

Guidelines and Procedures for Decommissioning of a Laboratory

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The following serve as guidance to assist users in the safe decommissioning of laboratories for next of use. These guidelines are not intended to be all inclusive as each laboratory may have unique hazards that must be addressed. As such, decommissioning of laboratories must always be a collaborative effort between EHS and the user. Refer to the Laboratory Decommissioning Policy for UA policies governing safe decommissioning of laboratories.

Definitions

Contamination:	Unwanted radioactive and/or hazardous material disbursed on or in equipment, structures, objects, soils and/or water. Contamination can be surface or incorporated within the solid (volumetric).
Decommissioning:	A general term referring to the formal process for removal of a laboratory and its components from an active status or service.
Decommissioning Hazard Tag:	A signed form attached to any decommissioned equipment located in a laboratory indicating that the item has been properly decontaminated and is safe for future use.
Decommissioning Safe and Compliant Room Tag:	A signed form attached to the entrance doors of any decommissioned laboratory indicating that the space has been properly decontaminated and is safe for future use.
Decontaminate:	The removal of steps in processes or construction contamination from facilities, equipment, and/or soils by washing, heating, chemical or electrochemical methods, mechanical cleaning, or other techniques.
Hazardous Substance:	Any substance of material designated or reflected in Title 29 CFR 1910.120. Exposure to these materials may result in adverse effects to the worker, public, and or the environment.
User:	Researcher or Principal Investigator, other laboratory occupants, and project managers.

General Guidelines

- Read safety data sheets (SDSs), equipment manuals, instrument instructions, standard operating procedures (SOPs) and any other pertinent documents in preparation for handling laboratory items. This will allow the user to be aware of the hazards associated with items being handled, packed, and moved.
- When vacating laboratory space, ensure that items moved belong to the PI and that the items and the move are approved by the department. Package and move approved lab items during business hours. This will allow faster response by EHS emergency staff and ensure availability to help if there is a chemical spill or accident.
- Depending on the items and the extent of transport, EHS may need to assist or provide guidance with chemical packing, transport, shipping, etc.
- Arrange for transportation of heavy equipment by Logistics and Support Services or by specialized third-party vendors. Refer to the section on Chemical Reagents for

guidance on proper handling of chemical items during the decommissioning process. Never transport hazardous materials alone.

- Wear personal protective equipment (PPE) appropriate for the materials being handled.
- Users, Researcher, and or Lab occupants are responsible for notifying EHS of a move to a new lab space or a laboratory closure (retirement, renovation, relocation to different space at UA, leaving UA, etc.).
- Researchers must terminate and/or transfer all protocols, remaining chemical, biological, and radioactive materials, and radioactive isotope authorizations (if applicable) if leaving UA. This may require coordination within or additional approval from the department and/or EHS.
- Perform basic surface and visible decontamination of all assigned laboratory spaces. This includes common areas such as cold rooms, stock rooms, waste collection areas, dark rooms, and equipment rooms. This also includes storage units such as freezers and refrigerators.
- Perform basic surface and visible decontamination of all laboratory equipment.
- A [Decommissioning Hazard Tag](#) should be affixed to the equipment to be moved when decontamination is complete. Additional information on completing the Hazard Tag is available on the EHS website.
- Each PI has ultimate responsibility for the removal and or proper disposal of all hazardous substances from assigned laboratory space(s). Waste disposal guidelines must be followed.

In the event of an employee exposure or a spill (chemical, biological, or radiological spill)

- **During normal business hours (8 am - 5 pm)** – Call EHS at 205-348-5905.
- **Outside of normal business hours** – Contact UAPD Dispatch at 205-348-5454 and EHS Laboratory Safety Manager at 205-534-6550.

Housekeeping and Decontamination

- All hazardous waste material must be properly identified and disposed.
 - Identify the types of waste that are present in each of these areas. Examples of the types of lab waste include:
 - Chemical
 - Radiological
 - Pharmaceutical
 - Biological/Biohazardous
 - Sharps
 - Electronic (ex: DVDs, CDs, Data cards, Laptops, Hard Drives, Monitors, etc.).
 - Glassware
 - Gas Cylinders
 - Aerosol Cans
 - Oils/Lubricants
 - Universal Waste (Batteries, Pesticides, Lamps, Mercury containing materials)

