

In this issue of the Environmental Health and Safety (EHS) Listserv, August 18, 2011:

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1. National Farm Safety and Health Week Coming Up

The National Education Center for Farm Safety has declared September 18-24, 2011, National Farm Safety & Health Week. This declaration is an effort to help us focus on opportunities to learn from the past and plan for future farm safety. Awareness can help agricultural workers alter work patterns, resulting in decreased injuries and agriculture-related injuries and deaths.

The leading cause of death over the past year continued to be tractor runovers and rollovers. The EHS **Tractor Safety** SOP reviews general safety considerations, hazards of power take-offs and drivelines, rollover protection structures (ROPS), and tips for reducing the risk of side rollover and/or rear overturn. Following is one tip from each section (Read the entire SOP for more!):

- Avoid potentially dangerous terrain, such as deep mud or snow and steep hills and slopes. Be familiar with the terrain and potentially hidden hazards (e.g., gulches, ditches, sinks, etc.).
- Power Take-Offs (PTOs) are fast-revolving shafts used to power ancillary equipment on tractors and like equipment. PTOs present an entanglement hazard. The hazard can be controlled with a properly-installed shield or guard, which provides a barrier between the revolving shaft and the operator.
- ROPS are designed to protect the operator in the event of a tractor rollover, and are generally advisable for tractors of 20 horsepower or greater. These structures, which include roll-bar, frame, and roll protective cab designs are important for preventing rollover injuries/fatalities. Strong consideration should be given to retrofitting older tractors, when retrofit kits are available from the manufacturer.
- To reduce the risk of side rollover, if right front tire goes off the road into the ditch – turn downward rather than attempting to turn back onto the roadway.
- To reduce the risk of rear overturn, start forward motion slowly and change speed gradually.

All Terrain Vehicles (ATV) are commonly used in agricultural operations. While they can enhance the efficiency of work tasks, they present unique hazards. Nationwide, over 100,000 injuries and several hundred deaths are attributed to ATVs each year.

The ATV Safety Institute provides a wealth of resources on safe operation, as well as hands-on training classes. Because ATVs are commonly used in agricultural operations and have resulted in injury and death at UNL, EHS has developed a Safe Operating Procedure (SOP), **All Terrain Vehicles**, which provides basic information and additional safety resources.

Electrocution is another source of injury for agricultural workers. Be aware of overhead power lines and other conductors when working on, moving, or otherwise operating tall equipment (i.e., agricultural equipment, ladders, aerial lifts, forklifts, etc.) or working in high places (i.e., on roofs, scaffolding, trees, etc.). A variety of precautions are discussed in the **General Electrical Safety** SOP. Agricultural workers who work near or may inadvertently encounter live electrical systems should take the web-based **General Electrical Safety Awareness** training.

Grain bin suffocation was covered in the July listserv. All past issues of the EHS Listserv may be accessed through the EHS web site (<http://ehs.unl.edu>). The red toolbar at the top contains a link on the far right side to "EHS Listserv". Follow the directions to view past issues.

Resources:

- Tractor Safety SOP <http://ehs.unl.edu/sop/s-tractor.pdf>
- All Terrain Vehicles SOP <http://ehs.unl.edu/sop/s-atv.pdf>
- General Electrical Safety SOP <http://ehs.unl.edu/sop/s-electricalsafety.pdf>
- Web-based General Electrical Safety Awareness
[http://ehs.unl.edu/onlinetraining/National Education Center for Farm Safety](http://ehs.unl.edu/onlinetraining/National%20Education%20Center%20for%20Farm%20Safety)
<http://www.necasag.org/>
- ATV Safety Institute <http://www.atvsafety.org/>
- National Education Center for Farm Safety <http://www.necasag.org/>

2. Working With Chloroform, Benzene, Acetonitrile or?

The fall Laboratory Safety Colloquium, co-sponsored by EHS and the Office of Research and Economic Development (ORED), will highlight "**Safe Handling: Highly Toxic Chemicals, Reproductive Toxins (Mutagens & Teratogens, and Biologically-derived Toxins)**". Three sessions will be presented by Scott Batcheller, Sigma Aldrich Chemistry R&D on Wednesday, October 12, 2011. Be sure to attend if your laboratory uses chemicals such as: Chloroform, Formaldehyde, Ethidium bromide, Acetonitrile, Benzene, Sodium azide, Osmium/arsenic/cadmium salts, Aflatoxin, T-2 toxin, Diacetoxyscirpenol, etc.

Session specifics are available through the EHS and ORED web sites and on the UNL calendar. No preregistration is required. Review the schedule times/ locations and mark your calendar to attend.

EHS has a number of SOPs that discuss aspects of safe handling/disposal for these types of chemicals. Come to a colloquium session for much more information!

