



# Collection Procedure for Submitting PCR Samples to Utah Veterinary Diagnostic Laboratory for Avian Influenza Testing in Turkeys, Chickens, and Game Birds

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## SUPPLIES

### Swabs

Use synthetic or semi-synthetic swabs (polyester, rayon, nylon, etc.) with plastic handle. Avoid cotton or calcium alginate swabs or swabs with wooden handles.

#### BD Dacron Polyester-Tipped Swabs

Box of 100, Fisher Sci. Cat. #L4363000

#### Flocked Nylon Swabs

Various distributors, such as Fisher Scientific and VWR

Trade Names: Puritan™ PurFlock Ultra™ and HydraFlock™; FLOQSwabs (Copan Diagnostics)

### Tubes

Round or conical bottom tubes will work, need to be sterile. Preferred is polypropylene (less chance for broken tubes than glass or polystyrene).

#### Fisherbrand Polypropylene Centrifuge Tubes

Case of 500, Fisher Sci. Cat. #05-539-12

#### VWR Polypropylene Centrifuge Tubes

Case of 500, VWR Cat. #93000-026

### Transport medium

Brain Heart Infusion (BHI) – available as powder or as premixed broth.

#### BHI Dehydrated Culture Media

100 g, Fisher Sci. Cat. #DF0037-15-0

#### BHI Dehydrated Culture Media

100 g, VWR Cat. #90003-038

#### BHI Broth

400 ml, BD Becton Dickinson Cat. #296299

## SAMPLE COLLECTION

### General procedure

Oropharyngeal (tracheal opening and choanal cleft) sampling is preferred on live birds; on dead birds, tracheal swabs are best obtained from fresh carcasses. Avoid the esophagus.

Following swabbing, swirl each swab in the tube containing 3.5 ml of BHI broth and then squeeze the excess liquid from the swab against the side of the tube. Withdraw swab before going on to the next bird and discard in a zip-lock bag for later aseptic disposal.

If birds are too small (e.g., quail) to get optimal tracheal samples, cloacal swabs may be substituted. Collect cloacal samples as per instructions below.

### **Pooling**

A maximum of five birds (i.e., swabs) are to be pooled into each tube of 3.5 ml BHI broth.

### **Identification**

Each tube is to be clearly identified as to flock origin, building, and collection date. It is anticipated that a bar coding system will eventually be employed. If no bar coding mechanism is available, a permanent black fine or extra-fine marker is to be used. The same information is to be accurately recorded on a hard copy list or accession sheet that will accompany the tubes to the lab.

### **SHIPPING**

Once samples are collected and placed in BHI media, seal the tube securely, spray tube(s) lightly with disinfectant (Lysol® spray or equivalent), and place in a zip-lock bag. BHI tubes are kept in a cooler or refrigerator at 4°C until shipping to the UVDL. Samples are then prepared as follows for shipping.

### **Sample packaging**

The packaging must consist of three components: a primary receptacle, secondary packaging, and a rigid outer packaging shell.

#### Primary receptacles (i.e., BHI tubes)

Must be packed (e.g., zip-lock bag) in such a way that, under normal conditions of transport, they cannot break, be punctured, or leak their

contents into the secondary packaging. If multiple fragile primary receptacles are placed in a single secondary packaging, they must be either individually wrapped or separated so as to prevent contact between them.

#### Secondary packaging (e.g., Styrofoam box, cooler, cardboard tubing)

Must be leak-proof and be secured with suitable cushioning material. Absorbent material in sufficient quantity to absorb the entire contents is placed between the primary and secondary packaging; any leakage of the contents must not compromise the integrity of the cushioning or packaging materials.

