
Part III: Dangerous Goods
**Proper Packaging & Labeling
of Specimens**

Dangerous Goods: Proper Packaging & Labeling of Specimens

Packing by Classification - Air

- Dangerous goods are assigned a packing instruction based on their classification:
 - **Category A, Infectious Substance Affecting Humans** – Packing Instruction 620
 - **Category B, Biological Substance** – Packing Instruction 650
 - **Dry Ice** – Packing Instruction 954

All dangerous goods are assigned a packing instruction:

- Instructions for shipping by air are found in the yellow pages of the IATA regulations.
- Category A, Infectious substances use Packing Instruction 620.
- Category B, Biological substances use Packing Instruction 650.
- Dry Ice uses Packing Instruction 954.

Packing for Category A - Air

- Use UN-certified packaging:

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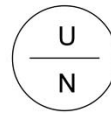
Packing Instruction 620 for Category A, Infectious substances requires UN-certified packaging:

- UN-certified packaging is a combination package consisting of inner and outer containers that have passed a series of tests required by IATA and the DOT. An independent lab conducts extensive tests on all of our boxes.
- Testing is required every 2 years.
- Tests include puncture tests, drop tests, and stacking tests.
- UN-certified packing is tested as a combination package. The containers by themselves are not considered UN-certified and are illegal to ship in individually. You must always use the appropriate combination of containers to ensure UN-certification.

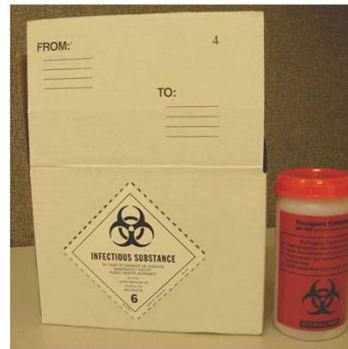
NOTE: State Health Departments and the CDC may furnish their own containers and documentation if you ship to them.

Packing for Category A - Air

- Ensure the box is marked UN-certified:
- Do not consolidate with other specimen types
- Use a package large enough to accommodate all markings and labels without overlapping



4G/CLASS6.2/11
USA/+AA4447



Certified shipping container T570

Packing Instruction 620 for Category A, Infectious substances has additional requirements:

- Ensure the box is marked UN-certified, as indicated on the slide. This marking tells the carrier that this box has been certified to carry an infectious substance.
- The Category A, Infectious substance must be packaged by itself in a certified container. The preferred container is our small white certified shipping container, MML supply number T-570.
- Even if you only have one Category A, Infectious specimen, you must ship it alone; It can't be consolidated with any Category B, Biological substances.
- You must use a box big enough to accommodate all the proper markings and labels for the contents of the box. These labels must not overlap, be obscured, or be folded over a corner. If there are any old/previous markings or labels on your box, they must be completely removed or blacked out before reuse.
- See the slide for an example of a certified container.

Packing for Category A - Air

- Packing instruction 620 requires that your package:
 - Arrive in good condition without presenting a hazard to the public
 - Be packed in leak-proof primary and secondary packaging
 - Contain enough absorbent material between primary receptacles and secondary packaging to soak up entire contents of the bag
 - Include an itemized list of contents between the secondary packaging and outer packaging
 - Withstand 95kPa of pressure at temperatures between -40°F and +130°F

Packing Instruction 620 for Category A, Infectious substances has additional requirements:

- It must arrive in good condition without presenting a hazard to the public.
- You must pack it in leak-proof primary and secondary packaging with enough absorbent material to soak up entire contents of the bag.
- It must include an itemized list of contents between the secondary packaging and outer packaging.
- It must withstand a barometric pressure differential of not less than 95kPa at temperatures in the range of -40F to +130F.

Packing for Category A – Air

- Packing instruction 620 requires that your package:
 - Fit in a box with a smallest external dimension no less than 100 mm (4 inches)
 - Not be consolidated with any other specimen types
 - Be marked with “Suspected Category A Infectious Substance” if an unknown culture is sent for identification
 - Display the name and telephone number of a responsible contact person on the exterior
 - Provide a positive means of securing ambient temperature samples

Packing Instruction 620 for Category A, Infectious substances has additional requirements:

- It must fit in a box with a smallest external dimension no less than 100 mm (4 inches).
- Not be consolidated with any other types of specimens.
- If you are sending a culture for identification, send it as Category A, Infectious and use the technical name “Suspected Category A Infectious Substance.”
- Outside of the package must be marked durably and legibly with the name and telephone number of a responsible contact person.
- Ambient temperature samples must have a positive means of closure, such as heat seal, skirted stopper, or metal crimp seal. If screw caps are used, these must also be secured by positive means, such as tape, paraffin sealing tape, or manufactured locking closure.

