

Transport of Unregulated Biological Materials

Introduction

The packaging and transportation of certain biological materials are subject to strict State, Federal, and international regulations. Individuals involved in the packaging, transportation and shipment of [infectious substances](#) must receive training on proper packaging, labeling, and documentation according to the applicable regulations and requirements before shipping such materials. Failure to comply with these regulations may result in significant fines to the university as well as individual fines which could include imprisonment. As such, it is critical to know how biological materials are classified according to these regulations.

A [Classification Guide for Infectious Substances](#) is available online at the Division of Research Safety (DRS) web site to help you determine whether or not your material is regulated (<http://www.drs.illinois.edu/bss/programareas/transport/definitions.html>).

For more information on the [Transport of Biological Materials](#), visit the DRS web site at: <http://www.drs.illinois.edu/bss/programareas/transport> or contact DRS-BSS at 3-2755 or e-mail bss@illinois.edu.

Unregulated Biological Materials

A list of biological materials that are exempted from classification 6.2 infectious substances of the Hazardous Materials Federal Register 49 CFR Parts 171 et.al and International Air Transport Association (IATA) Dangerous Goods Regulations (DGR) is listed below:

- Substances which do not contain infectious substances or which are unlikely to cause disease in humans or animals
- Substances containing microorganisms, which are non-pathogenic to humans or animals
- Substances that have been neutralized or inactivated such that they no longer pose a health risk
- Dried blood spots
- Fecal occult blood screening tests
- [Patient specimens](#) after they are properly packaged and labeled
- Blood or blood components which have been collected for the purpose of transfusion or the preparation of blood products to be used for transfusion or transplantation
- Tissues or organs intended for use in transplantation
- A material with a low probability of containing an infectious disease or where the concentration of the infectious substance is at a level naturally occurring in the environment so it cannot cause disease when exposure to it occurs. Examples of these materials include foodstuffs and environmental samples such as water or a sample of dust of mold, or
- A [biological product](#)



Transport of Unregulated Biological Materials

Intra-Campus Transportation of Unregulated Biological Materials

Biological materials transported by laboratory personnel between buildings must be contained in such a way as to prevent release to the environment in case of an accident by following the procedure below:

1. Biological samples must be placed in a primary container or vessel that is a securely closed, leak-proof (or o-ring) tube, vial or ampoule, which is then placed in an unbreakable, lidded, watertight, secondary container (e.g. Rubbermaid tote or Playmate-type cooler).
2. If the outside of the primary container or vessel is suspected of being contaminated, decontaminate prior to placing in secondary container using 10% bleach solution, an EPA approved disinfectant, or a disinfectant appropriate for the biological material in use.
3. All biohazards must be labeled with the international biohazard symbol on the outside of the secondary container.
4. When transporting liquids in glass vials/containers, place enough absorbent material, such as paper towels, in the space at the top, bottom, and sides between the primary and secondary containers to absorb the entire contents of the primary container(s) in case of breakage or leakage.
5. The outside of the secondary container must be free of any biohazardous material so that the package can be carried safely between buildings **without wearing gloves or lab coats outside**.
6. The package must be taken directly to its intended location.
7. If a spill occurs during transport, do not attempt to clean it up without appropriate spill response material and Personal Protective Equipment (PPE). Keep other persons clear of the spill.

Packaging of Unregulated Biological Materials for Transport Off-Campus

All unregulated biological materials must be packaged according to a triple packaging system when transporting on public roadways or by air. The three components of a triple packaging system are;

1. Primary receptacle
2. Leak-proof secondary container
3. Rigid outer container

The **primary receptacle** holds the biological material and must be leak-proof, watertight. It is packed in the secondary container in such a way that, under normal conditions of transport, they will not break, be punctured, or leak their contents into the secondary container. If the primary receptacle is fragile, it must be individually wrapped or separated to prevent contact between multiple primary receptacles.

The **secondary container** is a durable, watertight, leak-proof container that encloses and protects the primary receptacle(s). Several cushioned primary receptacles may be placed in one secondary container. If the primary receptacle contains any liquid, the secondary container must contain enough absorbent material to absorb all of the fluid from the primary receptacle(s) in case of breakage.

The **outer container** is a rigid and durable container with one side that is at least 10 cm x 10 cm (or 4 inches by 4 inches) that houses the secondary container. The outer package should be properly marked and labeled. It should be able to withstand outside influences such as physical damage while in transit. An itemized list of package contents must be included between the outer and secondary container. Samples that qualify as [Patient Specimens](#) must be properly marked and labeled with the words "Exempt human specimens" or "Exempt animal specimens" on the outer container.



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Transport of Unregulated Biological Materials

Transport of Unregulated Biological Materials by Personal or University Vehicle

Unregulated or exempted biological materials may be transported either on campus or to off-site research locations for university business in a personal or University vehicle as long as they meet all packaging, labeling, and training requirements. However, **insurance companies may not cover an accident where hazardous materials were transported in a personal vehicle.**

For materials that qualify for transport in a personal or university vehicles, the following precautions should be followed:

- All materials must be packaged according to a triple packaging system or more restrictive packaging requirements (see packaging requirements above).
- Hazardous materials should be transported in the trunk, or as far away from passengers as possible.
- All containers should be clearly labeled with content information.
- A complete inventory of the material must accompany the package.
- The vehicle must be driven directly from the point of origin to the intended destination without stopping at other locations on the way.
- Materials needed to contain or clean-up a spill, such as sorbent pads, gloves, and eye protection, should be available in the vehicle.

Questions

For more information on the Transport of Biological Materials, contact the Division of Research Safety, Biological Safety Section (333-2755 or bss@illinois.edu) or visit our web site:

<http://www.drs.illinois.edu/bss/programareas/transport/>.

Other Biosafety Facts Sheets are available from the Biological Safety Section at our web site:

<http://www.drs.illinois.edu/bss/factsheets/>.



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