Are you shipping a substance that may contain pathogens?

- Yes
  - Is the material on the list of “Unregulated” biological materials (see next page, Table1)?
    - No
    - Yes
      - No
      - Yes
        - Ship as Exempt Patient Specimen
  - No
    - Yes
      - The substance is not subject to requirements as Division 6.2 material
    - No
      - Does it meet the definition of a Category A substance – an infectious substance that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in humans or animals?
        - No
        - Yes
          - Category A Infectious Substance: UN 2814 or UN 2900
        - Yes
          - Category B Biological Substance: UN 3373
      - No
        - Is it on the indicative list of Category A substances (see next page, Table2)?
          - Yes
          - Category B Biological Substance: UN 3373
          - No
Table 1, Examples of “Unregulated” Biological Materials

- Substances which are known not to contain infectious substances
- Substances containing microorganisms which are non-pathogenic to humans or animals
- Substances that have been neutralized or inactivated such that they no longer pose a health risk
- Environmental samples which are not considered to pose a significant risk of infection
- Dried blood spots and fecal occult blood screening tests
- Blood or blood components which have been collected for the purpose of transfusion or the preparation of blood products to be used for transfusion or transplantation
- Tissues or organs intended for use in transplantation
- A biological product, including an experimental or investigational product or component of a product, subject to federal approval, permit, review or licensing requirements such as those required by the Food and Drug Administration or the US Department of Agriculture

Note: “Unregulated” biological materials refers strictly to IATA and DOT shipping regulations; materials (including blood and blood products) may be subject to other regulations, such as the OSHA Bloodborne Pathogen Standard. “Unregulated” biological materials may still require a permit for shipment abroad.

Table 2, Indicative Category A Substances

<table>
<thead>
<tr>
<th>Infectious substance affecting humans</th>
<th>Infectious substance affecting animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus anthracis cultures</td>
<td>Japanese Encephalitis virus cultures</td>
</tr>
<tr>
<td>Brucella abortus cultures</td>
<td>Junin virus</td>
</tr>
<tr>
<td>Brucella melitensis cultures</td>
<td>Kyasamur Forest disease virus</td>
</tr>
<tr>
<td>Brucella suis cultures</td>
<td>Lassa virus</td>
</tr>
<tr>
<td>Burkholderia mallei - Pseudomonas mallei - Glanders cultures</td>
<td>Machupo virus</td>
</tr>
<tr>
<td>Burkholderia pseudomallei - Pseudomonas pseudomallei cultures</td>
<td>Marburg virus</td>
</tr>
<tr>
<td>Chlamydia psittaci - avian strains cultures</td>
<td>Monkeypox virus</td>
</tr>
<tr>
<td>Clostridium butyricum cultures</td>
<td>Mycobacterium tuberculosis cultures</td>
</tr>
<tr>
<td>Coxiella burnetii cultures</td>
<td>Nipah virus</td>
</tr>
<tr>
<td>Crimean-Congo hemorrhagic fever virus</td>
<td>Omsk hemorrhagic fever virus</td>
</tr>
<tr>
<td>Dengue virus cultures</td>
<td>Poliovirus cultures</td>
</tr>
<tr>
<td>Eastern equine encephalitis virus cultures</td>
<td>Rabies virus cultures</td>
</tr>
<tr>
<td>Escherichia coli, verotoxigenic cultures</td>
<td>Rickettsia prowazekii cultures</td>
</tr>
<tr>
<td>Ebola virus</td>
<td>Rickettsia rickettsia cultures</td>
</tr>
<tr>
<td>Flexal virus</td>
<td>Rift Valley fever virus</td>
</tr>
<tr>
<td>Francisella tularensis cultures</td>
<td>Russian spring-summer encephalitis virus cultures</td>
</tr>
<tr>
<td>Guanarito virus</td>
<td>Sabia virus</td>
</tr>
<tr>
<td>Hantaan virus</td>
<td>Shigella dysenteriae type 1 cultures</td>
</tr>
<tr>
<td>Hantavirus causing hemorrhagic fever with renal syndrome</td>
<td>Tick-borne encephalitis virus cultures</td>
</tr>
<tr>
<td>Hendra virus</td>
<td>Variola virus</td>
</tr>
<tr>
<td>Hepatitis B virus cultures</td>
<td>Venezuelan equine encephalitis virus</td>
</tr>
<tr>
<td>Herpes B virus cultures</td>
<td>West Nile virus cultures</td>
</tr>
<tr>
<td>Human immunodeficiency virus cultures</td>
<td>Yellow fever virus cultures</td>
</tr>
<tr>
<td>Highly pathogenic avian influenza virus cultures</td>
<td>Yersinia pestis cultures</td>
</tr>
</tbody>
</table>

