

### **3.25. Laboratory Closeout Procedures**

Proper transfer or disposal of hazardous materials is required whenever a Principal Investigator or researcher with assigned laboratory space leaves the University or transfers to a different laboratory.

Plan the transfer or disposal of hazardous materials carefully. Hazardous materials such as chemicals, microorganisms, tissues, and radioactive materials can injure faculty, students, staff, contractors and visitors if handled inappropriately.

Failure to adhere to these procedures and manage hazardous materials properly during the lab closure may result in sanctions such as the loss of laboratory privileges or the recovery of the cost of disposal of unknown, unlabeled, or poorly managed hazardous chemicals. Any charges for improperly managed waste or excessive cleanouts will be assessed to the responsible department.

The primary responsibility for the proper management of all hazardous materials used in laboratories lies with the principal investigator or researcher assigned to the space. If the principal investigator is not the responsible individual for purposes of these procedures, documentation identifying the responsible individual must be provided on the Laboratory Decommissioning/Closeout Checklist (Appendix A, Form LCS-8). The department or unit is responsible for ensuring that the principal investigator manages and disposes of these materials properly. University Environmental Health and Safety (IUEHS) provides guidance and disposal services for the principal investigator and department or unit. Refer to the [IU Waste Management Program](#) for disposal information.

#### **3.25.1. Notification and Inspection Process**

##### **3.25.1.1. Notify**

Use the [Researcher Departure/Lab Closeout Notification](#) to notify IUEHS for the respective campus at least 30 days in advance:

- a) That your laboratory is relocating on-campus or off-campus, or
- b) That your laboratory is closing down, or
- c) That a researcher within your laboratory group is departing.

##### **3.25.1.2. Complete Checklist**

Print and complete the following checklist to ensure that you have completed all activities required to properly prepare for your departure or move located in [Appendix A, Form LCS-8](#).

##### **3.25.1.3. Schedule Lab Clearance Inspection**

Once you have completed all items on the checklist, and all chemical transportation and waste removal has been arranged, sign the checklist, and submit the online [Lab Clearance/Closeout Inspection Request](#) to IUEHS.

Have the checklist ready to go over with the Laboratory Safety personnel who conduct your clearance inspection. Final clearance will not be given until all decontamination and hazardous material removal is complete.

### 3.25.2. General Closeout Guidelines

- Package and move items only during normal business hours (8:00 a.m. to 5:00 p.m., Monday through Friday) so IUEHS staff will be available to assist in case of a spill or accident.
- Never transport hazardous materials alone.
- Follow the [IU Hazardous Materials Transportation Program](#) for all chemical transportation.
- Wear appropriate personal protective equipment for the materials being handled.
- Review the location of safety glasses, eyewashes, fire extinguishers, and exits if the closeout involves moving to another campus lab.

### 3.25.3. Departing Student Researchers

- Turn in all waste bottles to IUEHS for disposal prior to departure. See the [IU Waste Management Program](#).
- Dispose of all samples or identify, label, and transfer ownership.
- Turn in their unused chemicals to IUEHS, or
- Transfer the responsibility for the chemicals to someone remaining in the lab (i.e., identify/document who the new Responsible Individual is for the chemicals on the Laboratory Decommissioning/Closeout Checklist, Form LCS-8) and identify substances by chemical name in case of a need for future disposal.

### 3.25.4. Chemicals

- Determine if any chemicals are usable\* and if you or anyone at IU would like to keep them. Document transfer of responsibility for any identified chemicals to a party willing to accept them using the *checklist*. If you are not going to keep them and a new user cannot be found, dispose of the materials through IUEHS by following the procedures in the [IU Waste Management Program](#).
  - \* Chemicals that **cannot** be considered usable and transferred to another user include the following:
    - Leaking containers
    - Handwritten labels (Chemicals in primary or secondary containers with handwritten labels can be retained, but cannot be transferred to another user.)
    - Deteriorating or illegible labels
    - Cracked or poorly sealing lids
    - Non-commercial mixtures/solutions
    - Expired chemicals
    - Compressed gases or pressurized liquids (unless specific approval has been given by IUEHS)
    - Mercury in any form
    - Samples (unless they have been identified and labeled with a full

proper chemical name – no abbreviations, acronyms, chemical structures, or reference numbers or initials)

- Waste containers
- Refer to the [IU Waste Management Program](#) for waste disposal procedures. Do NOT evaporate chemicals, flush hazardous chemicals down the drain, or discard them in the trash.
- Characterize any "unknown" substances found in the lab according to standard procedures or knowledge of the substances. IUEHS can provide guidance upon request.
- Label all chemical containers with the proper chemical name. Abbreviations, chemical formulas or structures are not acceptable.
- Ensure that all containers are securely closed. Empty all beakers, flasks, evaporating dishes, etc. into appropriate containers with tight-fitting lids. Parafilm can be used to minimize odors as needed, but is not an acceptable lid.
- Remove all chemicals from refrigerators, freezers, fume hoods, bench tops, shelves and storage cabinets.
- Prepare all chemicals for disposal according to [IU Waste Management Program](#). This process may take quite some time. Start at least one month before planned departure from the laboratory. Complete chemical waste removal before vacating the laboratory. At IUB and IUPUI allow two weeks for waste collection to occur after notifying IUEHS that the waste is properly prepared for pickup.
- Refer to the [IU Hazardous Materials Transportation Program](#) for any chemicals being kept or transferred that need to be moved.
- Clean all areas of chemical use and storage, including benchtops, storage cabinets, fume hoods, incubators, refrigerators, freezers, etc. Soap and water, or surfactant-based cleaners are effective for most contamination.
- Collect broken glass, sharps, and other laboratory waste.

