The Lab Rat NEWS
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EMORY UNIVERSITY
Environmental Health and Safety Office
Research Administration

Laboratory Safety: Electrical Hazards

This is the first of a multi-part series on the hazards posed with electrical equipment.

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Background

Laboratory workers may be exposed to electrical hazards including electric shock, electrocutions caused by short circuits and overloaded circuits and wiring. Most electrical-related incidents are caused by unsafe work practices or faulty equipment. Here, we cover two common issues with electrical cords: fraying of aging cords and the use of extension cords.

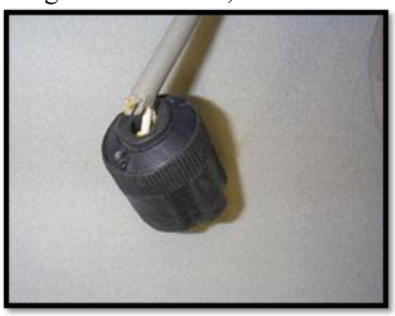


Image 1. Frayed Cord and Plug

Frayed cords

- Periodically, perform a visual inspection of all flexible cords for indications of possible damage (such as a pinched or crushed outer jacket). Images 1 and 2 exemplify this damage.
- Replace or repair damaged or defective electrical cords. *Do not use electrical tape – or duct tape – to repair or protect worn, frayed or damaged flexible cords.* Covering the damaged or worn areas of flexible cords with tape will prevent the user from conducting a proper visual inspection of the cord and can create a fire hazard if the cord overheats or sparks.
- Laboratory personnel should not attempt to repair defective electrical equipment or cords.

Image 2. Frayed Extension Cord

Extension Cords

- Three-wire extension cords should only be used for temporary and short-term use (Image 3). They are grounded with multiple layers of insulating materials and are designed for higher demand loads. Never use extension cords made with only two wires and no ground! These are designed to provide power to small current loads.
- Never plug a surge protector or power strip into an existing surge protector or power strip (Image 4). This practice is known as "daisy chaining" and constitutes a fire hazard.

Have Some Questions?

- Refer to Emory University's Electrical Safety Program at www.ehso.emory.edu or contact the Environmental Health and Safety Office at 404-727-5922.

Image 3. Three-Wire Extension Cord for Short-Term Use

Image 4. Extensive Daisy Chaining

Training

Access online training courses at ehso.emory.edu/training

Regulated Waste

Send an email to chemwaste@emory.edu for chemical waste pick-ups and to request new waste containers.

Radioactive waste pick ups should be requested via EHS Assist pick-up.

A **Chemical** waste disposal inventory form and/or **radioactive** waste inventory form should accompany all waste containers at the time of pickup.

PPE

Choice to be based on potential exposures involved:

Eye: Glasses, goggles & face shields.

Gloves: Appropriate for the type of procedure.

Clothing: Gowns, lab coats, aprons, coveralls.

Respirators: Appropriate for the type of procedure.

Eye Wash Testing

Lab personnel should test and document eye wash stations once a month.

Certifications

Biosafety Cabinets, Geiger Meters and Chemical Fume Hoods require annual certification.

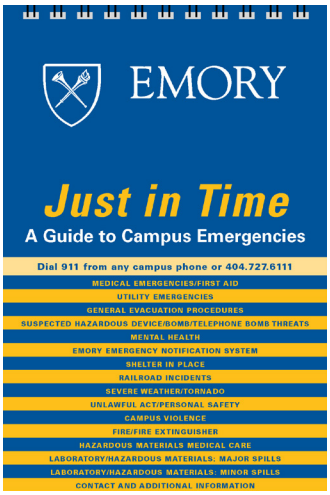
Fire Extinguishers

Visual inspections of your fire extinguishers

How do I handle contaminated broken glass?

Last month, we reviewed that only clean broken glass should go into the broken glass disposal box. This month, we will discuss how to dispose of broken glass contaminated with either a chemical or biological agent.

As with any spill, you should consult your written Standard Operating Procedures (SOP), which contains specific guidance on cleaning up the spill, and the Just in Time guide posted in your lab.



For Spills involving Broken Glass and a Chemical Agent:

- Confine the spill to a limited area. Barricade and isolate the area to prevent spread of contamination.
- Pick up broken glass with tongs, forceps, or dustpan. ***Place the glass into an EHSO dry waste container***.
- Use appropriate neutralizer and absorbents to mitigate the spill.
- Contact EHSO for chemical disposal pick up.

For Spills Involving Biological Agents and Broken Glass:

- Encircle the spill with the appropriate disinfectant in such a manner to minimize splashing. Allow the disinfectant a minimum of twenty minutes of contact time.
- Pick up broken glass with tongs, forceps, or dustpan. ***Place the glass into a puncture-resistant sharps container.***
- Decontaminate the affected area with disinfectant-soaked spill pillow or wipes.
- Dispose of spill cleanup materials in biohazard waste.

If you do not feel comfortable cleaning up a spill or broken glass, please contact EHSO for assistance. Remember to report any injuries to the Office of Injury Management, or spills that involve recombinant DNA using the accident/injury report in PeopleSoft.

are conducted monthly:

A. Is it present and mounted in its proper location?

B. Is it readily accessible?

C. Initial and date attached tag.

If it appears to need servicing contact Campus Services at 7-7463

Want to Share Feedback?

Send comments to biosafe@emory.edu.

We look forward to reading your ideas and comments!

Building Liaisons

Radiation and Research liaisons can be found at http://ehso.emory.edu/about/

Appropriate Summer Lab Attire

Source: http://ehs.ucmerced.edu/safety-tips/lab-safety-tip-month/summer-approaching-fast

Please Read—

Signature indicates: I have read and I understand the information in this issue of Lab Rat Newsletter. Use an additional sheet of paper for more signatures, if needed and attach to this document.

- This newsletter is a tool to help fulfill a legal requirement for ongoing safety training.
- Supervisors are responsible for ensuring that individuals in their area have read and understood the information that applies to their area.
- The signed newsletter should be placed into the PI's EHSO Lab Safety Binder.

Signature Here

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