

**HOW TO MAIL SPECIMENS AND CULTURES
TO THE NATIONAL JEWISH MYCOBACTERIOLOGY LABORATORY
Updated August, 2007**

These instructions are based on provision for handling biohazard materials outlined in the following documents:

- a) Public Health Service/CDC: 42 CFR, Part 72 – interstate shipment of etiologic agents. See <http://www.cdc.gov/of/ohs>,
- b) US Postal Service: 39 CFR and USPS domestic Mail Manual C023.1.1, International Mail Manual 135, and USPS Publication 52,
- c) US Department of Transportation (DOT): 49 CFR, Parts 171-180 August 14, 2002. See for details: <http://www.hazmat.dot.gov>.
- d) The Department of Labor, Occupational Safety and Health Administration (OSHA): 29 CFR 1910.1030.
- e) The 2007 IATA (International Air Transportation Association) Dangerous Goods Regulations

1. General Definitions

There are two categories of biohazard materials that may be mailed to our laboratory:

- **Category A Infectious Substances** – pure cultures of *M. tuberculosis* complex. It is required that *M. tuberculosis* cultures be packaged according to IATA instruction 602 with Shippers Declaration of Dangerous Goods, a “UN 2814 Category A Infectious Substance, Affecting Humans” label, and mailed by overnight courier (FedEx, DHL, etc.) only. Only fully trained and certified Individuals should package *M. tuberculosis* cultures. NOTE: Pure cultures of *M. tuberculosis* may not be sent through the US Postal Service.

- **Category B Biological Substances**– Raw diagnostic specimens (blood, sputum, tissue, etc.) that may or may not contain any mycobacteria, as well as pure cultures of Nontuberculous Mycobacteria (NTM). The terms “ Diagnostic Specimens” and “Clinical Specimens” are no longer acceptable shipping names for shipment of these materials via private couriers, although still named as such by the US Postal Service (USPS Packaging Instruction 6D). Category B Biological substances may be mailed either by private couriers, or through the US Postal Service, and do not require UN specification packaging or Shippers’ Declaration of Dangerous Goods. See below for packaging instructions.

2. Materials that can be mailed to us

a) **Pure cultures** of either *M. tuberculosis* or NTM can be mailed in screw top glass **tubes** on any solid medium, or in liquid medium in vials/tubes such as Bactec, ESP, MGIT, SeptiCheck, MB/ BacT) only

Culture on L-J or agar slant in a glass screw cap tube. If shipping a tube containing solid medium in a metal primary (inner) container, place a small piece of cotton or paper in the bottom of the inner container to protect the tube from breakage. Wrap the tube in an absorbent paper towel. Place the properly labeled tube into the appropriate size secondary container.

Culture in special vials/tubes containing liquid culture (Bactec-460 and 960, ESP, MGIT, SeptiCheck, MB BacT). Do not open any of these vials, and do not transfer the contents of the vial to a tube! Record the last GI reading and date on Bactec 12B vials. In the inner container, place a sufficient amount of absorbent materials to protect the vial from breakage and to absorb the medium in case of leakage. All rubber septums on Bactec vials should be examined for integrity to detect potential for leakage. Do not ship vials that have a damaged septum; transfer the broth from the damaged vial to a new Bactec vial after removing the medium from the new vial. The containers for any vial should be large enough to contain sufficient amounts of absorbent material to absorb the entire culture in case of breakage.

Raw specimens (sputum, stool, bone marrow, cerebrospinal fluid, tissue, biopsy and autopsy specimens, etc.) should be mailed in 50-ml polyethylene tubes (Falcon type) according to some specific requirements for collection of these specimens (see below). **Do not mail:** urine specimens, bronchial or gastric washings, broth cultures in tubes, or cultures on agar plates. Have these materials delivered by a courier (in Colorado only).

