

In this issue of the Environmental Health and Safety (EHS) Listserv – May 11, 2022

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1. Infectious Biological Materials – New Info

Do you work with infectious biological materials? Might you plan to receive any materials infectious to humans from outside the United States or transfer permitted material to other researchers/entities? A few highlights of this updated Safe Operating Procedure are:

- Terminology changed from “etiologic agents” to “infectious biological materials,” a broader and simpler term
- Changes in CDC guidance related to the Import Permit Program
- Addition of a section on import and transfer of SARS-CoV-2.

Due to the extensive changes, please review this revised Safe Operating Procedure (SOP), **Import and Transfer of Infectious Biological Materials and other CDC Regulated Agents** (https://ehs.unl.edu/sop/ship_etiologic_agents.pdf), if it is relevant to your work.

2. Autoclave Performance Testing – New Info

Do you use an autoclave? There have been significant changes relating to autoclave performance testing. The revised Safe Operating Procedure, Autoclave Performance Testing (https://ehs.unl.edu/sop/s-bio-autoclave_performance_testing.pdf) reflects changes to the EHS autoclave program, emphasizing that the program is for surveillance purposes.

The frequency of autoclave testing is now based on a risk assessment of the materials being sterilized in the lab instead of solely on Biosafety Level. Labs working with human pathogens, toxins and human materials will continue to test monthly, while labs not working with these materials will change to a quarterly testing frequency. Labs that were previously testing every 6 months will now need to test their autoclave every 3 months. Procedures for testing have been slightly revised. Images have

been added to the SOP to illustrate how to include the test ampoule with a load.

EHS strongly encourages users to test the ampoules in their own lab instead of sending it to EHS for testing to decrease the time between a test being completed and results being shared with the lab. To facilitate this new process, there is an online form to report run information and testing results. The online form for logging performance testing runs and incubation results is available here: <https://forms.office.com/r/gSQuKLF9zg>.

If users are unable to incubate ampoules in their lab, EHS will still be able to perform the incubations. Refer to the SOP for guidance on how to request this service.

Questions? Contact EHS by email ehs@unl.edu or phone 402-472-4925.

3. Situational Preparedness - National Bicycle Safety, National Motorcycle Safety Month

Situational preparedness is so important that we will be looking at various aspects over time, as well as providing resources to assist you to “be prepared” for whatever situations you may encounter while driving, bicycling or walking.

Motorcyclists and bicyclists are more vulnerable to crashes than others on the road. Per mile travelled, motorcyclists are 27 times more likely than people in passenger cars to die in a traffic crash. The number of bicycle incidents has increased 29% over a recent eight-year period.

With more riders on the roads as weather improves, the need for additional precautions arises. The National Highway Traffic Safety Administration (NHTSA) has designated May as Motorcycle Safety Awareness Month, and the League of American Bicyclists recognizes May as National Bicyclist Safety Month. The National Safety Council (NSC) supports both of these efforts.

Remember that both motorcycles and bicycles are relatively small, and thus drivers often do not see them. Some safety tips that apply to both motorcycle and bicycle riders are:

- Be sure your bicycle or motorcycle is “ride ready”: check tire pressure, brakes, etc.
- Know and follow the rules of the road.
- Wear bright or reflective clothing that is durable with arms and legs covered, sturdy shoes or boots, and a helmet that conforms to the appropriate design standards.

- Assume you are invisible to other motorists and position yourself to be seen.
- Signal every turn or lane change.
- Drive defensively in the same direction as traffic. Pay special attention at intersections where half of all collisions occur. Always look out for cars turning or backing out of driveways.
- Don't weave in and out of lanes, or ride on the shoulder or between lanes.
- Watch for hazards like potholes, manhole covers, oil slicks, puddles, debris, railroad tracks and gravel.

The best way to reduce your odds of dying or being severely injured in a crash is to get educated:

- The Motorcycle Safety Foundation (<https://www.msf-usa.org/library.aspx#ridercourse-materials-link>) offers safety booklets, downloadable Rider Course handbooks, videos, quick tips, white papers and more. They can also help you find a motorcycle safety course near you.
- RideApart (<https://www.rideapart.com/features/254912/10-common-motorcycle-accidents-and-how-to-avoid-them/>) publishes a list of the 10 most common causes for motorcycle accidents and how to avoid them, complete with videos. Many of the tips at this site apply equally to bicyclists.
- A core activity of the League of American Bicyclists is education. Find smart bicycling tips and videos at <https://bikeleague.org/ridesmart>

Get educated and ride safely so you do not become a statistic!

