

In this issue of the Environmental Health and Safety (EHS) Listserv, August 17, 2010:

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1. Did you know?

September is National Preparedness Month. The word, "preparedness," means: Being ready for specific OR unknown events or situations. The UNL Emergency Planning and Preparedness web site provides important information a click away to help you become prepared for a variety of identified events/situations that may arise. Since there are so many possibilities, there is a Quick List available that aggregates on one sheet the basics of what you need to know and who you need to contact if certain situations arise.

To make sure you are informed about unanticipated events/situations, subscribe to **UNL Alert**. UNL Alert provides emergency information where you need it, when you need it. Receive emergency messages to devices and addresses that YOU designate: cell phones (text and voice), landline phones, PDAs, two-way radios, and e-mail addresses.

Sign up today to put yourself into the UNL Alert emergency communication loop!

Resources:

Emergency Planning and Preparedness Home Page <http://emergency.unl.edu>

Emergency Preparedness Quick List

http://emergency.unl.edu/doc/Emergency_Procedures_Quicklist.pdf

UNL Alert <http://emergency.unl.edu/unlalert/>

2. Mark Your Calendars!

EHS and the Office of Research & Economic Development are co-sponsors of a Laboratory Safety Colloquium on September 29, 2010. Dr. Scott Batcheller, Sigma-Aldrich Chemistry Research & Development Manager, will be sharing his expertise on "*Pyrophoric (Air-Sensitive) Chemical Safety*." Faculty, graduate students and laboratory personnel are encouraged to attend. The death of a UCLA graduate student working with a pyrophoric chemical, as reported in the August 2010 issue of Scientific American, underscores the necessity of safety training such as this colloquium.

There will be ONE session, from 3:30 p.m. to 4:30 p.m. in Hamilton Hall, Room 102, so be sure you have this important safety event on your calendar. Refreshments will be provided courtesy of Sigma-Aldrich Corporation. Preregistration is not required.

For further information contact Elizabeth (Betsy) Howe, ehowe2@unl.edu or (402) 472-5488.

Resources:

Pyrophoric Chemicals Safe Operating Procedure http://ehs.unl.edu/sop/s-pyrophoric_chemicals.pdf

"Danger in School Labs: Accidents Haunt Experimental Science." Scientific American August 2010
<http://www.scientificamerican.com/article.cfm?id=danger-in-school-labs>

Access previous colloquia:

EHS web site <http://ehs.unl.edu/training/Colloquium/>

Office of Research & Economic Development web site http://research.unl.edu/lrsi_9-06.shtml

3. Don't Let This Happen Here!

An explosion at the University of Missouri-Columbia occurred recently. A professor of biochemistry was doing a routine setup of a microbiological anaerobic growth chamber. The professor and team of researchers study bacteria that cannot live in the presence of oxygen and convert several toxic and heavy metals to less toxic forms.

The study chambers are approximately two cubic meters in volume and the chamber is filled with nitrogen. Small amounts of hydrogen are introduced to remove any remaining oxygen as water. The explosion occurred when a gas line with an open T-connection allowed both hydrogen and nitrogen to be introduced simultaneously into the chamber, resulting in an explosive level of hydrogen inside the chamber.

Following are several recommendations/safety reminders of relevance to this type of incident:

- If possible, replace the use of pure hydrogen with a 95:5 mixture of nitrogen and hydrogen.
- Check all gas lines for leaks prior to use. Then valves to all gas cylinders should be closed and only re-opened as needed.
- Eliminate use of T-connections between gases.
- Make sure all laboratory personnel are aware of protocols in place to ensure safety while conducting experiments. This should include information on handling emergencies, such as reporting an emergency and exit route information.
- All faculty, staff and graduate students who have not already done so should take the **Emergency Preparedness** and **Chemical Safety** web-based training available through the EHS web site.
- Review the EHS *Compressed Gas Cylinders in Laboratories* Safe Operating Procedure (SOP).

Do NOT let an explosion happen in your laboratory!

Resources:

Compressed Gas Cylinders in Laboratories SOP <http://ehs.unl.edu/sop/s-gascyl.pdf>

EHS Web-based Training <http://ehs.unl.edu/online/training/>

Investigation of Schweitzer Explosion Complete <http://munews.missouri.edu/news-releases/2010/0709-investigation-of-schweitzer-hall-explosion-complete/>

Communication of Work Area Safety Information <http://ehs.unl.edu/sop/s-workareasafety.pdf>

4. Farm Safety

September 19 – 25, 2010, is National Farm Safety & Health Week. Farming is a dangerous occupation, ranking right behind mining for the highest number of accidents and fatalities annually. Safety in the agricultural arena can encompass a wide variety of tasks and situations.

