



**Preparing Dangerous Goods-UN3373, Biological
Substance, Category B, For Shipping**

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SECTION 1 INTRODUCTION

1.1 Purpose

The purpose of this document is to set forth standard guidelines for preparing dangerous goods for shipping. It does not supersede any IATA/DOT regulation, but should be used as a supplemental guideline for preparing shipments of dangerous goods. Any shipment of dangerous goods must be performed by persons who have completed DOT Hazardous Materials IATA General Awareness Training and hold current certification.

1.2 Scope

This SOP applies to the Food Safety Lab, including the Laboratory for Food Microbiology and Pathogenesis of Foodborne Diseases.

1.3 Definitions

DOT- Department of Transportation

IATA- International Air Transport Association

UN 3373: Biological Substance Category B- Part of Hazard Class 6.2. Substances that are infectious, but do not meet the criteria for inclusion in Category A.

Includes patient specimens of substances in this Category.

1.4 Safety

Appropriate protective measures need to be taken when working with bacterial pathogens. All waste from these experiments needs to be treated as BSL-2 waste.

SECTION 2 MATERIALS

- FedEx USA Airbill or FedEx Expanded Service International Air Waybill
- IATA/DOT approved shipping supplies
- Commercial Invoice (for international shipping)
- Packing Slip
- Appropriate signage/labels

| Check or Initial | Dangerous Goods Shipping Check List |
|---------------------------------|--|
| | All primary receptacles (i.e., specimen collection containers) have positive closures, such as screw-on caps |
| | All screw-on caps are wrapped with Parafilm® or adhesive tape |
| | Each primary receptacle is labeled with the patient's name (or other unique identifier) and date the sample was collected |
| | For liquid specimens, the primary receptacle is leak-proof and contains a maximum of 500 ml |
| | When shipped by air, the primary or secondary containers are able to withstand, without leakage, an internal pressure producing a pressure differential of not less than 95kPa (14 psi) in the range of -40°C to 55°C (-40°F to 130°F) |
| | For solid specimens, the primary receptacle is sift-proof and contains a maximum of 500g |
| | The primary receptacles are individually wrapped or separated and placed inside a leak-proof secondary container |
| | The secondary container is certified by the manufacturer prior to use. |
| | Absorbent material has been placed between the primary receptacle and the secondary container (enough absorbent material to absorb the entire contents of all the primary receptacles) |
| | The secondary container is not over packed (a pencil will fit between the primary receptacles after the absorbent material has been added) |
| | An itemized list of the contents is included with each shipment. The list includes the telephone number, fax number, and an e-mail address where problems may be reported by the receiving lab (Note: A completed EpiForm satisfies this requirement for CDC labs) |
| | A sturdy outer package is used to ship the primary receptacle(s) and secondary container(s). The outer packaging consists of corrugated fiberboard, wood, metal, or rigid plastic and is appropriately sized for the contents. |
| | For liquid, the outer packaging does not contain more than a total of 4 L. Each individual primary receptacle contains and maximum of 500 ml |
| | For solids, the outer packaging does not contain more than a total of 4 kg. Each individual primary receptacle contains a maximum of 500 g. |
| | If a courier such as DHL, FedEx, or UPS is used, then the waybill number has been written on the outside of each secondary container. |
| | The minimum package size in the smallest overall external dimension is 4 inches or if using "double mailers", they have been placed in a plastic envelope (pouch) provided by the courier. |
| | Each completed package is capable of withstanding a 4 foot (1.2 meter) drop test as outlined by IATA and DOT |
| | The outermost packaging includes an approved "Biological Substances, Category B" label and all other labels and markings required by DOT and IATA. |
| | Ice packs and insulated outer packaging is being used to assure specimen integrity during transit. |

SECTION 3 PROCEDURES

3.1 *FedEx USA Airbill for domestic shipments:*

Box 1 & 3: Fill out the date, our FedEx account # (1057-3496-4), and the appropriate addresses, including phone #'s, for the sender and the recipient.

Box 2: If we are paying for shipping, our internal account number goes in this box. See Martin for an account number.

Box 4: Generally, we use "FedEx Standard Overnight".

