

**In this issue of the Environmental Health and Safety (EHS) Listserv, August 29, 2013:**

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## **1. Mark Your Calendars**

The fall Laboratory Safety Colloquium, ***Plant Protection and Quarantine (PPQ) Permits***, will be presented by United States Department of Agriculture (USDA) Animal Plant and Plant Health Inspection Service (APHIS) Plant Safeguarding Specialists and will include a half hour for questions.

There will be one session only on Wednesday, September 18, 2013, 10:00 – 11:30 a.m. in the Nebraska East Union. Anyone working with and importing or transferring soil, plants, plant pests or plant pathogens should attend to learn WHEN you need a permit, WHY you need a permit and HOW to apply. Mark your calendars for this important safety event!

Pre-registration is NOT required. To suggest future colloquium topics contact Elizabeth (Betsy) Howe at [ehowe2@unl.edu](mailto:ehowe2@unl.edu) or (402) 472-5488. To access past colloquia, visit the EHS or Office of Research and Economic Development (ORED) web site.

### Resources:

- Laboratory Safety Colloquium Series
  - EHS web site: <http://ehs.unl.edu/training/Colloquium/>
  - ORED web site: <http://research.unl.edu/laboratorysafetycolloquium/>

## **2. Be Prepared!**

September is National Preparedness month, sponsored by the Federal Emergency Management Agency (FEMA). The UNL Emergency Planning and Preparedness web site provides information for Faculty, Staff, Departments, Students, and Parents on preparing for and responding to various emergencies, both weather and non-weather related.

If you are teaching this fall, two useful tools are available to assist you with conveying emergency information to your students in a concise manner. Under the heading "Faculty, Staff & Depts." you can find:

- **Emergency Procedures Quicklist.** Information on specific procedures for various emergency and weather-related events. The two-page document may be posted in your classroom and/or on your Blackboard class site.
- **Faculty Guidance for Incident Response.** Guidelines for actions on the part of the instructor for selected emergency scenarios.

In this same area of the UNL Emergency Planning and Preparedness web site you can find a **Business Continuity Planning Template.** Your area should have a continuity plan and an emergency plan. These are often developed at the department or building level. Find out where the plans applicable to your work area are located and become familiar with/remind yourself of the contents. These plans should be reviewed at least annually to capture changes to personnel or other pertinent information.

If you have not already done so or you have not reviewed the contents in the past several years, take the EHS **Emergency Preparedness** web-based training to learn how to handle or avoid injury in a variety of emergency or weather-related situations.

Resources:

- The (FEMA) National Preparedness Community  
<http://community.fema.gov/connect.ti/readynpm/grouphome>
- Ready: Prepare. Plan. Stay Informed (FEMA) <http://www.ready.gov/>
- UNL Emergency Planning and Preparedness web site  
<http://emergency.unl.edu/>
- EHS web-based **Emergency Preparedness** training  
<http://ehs.unl.edu/training/online>

### 3. Elements of Creating Safety Cultures in Academic Institutions

#### #10: Establish and Maintain an Incident Reporting System

As you may recall from previous issues of the EHS listserv, there has been a great deal of national attention given to the topic of laboratory safety in higher education following investigations of serious incidents at UCLA and Texas Tech. As a result, the American Chemical Society (ACS) issued a report, **Creating Safety Cultures in Academic Institutions.** While this report focuses on laboratory safety, its content is applicable to all campus settings.

This report contained seventeen specific recommendations for creating vibrant, strong safety cultures in academic institutions. Each of these recommendations will be highlighted individually and presented as a series in the EHS listserv. The tenth recommendation in the ACS report is:

***Establish and maintain an Incident Reporting System, an Incident Investigation System, and an Incident Database that should include not only employees, but also—graduate students, postdoctoral scholars and other nonemployees.***

Mechanisms exist at UNL that are consistent with this ACS recommendation. At UNL employee injury incidents are recorded, investigated and tracked by Environmental Health and Safety. EHS becomes aware of these incidents through the workers compensation process. However, EHS only becomes aware of student injuries if these incidents are voluntarily reported. To facilitate reporting of student injuries, EHS has added a feature to our web page, ***Student Injury/Illness Reporter!***

The main purpose for an incident investigation process, whether it involves a student or employee, is to identify factors that contributed to the incident so that mitigation strategies can be employed to prevent recurrence. The lessons learned through the investigative process are shared with others who are similarly situated to assist them in avoiding circumstances that led to an injury/illness.

