Laboratory Exit and Closing Procedures

rev. 2017.0601

Background Information

This document provides guidance on exiting and closing laboratories that have contained or where work has been performed with potentially hazardous biological materials.

Potentially Hazardous Biological Materials may include:

- Infectious agents (viral, bacterial, fungal)
- Recombinant nucleic acids (ex: plasmids with inserts)
- Infected animal blood and/or tissues
- Human blood, blood products, fluids, tissues, cell lines
- Cell lines exposed to recombinant material, infectious agents or containing endogenous viruses
- Viral Vectors
- Live vaccines
- Biological toxins (ex: ricin, tetrodotoxin, botulinum neurotoxin)

When you have completed the following procedure, please contact the Department of Biological Safety (257-1049) to complete the **exit audit which is required before any researcher performing work with biohazardous materials leaves the university**.

Procedure

I. Determine which potentially biohazardous materials will be moved to your new location, transferred to another investigator or disposed.

A. If biohazardous materials will be shipped, all appropriate DOT/IATA regulations must be followed. Please contact Environmental Management (323-6280) for information on shipping requirements.

B. Biological materials may be moved between UK laboratories using appropriate primary and secondary containers.

1. Primary containers.
   a. Seal the agent in a leak-proof primary container. Typically this is the vial or container in which the agent is stored.
   b. Small or delicate items should also be placed in a sealed, plastic zip-top style bag.
2. Secondary containers.
   a. Place primary container in the secondary container.
   b. Secondary container should be of a leak-proof and shatter proof design capable of containing contents if dropped in transit.
   c. Examples of appropriate secondary containers can be found at http://ehs.uky.edu/docs/pdf/bio_le_recommended_secondary_containment_devices_0001.pdf
   d. Thin or non-reinforced Styrofoam containers are NOT appropriate for use as secondary containers. These types of containers are not shatter-proof.
   e. Disinfect outside of secondary container with a 10% bleach solution followed by water or 70% ethanol to remove bleach residue.[1]

505 Oldham Court
Lexington, KY 40502-0473
Phone: (859) 257-1049
Fax: (859) 323-3838
Email: biosafety@uky.edu
Web: http://ehs.uky.edu/biosafety/

Biological Safety

f. Label secondary container with a biohazard sticker (example at end of document).

3. Transport secondary container to new location.
    a. Do not wear gloves while transporting the secondary container. Disinfection of the outer surface of the container removes the need for gloves.
    b. Choose appropriate transport path.
        i. Avoid high traffic areas and areas where patients are present.
        ii. Use freight elevators.
        iii. Minimize transport outside of buildings.
4. Remove primary container and place in new storage location.
5. Disinfect inside and outside of secondary container with a 10% bleach solution followed by water or 70% ethanol to remove bleach residue.[1]

II. No biohazardous materials or waste may be left in the laboratory. Please insure that all biohazardous materials and waste remaining in the laboratory are properly decontaminated (autoclave or chemical disinfectant that is approved for the agent(s) of use in the laboratory) and disposed.

A. Check in cold rooms, freezers, and refrigerators for biological agents that could easily be forgotten. Old samples, chemicals, materials from past staff and students or inherited samples must be either disposed or moved.
B. Disposal of preserved specimens may require special handling since the preservative is usually a hazardous chemical. If the tissues/organs are small (mouse size organs) and not easily recognizable, the entire vial may be treated as chemical waste. However, larger human organs must be separated from the liquid preservative and disposed into red bag waste and the liquid collected as chemical waste. Please contact the office of Environmental Management (323-6280) for disposal of either red bag or chemical waste.
C. All sharps materials should be collected into an approved secure lidded sharps container and disposed through Environmental Management (323-6280).

III. Decontaminate all work surfaces including bench tops, doors, and cabinet handles with freshly prepared 10% bleach solution followed by water or 70% ethanol to remove bleach residue.[1]

IV. Decontaminate all equipment that has been used in conjunction or contaminated with biohazardous materials. Any equipment that has been labeled with the universal biohazard symbol must be inspected by the Biosafety Office after decontamination and be labeled with an equipment clearance signage (example at end of document).

