

In this issue of the Environmental Health and Safety (EHS) Listserv – September 2, 2020

1. CUSC Open Forum Zoom Meeting
2. National Farm Safety Week
3. Circular and Band Saw Safety
4. Safety Shorts – Circular and Band Saw Safety
5. Cleaning Accident With Bleach
6. NEW SOP: Cleaning and Disinfection – SARS-COV-19 Risk Mitigation
7. NEW SOP: Guidance for Research with COVID-19 and SARS-CoV-2
8. Revised Safe Operating Procedures

1. CUSC Open Forum Zoom Meeting

The Chancellor's University Safety Committee (CUSC) is a UNL committee established to assist the Chancellor by making recommendations of methods to reduce safety hazards at UNL. The CUSC charter, as well as links to the list of members, upcoming agenda, meeting dates/locations, previous meeting minutes, current year's goal and more, are available online.

Twice a year the CUSC holds an Open Forum meeting to which a special invitation is extended. The fall **Open Forum** meeting will be conducted using Zoom and will take place from 3:00 – 4:00 p.m. on Tuesday, September 15, 2020. The campus community is invited to share concerns or just observe the workings of the CUSC. To attend, contact ehs@unl.edu for the Zoom meeting ID and password.

Resources

- Chancellor's University Safety Committee
<http://ehs.unl.edu/chancellors-university-safety-committee-cusc#cusc>

2. National Farm Safety Week

Agriculture is one of the most hazardous industries. The Bureau of Labor Statistics 2018 data indicates an annual death rate of 23.4 deaths per 100,000 workers in the agricultural sector. There are a number of University of Nebraska-Lincoln "farm" operations throughout the state.

The National Education Center for Agricultural Safety (NECAS) is promoting September 20-26, 2020, as *National Farm Safety and Health Week 2020*. 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 practices to mitigate those hazards. Field research often involves many of the same hazards that agricultural work does.

The theme for 2020 is “Every Farmer Counts.” Daily Topics focus on a particular hazard area:

- Monday –Tractor Safety & Rural Roadway Safety
- Tuesday –Overall Farmer Health
- Wednesday – Safety & Health for Youth in Agriculture
- Thursday – Emergency Preparedness in Agriculture
- Friday – Safety & Health for Women in Agriculture

The National Education Center for Agricultural Safety (NECAS) provides resources supporting each day’s theme, in addition to the vast resources always available online through their website. The AgriSafe Network, another group focused on farm safety, is participating by providing daily webinars. Review the webinar topics (<https://www.necasag.org/nationalfarmsafetyandhealthweek/>). Webinars will be 11 am-12pm, 12-1 pm, or 2-3 p.m. Central Time. While free, you must register for each you plan to attend at <https://learning.agrisafe.org/nfshw2020>. Note that use of Chrome browser is preferred.

U.S. Agricultural Safety and Health Centers, funded by the National Institute for Occupational Safety and Health (NIOSH), has produced safety and health videos related to agriculture and other outdoor endeavors. Popular topics are grain bins, heat illness, tractor rollovers, livestock safety and needlestick injuries. These videos are available through the U.S. Agricultural Safety and Health Centers YouTube channel.

One source of additional resources is the Upper Midwest Agricultural Safety and Health Center (UMASH), a multidisciplinary collaboration of five leading research and health care institutions that work to address existing and emerging occupational health and safety issues in agriculture. A few of the resources are forms and checklists, links to other farm safety organizations and a hazard evaluation mitigation tool.

EHS provides resources on a variety of topics relating to safety while conducting agricultural/outdoor operations under the Safe Operating Procedure (SOP) heading **Ag Safety**. 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 more...

Other SOPs relevant to agricultural/outdoor operations are found online in the SOP categories **Heat Stress**, **Landscape**, **Shops**, and **General/Other**.

Resources

- EHS **Ag Safety** Safe Operating Procedures
<https://ehs.unl.edu/sop/ag-safety>
- EHS SOP listing <https://ehs.unl.edu/sop>
- UMASH National Farm Safety and Health Week 2020
<http://umash.umn.edu/nfshw-2020/>
- NECAS *National Farm Safety and Health Week 2019*
<https://www.necasag.org/nationalfarmsafetyandhealthweek/>
- U.S. Agricultural Safety and Health Centers videos
<https://www.youtube.com/user/USagCenters>
- AgriSafe Network <https://www.agrisafe.org/>

- **The National Education Center for Agricultural Safety** video series (<https://www.necasag.org/safetytraining/videosandwebinars/>) reviews a variety of topics such as:
 - Chainsaw Safety
 - Fatigue Safety
 - PTO Safety
 - Farm Electrical Safety
 - Auger Safety
 - Rural Road Safety
 - Sun Safety
 - Unloading and Loading Trailer Safety...and more.