EHS also recently added another reporting tool to our web page, a ***Near-Miss/Close Call Incident Reporting System!*** This tool allows anyone in the campus community to tell us about a situation that did not result in an injury/illness, but easily could have with a slight change in circumstances. These too are important learning opportunities allowing us to identify potential hazards and implement mitigation strategies before an incident occurs.

Please use these tools. By doing so you will help to provide a safer environment for everyone on campus! We appreciate your participation and assure you that there is no risk of repercussions for reporting a situation, hazard, or injury. We will use the information to alert others of lessons learned through safety committees, listserv articles, targeted department correspondence, and other similar communication tools. Information is communicated in a manner that protects the identity of the person providing the report. It is communicated strictly for the purpose of hazard awareness.

Likelihood of an injury or illness can be greatly reduced by adopting the “Safety Ethic,” espoused by the Safety Culture Task Force of the ACS Committee on Chemical Safety:

- **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 risk of hazards, and prepares to handle emergencies.

- **Prevent at-risk behavior:** One does not cut corners or bypass safety measures in the laboratory (or other work environment) and shares this information with others, as needed.
- **Promote safety:** One encourages and acknowledges others in working safely.
- **Accept responsibility for safety:** One takes steps to work safely, setting a positive example for others, and being accountable for safety.

Resources:

- Creating Safety Cultures in Academic Institutions  
[http://portal.acs.org/portal/PublicWebSite/about/governance/committees/chemicalsafety/CNBP\\_029720](http://portal.acs.org/portal/PublicWebSite/about/governance/committees/chemicalsafety/CNBP_029720)
- [EHS Web Based training, http://ehs.unl.edu/onlinetraining](http://ehs.unl.edu/onlinetraining)
- EHS Laboratory Safety Colloquium Series, <http://ehs.unl.edu/training/Colloquium>
- EHS Virtual Manual, <https://scsapps.unl.edu/VirtualManual/>
- **Student Injury/Illness Reporter!** web-based tool  
<https://scsapps.unl.edu/studentinjuryillnessReporter/>
- **Near-Miss/Close Call Incident Reporting System!** web-based tool  
<https://scsapps.unl.edu/EHSNearMissReporter/>

#### 4. National Farm Safety and Health Week – September 15-21, 2013

The National Education Center for Agricultural Safety (NECAS) is dedicated to preventing illnesses, injuries and deaths among farmers and ranchers, agricultural and horticultural workers, their families and their employees. Toward that goal, NECAS sponsors an annual National Farm Safety and Health Week to raise awareness of safety concerns specific to agricultural activities.

The NECAS provides a number of resources that address specific hazards associated with various hazardous activities such as:

- All-Terrain Vehicle (ATV) Safety
- Anhydrous Ammonia Safety
- Farm Shop Safety
- Livestock Handling
- Safe Use of Hand Tools
- Safe Use of Harvesting Equipment
- Sun and Heat Exposure
- Tractor Safety
- ...and more

Another excellent source of safety materials, both written and video formats, is the National Ag Safety Database (nasd). This is another resource for topics of relevance such as:

- Back Safety/Lifting/Slips/Trips/Falls

- Chemicals/Pesticides
- Confined Spaces
- Electrical Safety
- Grain Handling/Harvesting/Storage
- Ladder Safety
- Manure Pits/Farm Ponds/Wells
- ...and more

Animal work is a year-round endeavor and the harvest season for many crops is approaching. Agriculture ranks among the most dangerous industries. Don't become a statistic like the 476 farm workers who died in 2010. Every day about 243 agricultural workers suffer a lost-work-time injury, 5% of which result in permanent impairment. Take a few minutes now to observe National Farm Safety and Health Week by reviewing safety materials and recommendations that apply to your work at UNL.

Resources:

- NECAS Safety Brochures [http://www.necasag.org/safety\\_brochures.php](http://www.necasag.org/safety_brochures.php)
- National Ag Safety Database (nasd) <http://nasdonline.org/browse/1/topic.html>
- EHS **Ag Safety** SOPs <http://ehs.unl.edu/sop/ag-safety>
- EHS **Heat Stress** SOPs <http://ehs.unl.edu/sop/heat-stress>
- EHS **Landscape** SOPs <http://ehs.unl.edu/sop/landscape>
- EHS **Lockout/Tagout for Machines & Equipment** SOPs <http://ehs.unl.edu/sop/lockouttagout-machines-equipment>
- EHS **Welding Safety** SOPs <http://ehs.unl.edu/sop/welding-safety>
- EHS **Working With Animals** SOPs <http://ehs.unl.edu/sop/working-animals>
- EHS Listserv past issues (May20, 2013 – Prevent/Minimize Heat-Related Illness) <http://listserv.unl.edu/cgi-bin/wa?A0=ehsinfo>