Resources:

- EHS Laboratory Safety Colloquium <http://ehs.unl.edu/training/Colloquium/>
- ORED Laboratory Safety Colloquium http://research.unl.edu/lsi_9-06.shtml
- Ethidium Bromide Disposal http://ehs.unl.edu/sop/s-ethidium_bromide_disposal.pdf
- Disposal of Chloroform Contaminated Materials http://ehs.unl.edu/sop/s-disposal_chloroform_materials.pdf
- Exposure Control for Chemical Reproductive Hazards http://ehs.unl.edu/sop/s-reproductive_hazards.pdf
- Personal Protective Equipment for Chemical Exposures <http://ehs.unl.edu/sop/s-ppe.pdf>
- Personal Protective Equipment - Eyes & Face http://ehs.unl.edu/sop/s-PPE_eyes-face.pdf
- Laboratory Hood/Cabinet Identification and Use http://ehs.unl.edu/sop/s-lab_hood_use.pdf

3. Hazardous Waste and YOU!

UNL was inspected by the Environmental Protection Agency (EPA) and Nebraska Department of Environmental Quality (NDEQ) in July to assess compliance with hazardous waste management regulations. Some of the common issues they found on campus are listed, along with recommendations to remedy the concern:

- Violation: Unlabeled waste containers. Solutions:
 - Ensure that collection containers are **labeled** immediately upon placement of chemicals into the container. At a minimum, the container must be labeled with the **fully written, proper chemical name** of the material contained within and wording to indicate if the chemicals are “USED,” “SPENT,” “EXCESS,” etc. Trade names, as they appear on the Material Safety Data Sheet (MSDS) are also acceptable.
 - If the collection vessel contains a mixture of chemicals, label the container with the names of ALL components in the mixture.
 - Do NOT use the EHS Hazardous Materials Collection Tag as the sole means of labeling.
- Violation: Open waste containers. Solutions:
 - Collection containers must be kept **closed** at all times, except when **immediately** adding or removing materials. This means you must be actively working with the container. If you leave, however briefly, to get other materials or for ANY reason, CLOSE the container.
 - Do not leave funnels in collection containers. If funnels screw onto the bottle, make sure the lids are closed (snapped or latched). Use a lid that will prevent the material from spilling if the container is tipped over. If a screw-top bucket is used as a collection container, the lid must be screwed on tightly.
 - If a collection container has a Velcro strap attached, the Velcro strap **MUST** be secured properly or the container will be considered ‘open’.

- Ziploc bags (suitable only for solids) must be completely sealed closed.
- Violation: Loose fitting tubes/hoses. Solutions:
 - Collection containers that have tubes entering through an opening, **MUST** have a **tight seal** to ensure closure. An example is equipment where liquid leaves the equipment and flows into a collection container.
 - When not in use (the equipment is not in operation), the tubes can be removed and a lid or bung can be tightened to close the opening.
 - Alternatively, special caps can be purchased that leave space **ONLY** for the hoses or tubes going onto the bottle (i.e. 4L caps for HPLC lines).
 - EHS can provide consultation if you have difficulty determining a solution for your particular application.

Check over your laboratory/work area **NOW** and be sure these violations do not apply to **YOU**. Review these items with your co-workers and modify process/procedures if necessary to be sure **YOUR** area is not cited if inspectors visit your lab/work area next time. If you have questions on any of the above, contact Tony Lloyd, Senior Environmental Specialist, 402-472-4942 or alloyd4@unl.edu.

Resources:

- State or Federal Hazardous Waste Inspections SOP http://ehs.unl.edu/sop/s-state_fed_inspections.pdf
- Hazardous/Radioactive Material Collection Procedures SOP http://ehs.unl.edu/sop/s-chem_collection_procedures.pdf

4. Do You Operate a PIT?

Powered Industrial Truck (PIT) basic (formal) training is now available in a web-based format. This training is intended as the first step to provide workers with the knowledge to safely operate and maintain a Powered Industrial Truck (PIT), defined by the Occupational Safety and Health Administration (OSHA) as: *"A motorized, power-driven vehicle used to carry, push, pull, lift, stack, or tier material- e.g., high lift trucks, counterbalanced trucks, motorized hand trucks, pallet trucks, etc. (does not include compressed air or nonflammable gas operated PITs, farm vehicles, or skid loaders used for earth moving/feed/manure/etc.)"*

PIT training is required of all UNL employees who operate forklifts or other Powered Industrial Trucks (PITs). The web-based training is the starting point for earning your UNL PIT Operator Credentials. In addition to the online "formal" training, there are two other components: practical training and individual evaluation. After you have successfully completed online training you will be shown how to operate the specific PIT or type of PIT that you will be using in your assigned duties while conducting the tasks or types of maneuvers that you will be expected to perform in your job. After you've practiced these maneuvers, the trainer will evaluate your performance. If you perform satisfactorily during the evaluation, you will earn PIT Operator Credentials.

Do you ever need refresher training? Your operational performance must be re-evaluated every three years. In addition, you must re-take the web-based formal training (or instructor-led equivalent) and driver evaluation under the following circumstances:

- If, at any time, you are involved in an accident or “near miss” (close call) while operating a PIT;
- If you are observed operating a PIT unsafely;
- If you are assigned to operate a different type of PIT (PIT-specific instruction and driver evaluation portions only);
- Or if workplace hazards/conditions change significantly (PIT-specific instruction and driver evaluation portions only).

Resources:

- EHS web-based **Powered Industrial Truck** training <http://ehs.unl.edu/onlinetraining/>
- **Forklift/Powered Industrial Truck Safety** SOP <http://ehs.unl.edu/sop/s-forklift.pdf>

5. Revised Safe Operating Procedures

- Biosafety Training <http://ehs.unl.edu/sop/s-bio-training.pdf>
- Construction Site NPDES Permits (Name Change) http://ehs.unl.edu/sop/s-construction_site%20npdes_permits.pdf
- Necropsy Biosafety <http://ehs.unl.edu/sop/s-bio-necropsyarea.pdf>
- Recombinant DNA – IBC and Other Review Requirements http://ehs.unl.edu/sop/s-bio-rDNA_IBC_Other_Rev_Req.pdf

Remember...SAFETY IS AN ATTITUDE!

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