other students doing other non-chemical tasks on the 3rd floor patio). She stopped her work with the vinegar promptly.
  + Scott is following up with the professor and will check on status of lab safety training for her students.

Action Items:

* The vacuum flask incident inspired Lindsay and Nic to add some more info on vacuum flask safety to the monthly lab safety training.

## Section 8 (Equipment) from the CHP Topics Discussion (Continued)

Narrative:

* Lindsay shared with the committee where we left off with this discussion from the previous meeting. After significant back and forth it was decided that this is the list the committee would like to include in the CHP:
  1. Equipment that generates or uses high or low pressures
  2. Equipment that generates or uses high or low temperatures
     + Such as below freezing and something that you can’t touch comfortably for an instant
  3. Radiation generating equipment (UV, X-Ray)
  4. Equipment with rapidly moving parts
     + like centrifuges
  5. Electrical equipment
     + High voltage, high current, 220 outlets - extra shock hazard, SOP
  6. Heavy items
     + Use 2 people, when necessary.
     + Steel toed boots might be necessary.
     + Pallets and pallet jacks are available at loading dock
  7. Equipment that use cryogens
     + items with suffocation risk
  8. Fume hoods and other lab ventilation
     + Fume hoods, snorkels, laminar flow hoods, BSCs, room air changes, negative pressure, repair and proper functioning, who to call, etc.
  9. Equipment that uses strong magnetic fields
  10. Glassware and sharps
  11. Lasers
  12. Equipment that has been used in conjunction with RAD materials or biological materials

Action Items:

* Next steps will be flushing out language for each of these sections.

## Lab Incident Placard Discussion (Continued)

Narrative:

* Lindsay asked the committee for feedback on the most recent version of the lab incident reporting poster. The feedback included:
  + Question: Do I need to report a lab incident? Do they need to be? Maybe add some clarifying info on when and why they should report. “When in doubt, Report!” or “Have you have a lab incident? Please report it here.”
  + Wording update: electric shock over electronic shock
  + Maybe use a different word than report (sounds punitive), like document or record.
  + “Help build a culture of safety” “Document a Lab Incident”
  + Order of poster should be more like: 1. Have a Lab Incident? 2. QR code 3. Picture of spilled chemicals 4. A definition of what might be a lab incident 5. Please report it here
  + Clarify if this link will report an emergency or where report will be submitted
  + Maybe more clip art?
  + Shuvasree would like to be included in communication when Lab Safety Leads are roped in on feedback for this poster

Action Items:

* Lindsay will make changes and re-present poster to the committee in early Fall.

## Next Meeting

TBA, Zoom