A. Clean inside and outside of equipment with soap and water.
B. Wipe down inside and outside of equipment with a disinfectant solution such as 10% bleach solution followed by water or 70% ethanol to remove bleach residue.[1]
C. Have UK Biosafety inspect and post clearance signage.
D. Below you will find specific decontamination information for common laboratory equipment.
    1. Refrigerators/Freezers
        a. Clean out refrigerator and defrost freezer if present.
        b. Triage contents to reduce what is to be moved or disposed.
        c. Refrigerators and freezers must be emptied of all contents.
    2. Incubators and water baths
        a. These must be drained of all standing water including water in water-jacketed incubators.
    3. Liquid nitrogen dewars
        a. Remove contents of dewar.
        b. Allow any remaining liquid nitrogen to evaporate from dewar in a well-ventilated area.
    4. Biological Safety Cabinets (BSC)
        a. Remove all contents from the BSC.
        b. Wipe down inside and outside exposed surfaces with a disinfectant solution such as 10% bleach solution followed by water or 70% ethanol to remove bleach

505 Oldham Court
Lexington, KY 40502-0473
Phone: (859) 257-1049
Fax: (859) 323-3838
Email: ehsbiosafety@uky.edu
Web: http://ehs.uky.edu/biosafety/

residue.[1] At no time should the user attempt to access the inner mechanical system of the BSC.
c. The Biosafety Office will conduct risk assessment to determine if any further decontamination will be required. In certain cases, BSCs may need to be decontaminated by a certified contractor prior relocation or use by the next laboratory occupant. If you are exiting a laboratory that contains a BSC, please contact the Biosafety Office (257-1049) one month prior to your exit date to allow for sufficient time to schedule any additional required decontamination.
d. Have UK Biosafety inspect and post BSC specific clearance signage (example at end of document).

V. Guidance for surplusing of biohazard labeled laboratory equipment may be found at http://ehs.uky.edu/biosafety/.

VI. When you have completed the appropriate decontamination procedures as described above, please **contact the Department of Biological Safety (257-1049) to complete the exit audit** which is required in order to receive a clearance for the laboratory room(s) and/or any equipment for which removal is necessary. An example of the lab clearance form can be found at the end of this document.

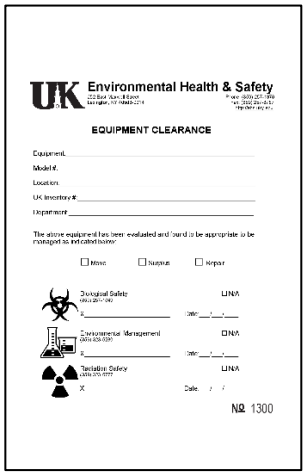
VII. Please note that **lab exits may involve other departments within Environmental Health and Safety (EHS).** Additional guidance from UK EHS on laboratory exits may be found at http://ehs.uky.edu/ohs/exit.php.

A. Disposal of radioactive waste or equipment that contains a radioactive source (for example, liquid scintillation counters, gas chromatographs) should be coordinated through **Radiation Safety (323-6777).**
B. Oils must be removed from pumps, capacitors, power supplies, or other oil-filled equipment. For assistance with analysis of the oil and assistance with oil disposal contact **Environmental Management (257-3285)**.

