

**In this issue of the Environmental Health and Safety (EHS) Listserv,
September 22, 2014:**

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1. Promoting an Academic Safety Culture, Recommendation #1

Recently the National Research Council (NRC), the principal operating arm of the National Academy of Sciences and the National Academy of Engineering, completed work on a publication titled "**Safe Science: Promoting a Culture of Safety in Academic Chemical Research.**" The recommendations within this report apply beyond chemical laboratories/research.

Chemical hazards can be found in many academic fields and settings, including the biological sciences, engineering disciplines, and art studios. Recent serious and some fatal accidents in research laboratories at U.S. universities have prompted government agencies, professional societies, industries, and universities themselves to re-examine the issue of safety in research involving chemicals.

The shift away from mere compliance and toward promoting a strong, positive safety culture has already yielded benefits in other industries. The hope is that the NRC recommendations help move academic research in a similar fashion -- toward the adoption of a culture of safety in laboratories that goes beyond inspections, standard operating procedures, and chemical safety plans, all with the ultimate goal of protecting the lives and health of those who work at the institution.

Recommendations from this report will be reviewed one-by-one over the coming months. The first recommendation is:

The president and other institutional leaders must actively demonstrate that safety is a core value of the institution and show an ongoing commitment to it.

Everyone involved in the academic chemical research enterprise - from researchers and principal investigators to university leadership - has an important role to play in establishing and promoting a strong, positive safety culture. Pamphlets written specifically for various groups within a University community that describe actions/roles/responsibilities are available on the National Academies Press website.

The government and public demand the utmost priority be given to safety in all laboratories operating in the United States. Safety is a priority at UNL. Make sure it

is a priority in your individual work location, laboratory or otherwise. To this end, consider adopting the following as your personal ethic:

- **Value safety:** Safety is an integral part of what one does, its automatic, and it does not change its priorities- it is never questioned and never compromised.
- **Work safely:** One continues to learn about safety, learns to recognize hazards, assesses the risks of hazards, manages the risks of hazards, and prepares to handle emergencies.
- **Prevent at-risk behavior:** One does not cut corners or bypass safety measures and shares this information with others, as needed.
- **Promote safety:** One encourages and acknowledges others for working safely.
- **Accept responsibility for safety:** One takes steps to work safely, setting a positive example for others, and being accountable for safety.

Resources

- NRC “**Safe Science: Promoting a Culture of Safety in Academic Chemical Research (2014)**”
http://www.nap.edu/catalog.php?record_id=18706&utm_exp=4418042-5.krRTDpXJQISoXLpdo-1Ynw.0&utm_referrer=http%3A%2F%2Fwww8.nationalacademies.org%2Fonpinews%2Fnewsitem.aspx%3FRecordID%3D18706
- NRC Related Resources: “Actions For...” Pamphlets (scroll down – under Related Resources):
http://www.nap.edu/catalog.php?record_id=18706&utm_exp=4418042-5.krRTDpXJQISoXLpdo-1Ynw.0&utm_referrer=http%3A%2F%2Fwww.google.com%2Furl%3Fsa%3Dt%26rct%3Dj%26q%3D%26esrc%3Ds%26source%3Dweb%26cd%3D1%26ved%3D0CCAQFjAA%26url%3Dhttp%253A%252F%252Fwww.nap.edu%252Fcatalog.php%253Frecord_id%253D18706%26ei%3DxWwcVMfoOI6vyAS0jYG4Bw%26usq%3DAFQjCNHzZcsrxASNP_kURhk6oQwwaHRnFA%26sig%3DSti8vCMa4XIN0yHn4i9ing%26bvm%3Dbv.75774317%2Cd.aWw
- American Chemical Society: Chemical Safety Practices and Recommendations
<http://www.acs.org/content/acs/en/about/governance/committees/chemicalsafety/safetypractices.html>
- American Chemical Society: Committee on Chemical Safety
<http://www.acs.org/content/acs/en/about/governance/committees/chemicalsafety.html>
- American Chemical Society “**Identifying and Evaluating Hazards in Research Laboratories**”
<http://www.acs.org/content/dam/acsorg/about/governance/committees/chemicalsafety/identifying-and-evaluating-hazards-in-research-laboratories-draft.pdf>
- EHS **Job Safety Assessment** SOP <http://ehs.unl.edu/sop/s-JSA.pdf>
- EHS **Chemical Hazard Assessment and Risk Minimization** SOP
http://ehs.unl.edu/sop/s-chemical_haz_assessment_risk_min.pdf

- EHS Virtual Manual: <https://scsapps.unl.edu/VirtualManual/>

2. Is it “Really Obvious?”

Now online is an award-winning series of video clips, all one minute or less in length, covering a variety of emergency preparedness and safety topics that faculty, staff and students should be familiar with. The clips use humor as a means to reinforce basic information that might be “really obvious,” or might not. Further clips are being developed. Submit ideas for future video topics to Mark Robertson, UNL Preparedness Coordinator, at preparedness@unl.edu.