Sputum specimens. Collect the first early morning expectoration in a sterile 50-ml polypropylene centrifuge tube (Falcon, Greiner, etc), but not more than 10 ml of specimen per tube. Securely tighten the lid. Write the patient's name on the tube and place it in the mailing container. Mail the specimen on the day of collection via airmail or by overnight courier. Do not send sputum specimens on ice. If you cannot mail on the day of collection, keep the specimen refrigerated until the day of shipment. Do not send processed (decontaminated) specimens, because any decontaminant (for example, NaOH) will kill most of the mycobacteria in the specimen before it arrives in our laboratory.

Pleural, spinal, joint fluids, pus, tissue specimens. Place the specimen in a sterile 50-ml polypropylene tube, cover non-fluid specimens with 7H9 broth or sterile saline, securely tighten the lid, and label the tube with the patient's name. Send the specimen overnight.

Swab specimens. Place 10 ml of 7H9 broth or saline and the swab in a 50-ml centrifuge tube and securely tighten the cap. Mail in the same manner as sputum specimens (see above).

Blood and bone marrow. Collect in a sterile yellow-top vacutainer (BD#4960) containing SPS anticoagulant, mix, label the vacutainer with the patient's name and place it in a 50-ml polypropylene tube and then in mailing containers.

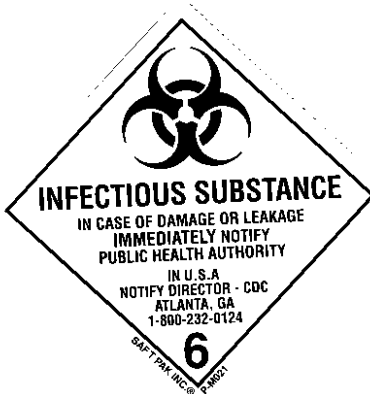
Stool specimens. Collect no more than 10 ml in a 50-ml polypropylene tube and securely tighten the lid. Mail in the same manner as sputum specimens (see above).

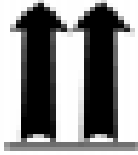
3. Criteria for rejecting a specimen:

- a. violation of the conditions listed above
- b. leakage or breakage
- c. unclear labeling
- d. insufficient information about the specimen, no signature/name on the requisition, incomplete billing or reporting information

4. Packaging (according to the IATA packaging instruction 602) and shipment of *M. tuberculosis* pure cultures (Category A Infectious Substances) by private couriers

- a) Inspect each primary container (a tube with the slant or a vial with a liquid culture) for possible cracks or flaws, securely tighten the caps on tubes, and ensure vial septums are free of defects
- c) Ensure that culture identifiers on label affixed to the primary container correspond with identifiers on the list of cultures that are being prepared for shipment,
- d) Wrap each primary container (culture tube or vial) in absorbent material such as paper toweling, secure toweling with tape,
- e) Place each wrapped primary container in a separate plastic biohazard bag, seal bag,
- f) Place one or more primary containers (not to exceed more than 50.0 ml of total volume), in a watertight plastic secondary container,
- g) Wrap the list of cultures around the secondary container,
- h) Place the secondary container in an IATA approved outer package that meets UN specifications with the following markings: UN 4GU/CLASS 6.2,
- i) Affix the following labels on the outer package:
 - Fully completed senders name and address
 - Fully completed delivery address: **National Jewish Mycobacteriology Lab, 1400 Jackson St., Mycobacteriology Laboratory, Rm K422, Denver, CO 80206**
 - Infectious Substance (Department of Transportation (DOT) Class 6 Warning UN2814 Category A Infectious Substance, Affecting Humans should be placed on the secondary and outer container,
 - IATA approved outer packs have orientation markings on two opposite outer sidewalls that indicate upright position of primary receptacles.





UN 2814
Category A Infectious Substance,
Affecting Humans

k) To avoid obscuring any marking on the outer pack, fold Waybill and 3 copies of “Shippers Declaration for Dangerous Goods” and insert them in the pouch.