Resources

- MAY IS BIKE MONTH, The League of American Bicyclists <https://bikeleague.org/bikemonth>
- Bike Safely and Enjoy Your Ride, NSC <https://www.nsc.org/home-safety/tools-resources/seasonal-safety/summer/bicycles>
- Motorcycle Roadway Safety, NSC <https://www.nsc.org/road-safety/safety-topics/motorcycle-safety>
- Bicycle Safety, NHTSA <https://www.nhtsa.gov/road-safety/bicycle-safety>
- Motorcycle Safety, NHTSA <https://www.nhtsa.gov/road-safety/motorcycle-safety>
- Walter, L. (2012, May 15). 6 Tips for Motorcycle Safety Awareness Month. Retrieved April 27, 2021, from <https://www.ehstoday.com/safety/article/21915121/6-tips-for-motorcycle-safety-awareness-month>

- CPSC (Consumer Product Safety Commission) Which Helmet for Which Activity? (reference chart on helmet standards)
<https://www.cpsc.gov/safety-education/safety-guides/sports-fitness-and-recreation-bicycles/which-helmet-which-activity/>

4. Excessive Heat: Awareness & Safety

The United States Occupational Health and Safety Administration (OSHA) and the National Weather Service team up to encourage everyone to recognize the warning signs for heat illness. This observance occurs each year on the last Friday in May. Heat exhaustion and dehydration due to heat are some of the leading weather-related killers in the United States and result in dozens of fatalities and thousands of heat-related illnesses each year. On average, extreme heat has killed more people in the last ten years than any other weather phenomena.

We often associate heat-related illness with outdoor operations such as farm work, landscaping, and research “in the field.” However, EHS routinely reviews injury reports from employees working INSIDE an unconditioned building (e.g., warehouse, storeroom) or areas of a building prone to heat build-up (e.g., kitchens, laundry, autoclave rooms, etc.).

Working in the heat stresses the body and can lead to illness or even death in severe cases. Exposure to heat can also increase the risk of other injuries because of sweaty hands, fogged-up safety glasses, dizziness, and burns from hot surfaces. Most heat-related health problems can be prevented or the risk of developing them can be reduced.

Following are two main categories of risk factors the worker should evaluate when contemplating outdoor work:

- **Weather Conditions.** The risk of heat stress is relative to temperature, humidity, sunlight, and wind speed. High temperature, high humidity, direct sunlight and low wind speed make the worst combination. If possible, schedule strenuous work for the cooler parts of the day.
- **Personal Factors and Physical Demands.** The risk of heat stress increases with physical demands. For example, a worker who is walking is at higher risk than a worker who is riding in a vehicle. Older workers, obese workers, and persons taking certain types of medication, such as antihistamines, are at a greater risk for heat illness.

It may not always be possible to work only in cooler parts of the day. The risk of heat-related illness can be reduced by:

- **Acclimation.** Build up tolerance to heat by short exposures before undertaking longer periods of work in a hot environment.
- **Appropriate clothing.** Light, loose clothing and a hat are the recommended clothing of choices.
- **Hydration.** Drink 8-16 ounces of water *before* working in the heat. Drink 4-8 ounces of water or electrolytes every 15-20 minutes while working in the heat. AVOID alcohol, coffee, tea, or soda pop, which further dehydrates the body.
- **Adequate Rest Periods.** Work at a steady pace. Take breaks when your body signals you need one, preferably in shaded or cool areas.
- **Education.** Heat stress can manifest as a number of conditions, all to be taken seriously, and some requiring medical assistance to avoid permanent aftereffects. Workers should know the signs and symptoms of these conditions so they can take proper action if they or their co-workers are affected.

OSHA in collaboration with the Centers for Disease Control and Prevention (CDC) and National Institute for Occupational Safety and Health (NIOSH) has developed a free smartphone **Heat Safety Tool** that calculates a heat index, identifies the associated risk level and provides reminders about protective measures that should be taken to protect workers from heat-related illness. The free app is available for either Android or iPhone.

Further recommendations from NIOSH for those working in hot environments include:

- Limit time in the heat and/or increase recovery time in a cool environment.
- Use a buddy system so workers can observe each other for signs of heat intolerance.
- Have adequate amounts of cool, potable water near the work area and encourage each other to drink frequently.