Labeling Category A Packages – Air

- Packages containing Category A, Infectious substances must be marked with:
 - Proper shipping name
 - “Infectious substance Affecting Humans”
 - UN2814
 - Name and address of shipper and consignee
 - 6.2 infectious substance label
 - Cargo-only aircraft label if box contains more than 50 mL or 50 grams of infectious substance
 - Name and telephone number of a person responsible for the shipment



In addition to the proper packaging, Category A, Infectious substances must be labeled a certain way:

- It must be marked with the proper shipping name, “Infectious Substance Affecting Humans.”
- Use the UN-certified number, UN2814, as well as the name and address of the shipper and consignee.
- Place a 6.2 Infectious Substance label on the box.
- If the box contains over 50 mL or 50 grams of a Category A, Infectious substance, it must also be marked with a cargo-only aircraft label.

Labeling Category A Packages - Air

- Use proper labels:

6.2 Infectious Substance Label



Cargo-only Aircraft Label (for > 50 mL)



When shipping Category A, Infectious substances, you must use the proper label:

- You must always use the 6.2 Infectious Substance label, as shown on the left.
- If you are shipping over 50 mL or 50 grams of a Category A, Infectious substance, the box must also be marked with a cargo-only aircraft label, as shown on the right.

Packing for Category B - Air

- Ensure this diamond-shaped mark is on the outer packaging next to the words “Biological Substance, Category B”:
 - Mark must be on a background of contrasting color
 - Mark must be at least 2” by 2”
- Do not need a UN-certified box



Packing Instruction 650 for Category B, Biological substances has the following requirements:

- Ensure the box is marked with the diamond-shaped mark, shown on the slide. The mark must be at least 2” X 2” and include the marking number, UN3373.
- The proper shipping name “Biological Substance, Category B” must be marked on the box, adjacent to the diamond-shaped mark.
- You do not need to ship Category B, Biological substances in a UN-certified box.

Packing for Category B - Air

- According to packing instruction 650, your package must:
 - Be triple packaged with a primary receptacle, secondary packaging, and rigid outer packaging
 - Include a leak-proof primary receptacle containing less than 1 L of any liquid, as well as leak-proof secondary packaging
 - Use packaging to prevent breakage of fragile vials
 - Contain enough absorbent material between primary receptacle and secondary packaging to soak up entire contents of the bag

Packing Instruction 650 for Category B, Biological substances has additional requirements for air transport:

- It must be triple packaged with a primary receptacle, secondary packaging, and rigid outer packaging.
- You must pack it in leak-proof primary receptacle containing less than 1 L of any liquid, as well as leak-proof secondary packaging.
- If your vials are glass, you must wrap them in bubble wrap or rubber band them together so that they do not break in transit.
- The package must contain enough absorbent material to soak up the entire contents of the bag.

Packing for Category B - Air

- According to packing instruction 650, your package must:
 - Withstand 95kPa of pressure at temperatures between -40°F and +130°F
 - Contain no more than 4L in the outer packaging, excluding ice
 - Include an itemized list of contents between the secondary packaging and outer packaging
 - Be marked with “Biological Substance, Category B”
 - Display the name and telephone number of a responsible contact person on the exterior

Packing Instruction 650 for Category B, Biological substances has additional requirements for air transport:

- It must withstand a pressure differential of not less than 95kPa at temperatures between -40°F and +130°F.
- It must contain no more than 4L in the outer packaging, excluding ice.
- It must include an itemized list of contents between the secondary packaging and outer packaging. In the case of medical specimen shipments, the vial is the primary container and the styro/box combination is the outer packaging. The test requisition form (batch sheet) serves as the itemized list of contents.
- Use the proper shipping name, “Biological Substance, Category B”.
- Outside of the package must be marked durably and legibly with the name and telephone number of a responsible contact person.

Packing for Category B - Ground

- Shipping by ground is similar to shipping by air. Your package must:
 - Be triple packaged with a primary receptacle, secondary packaging, and rigid outer packaging
 - Include a leak-proof primary receptacle containing less than 1L of any liquid, as well as leak-proof secondary packaging
 - Use packaging to prevent breakage of fragile vials
 - Contain enough absorbent material between primary receptacle and secondary packaging to soak up entire contents of the bag
 - Pass a drop test from the height of 4 feet



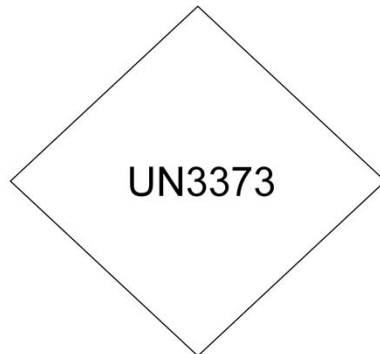
49 CFR for Category B, Biological substances has additional requirements for ground transport:

- Shipping by ground is very similar to shipping by air, with many of the same requirements.
- It must be triple packaged with a primary receptacle, secondary packaging, and rigid outer packaging.
- You must pack it in leak-proof primary receptacle containing less than 1 L of any liquid, as well as leak-proof secondary packaging.
- If your vials are glass, you must wrap them in bubble wrap or rubber band them together so that they do not break in transit.
- The package must contain enough absorbent material to soak up the entire contents of the bag.
- The box must be capable of passing a drop test from the height of 4 feet.

