

## PACKAGING BIOLOGICAL SUBSTANCES FOR SHIPMENT

Biological substances (i.e. blood, urine, feces) should be packaged according to guidelines published by the U.S. Department of Transportation (DOT) and Pipeline and Hazardous Materials Safety Administration (PHMSA). It is the responsibility of the veterinary practice shipping the samples to ensure safe, adequate packaging of specimens. The American Veterinary Medical Association has posted an overview of these guidelines on its website ([Required Training for Packaging and Shipping Lab Specimens](#)\*), with links to more detailed documents and training programs. The following is a modified excerpt from the AVMA website:

### General packaging guidelines (not meant to be complete) by category.

- **Category A:** *"An infectious substance 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."* [49CFR § 173.134 Class 6, Division 6.2(a)(1)(i)]\*\*  
These samples are assigned to UN2900 or UN2814 according to DOT/PHMSA guidelines (see [Transporting Infectious Substances](#)\*\*\* for additional information). **Angell Animal Medical Center does not accept category A biological specimens.**
- **Category B:** *"An infectious substance that is not in a form generally capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs. This includes Category B infectious substances transported for diagnostic or investigational purposes."* [49CFR § 173.134 Class 6, Division 6.2(a)(1)(ii)]\*\*  
Category B specimens are assigned to UN3373 according to DOT/PHMSA (refer to [Transporting Infectious Substances](#)\*\*\*). Leak proof primary container with the specimen, absorbent material and leak proof secondary packaging like a sealed plastic bag, rigid outer package with proper markings. Cushioning material should be added as needed. Packages should be designated as *"Biological substances, Category B.*
- **Exempt:** An exempt material is one *"that does not contain an infectious substance or that is unlikely to cause disease in humans or animals."* [49CFR § 173.134 Class 6, Division 6.2(b)]\*\*  
Leak-proof primary container with the specimen, absorbent material and leak-proof secondary packaging like a sealed plastic bag, rigid outer package marked *"Exempt animal specimen."* Biohazard symbols or bags should not be used.
- In all cases, fragile primary sample packaging (tubes, slides, vials, etc.) must be wrapped or separated to prevent breakage.

\* <https://www.avma.org/resources/practice-management/required-training-packaging-and-shipping-lab-specimens>

\*\* Specific citation from the US Code of Federal Regulations

\*\*\* <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2024-04/Transporting-Infectious-Substances-Safely-PHH50-0186-0622.pdf>

## PACKAGING BIOPSY (FORMALIN-FIXED) SAMPLES FOR SHIPMENT

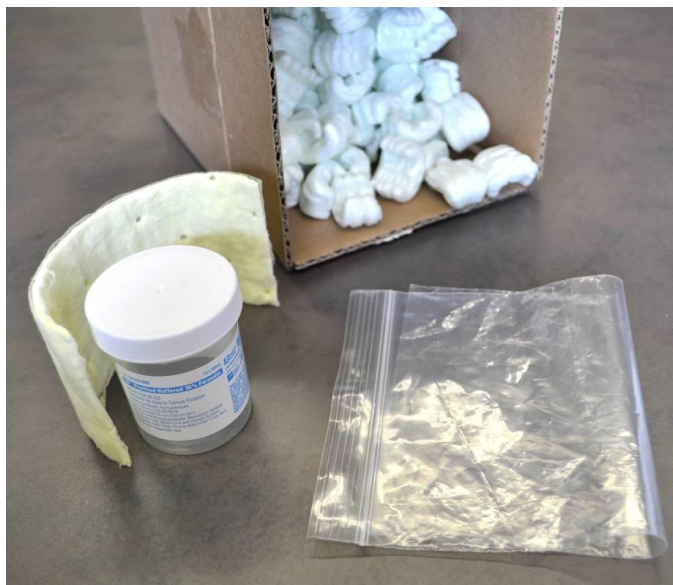
Formalin should only be handled by trained personnel familiar with its hazards and related precautions. The use of nitrile gloves is recommended when handling any formalin, including formalin in a sealed plastic container.

Angell Animal Medical Center and its couriers will not accept improperly packaged biopsy samples. Samples fixed in 10% neutral-buffered formalin should follow United Nations guidelines UN3334.

Properly packaged specimens require the following components:

1. Approved formalin containers, which are rigid, wide-mouthed, leak-proof, and non-breakable. The approved formalin container needs to be labeled with the patient's first and last name, client's first and last name, clinic name, date the samples were taken and the contents within the container. Unlabeled specimens will not be accepted. The lid of the formalin container should be wrapped with Parafilm or sealing tape.
2. The secured formalin container should next be sealed in a plastic bag with enough absorbent material to contain a spill if the container should open in transit.
3. The sealed plastic bag containing the formalin container and absorbent material is then placed in a larger leak-proof secondary bag or non-breakable container, along with the requisition form.
4. The biopsies can be transferred to the courier at this point, or shipped in a rigid box via FedEx or UPS according to UN3334 guidelines.

**Failure to follow appropriate packaging/shipping guidelines will result in rejected sample submissions and/or longer turnaround times.**



Example of packing materials used for shipping formalin-fixed samples.