Additional Notes

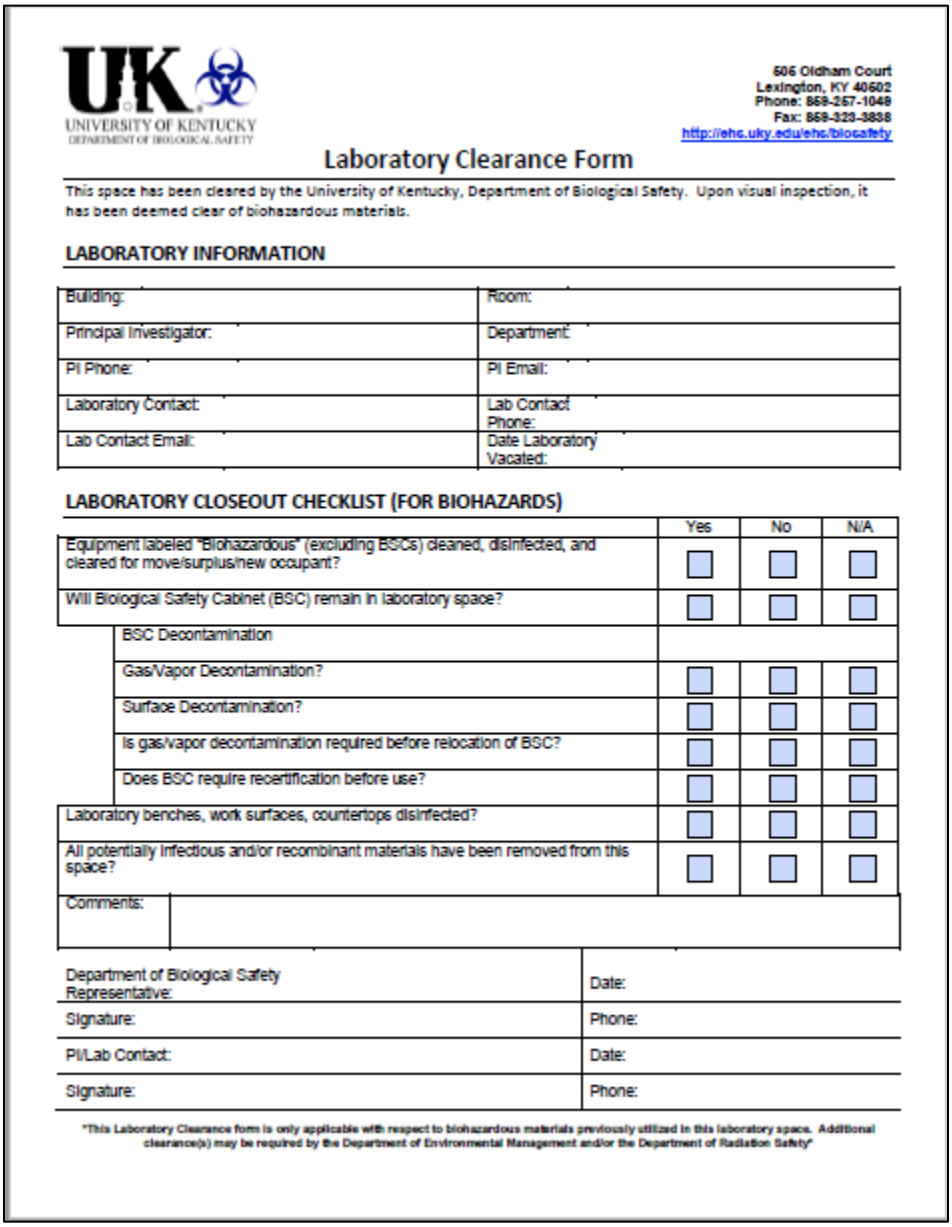
[1]A 10% bleach solution followed by water or 70% ethanol to remove bleach residue is the most commonly recommended disinfectant at UK. Appropriate contact time for 10% bleach is 15-20 minutes. However, laboratory personnel should choose a disinfectant that is approved for the agent(s) of use in their laboratory. Information on the approved method of disinfection for your agent(s) can be found in the Primary Investigator's approved UK Institutional Biosafety Committee Registration Form.

Example Forms and Signs



505 Oldham Court
Lexington, KY 40502-0473
Phone: (859) 257-1049
Fax: (859) 323-3838
Email: ehsbiosafety@uky.edu
Web: http://ehs.uky.edu/biosafety/

UK Biological Safety



UNIVERSITY OF KENTUCKY
DEPARTMENT OF BIOLOGICAL SAFETY

506 Oldham Court
Lexington, KY 40502
Phone: 859-257-1049
Fax: 859-323-3838
http://ehs.uky.edu/ehs/biosafety

Laboratory Clearance Form

This space has been cleared by the University of Kentucky, Department of Biological Safety. Upon visual inspection, it has been deemed clear of biohazardous materials.

LABORATORY INFORMATION

Building:	Room:
Principal Investigator:	Department:
PI Phone:	PI Email:
Laboratory Contact:	Lab Contact Phone:
Lab Contact Email:	Date Laboratory Vacated:

LABORATORY CLOSEOUT CHECKLIST (FOR BIOHAZARDS)

	Yes	No	N/A
Equipment labeled "Biohazardous" (excluding BSCs) cleaned, disinfected, and cleared for move/surplus/new occupant?	☐	☐	☐
Will Biological Safety Cabinet (BSC) remain in laboratory space?	☐	☐	☐
BSC Decontamination			
Gas/Vapor Decontamination?	☐	☐	☐
Surface Decontamination?	☐	☐	☐
Is gas/vapor decontamination required before relocation of BSC?	☐	☐	☐
Does BSC require recertification before use?	☐	☐	☐
Laboratory benches, work surfaces, countertops disinfected?	☐	☐	☐
All potentially infectious and/or recombinant materials have been removed from this space?	☐	☐	☐

Comments:	

Department of Biological Safety Representative:	Date:
Signature:	Phone:
PI/Lab Contact:	Date:
Signature:	Phone:

This Laboratory Clearance form is only applicable with respect to biohazardous materials previously utilized in this laboratory space. Additional clearance(s) may be required by the Department of Environmental Management and/or the Department of Radiation Safety