

Relocating Laboratory Hazardous Materials

Guideline

Revision Date: 03/08/16

Applies To: All research and service units involved in laboratory operation relocations.

Summary

The transport of hazardous materials during laboratory relocations presents potential hazards to the transporter and others in the area. This Guideline describes procedures for the safe relocation of hazardous materials to minimize the risk of spills and other uncontrolled releases outside the laboratory, both on campus and off-site.

Scope

This Guideline applies to all research and service units involved in laboratory operation relocations.

Reference Regulations

- Department of Transportation (49 CFR 171-180 and 49 CFR 390-397) [Hazardous Work in Laboratories \(MIOSHA Part 431\)](#)
- Nuclear Regulatory Commission Standard (10 CFR 71)

Glossary of Terms

TERM	DEFINITION
Labels and Markings	Pictorial or written warning labels to identify hazards associated with the hazardous materials.
Decommissioning	the formal deactivation of a laboratory assuring the safety of the space for further cleaning, renovation, or occupancy. The decommissioning process involves an inspection by EHS Biological and Laboratory Safety (B&LS) and, if radioactive materials were used, EHS Radiation Safety Service (RSS). Refer to the EHS Guideline " Laboratory Decommissioning ."

Responsibility

Laboratory Director

- Implement and document appropriate safety policies and procedures in accordance with the U-M Chemical Hygiene Plan.
- Ensure employees are instructed on and follow proper procedures and utilize protective equipment provided during their work as detailed in written SOPs.
- Arrange with EHS-Hazardous Materials Management (HMM) for pick-up of hazardous waste or to move chemicals to a new space over the road.
- Notify EHS -Radiation Safety Service (RSS) prior to removing or relocating radioactive materials or radioactive waste.

Employees

Conduct assigned tasks in a safe manner; wear appropriate personal protective equipment; only use equipment for which training was received. Refer to the EHS Guideline [Personal Protective Equipment \(PPE\) - General](#).

EHS

- Upon request, provide chemical transport and chemical spill control training to the PI and laboratory staff.
- Provide support and technical assistance.

Service Units

Prior to transportation outside the building ensure that [Laboratory Equipment Owner Decontamination Form](#) are completed and attached to any equipment used for storage or processing of hazardous materials.

Packaging Non-Radioactive Chemicals

1. Seal and package all non-radioactive chemicals in boxes ensuring segregation of chemicals according to hazard class and compatibility. For example, all bases (caustics) **must** be packaged separately from all acids. When possible, package the non-hazardous materials (media, buffer, etc.) separately from the hazardous chemicals.
2. Use dividers and vermiculite to separate all bottles and prevent breakage during transport.
3. Fill each box approximately $\frac{1}{4}$ full with vermiculite for 4 liter bottles. For smaller bottles, cover each bottle with vermiculite. Smaller bottles can be placed on top of each other, as long as each bottle is completely covered with vermiculite. Ensure that the total weight of the box does not exceed 65 pounds and the top of the box closes flat. Tape all stopper- topped bottles so that the stopper remains tightly secured to the bottle.
4. Do not move chemicals loose in refrigerators. Use a cooler with cold packs for the transport of chemicals that need to remain cool. The refrigerator will be moved empty.
5. All laboratories **must** complete a shipping inventory form for each box. (See Appendix A) Attach one copy to the appropriate box and give one copy to the person performing the move.
6. Contact EHS-Hazardous Materials Management (HMM) (763-4568) if you have the following: poison gases; radioactive, reactive, explosive, dangerous when wet, sulfide or cyanide bearing chemicals.

NOTE: Please work with your department to arrange reuse/recycling of chemicals that have not reached the expiration date, rather than discarding unwanted chemicals.

In addition, there are requirements for proper recycling of batteries, electronic equipment, light bulbs and other materials. Refer to this [website](#) for guidance.

Packaging materials and additional information regarding relocating laboratory hazardous materials is available upon request.

NOTE: Hazardous waste cannot be moved and **must** be called into EHS-HMM for collection.

Moving Non-Radioactive Chemicals

The transportation of non-radioactive hazardous chemicals **must** be conducted by an individual who is familiar with the laboratory chemicals and their hazards and has been trained by EHS to handle small chemical spills.

Sturdy carts may be used to move chemicals to a new laboratory if the new laboratory is in the same building or within a safe walking distance. For example, if you are moving to the building next door or across the street, transferring the chemicals using a sturdy cart is permitted.

Do not use a personal vehicle, public bus, or BioResearch shuttle to transport the hazardous chemicals. When it is not possible to walk the chemicals to the new laboratory, EHS recommends contacting EHS – HMM or U-M Moving and Trucking. If the laboratory will be utilizing UM Moving and Trucking services, a trained individual who is familiar with the chemicals and their hazards **must** accompany UM Moving and Trucking during the transportation of the chemicals.

Arrangements **must** be made with the gas supplier to move all commercially “rented” gas cylinders and cryogenic tanks. EHS-HMM will not move the cylinders and tanks.

Radioactive Materials

If the laboratory needs to relocate radioactive sources or materials call EHS - RSS (764-6200) for assistance in packaging and transport.

Vacating Laboratories

Laboratory staff should contact EHS two weeks prior to the move to arrange a decommissioning inspection date.

Related Documents

- [Laboratory Decommissioning Guideline](#)
- [Personal Protective Equipment \(PPE\) - General](#)
- [Request for a Laboratory Decommissioning Inspection](#)
- [Laboratory Equipment Owner Decontamination Form](#)
- [Checklist for Decommissioning a Laboratory](#)
- [Chemical Spill Control Information](#)

Technical Support

All referenced guidelines, regulations and other documents are available through EHS (734) 763-6973.

Attachments

[U-M Hazardous Materials Transfer Form](#)