Safety Slick Q4 2021

Quarterly Research Safety Update

In This Slick:

- Research Safety…in the movies!
- Win a gift card!
- Chemical Spill Respond;
- Extreme Weather Ready (Field Research);
- Space Heater Fire: It's a Real Thing!
- No Bake Gingerbread Cookies in 10 min!

You are receiving this quarterly newsletter as a part of the UCSB research community.
Please share and encourage lab fellows to subscribe.
Not your cup of tea? Unsubscribe here.

Training

Click here for details on upcoming EH&S courses.

On December the 9th, 2021 NOAA National Weather Service will present a webinar focused on latest projections for this coming winter and the predictability of weather hazards including post-fire flooding, along with how the changing climate is impacting day-to-day weather forecasting. The event is free and you can sign up for it here.

Research Safety.... in the movies!

All but one of the horror movies listed below highlight the importance of water treatment options in the field as well as effective deactivation methods for biohazards.

Win a Prize:

Which horror movie **did <u>not</u>** feature a contaminated water supply?

a) Cabin Fever (2002)
b) The Bay (2012)
c) Sea Fever (2019)
d) Contagion (2011)
e) Zombeavers (2014)

Submit your answer as soon as you can to ehs-labsafe@ucsb.edu for a chance to win a Starbucks or Blenders in the Grass gift card!

These horror movies would not have been so horrible had the characters abided by important research safety practices:

- Bring your own water or plan to filter and chemically treat water in field settings.
- Spills - especially those that result in environmental release, must be reported to EHS as soon as possible.
- Use a high-level disinfectant to deactivate potentially infectious materials or giant flesh-eating copepods. Treatment duration depends on the disinfectant, organic load, and biological materials.
- Do not discharge potent trace chemo/pharmaceuticals down the sink; label and send out for incineration through EH&S.

Bonus Question:

The inciting incident in "Contagion" was attributed to a lapse in this important safe work practice for work with biological materials:

a) Restricted access

b) Housekeeping

c) Handwashing

d) Pest control

Submit your answer as soon as you can to ehs-labsafe@ucsb.edu for a chance to win a Starbucks or Blenders in the Grass gift card!

Laboratory Safety

Are You Ready to Respond?

Chemical spills in research laboratory are common. Preparedness and proper response minimize the negative outcome and the probability of becoming a material for the next horror movie.

Notify EH&S at (805) 893-3194 regardless of whether clean - up assistance is required!

Spill kits available at EH&S!

Small Chemical Spill Procedure (< 1 Liter)

If a spill is up to 1 liter in size and of limited toxicity, flammability and volatility, laboratory members may choose to effect clean-up if trained to do. EH&S should be informed of spills of < 1 liter. If laboratory personnel choose to clean the spill, the following procedure should be followed:

- Evacuate all non-essential persons from the spill area.
- If needed, call for medical assistance by calling 911.
- Help anyone who may have been contaminated. Assist with shower/eyewash as needed.
- Post someone just outside of the spill area to keep people from entering.
- Turn off all ignitions sources, and close valves on compressed gas cylinders of flammable gas.
- Don proper PPE.
- Check the SDS for spill clean-up procedures including necessary PPE or call EH&S.
- Confine the spill to as small an area as possible by treating it from the outside edges in.
- Do not clean up the spill alone. Use the buddy system.
- Do not add water to the spill.
- To clean up a spill of weak inorganic acid or base, neutralized the spilled liquid to pH = 5-8 using a neutralizing agent such as sodium bicarbonate, sodium bisulfate, or soda ash for spilled acids, or citric acid for spilled bases. For solvent spills skip to the next step.
- Absorb the neutralized liquid or solvent with an absorbent such as sorbent pads, sponges, paper towels, dry sand or diatomaceous earth.
- Collect the absorbents and place in a clear plastic bag. Double bag the waste and attach a completed hazardous waste label to the bag. Transport to the waste pickup area and schedule a pickup.

Large Chemical Spill Procedure (> 1 Liter)

If the spill presents a situation that is immediately dangerous to life or health or presents a significant fire risk, activate a fire alarm, evacuate the area, call 911 and wait for emergency response to arrive. Otherwise

- Remove any injured and/or contaminated person(s) and provide first aid.

- Call for emergency medical response if needed.

- As you evacuate the laboratory, close the door behind you, and:

  - Post someone safely outside and away from the spill area to keep people from entering.
  - If possible, if the material is flammable, turn off or remove all ignition sources.

Chemical Exposure to Personnel

In the event of a significant chemical exposure:

- immediately try to remove or isolate the chemical if safe to do so.
- When skin or eye exposures occur, remove contaminated clothing and flush the affected area using an eyewash/shower unit *for at least 15 minutes*.
- Remember to wear appropriate PPE when helping others.
- For a non-emergency chemical ingestion, inhalation or dermal exposure contact the California Poison Control System at 1-800-222-1222 for assistance, and seek medical care as instructed.

image source: SFU

Field Research Safety

Extreme Weather Ready

Image: National Wildfire Coordinating Group

Heat waves, extreme drought, fires, landslides, flash floods …. These are extreme weather events occurring with increased frequency in California.