Box 5: "Other" Packaging **Note:** Any packaging being used for the shipment of dangerous goods must have packing instructions and used as instructed. Re-use of containers is allowable only if all components and packing instructions are present. FedEx boxes cannot be used to ship dangerous goods.

Box 6: "Yes, Shippers declaration not required"

Box 7: Check with Martin to determine who is to be billed. Write in the number of packages being sent & assign \$1 as the "Total Declared Value".

On the face of the waybill, write UN3373, Biological Substance category B.

3.2 *FedEx Expanded Service International Air Waybill for international shipments:*

Box 1 & 2: Fill out the date, our FedEx account # (1057-3496-4), and the appropriate addresses, including phone #'s, for the sender and the recipient.

Box 3: Give a generic description of the package contents. For example: Bacterial Cultures. Also note: "No commercial value for research purposes only." You must enter a value on the way bill. Enter \$1.00, note that it is US funds.

Box 4a: N/A

Box 4b: Typically international packages are shipped as "Express International Priority" unless requested otherwise by the client.

Box 5: Other

Box 6: No special handling

Box 7a&b: Check with Martin to determine who is to be billed.

SECTION 3 PROCEDURES (cont'd)

Box 8: If we are paying for shipping, our internal account number goes in this box. See Martin for an account number.

Box 9: Signature required

3.3 Packaging

All packages must contain a packing slip with the contents.

All packages must adhere to DOT & IATA guidelines.

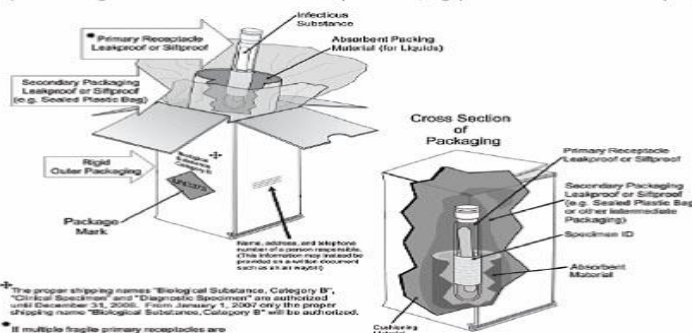
From the Cornell EHS Website:

“Triple packaging, watertight/siftproof 10 & 20 containers capable of withstanding internal pressure of 95 kPa, absorbent, itemized list of contents, rigid outer packaging capable of passing 1.2 m drop test.”

“Maximum of 1 L or 4 kg for 10 container, and 4 L or 4 kg for outer packaging. Indicate material on Air Waybill. No Shipper’s Declaration is required.

Refer to the diagrams below for an example.

ANNEX 5
Example of Packing and Marking for Category B Infectious Substances
(See Packing Instruction 650 for additional requirements; e.g. pressure differential and drop test)



Note: 1-At least one surface of the outer packaging must have a minimum dimension of 100 mm X 100 mm

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

3.2 Box Signage/Labeling

1. UN3373 Biological Category B must appear on the box.
2. FedEx Airbill or Waybill
3. Three copies of Commercial Invoice if it is an international package
4. “Packing Slip Enclosed” must appear on the face of the package.
5. If an overpack is used, “OVERPACK” must be written on the face of the package.

SECTION 3 PROCEDURES (cont'd)

6. Arrows indicating which side up must present on two sides of the outside of the box.
7. A shipping label listing recipient, sender, and responsible party must be affixed to the package.

TO:
DR. FRANKENSTEIN
111111 UNIVERSITY BOULEVARD
TRANSYLVANIA, VA 99999
888-777-6666

FROM:
SHERRY ROOF
CORNELL UNIVERSITY
FOOD SCIENCE DEPARTMENT
412 STOCKING HALL
ITHACA, NY 14853
607-255-1266
RESPONSIBLE PERSON

SECTION 4 TROUBLESHOOTING

The Cornell EHS contact for dangerous goods shipping assistance is: Bill Leonard, wl68@cornell.edu, 607/255-5616

SECTION 5 REFERENCES

<http://sp.ehs.cornell.edu/lab-research-safety/research-safety/hazardous-materials-shipping/Pages/default.aspx>

www.cdc.gov/nceh/vsp/cruiselines/OPRP/docs_word/biological_substances_shipping_detailed.doc