

Transfer of biomaterials between labs, buildings, and roadways is strictly regulated by various federal, state, and local agencies. Proper packaging is essential to ensure safe transport and to avoid sample loss and accidental release/exposure.

Contact Biosafety at biosafety@usc.edu or (323) 442-2200 before transporting **ANY** biomaterial (including Biosafety Level 3). All laboratory personnel who transport or work with these materials must complete General Laboratory Safety (GLS), bloodborne pathogens (BBP), and Shipment of Biological Materials (BHS) as required. Complete the courses on [Trojan Learn](#) or register for Zoom training at [Training Registration](#).

WHO PREPARES BIOMATERIALS FOR TRANSPORT?

Laboratory personnel may prepare biomaterials for transport if they are trained on use of correct packaging, safe transport of the materials, and have knowledge of emergency procedures in the event of an accident or spill.

WHAT TYPES OF BIOLOGICAL MATERIAL CAN I TRANSFER?

- Recombinant or synthetic nucleic acids, organisms, or micro-organisms
- Blood samples or other biological fluids and diagnostic specimens
- Cultures, suspensions, or lyophilized (freeze-dried) micro-organisms
- Fresh or preserved cells or tissues
- Viruses or subviral particles



WHAT ARE THE PACKAGING REQUIREMENTS FOR HAND-CARRYING INFECTIOUS MATERIALS?

- Place material in a tightly closed and secured leak-proof primary container.
- Seal the container with a tightly fitted cap and wrap closure with Parafilm™ or lab tape.
- Label primary container to identify the material.
- Wrap each primary sample tube with enough absorbent material to absorb leakage (liquid sample).
- Place all primary samples in a sealable, leak-proof secondary container labeled with a biohazard symbol.
- Suitable secondary containers can include a plastic specimen bag with a zip closure or plastic container with a fitted lid.

WHAT I NEED TO DO

- Label all biomaterials for transport with a description of the contents and contact information (e.g., name, phone number).
- Wrap primary liquid sample containers with sufficient absorbent material to soak up the entire volume of samples transported.
- Properly package all hazardous materials.
- If dry ice is used for temperature control, follow all safety requirements and regulations in order to minimize risk to personnel.
- DO NOT wear PPE during transport through public locations. Have PPE available in case of an accident.
- Notify the Department of Public Safety (DPS) (213) 740-4321 for serious spills of a hazardous material (biological or chemical). EH&S On-Call personnel will be notified.

WHAT PRECAUTIONS ARE NECESSARY FOR TRANSPORTING INFECTIOUS MATERIALS BETWEEN BUILDINGS?

- Use a cart for movement between rooms or buildings.
- Wear PPE appropriate for transport within the laboratory (e.g., lab coat, gloves, and eye protection).
- For movement through public areas (e.g., between buildings or hallways), wipe the outside of the secondary container and bring appropriate PPE for use at the laboratory destination. **DO NOT** wear PPE in public areas.
- Wear the minimum PPE standard (full length pants or clothing that fully covers the legs and ankles and closed toe/heel shoes) for transport through public areas. Bring or have hazard appropriate lab coats, protective eyewear, and gloves for use at the destination, if needed.

WHAT ARE THE REQUIREMENTS FOR SELF-TRANSPORT BY PERSONAL OR UNIVERSITY VEHICLE?

- If using a university vehicle, personnel transporting the materials must be authorized to use university vehicles and carry a valid driver's license.
- Proper containment and packaging must be used (see packaging requirements above).
- Personnel must be trained and authorized to handle and transport the materials. Contact biosafety@usc.edu for more information.
- If transported by private vehicle, the vehicle used must be for direct and exclusive transport of the sample to the destination (no other stops permitted).

Infectious materials meeting the definition of a **Category A*** substance require certified shipping training through EH&S and are excluded from self-transport using a personal or university vehicle.

***Definition:** A **Category A** substance is a biological material in a *form* capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs.

ARE THERE OTHER RESTRICTIONS ON SELF-TRANSPORT OF BIOLOGICAL OR INFECTIOUS SUBSTANCES?

Yes. **CAUTION: DO NOT** transport biomaterials by public tram, shuttle, or taxi.

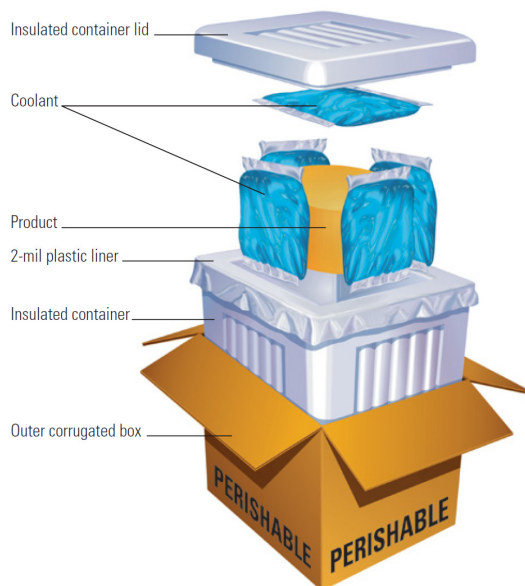


WHAT IF THE SAMPLES MUST BE KEPT COLD OR FROZEN?

- Use cold packs or wet ice for temperature control during short-term transfers:
 - Place wet ice in a sealed plastic bag or leak-proof container to prevent water leakage.
- Use special diagnostic shipping containers for frozen samples to maintain low temperature without the use of dry ice. If dry ice must be used, personnel must follow Department of Transportation (DOT) specifications for packaging in an insulated, gas-venting container:

- Place the dry ice outside of the secondary container inside an insulated cooler or similar gas-venting container.
- Do not place dry ice in a closed, non-venting container to avoid explosion or injury.
- Label the outside package with a "dry ice" label.

Packaging Perishable Shipments With Gel Coolants



Source: FedEx - Packaging Perishable Shipments

WHAT ARE THE REQUIREMENTS FOR RECEIPT OF BIOLOGICAL MATERIALS?

Laboratories receiving biological materials must have prior approval with the [Institutional Biosafety Committee \(IBC\)](#) for transfer, storage, and work with these materials.

WHERE DO I OBTAIN MORE INFORMATION?

Contact biosafety@usc.edu for questions regarding transfer of biological materials. Specialized training information is available at the [Research Safety Training](#) web page.

REFERENCES

- [29 CFR 1910.1030](#) Bloodborne Pathogens Standard
- [29 CFR Part 1910.1200](#) Hazard Communication
- [29 CFR Part 1910.1450](#) Occupational Exposure to Hazardous Materials in Laboratories
- [40 CFR Part 262](#) Standard Applicable to Generators of Hazardous Waste
- [49 CFR Parts 171-180](#) Hazardous Materials Regulations 171.1 (d), Ground transport of hazardous materials