



GUIDELINES FOR SHIPPING/TRANSPORTING NON-INFECTIOUS BIOLOGICAL MATERIALS AND NON-PATHOGENIC BIOLOGICAL CULTURES

General Information

This document provides general information on shipping/transporting **non-infectious and non-pathogenic biological materials/cultures**. If you need more specific information, please contact Environmental Health and Safety Office (EH&S) at 817-272-2185.

Generally non-infectious/non-pathogenic biological materials are not specifically regulated. Good practices and concerns for bioterrorism are the basis for asking the University of Texas at Arlington (UTA) workers offering biological materials and cultures for shipping/transporting to take responsibility for properly:

- identifying
- classifying
- packaging
- marking
- labeling, and
- documenting

The minimum recommended packing procedure, described below, shall be followed for shipping/transporting of all non-infectious/non-pathogenic materials from/to UTA.

Regulations

All major shippers use the International Air Transport Association (IATA) regulation, also referred to as the Dangerous Goods Regulation (DGR) as their standard. Complying with IATA will ensure you meet the provisions of other US regulations.

The regulations and documents identified below apply to the packaging and shipment of **regulated biological materials**. In most cases, failure to adhere to these regulations is a criminal offense.

- U.S. Department of Transportation, [49 CFR Parts 171-180](#)
- U.S. Public Health Service, [42 CFR Part 72, Interstate Shipment of Etiologic Agents 1](#)
- U.S. Department of Labor, [Occupational Safety and Health Administration, 29 CFR Part 1910.1030, Bloodborne Pathogens](#)
- [International Air Transport Association \(IATA\), Dangerous Goods Regulations](#)
- U.S. Postal Service, [39 CFR Part 111, General Information on Postal Service](#), and [Publication 52, Hazardous, Restricted and Perishable Mail, Mailability of Etiologic Agents](#), and [Mailability of Sharps Waste and Other Regulated Medical Waste](#)
- [Infectious Substances, International Civil Aviation Organization, Technical Instructions for the Safe Transport of Dangerous Goods by Air](#)
- [Recommendations on the Transport of Dangerous Goods](#), United Nations



It is the responsibility of the shipper to determine whether the biological materials are subject to the requirements of any of these regulations. Most non-infectious/non-pathogenic biological materials are not regulated, but if there is any doubt about the material to be shipped, definitions below need to be reviewed and EH&S contacted if further assistance is needed.

Definitions

Infectious Substances or Etiologic Agents:

U.S. Department of Transportation (DOT) definition: A viable microorganism or its toxin, that causes or may cause disease in humans or animals.

IATA definition: Substances known to contain, or reasonably expected to contain, pathogens. Pathogens are microorganisms (including bacteria, viruses, rickettsia, parasites, and fungi) or recombinant microorganisms (hybrid or mutant) that are known or reasonably expected to cause disease in humans or animals.

Biological Materials: Biological materials include infectious substances (etiologic agents), diagnostic (clinical) specimens, and other biological products.

Diagnostic Specimen: Any human or animal material including excreta, secrete, blood, blood components, tissue, and tissue fluids being shipped for the purposes of diagnosis.

Note: Diagnostic specimens that are "known or reasonably expected" to contain pathogens must be handled as infectious substances.

Biological Product: A product prepared in accordance with regulations that govern vaccines, licensed biological products, diagnostic products, etc.

Note: Non-pathogenic low-hazard biological cultures such as *Escherichia coli* K-12 do not fall into any of the categories defined above.

Guidelines for Packaging for Shipping/Transporting of Non-Infectious Biological Materials and Non-Pathogenic Biological Cultures

Testing Requirements

There are no testing requirements for containers used to ship non-infectious biological materials or non-pathogenic biological cultures. Packages must be constructed of materials that will protect the specimen and prevent leakage.



Recommended Packaging for Non-Infectious Biological Materials and Non-Pathogenic Biological Cultures

Primary container (innermost container):

- Use a vial, tube or plate made of glass, metal, plastic or other medium suitable for transportation of the material being shipped.
- Wrap the primary container tightly, e.g., using parafilm to ensure that there will be no leakage.

Secondary container:

- Use a watertight/leak proof container (e.g., Ziploc bag) and reinforce with an adhesive tape as necessary to contain the contents.
- Surround each primary container with sufficient absorbent packing material to completely absorb the contents should the primary container break.

Shipping /transporting container:

- Use a container made of sufficient strength to protect the specimen.
- Affix an accurate address label with the complete address and phone number for both the shipper and the recipient.
- Affix the "double up arrows" sticker if orientation is important.
- If dry ice (carbon dioxide, solid) is used in the packaging as a refrigerant, the net weight of the dry ice must be indicated on the outside of the package. In addition, a Class 9 hazard label will also need to be applied on the same surface. **Dry ice is a dangerous good and EH&S needs to assist in shipping these types of packages. Contact EH&S at 817-272-2185 for assistance.**

Note: Dry ice should never be placed in a sealed container.

Universal Precautions

Universal precautions are designed to protect the handler from exposure to bloodborne pathogens. At minimum universal precautions include:

- Wearing protective latex or vinyl gloves or gloves of other appropriate materials when handling or processing specimens.
- Washing your hands after completing your work and removing gloves.
- Wearing a lab coat, apron or other suitable outer garment to prevent contamination of clothing.
- Wearing a face shield or other face protection if there is a possibility of splatter.
- Prohibiting the application of lipstick or other makeup in areas where blood or pathogenic organisms are handled or processed.



- Prohibiting the consumption of food or beverages in areas where blood or pathogenic organisms are handled or processed.

Note: When handling human blood always use "Universal Precautions." If the blood is a diagnostic specimen, it can be shipped without the dangerous goods paperwork. However, if the human blood is known to be infected with an infectious substance, it must be packaged and shipped as such.

Transport of Non-Infectious Biological Materials and Non-Pathogenic Biological Cultures in Personal or University Vehicle

In general, movement or ground transport of regulated materials (Division 6.2 Infectious substances) is covered by the IATA only when they are considered to be "in commerce." Transport of non-infectious/non-pathogenic biological material in a personal or university vehicle for use in university activities (projects, research, etc.) is generally not considered to be regulated.

Personnel transporting non-infectious/non-pathogenic biological material must:

- 1) have a valid driver's license.
- 2) be authorized to use a University vehicle.
- 3) should use a University vehicle when available.
- 4) use the proper containment and packaging materials in route; and
- 5) a spill kit containing absorbent material, a chlorine disinfectant, a leak-proof waste container, and personal protective equipment (gloves and eye protection) should be available in the transport vehicle.

The transport boxes need to be secured in the transport vehicle and travelling should be directly from the pick-up location to the drop-off point. During transportation the vehicle should only be used for that purpose. EH&S encourages the use of University-owned vehicles rather than personal vehicles when transporting materials off campus to/from another facility or collaborator.

Note: Under NO circumstances may public transportation (taxis, buses, etc.) be used for transport of work-related non-infectious biological and non-pathogenic biological cultures.

Receiving Transport Boxes of Non-Infectious Biological Materials and Non-Pathogenic Biological Cultures

The transport boxes should never be left unattended, and they should be personally delivered to the designated person.

Upon receiving transport boxes, the package(s) integrity should be checked immediately. Any leaking package needs to be reported to the sender immediately. Contact EH&S, if necessary, to assist in cleanup.

The packages should be opened in laboratory using the appropriate personal protective equipment and a biosafety cabinet, if available.