#### Cold packs or other refrigerant

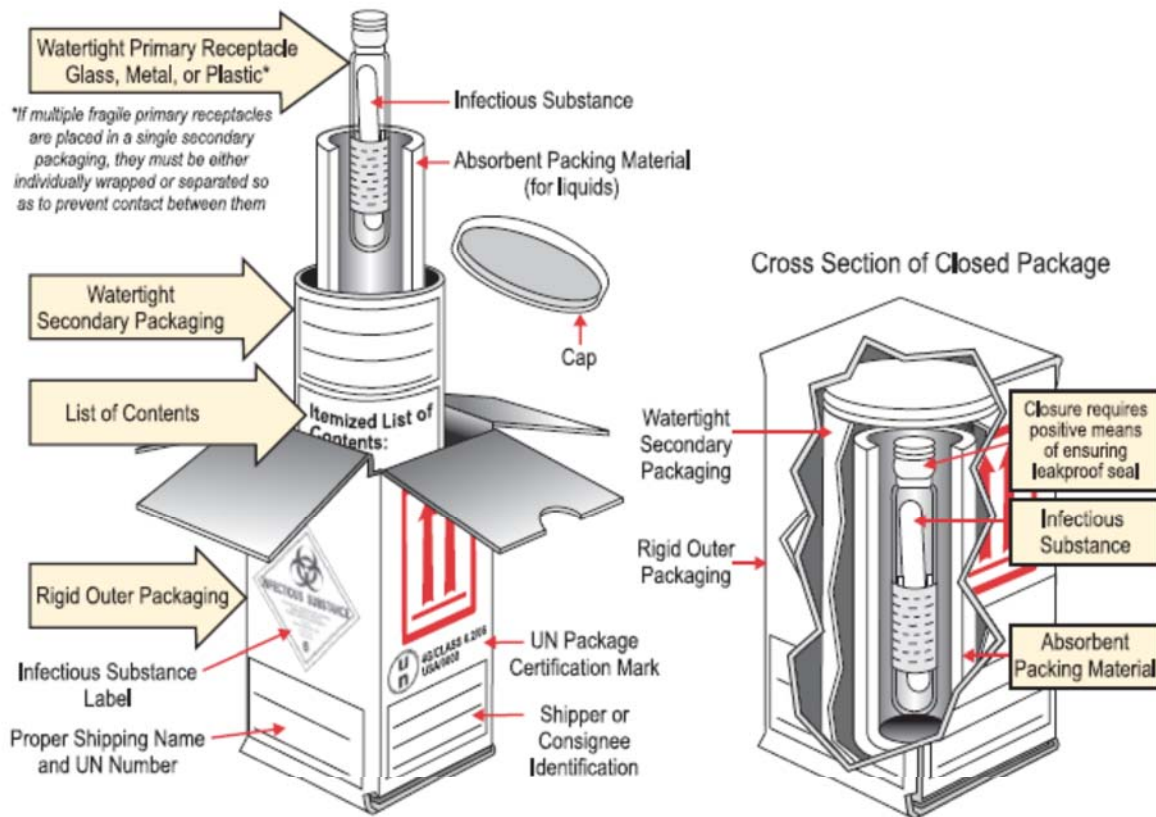
If needed, they are to be placed between the primary and secondary packaging, but must not compromise the paperwork or inner/outer containers upon melting.

#### Itemized list of contents

Use a UVDL submission form filled out with ranch name, address, barn number, sample ID, date and time of collection, etc. Seal in a separate zip-lock bag and enclose between the secondary and outer packaging

#### Rigid outer packaging shell

This consists of a cardboard box of appropriate size to securely contain the Styrofoam box or other rigid secondary packaging. Additional cushioning material may be needed between the secondary and outer packaging in order to eliminate looseness and motion of inner container.



**Note 1:** The smallest external dimension of the outer packaging must not be less than 100 mm (3.9 inches)  
**Note 2:** The primary receptacle or the secondary packaging must be capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa  
**Note 3:** Follow package manufacturer's closure instructions

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**Figure 1.** Example of acceptable packaging.

### Package labeling

Put the name, address and telephone number of a responsible person on the waybill or on the package. Put the shipper's and consignee's addresses.

For "Biological Substance, Category B," this label must be present in letters at least six (6) mm high and must be marked on the outer package adjacent to a diamond-shaped UN3373 label.



**Figure 2.** The "Biological Substance, Category B" label.

Printable UN3373 label can be found at:

[https://ahdc.vet.cornell.edu/docs/Shipping\\_Label\\_for\\_Biological\\_Substances\\_CategoryB.pdf](https://ahdc.vet.cornell.edu/docs/Shipping_Label_for_Biological_Substances_CategoryB.pdf)

The outer packaging must be clearly and durably marked with the words: "Diagnostic Specimen" and "Avian Influenza Samples."

### Shipment documentation

A Shipper's Declaration is NOT required. If applicable, the text "Biological Substance, Category B" and "UN 3373" should be documented on the waybill.

### Shipping address

Utah Veterinary Diagnostic Laboratory  
 950 East 1400 North  
 PO Box 6338  
 Logan, UT 84341

## **ADDITIONAL INFORMATION ABOUT SHIPPING DIAGNOSTIC SPECIMENS**

“Pointers on Shipping Clinical Samples, Biological Substance Category B (UN 3373) and Environmental Test Samples” is also a very good reference downloaded from the FedEx site [http://www.fedex.com/downloads/hk\\_english/packingtips/pointers.pdf](http://www.fedex.com/downloads/hk_english/packingtips/pointers.pdf).

[http://www.phmsa.dot.gov/pv\\_obj\\_cache/pv\\_obj\\_id\\_54AC1BCBF0DFBE298024C4C700569893C258](http://www.phmsa.dot.gov/pv_obj_cache/pv_obj_id_54AC1BCBF0DFBE298024C4C700569893C258)

2700/filename/Transporting\_Infectious\_Substances\_brochure.pdf (see page 29).

## **REFERENCES**

[http://www.phmsa.dot.gov/pv\\_obj\\_cache/pv\\_obj\\_id\\_54AC1BCBF0DFBE298024C4C700569893C2582700/filename/Transporting\\_Infectious\\_Substances\\_brochure.pdf](http://www.phmsa.dot.gov/pv_obj_cache/pv_obj_id_54AC1BCBF0DFBE298024C4C700569893C2582700/filename/Transporting_Infectious_Substances_brochure.pdf) (see page 29).  
Recommendations for Collecting Specimens from Poultry for Viral Diagnostic Testing.  
Document number: WI-AV-0020.07 National Veterinary Services Laboratories.

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This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Kenneth L. White, Vice President for Extension and Agriculture, Utah State University.