Shipping Requirements for Submitting Specimens

Regulations pertaining to shipping of biological samples change on a regular basis. The following guidelines will assist you in meeting the requirements, and we will update this information as changes to the regulations occur. The submitter is responsible for compliance with the shipping regulations. To facilitate compliance, MSU VDL will supply shipping materials that meet or exceed U.S. Postal Service and air courier (UPS, FedEx) regulations for shipping biological material. Use the Product Order Form on the website at animalhealth.msu.edu to purchase shipping materials.

What types of samples are included in the regulations?

A patient specimen is defined as “human or animal material including—but not limited to—excreta, secreta, blood and its components, tissue and tissue fluids, and body parts being transported for purposes such as research, diagnosis, investigational activities, and disease treatment or prevention.”

This definition is quite broad and includes almost all specimens normally submitted to MSU VDL. All specimens that fall within the definition of a patient specimen are subject to special shipping requirements. There are a few specimen types that are exempted from these rules—feed, water, and soil samples are exempt and may be shipped in leak-proof containers using normal procedures. Samples consisting of tissues fixed in formalin also are exempt but do have some special considerations, which are addressed on later in this document.

SHIPPING REQUIREMENTS

The shipping requirements are based on the contents being shipped:

1. For patient specimens for which there is minimal likelihood that pathogens are present, e.g. nutrition samples, endocrinology samples, serology, etc., the material must be shipped in a box that is marked with the words “Exempt Animal Specimens” and packaged as follows:

   The packaging must consist of 3 components:
   - A leak-proof primary receptacle(s), e.g. vacutainer, serum tube, etc. (Note: A whirlpack bag is not leakproof.)
   - A leak-proof secondary package. For liquid samples, the secondary packaging must contain absorbent material in sufficient quantity to absorb the contents should the primary receptacles be damaged in transport. When multiple fragile (e.g. glass) primary receptacles are included in one secondary package, the primary receptacles should be wrapped or separated to prevent contact between them.
   - An outside package (box) of adequate strength for its capacity and intended use.

   NOTE: The shipping boxes sold by MSU VDL meet or exceed all the relevant shipping requirements, and therefore represent a cost-effective way to assure that samples are being shipped appropriately.

2. If samples are being shipped for the purposes of diagnosis of an infectious disease or the samples may contain infectious agents, e.g. bacteriology or virology samples, tissues from horses suspected of having West Nile virus, etc., they must be shipped in boxes marked with the words, “Biological Substance, Category B” and a UN3373 label.

   Inner packaging must:
   - Have a watertight (leak-proof) primary container, e.g., vacutainer tube, urine cup, serum tube, etc.
• Have a watertight secondary package containing the primary sample container and appropriate absorbent materials. The absorbent material must be sufficient in quantity to absorb the liquid in the primary container. If the secondary container (e.g., an approved biohazard bag) contains multiple primary containers, such as several blood tubes, the primary containers must be wrapped or separated to prevent contact between them.

• Be certified to withstand—without leakage—an internal pressure of 95kPa at a temperature range of -40°F to 130°F. Special biohazard bags, vacutainer tubes, urine cups, etc. are available that meet these requirements. All packaging available for purchase through MSU VDL meets or exceeds these standards.

**Outer Packaging must:**

• Contain an itemized list of the package contents in the box—a fully completed submittal form will meet this requirement.

• Have at least one side with minimum dimensions of 4 inches x 4 inches.

• Be certified to pass a drop test at 4 feet.

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These regulations change frequently. While we will keep the shipping section of our website and our packaging materials consistent with current regulations, the shipper is responsible for meeting these requirements.

**SPECIAL CASES**

**What if I need to use dry ice for submission?**

If the submitted specimens are shipped with dry ice, the dry ice must be placed outside the secondary container. The outside of the box must be labeled “Dry Ice,” “UN1845.” The net quantity of dry ice (in Kg.) must also be included on the label.

**NOTE:** These dry-ice requirements are in addition to the labeling and packaging requirements for patient specimens.

**How do I ship samples in 10 percent formalin?**

Formalin-fixed tissues are not generally considered diagnostic specimens because they have been biologically inactivated. Thus, the possibility for these materials to pose an infectious disease risk is extremely low. Even so, these materials should be packaged in a manner that will prevent any possibility for release of liquids while in transit. This can be achieved through the following actions:

• Use non-breakable primary containers with a leak-proof seal and reinforce the seal with Parafilm or sealing tape.

• Package primary containers and enough absorbent material to absorb all liquids (in the event of a leak) in a secondary container (e.g., larger plastic container or sturdy Zip Lock™ bags, etc.).

• Use a sturdy outside container to contain the samples.

• Biopsy mailers are available from MSU VDL. See the Product Order Form on the website at animalhealth.msu.edu.