UN 2814

UN 2900
Shipping Category A Infectious Substances

Note: This is intended as a guide only. All those who ship Category A Infectious Substances and/or Dry Ice must be trained and certified every two years.

**Packaging**

- **Leakproof/siftproof primary receptacle**
- **Absorbent**
- **Leakproof/siftproof secondary packaging**
- **Rigid outer packaging that meets UN standards for shipping Category A**

| Primary or secondary container must be able to withstand without leakage internal pressure of 95kPa between -40°C to 55°C. Limit: 50ml or 50g for passenger aircraft; 4L or 4kg cargo aircraft | For liquids, wrap primary container in enough absorbent to absorb entire contents. Place primary receptacle into leakproof secondary packaging such as canister or sealed plastic bag. **Itemized list of contents** must be placed between secondary container and outer packaging. Primary or secondary container must be able to withstand without leakage internal pressure of 95kPa between -40°C to 55°C. If frozen or refrigerated shipment, place dry ice/refrigerant packs outside of secondary packaging, i.e., between the secondary packaging and an insulated chest/foam cooler (Ambient shipments don’t need foam cooler). Secondary packaging must be secured from movement after dry ice sublimation. Outer packaging must meet specifications established by UN and be marked as such by the manufacturer e.g., UN 4G/CLASS 6.2/10 USA/A1234. At least one surface must have minimum dimension 100mm x 100mm. Must allow carbon dioxide gas to vent if shipped with dry ice. |

**Labeling and Marking on Outer Packaging**

- And UN Number, Proper shipping name, and quantity, i.e., UN 2814, Infectious Substance, Affecting Humans, 10ml Or UN 2900, Infectious Substance, Affecting Animals, 10ml
- **From:** (Name and address of shipper)
- **To:** (Name and address of consignee/recipient)
- **UN 1845 Dry Ice ___ kg**
- **(Required only if packaged with dry ice)**
- **(Orientation labels required only if >50ml liquid in primary container, place 2 labels on opposite sides)**
- **(Cargo Aircraft Only sticker required only if quantity exceeds limit for passenger aircraft)**

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**Examples:**

- UN 2814, Infectious Substance, Affecting Humans, 10ml
- UN 2900, Infectious Substance, Affecting Animals, 10ml
Documentation

Shipper's Declaration Required (type-written or computer generated). Copy of declaration must be retained by shipper for 2 years. If dry ice used, it must also be declared as Dangerous Good. Contact USC Safety Office (323.442.2200) for details.

Category A Packing Example for IATA Infectious Substances Guidance Document

Category A Packing Example (below) from CDC BMBL 5th ed.

Packing and Labeling of Category A Infectious Substances
(See Packing Instruction 602)

- Watertight Primary Receptacle
  - Glass, Metal, or Plastic
  - If multiple primary receptacles are placed in a single secondary packaging, they must be either individually wrapped or separated so as to prevent contact between them.
- Watertight Secondary Packaging
- Rigid Outer Packaging
- Infectious Substance Label
- Proper Shipping Name and UN Number
- Infectious Substance
- Absorbent Packing Material (for liquids)
- Cross Section of Packaging
- UN Package Certification Mark
- Shipper and Consignee Identification
- Specimen ID Label
- Waterproof Tape Closure must have a waterproof seal
Shipping Category B Biological Substances

Note: This is intended as a guide only. All those who ship Category B Biological Substances and/or Dry Ice must be trained and certified every two years.