Resources

- UNL Emergency Preparedness “Really Obvious”
<https://www.youtube.com/playlist?list=PLh0k4GzppsqEyNcNx-fxPRIdpC-hERTQH>
- UNL Emergency Preparedness web site <http://emergency.unl.edu>

3. Fall Research Safety Colloquium

Mark your calendars now for the next in the series of colloquia sponsored by Environmental Health & Safety and the Office of Research and Economic Development. ***DISASTER! Protect Yourself & Your Research,*** presented by Mark Robertson, UNL Emergency Preparedness Coordinator is appropriate for those who conduct ANY type of research at UNL. Natural and man-made disasters can result in loss of property, life, data, and access to critical research facilities. Learn new skills to help you pre-plan and mitigate adverse consequences, both short- and long-term, of such disasters.

There will be two interactive sessions on Wednesday, **October 29, 2014**. The 10:00 a.m. – noon session will be at East Campus Union and the 3:30 – 5:30 p.m. session will be at Hamilton Hall, Room 102. Pre-registration is not required. As with most other colloquia, this session is being recorded and will be available online a few weeks after the event. Plan to attend in October and in the meantime review previous colloquia relevant to your work.

Resources

- Laboratory Safety Colloquium Series
 - EHS web site <http://ehs.unl.edu/training/Colloquium>
 - Office of Research & Economic Development web site <http://research.unl.edu/laboratorysafetycolloquium/>

4. RESOURCES for National Farm Safety and Health Week

The National Education Center for Agricultural Safety, helping keep farms safe since 1944, has declared September 21-27, 2014, to be *National Farm Safety and Health Week 2014*. The purpose of this organization in general and the week in particular is to call attention to the hazards and risks of farm work and promote safe and healthy practices to mitigate those hazards.

The theme for 2014 is “Safety Counts ~ Protecting What Matters.” From the event web site you can access the “daily safety focus” topic. Each day there are a variety of one-page informational sheets available relating to that day’s topic (under the heading “PSAs”). There is a webinar each day to address the theme of the day. On Thursday, 9/25/14, the webinar will be *Grain Bin Safety: Grain Bin Entry*. Provided as resources are links to Monsanto videos on: *Grain Bin Safety*, *Tractor Safety*, *Unloading and Loading a Trailer Safety*, and *ATV Safety*.

EHS makes available online a number of Safe Operating Procedures (SOPs) on a variety of topics relating to safety while conducting agricultural operations. Topics include: Nebraska Guide G1770 Cleaning Pesticide Application Equipment, All Terrain Vehicles, Animal Feeding Operations, Grain Bin Safety, Harvest Safety, Outdoor Power Equipment Safety, Sharps Use and Handling with Livestock, Skid Steer Loaders, Tractor Safety, and other relevant SOPs under the categories **Heat Stress**, **Landscape**, **Shops**, and **General/Other**.

Resources

- National Farm Safety and Health Week 2014 materials
<http://www.necasag.org/aboutnecas/nationalfarmsafetyandhealthweek2014/>
- EHS **Ag Safety** Safe Operating Procedures <http://ehs.unl.edu/sop/ag-safety>
- EHS SOP listing <http://ehs.unl.edu/sop>
- Monsanto Grain Bin Safety Video
<https://www.youtube.com/watch?v=R4ZuLlo-npU&list=PLbnmzNPhY9bB5fox5VErUY1SFtjPUCpRS>
- Monsanto Grain Bin Safety Fact Sheet
http://web.nicc.edu/files/market/NECAS/NFSHW/2014/Grain_Bin_Safety_FIN_AL.pdf
- Monsanto Tractor Safety Video
<https://www.youtube.com/watch?v=a994Pqj727M&list=PLbnmzNPhY9bB5fox5VErUY1SFtjPUCpRS>
- Monsanto Tractor Safety Fact Sheet
http://web.nicc.edu/files/market/NECAS/NFSHW/2014/Tractor_Safety_Final.pdf
- Monsanto Unloading and Loading Trailer Safety
<https://www.youtube.com/watch?v=1VZJYTSsD1A&list=PLbnmzNPhY9bB5fox5VErUY1SFtjPUCpRS&index=5>
- Monsanto ATV Safety
<https://www.youtube.com/watch?v=pA4piHdDH28&list=PLbnmzNPhY9bB5fox5VErUY1SFtjPUCpRS&index=4>

- Farm and Ranch Safety Resource List
<http://www.necasag.org/aboutnecas/resources/>

5. Abrasive Wheels/Grinders – Bench, Floor, and Hand

Oftentimes uncovered during shop audits are deficiencies related to use & maintenance of abrasive wheels/grinders. There are two basic types of grinders: stationary grinders such as bench or pedestal grinders and portable hand grinders.