#### **3.25.5. Shared Storage Areas**

- Shared facilities include storage units such as stock rooms, walk-in refrigerators, constant temperature rooms, shared refrigerators, freezers, flammable liquids cabinets, waste collection areas, etc.
- They are of special concern if more than one person manages the area.
- Carefully inspect any shared facility in order to locate and appropriately dispose of the hazardous materials for which that researcher is responsible.

#### **3.25.6. General Laboratory Cleaning**

- Wash off fume hood surfaces and clean counter tops.
- Notify your department and IUEHS for the respective campus when laboratory clean-up is complete to arrange a closeout or clearance inspection.

### **3.25.7. Controlled Substances**

- The U.S. Drug Enforcement Agency (DEA) issues controlled substance registrations to individual researchers. Refer to the [IU Controlled Substances Program](#) for additional information.
- Abandonment of a controlled substance is a violation of the DEA permit under which it was held.
- Permission to transfer a registration for a controlled substance to another individual must be approved and documented by the DEA.
- Relocation of controlled substance inventories to any new campus location or to a new research institution is prohibited unless the Indiana Board of Pharmacy and the US DEA are notified first. Contact IUEHS for more information.

### **3.25.8. Gas Cylinders**

- Remove gas connections, replace cylinder caps, and return cylinders to suppliers or prepare them for transfer if you will be moving them to a new location within IU. Refer to the IU Compressed Gas Cylinder Safety Program for additional guidance on cylinder management and to the [IU Hazardous Materials Transportation Program](#) for information about cylinder transportation.
- If cylinders are non-returnable, please refer to the [IU Waste Management Program](#) for disposal guidance of waste compressed gases and pressurized liquids.
- Refer to [SOP 3.9](#), Compressed Gases, for additional information.

### **3.25.9. Animal and Human Tissues**

- Determine if any biological materials are usable and if you or anyone at IU would like to keep them. Document transfer of responsibility for any identified materials to a party willing to accept them using the *checklist* (Appendix A, Form LCS-8).
- Refer to the [IU Biosafety Manual](#) for disposal guidance for all biological waste materials that are not being kept or transferred.
- Refer to the [IU Hazardous Materials Transportation Program](#) for any biological materials being kept or transferred that need to be moved.
- If tissue was stored in a refrigerator or freezer - defrost, clean and disinfect the refrigerator and freezer after it has been emptied. Use an appropriate disinfectant.
- Questions or concerns regarding biological materials should be directed to IUEHS Biosafety for your respective campus.

### **3.25.10. Microorganisms and Cultures**

- Notify IUEHS Biosafety for your respective campus of any transfer of NIH Risk Group 2 agents or higher
- Notify IUEHS Biosafety for your respective campus of the intent to transfer NIH Risk Group 2 agents or higher from the University. Because such transfers may fall under Department of Transportation (DOT) shipping regulations and/or require additional permits, they must be arranged well in advance.

- Refer to the [IU Biosafety Manual](#) for waste decontamination and disposal guidance.

#### **3.25.11. Mixed Hazards**

- Occasionally it is necessary to dispose of materials that may contain more than one hazard. Contact IUEHS for information on the disposal of any combination of chemically contaminated, biohazardous materials, and/or radioactive materials.

#### **3.25.12. Sharps**

- Refer to the [IU Waste Management Program](#) for guidance on sharps disposal based on the type of contamination on the sharps.

#### **3.25.13. Radioactive Materials**

- Contact the Radiation Safety Office to relocate any radioactive materials to another laboratory, to remove these materials from the University or the radioactive material inventory, for decontamination of the work area, and to conduct a final survey of the vacated area.
- Authorized radioactive materials use permit holders are responsible for notifying the Radiation Safety Officer for their authorized location of any changes that would affect their permit, such as departure from the University, change of personnel authorized as users of radioactivity under the permit, and changes in authorized inventory, including purchase, disposal, and transfers.
- Only Radiation Safety personnel can conduct a final radiation clearance on a radioactive materials use area and remove the radioactive materials door sign.

#### **3.25.14. Equipment**

- Alert IUEHS and/or Facilities Management if any exhaust or filtration equipment was used with heated perchloric acid digestion.
- Clean and disinfect laboratory equipment that is staying before departing. This includes refrigerators, freezers, drying ovens, incubators, centrifuges, etc. For equipment in which biohazardous material or microbial agents were used or stored, use an effective disinfectant. Cleaned equipment must be marked as clean.
- If moving biological safety cabinets, decontaminate before moving and recertify before use in the new location.
- Deface or cover hazard labels on equipment to be moved or discarded.
- Repair any damaged equipment (i.e. frayed wires, missing guards, etc.) that will remain in service. No damaged equipment should be moved. Use the laboratory downtime to accomplish previously undiscovered or neglected repairs.
- Contact Surplus Stores/Property on your respective campus to arrange disposal of equipment that can be effectively decontaminated and is functional. If equipment cannot be effectively decontaminated, contact IUEHS. All equipment disposed through Surplus must be decontaminated, marked as clean, and have all hazard

warning labels removed prior to transfer to Surplus.

- When discarding laboratory equipment, remove capacitors, transformers, mercury switches, mercury thermometers, radioactive sources, chemicals and biohazards before disposal. Contact IUEHS for your respective campus for any equipment that may contain asbestos or any of these materials.