How can scientists, working in the field, adapt to adverse weather conditions and continue to lead field projects with minimized risk? **Weather assessment and good decision-making skills, awareness of the danger and preparedness for proper response will get you off on the right foot.**

Working in areas affected by wildfire smoke:

In California, wildfires have a regular part in the daily news. Wildfire season starts earlier and ends later with each year. University of California has prepared for you an air quality index (AQI) – based decision-making matrix, which can determine field work activities in areas with air quality affected by wildfires. This matrix should not be used if there is a direct threat of wildfire. A concise Wildfire Smoke Protection Training is available online.

Turn around, don't drown:

Flash floods is another extreme weather condition that is a possibility wherever you go. On October 25th a Flash Flood Warning was issued by the National Weather Service for the Alisal Fire burn scar. Did you ask yourself what would you do if you are in the field and get this alert? Do you know the basics of Flash Flood Safety? And do you make sure that weather updates in the field are something you can receive?
To learn more about flash flood safety, click here.
Don't forget to sign up for NOAA webinar (see details under " Training")

National Weather Service Extreme Weather Safety Tips

Mapped: How climate change affects extreme weather around the world

Billion-Dollar Extreme Weather Events

Space Heater Fire: It's a Real Thing

As we near the end of summer and head towards cooler months ahead, the safe use of space heaters should be on the top of our mind. No one enjoys working in a cold laboratory or office, but at what cost are we willing to risk unsafely utilizing the convenience of a space heater? According to the National Fire Protection Agency (NFPA), the leading cause of fires in homes, offices, and such is caused by heating equipment. Additionally, the Consumer Product Safety Commission reports that approximately 1200 fires a year are caused by portable electric space heaters. So, while space heaters can be a convenient way to heat a small space, it is safest to rely on proper building temperatures (contact campus FM to fix temperature issues). Too often these heaters are used inadequately, overloading building circuits, left on inadvertently, or placed on desks or shelves in the proximity of combustible material.

What Do You Need to Know to Safely Use a Space Heater? Unfortunately, not all existing building systems can provide a comfortable temperature range, so the use of a personal heater may be permitted under specific guidelines. To best protect against potential fire from the use of portable electrical heaters (space heaters), it is important to know the basic dangers of the equipment. Two of the most common causes of heater related fires are corelated to the use of extension cords and the proximity of combustibles when in use.

A common issue associated with portable electric heaters is the use of electrical extension cords. This is too often seen in laboratories, offices, and dorms/apartments. Extension cords and power strips are not equipped to handle the extra current flow needed to power a space heater and can overheat, leading to a fire. The heating elements in space heaters have also been known

to reach up to more than 600 degrees Fahrenheit – that's scary hot! This is good reason why portable electrical heaters should never be powered by an electrical extension cord or an electrical power strip. Instead, always plug space heaters directly into an approved wall receptacle

The second most common issue associated with portable electric heaters is in the distance (closeness) between the heater and common combustibles. The NFPA reports that more than half of indoor heating fire deaths, resulted from fires that began when a heater was positioned too close to things that burn (e.g. upholstered furniture, boxes, clothing, etc.). Remember, those heating elements can reach a high of 600 plus degrees Fahrenheit! That is why it is important to keep combustibles at a minimum of 3 feet away from a heater.

Not All Heaters are Treated Equal! It's also important to know how space heaters are regulated and why you should ensure your space heater is UL listed. Space heaters are tested by organizations such as Underwriters Laboratories (UL) and Canadian Standards Association (CSA). A UL listed portable electric heater has to pass a tip-over test that stipulates the most severe tip over orientation. The U.S. Consumer Safety Protection Commission (CPSC) helps reduce space heater risks by developing voluntary standards, issuing and enforcing standards and banning unsafe products. The CPSC also maintains a list of recalled space heaters to protect consumers from faulty products. For a current recall list go to: www.cpsc.gov

There are many things to consider before powering up your space heater. To ensure the safest use of your portable electric heater, please follow these guidelines:

- Keep all combustible Materials at a minimum of 3 feet away from the heater
- Place heater only on a floor (flat surface)
- Ensure heater is UL listed and has a tip over-switch (a device which automatically turns off the power if the heater tips over)

- The heater is plugged directly into a wall outlet without the use of an extension cord or power strip
- Always turn off and unplug heater when leaving the room

For more guidelines on the safe use of space heaters, check out Electric Portable Heater safety

Power on safely!

No Bake Gingerbread Cookies in 10 min!

A quick holiday fix - No Bake Gingerbread Cookies! Suitable for anyone who is short on time, vegan or has a sweet tooth!

Happy Holiday Season!

Our mailing address is:
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