Here are some recent examples of injuries that have been sustained by UNL employees while engaged in agricultural operations:

- Several employees have been injured when struck by or caught in unsecured gates while moving animals. These injuries occurred when the animal moved quickly and unexpectedly while the employee was in a "danger" zone. Risk of this type of injury can be reduced if the task is

conducted with two or more persons or mechanical devices so that a safe distance can be maintained.

- Several employees have suffered needle sticks while inoculating animals. Again, quick and unexpected animal movement contributed to the event. Securing animals, safe needle handling (avoiding recapping and/or place the needle in a protective holder between uses, etc.) and using proper personal protective equipment (heavy gloves, hand guards, etc.) are actions that may lessen the risk of these types of injuries.
- One employee was injured by falling from the back of a moving pickup truck. Riders should not be allowed on the tailgate or in the bed of a truck.
- Several employees have reported back injuries and other strains from lifting heavy items. Safe material handling and lifting practices should be observed to avoid this type of injury.
- One employee was injured when caught between an implement and a tractor.

In the July listserv we discussed heat stress and mitigation strategies for those who work outdoors or in hot indoor environments. That article certainly warrants review as part of farm safety & health awareness. EHS provides a number of Safe Operating Procedures for those working in an agricultural environment and/or working with animals.

The **Working With Animals** SOPs focus on two general areas:

- **Horse Safety.** Horses are often used in agricultural for tasks such as checking fences, moving/working cattle or sheep, and so on.
- **Animal Safety.** This SOP covers a number of items workers must consider daily when working with animals, such as hazard identification/risk assessment, zoonoses (bacteria, viruses, rickettsia, fungi, or parasites that can cause disease in humans), as well as reminders of general safe work practices.

The **Agricultural Safety** SOPs cover a number of areas of agricultural safety. These include :

- **All Terrain Vehicles.** ATVs are a commonly used vehicle in many agricultural operations.
- **Animal Feeding Operations – Documentation and Recordkeeping Requirements.** This SOP relates largely to environmental concerns and requirements for operations of a certain size.
- **Grain Bin Safety.** Working around grain bins presents unique, and sometimes fatal, hazards which are often overlooked even by the most seasoned farm workers.
- **Harvest Safety.** Harvest season can be particularly threatening due to dangers posed by equipment used, exaggerated by human factors such as fatigue associated with long days, environmental conditions (e.g., rain, mud, heat, cold, etc.), and other risks.
- **Outdoor Powered Equipment Safety.** This SOP provides information on commonly used powered equipment such as mowers, gas-powered string trimmers and brush cutters, and wood chippers.
- **Skid Steer Loaders.** Skid steer loaders are useful but dangerous pieces of equipment.
- **Tractor Safety.** In addition to general safety guidelines, this SOP provides tips to reduce the risk of rear overturn, side rollover and mitigation of hazards from power take-offs and drivelines.

Invest a few minutes of your busy workday to review applicable SOPs and learn a new safety tip or be reminded of something you may have forgotten.

Resources:

Working With Animals SOPs <http://ehs.unl.edu/sop/#workinganimals>

Agricultural Safety SOPs <http://ehs.unl.edu/sop/#ag>

5. Revised/Reviewed Safe Operating Procedures

EHS has revised/reviewed existing SOPs which are available on the EHS website:

- Construction Site NPDES Permits (name change) http://ehs.unl.edu/sop/s-construction_site%20npdes_permits.pdf
- Hearing Conservation http://ehs.unl.edu/sop/s-hearing_conservation.pdf
- Personal Hearing Protection Devices http://ehs.unl.edu/sop/s-hearing_protection.pdf
- Power Stationary Emergency Generators – Permits and Compliance Requirements http://ehs.unl.edu/sop/s-generators_permits_compliance.pdf
- UST – Installation Requirements and Summary Recommended Design Features http://ehs.unl.edu/sop/s-UST_installation_summary_recommended_design_features.pdf
- UST – Summary of Regulatory Requirements http://ehs.unl.edu/sop/s-UST_summary_regulatory_requirements.pdf

Remember...SAFETY IS AN ATTITUDE!