While we think of summer as the “hot” time of year outdoors, sometimes temperatures and humidity levels in the spring or fall can reach dangerous levels as well. In addition, certain indoor work areas may be “hot” year-around. Remember to practice heat safety wherever you are and with whatever tasks you are doing. Heat-related illness and death are preventable.

Resources:

- Excessive Heat Awareness and Safety
<https://www.weather.gov/rah/heat>
- OSHA Health and Safety Topics: Heat
<http://www.osha.gov/SLTC/heatstress/>

- OSHA-NIOSH Heat Safety Tool App
<https://www.cdc.gov/niosh/topics/heatstress/heatapp.html>
- OSHA Water. Rest. Shade <https://www.osha.gov/heat/>
- EHS **Heat Stress** SOP <https://ehs.unl.edu/sop/s-heatstress.pdf>
- National Institute for Health & Safety (NIOSH) Safety & Health Topics: *Heat Stress* <http://www.cdc.gov/niosh/topics/heatstress/>
- Heat Safety Tips and Resources <https://www.weather.gov/safety/heat>

5. Hydration Necessary in Heat/Humidity

Staying properly hydrated is as important as using personal protective equipment, not only when working in the heat indoors or out, but throughout the year. Hydration is a critical component to mental and physical fatigue, a leading cause of injury incidents. Slurred speech, irritability, lethargy, loss of appetite, mood swings all can be indicators of dehydration.

Remember to hydrate throughout the day, but particularly when you are working in a hot environment, indoors or out. Thirst is a signal to replace fluids, but you typically need hydration before you feel thirsty. Whether feeling thirsty or not, it is recommended that you drink one bottle of water per hour to avoid becoming dehydrated, especially when working or exercising outside. Fluid replacement plans need to consider factors such as sun exposure, temperature, humidity, job tasks and level of PPE being worn.

The January/February 2021 issue of Occupational Health & Safety states “Hydration, much like PPE, is a critical component of health and safety year-round.”

Resources

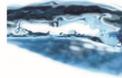
- Dillow, D. (2021, January/February). Drinkable PPE: Are You Protecting Your Workers from the Inside Out? Retrieved April 27, 2021, from https://digital.1105media.com/OHS/2021/OHS_2021_01/OS_2101Q1_70_1922649.html?oly_enc_id=3093F0440478G2W#p=26
- Centers for Disease Control and Prevention “Extreme Heat” <https://www.cdc.gov/disasters/extremeheat/index.html>

6. Heat Stress Poster/Digital Signage

EHS has developed a graphic to help faculty, staff and students remember tips to avoid heat-related illness. This graphic is available as a free poster and also in a format suitable for digital signage.

When It's **HOT...**

Tips to Avoid **Heat-related Illness** Working Inside or Outside:



- **ACCLIMATE.** Increase exposure and workload gradually.
- **APPROPRIATE CLOTHING.** Light, loose clothing.
- **HYDRATION.** Drink 6-8 ounces water before working in heat and 8 ounces every 20 minutes.
- **ADEQUATE REST PERIODS.** Work at a steady pace. Take breaks in a cooler or shady area if possible.
- **JOB ROTATION.** When possible, rotate tasks between two or more employees.
- **EDUCATION.** Know how heat stress manifests and proper actions to take for each.



Water Is Essential!



Safe Operating Procedure (ehs.unl.edu):
Heat Stress

UNIVERSITY of NEBRASKA-LINCOLN

Contact EHS for questions or comments:
Environmental Health & Safety - (402) 472-4925

For a FREE poster(s) contact ehs@unl.edu or 402.472.4925 with your name, campus mailing address including Zip+4, and number of posters desired. To get a graphic suitable for digital signage display email or call EHS and we will send you the file.

There are a number of other printable resources available online through the National Weather Service.

Resources

- Safety Posters <https://ehs.unl.edu/safety-posters>
- Excessive Heat Awareness and Safety <https://www.weather.gov/rah/heat>

7. Nebraska Health and Human Services Radioactive Materials Audit

Inspectors with the Nebraska Department of Health and Human Services were on campus recently to audit compliance with the University of Nebraska-Lincoln's broadscope radioactive materials license. This radioactive material inspection, focused on EHS administration and campus users, occurs every two to three years.

Overall, there were no major audit findings! There were some minor violations that were found and will be discussed during the next annual radiation safety refresher training. The EHS Radiation Safety Officer extends thanks to everyone

who participated in preparations and a very special thank you to those that the state visited during their audit.

THINK SAFETY – DON'T LEARN BY ACCIDENT!

Environmental Health and Safety

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