- University Hazardous Waste Disposal Guidelines MUST be followed and are available on the EHS website:
 - Chemical Waste: [Chemical Hygiene Plan](#)
 - Radiological Waste: [Radiation Safety Manual](#)
 - Biological Waste: [Biosafety Manual \(Office of Research Compliance\)](#)
- All areas involved in the use or storage of chemical and biological agents must be cleaned. This includes but is not limited to:
 - Bench tops
 - Chemical storage cabinets
 - Chemical fume hoods
 - Biological safety cabinets
 - Laboratory shelves
 - Ovens
 - Incubators
 - Refrigerators
 - Freezers
- If applicable, the decommissioning process for areas exposed to radioactive materials use must be completed. Please refer to the Radiation Safety Manual for specific details and guidance.
- Chemical fume hoods must be decontaminated by a certified third-party vendor. Contact EHS **at least 30 days prior** to planned move to discuss this process.
- Unwanted, usable lab equipment in good working condition must be cleaned and have a Decommissioning Hazard Tag signed by EHS prior to any transfers. The [Decommissioning Hazard Tag along with a Tag Guide](#) can be accessed on the EHS website under Forms and Supporting Documents.
- Costs associated with disposal of large quantities of expired hazardous chemicals will be billed to the department. American Chemical Society (ACS) recommends disposal of any hazardous chemicals after 5 years as large stockpiles of expired chemicals pose a safety risk.

Laboratory Ventilation

Refer to the **Maintenance and Decommissioning Policy for Laboratory Ventilation Equipment** for proper inspection and decommissioning of laboratory ventilation equipment. This includes chemical fume hoods, biological cabinets, clean benches, laminar air flow equipment, glove boxes, snorkels, and canopies.

Hazardous Materials and Items

Chemical Reagents

- Chemical reagents must be securely packed based on compatibility. Chemicals must be placed in boxes or carts to be safely moved.
- Due to U.S. Department of Transportation regulations, ONLY EHS is authorized to transport chemicals across campus. Laboratory users must place chemicals in boxes or other appropriate secondary containment and carry the chemical reagents by hand or a cart from one laboratory

space to another. Remember to use secondary containers, such as a plastic, leakproof container, when transporting chemical reagents.

- Transferring any usable chemical reagents to other PIs within the department and ensuring that transfer information is updated in the University's [chemical inventory system](#). The transfer of chemicals from one PI to another must be reviewed within departments and by EHS before any transfer can begin. Do NOT transfer federally regulated chemicals or controlled substances.
- Request collection of hazardous waste chemicals through EHS website if chemical reagents cannot be transferred or are expired.
- Remove all bottles of fully consumed chemicals from the [chemical inventory system](#).
- Visit EHS website (ehs.ua.edu) for proper procedures on labeling of hazardous waste material.
- Costs associated with disposal of large quantities of expired hazardous chemicals will be billed to the department. American Chemical Society (ACS) recommends disposal of any hazardous chemicals after 5 years as large stockpiles of expired chemicals pose a safety risk.

Controlled Substances

- Controlled Substances must be disposed of according to Federal Regulations. Contact EHS for guidance.
- Any drug disposal must be discussed with EHS prior to action.
- U.S. Drug Enforcement Administration (DEA) and Alabama Board of Pharmacy will require a change of address. Please visit the DEA website and the State Board of Pharmacy website for more information:
 - DEA Website: <https://www.dea diversion.usdoj.gov/>
 - State Board of Pharmacy website: <http://www.albop.com/>

Radioactive Materials

- Consult the Radiation Safety Manual for more detailed guidance on packing of radioactive waste for disposal.
- Wipe down and decontaminate fume hood surfaces, sinks, bench tops, and any equipment and other surfaces exposed to radioactive material with decontaminate cleanser.
- Perform initial contamination swipe and survey testing in areas exposed to radioactive material as well as surrounding areas.
- Final swipe tests will be performed by the RSO to provide a signature for the radiation portion of the decommissioning hazard tag.
- Lab personnel will be instructed to remove radioactive labels, stickers, and tape from all facility equipment, refrigerators, sinks, and hoods by the RSO after final swipe tests results.
- For laboratory closures, all dosimeter badges, survey meters, radioactive sealed sources, and isotope inventory must be returned to EHS.

Biological Agents

- Biological materials must be transported in a leak proof primary container and securely positioned in a secondary leak proof container (e.g., ice chest or cooler). Secondary containers must be clearly labeled with Biohazard symbol.
- Empty freezers of biological materials before transport. Decommission tags affixed by lab occupants and signed by EHS must be attached to each freezer and refrigerator before transit. For review and signing of decommissioning hazard tags, contact [lab safety in EHS](#) at 205-348-

5905.

- Equipment must be locked or securely closed.
- Biohazardous waste must be disposed of through the University's approved third-party vendor.
- Refer to the Maintenance and Decommissioning Policy for Laboratory Ventilation Equipment for proper procedures.
- Transportation and shipment of biological materials off-campus must be done according to federal transportation requirements. Contact EHS Lab Safety for specific shipment requirements.
- Once proper approval is given for transferring samples including Material Transfer Agreements, laboratories moving off campus that need to transport biological or infectious samples should:
 - Use a specialized moving company to transport the samples **OR**
 - Pack and ship the samples through an acceptable shipping company
- If the lab uses a moving company to transport their samples, the shipping company must be U.S. Department of Transportation (DOT) certified to transport biological and infectious material and have a method for refrigerating samples during transport.

