Packaging UN 3373 Shipments
Requirements for Biological Substance, Category B (UN 3373) Shipments
This guide outlines the requirements for shipping with FedEx Express. In addition, all shipments must comply with all applicable local, state, and federal laws governing packing, marking, and labeling. Blood, urine, fluids, and other specimens containing or suspected of containing infectious substances must be shipped according to applicable government, International Air Transport Association (IATA), and International Civil Aviation Organization (ICAO) regulations.

Customers who ship Biological Substance, Category B (UN 3373) shipments must comply with local, state, and federal laws governing identification, classification, packaging, and package markings (which may be in label form). FedEx Express strictly adheres to the IATA, ICAO, and U.S. government guidelines for materials categorized as Biological Substance, Category B (UN 3373).

General Packaging Requirements
For Biological Substance, Category B (UN 3373) shipments, cushioning material is required for both liquid and dried specimens. You must include four layers of packaging:

1. **Primary watertight inner receptacle.** Use primary receptacles made of glass, metal, or plastic with a positive means of ensuring a leakproof seal; a skirted stopper or metal crimp seal must be provided; screw caps must be reinforced with adhesive tape. For liquid specimens, the primary receptacle must not contain more than 1 L. For dried specimens, the primary receptacle must not exceed the outer packaging weight limit.

2. **Absorbent material.** Place absorbent material between the primary and secondary receptacles, using enough material to absorb the entire contents of all primary receptacles. Absorbent material is required for Biological Substance, Category B (UN 3373) shipments containing liquids. Acceptable absorbent materials include cellulose wadding, cotton balls, super-absorbent packets, and paper towels.

3. **Secondary watertight inner receptacle.** Use a secondary container that is leakproof for liquid specimens or siftproof for dried specimens. Choose only secondary containers certified by the manufacturer for Biological Substance, Category B (UN 3373) prior to use. Either your primary or secondary receptacle must be able to withstand, without leakage, an internal pressure differential of not less than 95 kPa in the range of -40ºC to 55ºC (-40ºF to 130ºF). To prevent contact between multiple fragile primary receptacles, individually wrap or separate them inside the secondary container.

4. **Sturdy outer packaging.** Use rigid outer packaging constructed of corrugated fiberboard, wood, metal, or plastic, or other equally strong material, including cylinders made of such materials and appropriately sized for the contents. Chipboard or paperboard boxes are unacceptable outer packaging. The completed packaging must be of good quality, strong enough to withstand the normal rigors of transportation without loss of contents as a result of vibration, changes in temperature, humidity, or pressure. Limit the total volume for liquid samples to 4 L and the total weight of dried samples to 4 kg per outer container. At least one surface of the outer packaging must have a minimum dimension of 100 mm x 100 mm (4” x 4”). Completed packages must be able to withstand a 4’ (1.2-m) impact test. Before sealing the outer packaging, you must make an itemized list of the contents of the package and enclose the list between the secondary packaging and outer packaging.

Acceptable Primary Receptacles

- Taped plastic canister
- Taped glass or plastic jar
- Taped glass or plastic vial
FedEx UN 3373 Packaging Options

For your convenience, we offer the FedEx UN 3373 Pak, the FedEx Medium Clinical Box, and the FedEx Large Clinical Box as packaging options for your Biological Substance, Category B (UN 3373) shipments. We recommend the FedEx UN 3373 Pak for use when the sturdy outer packaging of your properly packaged shipment is smaller than 7” x 4” x 2” (minimum acceptable size).

To help increase your operational efficiencies and clearly identify this type of shipment, the FedEx UN 3373 Pak is preprinted with the required IATA UN 3373 marking, the proper shipping name, and the OVERPACK marking.

The FedEx UN 3373 Pak can only be used to ship Biological Substance, Category B (UN 3373) shipments. If you need an overwrap for exempt clinical and environmental test sample shipments, use the FedEx® Clinical Pak.

To order the FedEx UN 3373 Pak, go to fedex.com or call 1.800.GoFedEx 1.800.463.3339.

