

**UNIVERSITY OF TENNESSEE CENTER FOR WILDLIFE HEALTH
STANDARD OPERATING PROCEDURES
Shipping Hazardous Materials**

Exempt Animal Specimen Shipped with Ice Packs

- A. Description:
Includes shipment of specimens, tissues, swabs, etc that are unknown to contain infectious agents. This includes all field samples of animals mailed for diagnostic testing. It does not include specimens known to be infected with a pathogen (e.g., experimental challenges).
- B. Regulated: NO
- C. Procedure: Triple Packing Procedure

Wrap the primary container (preferably not glass) containing the specimen or swab with paper towel (enough to absorb contents if primary container breaks), and place it in a sealed Ziploc bag (i.e., secondary container). Next, place the Ziploc bag into a box containing a Styrofoam insert (i.e., third container). There should be 2 ice packs below and above the sample. Put bubble wrap on top of ice packs to prevent the sample from jostling. Lastly, include a detailed descriptive list of contents (including requested service) with your name as packager and my name as PI. Also include my phone number (865-974-2740) on the list.

Place the lid on the Styrofoam insert, close the outer box and tape with packaging tape. If this is a used box, cover all previous labels with label paper, especially any biohazard or dry ice signs. Attach an address label identical to below, except with your name as shipper. Ship overnight via Fed-Ex or UPS.



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Contents: Exempt Animal Specimen (Refrigerate upon Arrival)

Exempt Animal Specimen Shipped with Ethanol or Formalin

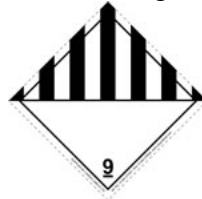
- A. Description: Includes shipment of exempt specimens or tissues packaged in ethanol (EtOH) or formalin. Formalin with <10% formaldehyde is not regulated. For formalin with >10% formaldehyde, contact Brian Ranger. Below are specifications for EtOH.
- B. Regulated: YES – All quantities of EtOH (Class 3 substance)
 - a. <500 mL total, <30 mL per container = Excepted Quantity
 - b. 500 – 1000 mL total, <500 mL per container = Limited
 - c. >1000 mL = Dangerous Goods Declaration
- C. Procedure: Triple Packing Procedure



Same as before for (a) – see Brian Ranger for (b) and (c). Preferably do not use glass as the primary package. Whirl Paks® suffice for primary packages if they are >0.2 mm thickness. Place samples upright and mark box with orientation arrows. For Fed-Ex, affix an excepted quantity label (left). Indicate Class 3 on first line and quantity on second line. For UPS, only write “This package conforms to 49 CFR 173.4” on the box – no label is required.

Exempt Animal Specimen Shipped with Dry Ice (must be done by Drs. Gray or Hoverman)

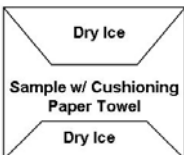
- A. Description: Includes shipment of specimens or tissues on dry ice.
- B. Regulated: YES (≤5 lbs [2.26 kg] for UPS, special labeling and packaging)
- C. Procedure: Triple Packing Procedure
 - 1) Fed-Ex: Class 9 Hazard Label (see Brian Ranger for labels). Indicate weight (whole kg) and UN 1845 on label. On air bill indicate, “Dry Ice, 9, UN1845, 1 x __kg,” to the right of the Internal Billing Reference.



- 2) UPS: No Class 9 Hazard Label. Make label or indicate on air bill, “Dry Ice: Cooling Material for Exempt Animal Specimen.” Indicate weight (whole lbs).

Use triple packaging (as described previously); however, use a tent design so that contents do not jostle once dry ice has volatilized (see left). Package should not be airtight.

Styrofoam Container w/ Cardboard Inserts



Exempt Biological Materials Shipped with Ice Packs

A. Description:
Includes shipment of environmental samples (e.g., water) that are not considered to be a “high risk” for infection.

B. Regulated: NO

C. Procedure: Triple Packing Procedure

NO label indicating it is a biological or environmental sample. If shipped on dry ice or in ethanol, see previous protocols.

Biological Substance, Category B (shipping only allowed by Drs. Gray and Hoverman)

A. Description:

E. coli O157:H7 is classified as a Category A pathogen. Different regulations apply – see Brian Ranger.

Includes shipment of a pathogens or organisms and substances (e.g., water) known to be infected with a pathogen that is harmful to humans or animals, but rarely result in death. These include most waterborne and foodborne etiologic agents (e.g., *Campylobacter jejuni*, *Listeria monocytogenes*), *Ranavirus*, and Bd.

Regulated: YES

C. Procedure: Triple Packing Procedure

Secondary container must be a pressure-tested biohazard bag. Include enough paper towels in the bag to absorb all liquid if the primary container breaks. Place secondary container in Styrofoam insert and package as described previously. Include a UT Category B Biological Materials Shipping Notification that lists the contents. Also, indicate whether it is infectious to humans or animals and that it is in Risk Group 2 – make a copy of this sheet. Also, include a Health Canada MSDS for the pathogen or suitable agent description.

Close and tape package, cover any information from previous shipments with label paper, and affix UN3373 Biological Substance Category B label from Brian. On the air bill, the responsible person (shipper—Gray or Hoverman) must be indicated with a telephone number and indicate, “UN3373, Biological Substance, Category B,” to the right of the Internal Billing Reference. The package can weigh no more than 4 kg (excluding dry ice or ice packs). Also, no more than 4 L of liquid can be included, with no more than 1 L per primary container. If >50 mL of liquid is in the primary containers then UP arrows must be provided on the box. Ship overnight via Fed-Ex or UPS. If dry ice is used, previously described procedures need to be followed.

NOTE: The biohazard symbol should NEVER appear on the outside of a package!!