It is required to retain a copy of the “Shippers Declaration for Dangerous Goods”, In addition, we recommend tracking delivery of the package and retaining other documents on file, such as contents list, that pertain to the shipment. Prior to shipment, please notify National Jewish TB Lab by faxing a copy of the Air Waybill to (303-398-1953).

5. Packaging and shipment of Category B Biological Substances by private couriers

Biological Substances, Category B specimens are defined as human or animal specimens, including excreta, secreted, blood and its components, tissue, tissue fluids, and cultures of Non-tuberculosis mycobacteria being transported for diagnostic or investigational purposes. Biological Substance, Category B Specimens must be packaged according to IATA Packing Instruction 650. There is no need to place the above labels on packages containing Biological Substance, Category B. A “Shipper’s Declaration for Dangerous Goods” is not required for shipping Biological Substance, Category B Specimens.

The UN 3373 Biological Substance Category B Specimen label must be placed on the outer container.

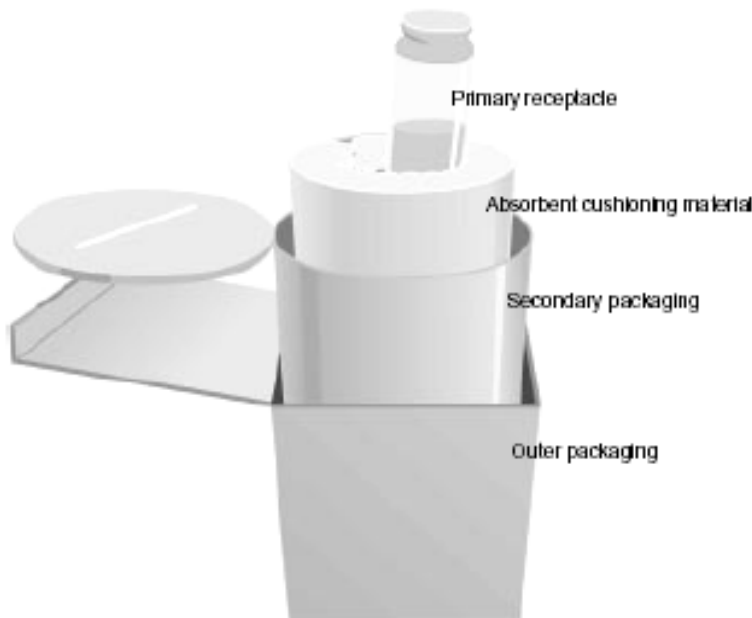


6. Packaging and Shipment of raw specimens and NTM cultures (Category B) by the US Postal Service (according to the USPS Packaging Instruction 6D)

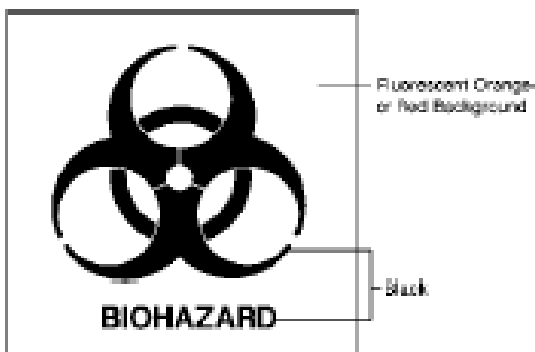
The materials must be packaged to withstand leakage, shock, pressure changes, and other conditions incidental to ordinary handling in transportation, as stated in DOT 49 CFR 173.196. The leak proof and securely sealed primary container (a tube or vial holding the culture or specimen), must be surrounded by an absorbent cushioning material such as paper towels in case of leakage and to protect from breakage. The primary container and absorbent cushioning material should then be put in a secondary leak proof and securely

sealed container constructed of metal, plastic, corrugated fiberboard, cardboard, or other material of equivalent strength. Several primary containers may be placed in the secondary container. Multiple primary containers are permitted in one secondary container provided that it does not contain more than 500 ml of diagnostic specimen and there is sufficient absorbent cushioning material to prevent breakage during shipping. The primary and secondary container along with the requisition form should be placed in an outer shipping container constructed of fiberboard or other equivalent material. The address label should be placed on the outer shipping container and should have complete return and delivery addresses. The delivery address is: **National Jewish Medical and Research Center, Attn.: Mycobacteriology Laboratory Room K420, 1400 Jackson Street, Denver, CO 80206.**

Example of Specimens Packaging:



Biohazard Label must be placed only on the primary and secondary containers (not on the outer shipping container).