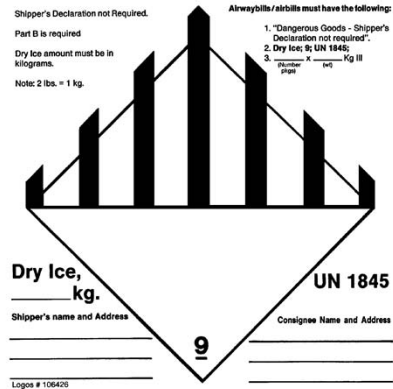
Labeling Category B Packages - All

- Use proper labels:

UN Label



Dry Ice Label



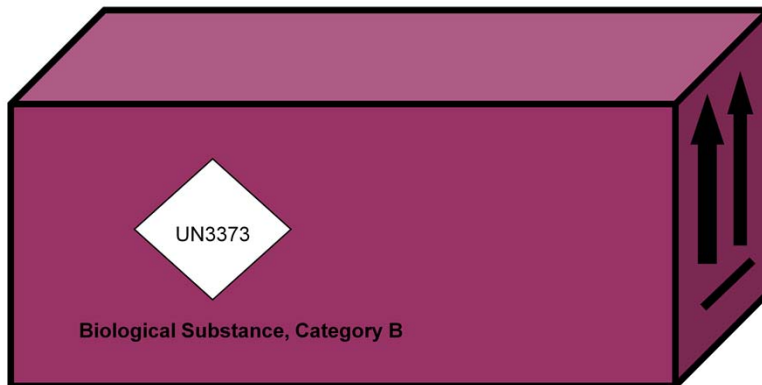
When shipping Category B, Biological substances, you must use the proper markings and labels:

- You must always use the UN3373 marking, as shown on the left. Place the mark next to the words “Biological Substance, Category B.”
- If your specimen needs to be shipped on dry ice, use a dry ice label. This label must include the weight of the dry ice, marked in kilograms.

Labeling Category B Packages

- Biological substance in berry box with UN-certified number:

Note: UN-certified box is not required.



This slide shows an example of a box marked with the proper shipping name, “Biological Substance, Category B” next to the UN3373 marking.

- These are the only markings required for air or ground shipments.
- If the specimen is liquid, your boxes needs to display orientation labels on opposite sides. Since most of our specimens are liquid, our boxes are preprinted with these arrows.

Packing Cultures

- Ship all Category A cultures as infectious
- Place Category B cultures in temperature color-coded bag and mark with blue “C”

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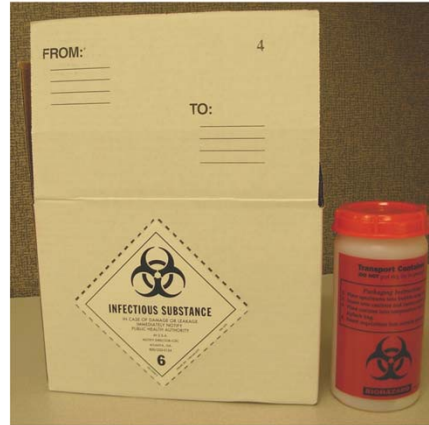
When packing microbiology cultures:

- Both Category A, Infectious and Category B, Biological cultures should be sent in a Mayo Medical Laboratories (MML)-supplied secondary container. Doing so ensures the safety of lab personnel.
- For Category A, Infectious cultures, the secondary container must be placed in the appropriate temperature color-coded bag. Then put an orange infectious substance label on the bag. Write the name of the Category A infectious agent in the space provided. Lastly, place a blue “C” label on the bag.
- For Category B, Biological cultures, the secondary container must be placed in the appropriate temperature color-coded bag. Place a blue “C” label on the bag.

Shipping Cultures – Category A

- Ship Category A, Infectious cultures according to Packing Instruction 620:

- Can combine with other Category A, Infectious cultures
- Do not combine with Category B, Biological cultures



When shipping Category A, Infectious cultures:

- Package Category A, Infectious cultures according to Packing Instruction 620.
- Use a certified combination box.
- You can combine Category A, Infectious with other Category A, Infectious cultures, but Category A, Infectious cannot be packed with Category B, Biological cultures.

Shipping Cultures – Category B

- When shipping Category B, Biological cultures:
 - Can combine with other Category B, Biological cultures
 - Do not combine with Category A, Infectious cultures
 - When shipping without a courier pickup, mark the styro as well as the exterior of the box with a blue “C”



When shipping Category B, Biological cultures:

- You can combine Category B, Biological with other Category B, Biological. If the culture is Category B, Biological, it may be packed with other Category B specimens.
- Place a blue “C” label on the bag and styro that the Category B culture is in, as well as on the outside of the box.
- If you have a courier pickup, they will take care of labeling the styro and box.
- You must put the blue “C” label on the outside of the bag.