Here are a few general safety recommendations:

- Before working with a grinder, secure or remove loose clothing and confine long hair, scarves, ties, and dangling jewelry that can get snagged and wrapped around the shaft quickly.
- Always wear eye protection. At a minimum, goggles are required. Safety glasses with side shields are acceptable when combined with a face shield.
- Avoid using grinders near flammable materials.
- Keep hands, fingers, and other body parts from coming into contact with the revolving wheel.
- Follow manufacturer instructions when setting up, operating and adjusting the grinder.
- Never grind on the side of the wheel.
- Use vise-grip pliers or a clamp to handle/secure work pieces.

For bench and pedestal grinders follow these recommendations and others as outlined in the relevant EHS SOP:

- Position grinder by height and location to eliminate the need to overreach while grinding and make sure the grinder is securely anchored.
- NEVER adjust the wheel while in motion. The tongue guard on the top side should be within ¼ inch of the wheel and the tool rest at the bottom within 1/8 inch of the grinding wheel.
- Prior to use inspect the wheel, flanges and cord/plug for integrity and to ensure proper set-up and adjustment. Follow manufacturer's instructions for use and maintenance.

Some of the guidelines for portable hand grinders are:

- Ensure guards are in place and properly position the grinder so sparks fly away from the operator. Inspect the electrical cord/plug and case for integrity.
- Before using the tool on a work piece, let it run several minutes and observe for proper operation. Do not stand in the plane of the rotation of the wheel as it accelerates to full operating speed.
- Never clamp a hand-held grinder in a vise.

- Always engage the OFF switch and wait for the wheel to come to a complete stop before adjusting or removing the wheel or changing its work position or angle.
- Keep the power cord away from the grinding surface and material being worked.
- Follow manufacturer instructions for use and maintenance.

Injuries related to improper use of grinders can vary from relatively minor “scrapes” to fatal. Workers have died after being struck by fragments or pieces of a broken grinding wheel. Lacerations of varying degree and amputations are relatively common injuries. Take care that you do not become an injury statistic!

Resources:

- EHS **Abrasive Wheels/Grinders – Bench, Floor, and Hand SOP**
<http://ehs.unl.edu/sop/s-grinders.pdf>
- Occupational Safety & Health Administration(OSHA) “*Checklist for Abrasive Wheel Equipment Grinders*”
<https://www.osha.gov/SLTC/machineguarding/new-grinder-checklist.html>
- OSHA “*Partial List of Accidents Involving Grinders*”
https://www.osha.gov/SLTC/machineguarding/grinder_accidents.html
- EHS **Personal Protective Equipment** web-based training
<http://ehs.unl.edu/web-based-training#PPE>

6. Safety at the Supplier Showcase

During the UNL Procurement **Supplier Showcase** to be held at Nebraska City Union on October 21, 2014, visit the Chancellor’s University Safety Committee (CUSC) booth and get a sticker indicating you will “Speak Out for Safety.”

On the Union Plaza that day the Nebraska State Patrol will have their Seat Belt Convincer and Rollover Simulator thanks to the efforts of Patrick Barrett, Transportation Services Director, in collaboration with the EHS and the CUSC. The Seat Belt Convincer is an interactive tool used to demonstrate the importance of seat belt use. The participant rides the Seat Belt Convincer to experience a low impact crash. Through this low impact crash the participant is shown how the seat belt, when worn properly, prevents serious injury.

The Rollover Simulator vividly depicts what happens when you don’t wear your seat belt and are involved in a rollover collision. The Simulator rolls at up to 30 miles per hour. Inside the cab of the pickup are a life-size adult mannequin and a child-size mannequin.

Resources:

- Nebraska State Patrol Safety Program
<https://statepatrol.nebraska.gov/safetyprograminformation.aspx>

Remember...SAFETY IS AN ATTITUDE!

Environmental Health and Safety

University of Nebraska-Lincoln

3630 East Campus Loop

Lincoln, NE 68583-0824

(402) 472-4925

<http://ehs.unl.edu>