



Packing and Intra-Campus Transport of Biological Materials

Standard Operating Procedure

Purpose

This Standard Operating Procedure (SOP) describes the safe and compliant packing and transport of all biological materials within the UCR campus. This includes the transfer of biological materials from one room to another or from one building to another.

Scope

This SOP applies to all personnel who pack and transport biological materials within UCR. Packing and transport of biological materials are subject to strict UC policies and local, state, and federal regulations.

Responsibilities

Personnel who pack and transport biological materials are responsible for ensuring that:

- they have received appropriate training including the use of correct packaging, safe transport of the materials, and knowledge of emergency procedures in the event of an exposure or spill
- biological materials are properly packaged and labeled
- secondary containers are used and labeled correctly

Definitions

Biological materials – Includes all of the following:

- Recombinant or synthetic DNA/RNA (plasmids, expression vectors) including viral vectors (e.g., lentivirus, retrovirus, AAV, viral-like particles) and genetically modified materials (animals, microorganisms, plants, insects, cells/cell lines)
- Human products (blood, cells, cell lines, tissues, bodily fluids, clinical specimens)
- Live animals, animal carcasses, or animal products including cells, tissues, blood, or other bodily fluids



- Pathogenic microorganisms and agents [including human, animal, or plant pathogens and infectious proteins (prions)]
- Plants, animals, insects, microorganisms, or cells that produce toxic compounds or biological toxins

Primary container – immediate container in which the material is packaged whose inner surface comes in contact with the material (e.g., tube, flask, plate, dish).

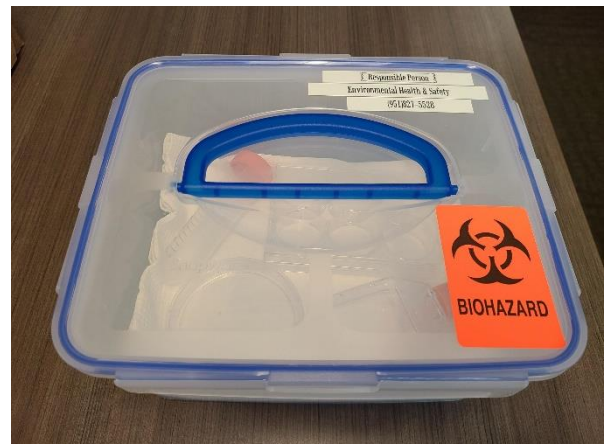
Secondary container – a sealable, leak-proof, shatter-proof, outer container in which the primary container is placed for transport. Suitable secondary containment can include a plastic specimen bag with a zip closure that is inside a hard-walled container or a hard-walled plastic container with a fitted lid. Styrofoam containers with loose lids, glass containers, or cardboard boxes are NOT suitable secondary containers.

Biohazardous material – a biological material that poses a threat to the environment or the health of living organisms, including humans, animals, plants.

Biohazard symbol – Internationally recognized symbol to indicate the actual or potential presence of a biohazard.

Packing

1. Wear the appropriate PPE to handle biological materials. Minimum laboratory PPE is full length pants or clothing that fully covers the legs and ankles, closed toe/heel shoes, laboratory lab coat, and protective eyewear. Gloves are generally recommended and are required for handling biohazardous materials.
2. Place biological material in a tightly closed and secured leak-proof primary container.
3. If the primary container does not have a tightly fitted cap that can be closed, wrap the primary container closure with Parafilm™ or laboratory tape.
4. Label the primary container to identify the biological material.
5. Wrap enough absorbent material around the primary container(s) to absorb any potential leakage of liquid materials. Place primary container(s) in a sealable, leak-proof, and shatter-proof secondary container labeled with the name and contact information (e.g., phone number) of the responsible person.
 - If transporting biohazardous materials, the secondary container must also be labeled with the biohazard symbol. Biohazard symbol stickers are available from EH&S upon request.





6. Wipe the outside of the secondary container with an appropriate disinfectant to prevent exposure or cross-contamination between locations.
7. If using cold packs or wet ice for temperature control, place wet ice in a sealed plastic bag or leak-proof container to prevent water leakage.
If using dry ice for temperature control, place secondary container into an appropriate insulated cooler or similar gas-venting container holding the dry ice. **Do NOT place dry ice in a closed, non-venting container to avoid explosion or injury.**

Transport

1. Wear laboratory PPE for transport **within** the laboratory.
2. For movement through public areas (e.g., between buildings or public hallways), avoid wearing PPE in the public areas and bring appropriate PPE (lab coat, protective eyewear, gloves) for use at the laboratory destination.
3. If transporting heavy, bulky, or multiple secondary containers, use a cart to transport the materials.
4. Preferred method is to hand-carry or use a cart and walk materials from one location to another.
5. For vehicle transport of biohazardous materials, proper containment and packaging must be used to meet [US Department of Transportation \(DOT\) Hazardous Materials Regulations \(HMR\), 49 CFR Parts 171-180](#).
 - a. If using a university vehicle, personnel transporting the materials must be authorized to use university vehicles and carry a valid driver's license.
 - b. If using a private vehicle, the vehicle used must be for direct and exclusive transport of the materials to the destination (no other stops permitted) and only transporting personnel are allowed in the vehicle.
6. Do NOT use public transit, shuttles, taxis, or ride-share vehicles for transport of biological materials.



Spills & Exposures

SPILLS

If the spill is contained within the secondary container, return the container to your lab and decontaminate with appropriate disinfectant.



For spills outside of the secondary container with biohazardous materials, contact EH&S immediately to report the spill. Provide your name, phone number, location of spill, name of material spilled, and how much was spilled. EH&S personnel will provide guidance and/or assistance with spill clean-up.

After hours, contact UCPD at 911 (emergencies) or (951) 827-5222 (non-emergencies).

EXPOSURES

Skin

Wash with soap and water for 15 minutes. If material spilled is biohazardous, carefully remove any contaminated clothing and dispose of as biohazardous waste. Report incident to supervisor and EH&S. Seek medical attention if needed.

Mucous Membrane

Flush at eyewash for at least 15 minutes. Seek immediate medical attention. Report incident to supervisor and EH&S.

All biological exposures must be reported to EH&S and the lab supervisor as soon as possible and within 24 hours.

EH&S contact information

Phone: (951) 827-5528

Email: ehsbiosafety@ucr.edu

Website: <https://ehs.ucr.edu/> (Online reporting link at top of page)

References

- [8 CCR § 5193](#) California Bloodborne Pathogens Standard
- [29 CFR Part 1910.1200](#) Hazard Communication
- [29 CFR Part 1910.1450](#) Occupational Exposure to Hazardous Materials in Laboratories
- [California Health and Safety Code Sections 117600 – 118360](#) Medical Waste Management Act
- [49 CFR Parts 171-180](#) Hazardous Materials Regulations
171.1 (d), Ground transport of hazardous materials
- [University of California, Personal Protective Equipment Policy](#)



Acknowledgement

By signing below I acknowledge that I have read, understand, and agree to abide by the procedures and practices described in this document.

Principal Investigator

Date

Name	Signature	Date