- **Anhydrous Ammonia Safety** (OffTheJobSafety, 5:31 minutes)
<https://www.youtube.com/watch?v=NYodpPEVyPc>

3. Circular and Band Saw Safety

OSHA (2019b) fatality and catastrophe investigation data from 1984 through 2017 indicate that 4,160 incidents occurred related to the search term saw, many of these being finger amputation injuries. Both band saws and circular saws are powerful and commonly used. Before starting work with either a circular or band saw:

- Be trained on proper operation, including safety considerations, to ensure you understand the operational instructions before attempting use. Learn the applications and limitations of your saw before use.
- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles).
- Tie back your hair, remove jewelry, and wear fitted clothes to avoid getting caught or pulled by the moving blade.

- Make sure all guards are in place and properly adjusted.
- Wear an approved respirator or dust mask when exposed to harmful or nuisance dusts. Use appropriate hearing protection equipment in noisy areas.

Circular saws. Circular saws, which have faster blades than table saws, are designed as a hand-held tool. Using circular saws without being trained – or flouting the rules – can lead to serious or fatal injuries. OSHA warns of three major hazards workers face when using a circular saw: the point of operation, kickbacks and flying particles.

- **Point of operation:** Injuries can occur if an operator’s hands slip while cutting or if they’re too close to the blade during cutting. To help prevent these injuries, make sure hands are out of the line of the cut.
- **Kickbacks:** When a blade “catches” the stock and throws it back toward the operator, this is called a kickback. Kickbacks happen when the blade height is incorrect or if the blade has not been properly maintained. They also are more likely to occur when ripping rather than crosscutting. “Kickbacks also can occur if safeguards are not used or if poor-quality lumber is cut,” per the Occupational Safety and Health Administration (OSHA).
- **Flying hazards:** Operating a circular saw can cause wood chips, broken saw teeth and splinters to be thrown from the blade and toward anyone nearby.

What to do before cutting with a circular saw:

- Check the retracting lower blade guard to make certain it works freely.
- Ensure that the blade that you have selected is sharp enough to do the job. Sharp blades work better and are safer.
- Check the saw for proper blade rotation.
- Set the depth of the blade, while the saw is unplugged, and lock it at a depth so that the lowest tooth does not extend more than about 0.3 cm (1/8") beneath the wood.
- Keep all cords clear of the cutting area.

Note: Circular saws are designed for right-hand operation; left-handed operation will demand more care to operate safely.

When cutting with a circular saw, do not:

- Hold or force the retracting lower guard in the open position.
- Place hand under the shoe or guard of the saw.
- Over tighten the blade-locking nut.
- Twist the saw to change, cut or check alignment.
- Use a saw that vibrates or appears unsafe in any way.
- Force the saw during cutting.

- Cut materials without first checking for obstructions or other objects such as nails and screws.
- Carry the saw with a finger on the trigger switch.
- Overreach. Keep proper footing and balance.
- Rip stock without using a wedge or guide clamped or nailed to the stock.

Band saws. Potential hazards associated with band saws include unintentional contact with unguarded moving blades or with a blade inside the guard housing before the blade has coasted to a stop. Kickbacks and kickdowns, particularly from irregularly shaped or rounded stock, are also a potential hazard. Band saws should be securely anchored to the floor or workbench of appropriate height to reduce vibration.

Procedures to follow to mitigate hazards:

- Make sure all guards are in place and properly adjusted, all band wheels are enclosed and the wheels and blade are in good condition.
- Make sure the blade is positioned properly on the track, is tracking correctly and runs freely in and against the upper and lower guide rollers.
- Adjust blade guard height to about 3 mm or 1/8 inch to 6mm or 1/4 inch above the top of the material being cut. Wider gaps will place tension on the blade and increase the risk of breaking.
- Ensure the blade is under proper tension. A band saw equipped with automatic tension control is desirable.
- Use band saw blades that are sharp, properly set and otherwise suitable for the job (e.g., the right tooth pitch; tooth form; blade width).
- Keep hands away from the line of the cut, and braced against the table.
- Hold stock firmly and flat on the table to prevent the stock from turning and drawing your fingers against the blade.
- Use a push stick when you remove cut pieces from between the fence and saw blade or when your hands are close to the blade. Keep your hands on either side of the blade – not in line with the cutting line and the blade.
- Make release (relief) cuts before tight curves when doing intricate scroll-type work.
- If you need to stop cutting, hold the material firmly and shut down the saw. Wait for the blade to stop moving before removing the piece.
- Keep the floor around a band saw clean and free of obstructions or clutter.
- Keep the machine properly oiled and serviced.
- Provide adequate lighting at the machine table. A light fixture with a flexible connection can provide essential lighting.
- If maintaining or making repairs, use lockout procedures where necessary

While circular saws and band saws are very different, both pose serious hazards leading to injury if operational guidelines are not adhered to.