## 5. Irrigation Engines – Air Regulations

A new SOP, ***Irrigation Engines – Air Regulations***, is now available on the EHS web page to provide information for those who operate irrigation engines at any UNL location. This SOP describes how the regulations implementing the Clean Air Act impact irrigation engines. If you operate an irrigation engine at a UNL facility, review this SOP to ensure that you are in compliance with the applicable regulations.

If you have questions, contact Zuleika Doremus, Air Quality Specialist, [zdoremus1@unl.edu](mailto:zdoremus1@unl.edu) or (402) 472-9552.

Resources:

- EHS SOP ***Irrigation Engines – Air Regulations*** [http://ehs.unl.edu/sop/s-irrigation\\_engines-air\\_regs.pdf](http://ehs.unl.edu/sop/s-irrigation_engines-air_regs.pdf)

## 5. Don't Let This Happen In YOUR Laboratory

The incidents reviewed next were reported to EHS as either a “near-miss” or a student injury. These incidents could have resulted in much more serious injury and/or property/research loss. While all involve use of chemicals, they occurred across both UNL campuses in varying departments.

- A student sustained a chemical burn from dilute nitric acid. The exposure occurred when they rubbed their arm with a contaminated gloved hand. Gloves provide hand protection, but can be a **source** of contamination unless care is taken to remove gloves and wash hands prior to touching anything besides the equipment/materials being used. In addition, gloves should be removed immediately upon contamination.
- A researcher was using an alcohol burner in a clean bench to flame sterilize inoculation needles. A nearby container of ethanol caught fire from the open flame. After this incident, the researcher discarded the alcohol burner in favor of safer sterilization devices that do not use an open flame. Alcohol burner related fires are prevalent in the literature.
- A student was putting a compression cap on a volumetric flask when the flask broke due to the pressure applied. The broken glass caused a minor cut to the finger and the flask contents, a weak alcohol solution, splashed onto the lab coat of the student and their lab partner. Inspect glassware for flaws before using. When pressure needs to be supplied in instances such as this, set the glassware on a firm surface rather than holding. Do not use excessive pressure and seek consultation if equipment does not function as expected.
- A researcher was sprayed with a chemical mixture that spewed from a pressurized reaction vessel when the stopper was removed. There was an unexpected amount of pressure in the reaction vessel. Most of the researcher's body was protected from exposure by their lab coat, but the spewing chemical did contact the unprotected skin of their neck. A face shield in addition to other laboratory attire and PPE would have provided a greater level of protection for the neck and face.
- During the process of sterilizing a solution with a syringe filter assembly, the filter broke causing projection of a small amount of solution from the syringe onto the worker's neck and upper chest. The researcher was wearing a lab coat, but it and the underlying shirt did not cover the chest and neck. The worker avoided injury by immediately flushing the affected areas with water. In the future, the worker will avoid clothing that does not completely cover the torso and ensure that their lab coat is completely buttoned. A face shield will provide added protection to the face and neck when there is risk of projectiles or splashing/spraying.

Resources:

- **Chemical Safety** SOPs <http://ehs.unl.edu/sop/chemical-safety>

- EHS SOP, **Chemical Hazard Assessment and Risk Minimization**  
[http://ehs.unl.edu/sop/s-chemical\\_haz\\_assessment\\_risk\\_min.pdf](http://ehs.unl.edu/sop/s-chemical_haz_assessment_risk_min.pdf)
- EHS SOP, **Personal Protective Equipment – Eyes and Face**  
[http://ehs.unl.edu/sop/s-PPE\\_eyes-face.pdf](http://ehs.unl.edu/sop/s-PPE_eyes-face.pdf)
- EHS SOP, **Personal Protective Equipment – Hand Protection**  
[http://ehs.unl.edu/sop/s-ppe-hand\\_protection.pdf](http://ehs.unl.edu/sop/s-ppe-hand_protection.pdf)
- EHS SOP, **Personal Protective Equipment – Body Protection**  
[http://ehs.unl.edu/sop/s-ppe-body\\_protection.pdf](http://ehs.unl.edu/sop/s-ppe-body_protection.pdf)

**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>