Place the Biological Substance, Category B Specimen Label and the UN 3373 label on the outer shipping container:

**Biological Substance,
CATEGORY B SPECIMEN**



Biological Substances Category B can be shipped by Express Mail, Priority Mail, or First Class Mail. However, we highly recommend using Express Mail to expedite the shipping time. A “Shipper’s Declaration for Dangerous Goods” is not needed when shipping Category B materials.

Compliance with mailing requirements is the **shipper’s responsibility**. Questions regarding current mailing regulations should be addressed to: Biosafety Branch, Centers for Disease Control and Prevention, 1600 Clifton Rd, Atlanta, GA 30333, Mailstop F-05; Phone (404) 639-2753.

5. Packaging and Shipment of Specimens for Overnight Delivery by Private Courier.

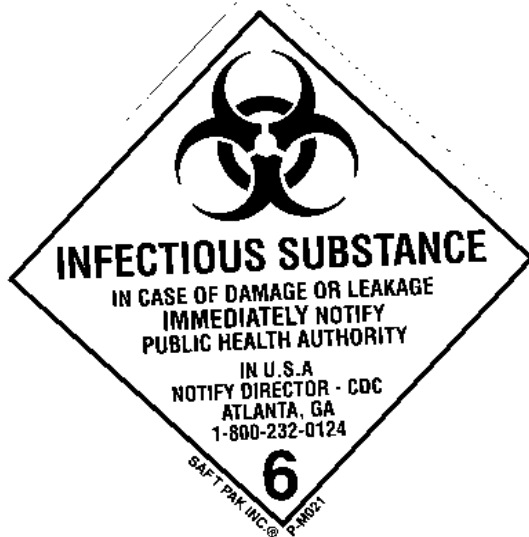
Packaging requirements for Biological Substance, Category B are the same as those listed under “Packaging and Shipment of Specimens by United States Postal Services.” However, a contact name and phone number (Jan Clotfelter, 303-398-1339) must be listed in the delivery address and the markings needed are as follows:

Use the address below when shipping via private courier:

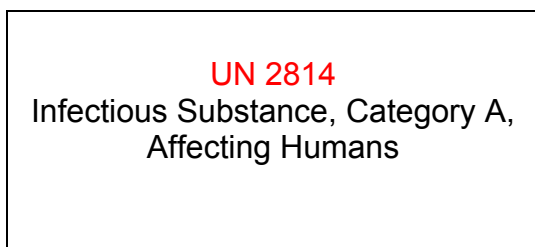
Mycobacteriology Laboratory (Contact – Jan Clotfelter, 303-398-1339)
National Jewish Medical and Research Center
1400 Jackson St., Rm K420
Denver, CO 80206

5.1 Required labels for Shipping Infectious Substances/Etiologic (Category A) agents by private courier

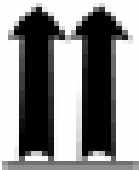
Mycobacterium tuberculosis pure cultures are defined as infectious substances/etiologic (Infectious Substance, Category A) agents when shipped by private courier must be shipped in UN approved packaging according to IATA packing instruction 602. The following are examples of labels that must be affixed on the outside of the packages.



The UN Number Label should be placed on address side of package



Orientation Markings that indicate upright position of primary receptacles must be on two opposite outer side walls



Private couriers require that infectious substances be shipped overnight. A properly completed "Shipper's Declaration for Dangerous Goods" prepared in triplicate must be attached to the outside of the package.