Resources

- OSHA Woodworking eTool: Production > Handheld Circular Saws
https://www.osha.gov/SLTC/etools/woodworking/production_handheldcircularsaws.html
- OSHA Machine Guarding eTool: Band Saws
https://www.osha.gov/SLTC/etools/machineguarding/saws/band_saws.html
- “Circular Saw Safety.” *Safety Health Magazine*, Safety Health Magazine, 26 Jan. 2020, www.safetyandhealthmagazine.com/articles/19315-circular-saw-safety?utm_source=safetytips-topic
- (CCOSH) Government of Canada, Canadian Centre for Occupational Health and Safety. “Woodworking Machines - Band Saws : OSH Answers.” *Canadian Centre for Occupational Health and Safety*, 26 Aug. 2020, www.ccohs.ca/oshanswers/safety_haz/woodwork/band_saw.html.
- Weaver III, Albert, et al. “BAND SAW SAFETY TECHNOLOGIES.” *PSH Professional Safety*, vol. assp.org, December 2019, pp. 35–41.
- (CCOSH) Government of Canada, Canadian Centre for Occupational Health and Safety. “Powered Hand Tools - Saws - Circular: OSH Answers.” *Canadian Centre for Occupational Health and Safety*, 26 Aug. 2020, www.ccohs.ca/oshanswers/safety_haz/power_tools/saw_circ.html

4. Safety Shorts – Circular and Band Saw Safety

This series features links to short safety resource(s) each month. Provided this month are resources related to circular saw safety and band saw safety.

- **Circular Saw Safety** (Power ToolInstitute, 25:11 minutes)
<https://www.youtube.com/watch?v=iRWOhggyluk>
- **Band Saw Safety | Woodworkers Guild of America** (WoodWorkers Guild of America, 18:18 minutes)
<https://www.youtube.com/watch?v=paXdjsgPgU>

NOTE: Resources are provided for informational purposes only. Publication does not in any way endorse a particular company or product or affect current UNL policies and procedures.

5. Cleaning Accident With Bleach

People not familiar with bleach use recently have begun more commonly using this chemical as a disinfectant. Last fall in a commercial establishment a worker spilled one cleaner on the floor. Later a different employee started to clean the floor with a different cleaner. The mixture turned green, started bubbling and emitted fumes driving employees and customers to evacuate the building. A

manager attempting to clean up the liquid was overcome by the fumes and died later at the hospital.

When using chemicals it is important for all who might use a chemical to be familiar with the hazards and precautions of the product. Mixing bleach and acid gives off chlorine gas. Mixing bleach with other substances can create other harmful situations for example, ammonia with bleach creates chloramine, another toxic gas. Bleach plus hydrogen peroxide creates oxygen gas so violently it can cause an explosion.

Facts to remember when working with cleaners:

- Check labels on cleaners before using them. Review Safety Data Sheets (SDSs) to learn about risks. SDSs are now available for many common commercial products.
- Keep cleaners stored safely, where they cannot easily be tipped and spilled. Keep household chemicals locked up away from children and pets.
- Don't mix different cleaners.
- Always use cleaners in a well-ventilated area.
- If an accidental mixture occurs, do not try to clean it up or neutralize it. Leave the area and call 911.

Follow these guidelines to 'disinfect' safely and avoid becoming a statistic!

Resources

- Boerner, Leigh Krietsch. "Accidental Mix of Bleach and Acid Kills Buffalo Wild Wings Employee." *Chemical & Engineering News*, American Chemical Society, 23 Mar. 2020, cen.acs.org/safety/consumer-safety/Accidental-mix-bleach-acid-kills/97/i45

6. NEW SOP: CLEANING AND DISINFECTION – SARS-COV-19 RISK MITIGATION

SARS-CoV-2 is the causative agent of COVID-19 disease, which emerged as a world pandemic in 2019. At present, there is no vaccine to protect against this virus and there are no widely recognized pharmaceutical treatments. For these reasons, risk mitigation relies on several non-pharmaceutical interventions (NPIs), which are generally used simultaneously as layered protection. Some of the most basic NPIs include frequent hand-washing, wearing of a face covering when indoors in public spaces and outdoors when less than 6' from other people.