Biological Substance, Category B (UN 3373) Marking Requirements

- Clearly mark “Biological Substance, Category B” in 6-mm-high text on the outer package adjacent to a properly sized UN 3373 diamond-shaped marking. If you prefer, package markings may be in the form of a label.
- If you use any of the following clinical or Temp-Assure® boxes to ship samples classified as Biological Substance, Category B (UN 3373), you must add a properly sized UN 3373 diamond-shaped marking; if you prefer, package markings may be in the form of a label: FedEx® Medium Clinical Box; FedEx® Large Clinical Box; Small Cold Box (2–8°) Standard Duration (48 Hours); Medium Cold Box (2–8°) Standard Duration (48 Hours); Medium Cold Box (2–8°) Extended Duration (96 Hours); Large Cold Box (2–8°) Standard Duration (48 Hours); and Large Cold Box (2–8°) Extended Duration (96 Hours).
- If you use the FedEx® UN 3373 Pak, duplicate all required dangerous goods markings on each package inside the overpack. Do not place dry ice inside the pak.
- The name and telephone number of a person responsible must be marked on the package or provided on the airbill.
- The name and address of the shipper and recipient must be marked on the package.

Acceptable Secondary Receptacles

- Sealed plastic bag
- Plastic container
- Screw-cap can

Acceptable Absorbent Materials

- Cellulose wadding
- Cotton balls
- Super-absorbent packets
- Paper towels

“Biological Substance, Category B” must appear in 6-mm-high text on the outer package adjacent to a diamond-shaped mark like the one shown here. The UN 3373 marking must be in the form of a square set at an angle of 45 degrees. Each side of the UN 3373 diamond should measure a minimum of 2” (50 mm). The width of the diamond rule line must be a minimum of 2 mm, and the letters and numbers must be at least 6 mm high.
Packaging Restrictions

• Plastic bags and paper envelopes are unacceptable outer containers.

• The FedEx® Envelope, FedEx® Tube, FedEx® Pak, FedEx® Padded Pak, and FedEx boxes, including FedEx brown packaging offered at FedEx shipping locations, are not acceptable as outer containers for Biological Substance, Category B (UN 3373) shipments.

• The FedEx Small Clinical Pak and FedEx Large Clinical Pak cannot be used to ship Biological Substance, Category B (UN 3373) shipments.

• Only shipments classified as Biological Substance, Category B (UN 3373) can be shipped in the FedEx UN 3373 Pak.

• Biological Substance, Category B (UN 3373) shipments that are shipped refrigerated, frozen, on dry ice, or in liquid nitrogen must comply with current IATA and ICAO regulations.

If you have questions about whether your shipments require a biohazard label, consult the Occupational Safety and Health Administration (OSHA) for the applicable regulations.

FedEx UN 3373 Packaging Options for Purchase

FedEx offers five cold shipping boxes as part of the FedEx Temp-Assure portfolio of products for purchase. These boxes can be used as outer packaging to ship temperature-sensitive specimens designated as Biological Substance, Category B (UN 3373) with FedEx Express services.

Each box includes a chilling unit activated by the shipper and placed in the box with the shipment. The unit continuously evaporates small amounts of water at low pressure, keeping the shipment at 2°C to 8°C for up to 48 or 96 hours,* depending on the packaging option chosen.

FedEx Medium Clinical Box, FedEx Large Clinical Box

*Actual cooling duration varies, depending on external temperatures.
NOTE: Biological Substance, Category B (UN 3373) shipments are accepted at FedEx Express® Drop Box locations in the U.S. and Puerto Rico. Refer to the current online Service Guide, Terms and Conditions, Dangerous Goods section for current limitations on locations that cannot accept UN 3373.

FedEx Packaging Services
FedEx Packaging Services offers package development consultation services. The FedEx Packaging Lab does not test packaging containing Biological Substance, Category B (UN 3373) materials.

Contacts and Resources
- How to Pack guidelines at fedex.com/packaging.
- FedEx Dangerous Goods seminars and job aid at fedex.com/dangerousgoods.

NOTICE:
FedEx Express will refuse to accept packages that do not meet FedEx Express, government, or IATA and ICAO requirements. This brochure is in no way intended to replace requirements mandated by 49CFR and IATA. This is for informational purposes only.