### Packaging

- **Leakproof /siftproof primary receptacle**
- **Absorbent**
- **Leakproof / siftproof secondary packaging**
- **Rigid outer packaging**

**Primary or secondary container** must be able to withstand without leakage internal pressure of 95kPa between -40°C to 55°C.

Limit: 1L per primary, 4L per package; 4kg per primary or package

For liquids, wrap primary container in enough absorbent to absorb entire contents

Place primary receptacle into leakproof secondary packaging such as canister or sealed plastic bag

**Itemized list of contents** must be placed between secondary container and outer packaging

Primary or secondary container must be able to withstand without leakage internal pressure of 95kPa between -40°C to 55°C

If frozen or refrigerated shipment, place dry ice/refrigerant packs outside of secondary packaging, i.e., between the secondary packaging and an insulated chest/foam cooler (Ambient shipments don’t need foam cooler)

Secondary packaging must be secured from movement after dry ice sublimation

Rigid outer packaging, such as fibreboard box. At least one surface must have minimum dimension 100mm x 100mm.

Must allow carbon dioxide gas to vent if shipped with dry ice.

### Labeling and Marking on Outer Packaging

**UN3373**

**BIOLOGICAL SUBSTANCE CATEGORY B**

From: (Name and address of shipper)

To: (Name and address of consignee/recipient)

Responsible Person
Name:
Tel:

(Required only if packaged with dry ice)

9

UN 1845
Dry Ice
___ kg

(Required only if >50ml liquid in primary container, place 2 labels on opposite sides)

### Documentation

Shipper’s declaration not required for Category B.

Under “Nature and Quantity of Goods” on Air Waybill, indicate “UN 3373 Biological Substance Category B”; if dry ice used, indicate “Dry Ice UN 1845” and the quantity (i.e., 3 kg).
Category B packing example from IATA Infectious Substances Guidance Document

Category B packing example (below) from CDC BMBL 5th ed.

Packing and Labeling of Category B Infectious Substances
(See Packing Instruction 650)

* The proper shipping names 'Biological Substance, Category B', "Clinical Specimen" and "Diagnostic Specimen" are authorized until December 31, 2006. From January 1, 2007 only the proper shipping name 'Biological Substance, Category B' will be authorized.
Shipping Exempt Patient Specimens

Note: This is intended as a guide only. All those who ship Exempt Patient Specimens and/or Dry Ice must be trained and certified every two years.

**Packaging**

<table>
<thead>
<tr>
<th>Leakproof primary receptacle</th>
<th>Absorbent</th>
<th>Leakproof secondary packaging</th>
<th>or</th>
</tr>
</thead>
</table>

- For liquids, wrap primary container in enough absorbent to absorb entire contents
- Place primary receptacle into leakproof secondary packaging such as canister or sealed plastic bag
- If frozen or refrigerated shipment, place dry ice/refrigerant packs outside of secondary packaging, i.e., between the secondary packaging and an insulated chest/foam cooler (Ambient shipments don’t need foam cooler)

Rigid outer packaging

Secondary packaging must be secured from movement after dry ice sublimation

**Labeling and Marking on Outer Packaging**

Exempt Patient Specimen

From: (Name and address of shipper)

To: (Name and address of consignee/recipient)

UN 1845 Dry Ice ___ kg

(Required only if packaged with dry ice)

**Documentation**

If dry ice used, indicate “Dry Ice UN 1845” and the quantity (i.e., 3 kg) under “Nature and Quantity of Goods” on Air Waybill
Exempt Patient/Animal Specimen Packing Example from IATA infectious Substances Guidance Document