Frequent and thorough cleaning and disinfection in public or shared spaces and equipment is a proactive approach to reducing the risk of exposure to SARS-

CoV-2. Clean and disinfect non-disposable equipment and shared spaces at the end of each work shift, when known to be contaminated, and before sharing with others.

- Prepare the workplace to facilitate cleaning and disinfection. For example, use plastic keyboard covers for shared computers, and disposable plastic clings over touch screens. Avoid sharing items when feasible.
- Visibly soiled surfaces must be cleaned prior to disinfection.
- Disinfectants have a finite shelf life. Do not use expired disinfectants. Bleach solutions must be used within 24 hours of preparation.
- Disinfectants present health and physical hazards. Read and adhere to all precautions and instructions (including proper use concentration) in the manufacturer's Safety Data Sheet (SDS) and label.

Infectious agents on inanimate surfaces can be effectively inactivated if the correct disinfectant is used. Remember to always **wear appropriate PPE** as recommended in the SDS or label, which typically includes eye protection/face-shield and chemical-resistant disposable gloves.

This SOP provides more detailed information on the items noted and other aspects of cleaning and disinfection. Review of the entire SOP is recommended: https://ehs.unl.edu/s-SARSCOV2_clean-disinfect.pdf

7. NEW SOP: Guidance for Research with COVID-19 and SARS-CoV-2

EHS has developed two resources for researchers planning to conduct research or diagnostic activities with COVID-19 patient samples and/or SARS-CoV-2-related materials.

The first resource is a research decision guide that will inform the research team about the required containment for different types of materials and samples as well as the compliance steps that need to occur prior to work starting. The second document is a new SOP that defines the enhancements to standard BSL-2 containment practices that may be necessary depending on the materials and activities you plan to conduct.

This information as well as additional resources are available on the IBC website: <https://ehs.unl.edu/committees/ibc>. We encourage you to contact the EHS Biosafety team (402.472.4925) if you are contemplating any research with COVID-19 or SARS-CoV-2 related samples or materials so you can avoid unnecessary delays in getting started with the work. Please contact the UNL Biosafety Officer, Matt Anderson (manderson11@unl.edu or 402.472.4925), with any questions about these materials.

Resources

- **BSL-2 Enhanced Containment Practices for Handling Potential SARS-CoV-2 Specimens and Samples SOP** https://ehs.unl.edu/s-bio-bsl2_handling_SARS-CoV-2_samples.pdf
- **SARS-VoV-2 Biosafety and Biocontainment Research Guide SOP** https://ehs.unl.edu/SARS-COV-2_biosafety_biocontainment_guide.pdf

8. Revised Safe Operating Procedures

- **Microbiological Laboratory Practices**
https://ehs.unl.edu/sop/s-bio-microbiological_lab_practices.pdf
Updated guidance about precautions for persons with medical conditions that may increase susceptibility to exposures. Added guidance and references to EHS SOPs on PPE use and selection. Added guidance on lab coat selection and cleaning. Added references to applicable EHS SOPs throughout the document. Added clarifying language about use of containment devices when working with infectious materials. Clarified reporting requirements for spills of and exposures to biological materials including any containing recombinant or synthetic nucleic acids.
- **Security Advice for Biosafety Laboratories (previously Security Advice for Research Facilities)** https://ehs.unl.edu/sop/s-bio-security_features.pdf
Generalized applicable types of research to refer to those described in the Biosafety Guidelines rather than listing specific examples. Updated SOP references. Adjusted phrasing and wording to improve readability.
- **Select Agents and Toxins – Clinical and/or Diagnostic Laboratory Activities** https://ehs.unl.edu/sop/s-bio-select_agents_clinical_diagnostic_lab_activities.pdf
Clarified requirement that all select agent samples and suspect samples that are destroyed by autoclaving must include a biological indicator in the load and the autoclave run must be documented including the status of the biological indicator after incubation. The SOP was converted to new EHS SOP template.

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>

~To SUBSCRIBE and get your own copy if you received this from someone else or UNSUBSCRIBE, send an e-mail to LISTSERV@LISTSERV.UNL.EDU . In the Message (not Subject) field enter SUBSCRIBE EHSINFO or UNSUBSCRIBE EHSINFO