Animal and Human Tissue

- Animal parts, carcasses, excreta, bedding, etc. must be disposed of through UA Medical Waste Program in accordance with disposal guidelines from the Animal Care Facility provided by the Institutional Animal Care and Use Committee (IACUC).
- Human tissue specimen must be placed in the appropriate container and disposed of through UA contracted medical waste vendor.
- Tissue held in a liquid preservative must be separated from the liquid.
- The preservative may require disposal as hazardous chemical waste. Contact the EHS Lab Safety Manager for additional details.

Sharps

- Dispose of ALL sharps including needles, syringes (used or unused) and broken glass in appropriate containers. Refer to the Chemical Hygiene Plan for guidance on proper storage of used and unused sharps and broken glass.
- Disposal of non-medical broken glass and sharps containers is the responsibility of the laboratory personnel. Neither EHS nor custodians will dispose of containers of broken glass. Lab Occupants should seal and label broken glass containers and dispose of them in the nearest UA dumpster.
- Containers of medical waste sharps such as needles and syringes must be collected by EHS for disposal.

Universal Waste/E-waste

- Disposal of universal waste/e-waste, i.e., lamps/bulbs, batteries, and mercury-containing articles must be managed through EHS. Contact EHS to assist with disposal of such materials.

Gas Cylinders

- Unwanted gas cylinders must be returned to the vendor (typically Airgas). If the vendor is

unknown, another vendor willing to collect the cylinder must be secured through the University's Procurement Services Department.

- Compressed gas cylinders and cryogenic gas cylinders must be relocated by the gas distributor.

Asbestos Containing Material (ACM)

- Specialized procedures are required for material identified as ACM; therefore, EHS must dispose of these items. This includes cementitious lab/table-tops, woven heat protection equipment (gloves, hot pads, etc.), older laboratory fume hoods (cementitious panels inside), ovens, etc. Contact EHS to request a survey or testing to determine presence of ACM.

Other Hazardous Materials

- Other hazardous substances can exist within laboratory equipment such as freon, lead paint, mercury, and polychlorinated biphenyl compounds (PCBs).
 - Equipment containing mercury includes manometers, thermometers, barometers, and mercury switches
 - Equipment containing PCBs include diffusion pumps, and transformers
 - Equipment containing freon include refrigerators, freezers, low temperature chambers
- Prior to disposal of any of the above-mentioned items, contact EHS. Refer to General Guidelines and Housekeeping and Decontamination portions of this policy for proper procedure for disposal of refrigerators and freezers.

Materials Transfer Agreement

- Material Transfer Agreements (MTA) are used to transfer materials (generally biological) from one institution to another. An MTA is a contract between the owner of a material and the intended recipient governing the transfer and subsequent use of the material. Exemplary materials include but are not limited to bacteria, cultures, nucleotides, proteins, plasmids, cell lines, transgenic animals, and pharmaceuticals. Since an MTA is a contract that governs the transfer of materials, the agreement also covers issues such as ownership of the transferred materials, modifications and derivatives made by the recipient, limitations on use of the materials, and confidentiality.
- Users are responsible for contacting the University's Office of Technology Transfer, <http://ott.ua.edu/> to initiate a [Materials Transfer Agreement](#).

Final Notes

- Equipment designated for relocation or to be left in the current laboratory must be cleaned and have an Equipment Hazard Tag hazard tag affixed to be signed by EHS. (Please be keep in mind that not all equipment is suitable for redistribution after certain uses have occurred). For review and signing of decommissioning hazard tags, contact [lab safety in EHS](#) at 205-348-5905.

- Equipment disposed of through surplus property must be cleaned and defrosted/drained (if necessary) and have an affixed Equipment Hazard Tag signed by EHS prior to collection.
- ALL Equipment Hazard Tags must be reviewed by EHS personnel, signed, and affixed to equipment per Equipment Hazard Tag Guidelines.
- All biological, chemical, and radioactive waste must be disposed of properly prior to vacating research space(s).
- Work surfaces of Chemical Fume Hoods and Biological Safety Cabinets must be decontaminated, and notification of vacancy provided to the necessary departments for further energy saving measures. Refer to the UA Maintenance and Decommissioning Policy for Laboratory Ventilation Equipment for guidance.
- Researchers/Lab Occupants must perform preliminary clean-out and basic surface and visible decontamination procedures.
- EHS must be contacted to review and approve that the laboratory is ready for movers, construction, and/or facilities employees to enter.
- EHS will sign off on the Decommissioning Safe and Compliant Room Tag and affix the form to the door of the laboratory.

Enforcement

- Failure to comply with the requirements specified in this policy may expose the University to fines and violations and can result in disciplinary actions for the individual. Involved parties may also be billed for expenses due to necessary actions and repairs to damaged components.