



Proper training is required under federal and/or state regulations to offer for shipment or transport dangerous goods and/or hazardous materials. All persons and entities must comply with all federal regulations, including but not limited to the specific training requirements of 49 CFR § 172.700 - 172.704.

IF YOU HAVE NOT BEEN TRAINED CONTACT YOUR RADIATION SAFETY OFFICER

RadQual and their contract manufacturer provide these materials as a service, to be used as guidelines to assist properly trained shippers. The materials provided by RadQual and their contract manufacturer in no way alters or satisfies any federal training requirements. The attached information provided does not meet the training requirements as required by DOT 49 CFR.

The study and/or use of these materials do not qualify an individual to prepare, package, transport or otherwise handle dangerous goods or hazardous materials.

The information provided with this document is subject to change or update due to changing government regulations. The user(s) of this document assumes responsibility for complying with all applicable laws and regulations regarding the shipment of Dangerous Goods.

RadQual or their contract manufacturer shall not be held responsible for any loss, injury and/or damage caused by errors, omissions, misprints or misrepresentations of the contents of these documents or for any unauthorized or inappropriate use.

Radioactive Material Shipment Packaging and Documentation Flow Chart

1 Verify return source is free of removable contamination (leak test performed within last 6 months is adequate).

2 Package return source, including Return Packing List, (F-108) inside the original cardboard shipping box using original packing materials.

3 Seal shipping box with packing tape; use tamper indicating tape or apply tamper indicating label.

4 Perform radiation survey on-contact with package; determine maximum on-contact radiation level.

7 Complete Yellow II Labels. Record radionuclide(s) and Total activity in the Contents and Activity lines. Record the T.I. from Step 6 in the Transport Index Block.

6 Determine the T.I. (unitless number equal to the max. dose rate in mr/hr at 1 m from package surface) Must be ≤ 1.0 to label Yellow II.

5 Determine the radionuclide(s) and current activity(ies) in units of MBq contained in the package.

YES
Is maximum on-contact radiation level ≥ 0.5 mr/hr?

NO

* Return source shipped as Type A Quantity, **UN 2915** in accordance with applicable sections and paragraphs of Title 49 and guidance provided:

- **DO NOT** remove, cover or deface any of the original labels attached to the shipping package unless otherwise instructed below.
- Apply the following Labels, (supplied), to the package:
 - Yellow II Labels completed in Step (7) placed over the original Yellow II Labels on the package.
 - **Cargo Aircraft Only** Labels on same side as the Yellow II Labels (Does not apply to calibration or reference sources used for medical or research applications, reference DOT interpretation letter 24-0002).
 - Radioactive Material Type A Package UN 2915 sticker (same side as one of the Yellow II labels if not on original).
 - Return Authorization (F-115).
- Remove original address and/or FedEx shipping labels.
- Complete Block 1 of the FedEx Airbill.
- Complete Block 6 of the FedEx Airbill, by checking "Yes" as per attached Shipper's Declaration.
- Complete a Dangerous Goods (DG) form, the following information must be included on the form in the sequence listed:
 - UN Number = UN 2915
 - Proper shipping name = Radioactive material, Type A package
 - Class = 7
 - Radionuclide, physical and chemical form, and activity from Step (5). **Sources containing different radionuclides must be recorded separately.**
 - Number and Type of package = (1) DOT Type 7A
 - Label = Yellow II
 - Transport Index as T.I. = (value from Step (6))
 - Package Description = fiberboard box
 - Dimensions - (L) cm x (W) cm x (H) cm.
 - Shipper's 24 hr Emergency Phone Number - **IS NOT** provided by RadQual or International Isotopes.
- Place 3 copies of the DG form, Guide 163 and the Airbill in FedEx Pouch provided.

NOTES

- Shipper's Declaration of Dangerous Goods forms available on the web links provided on Form F-106.
- Form must be TYPED with **RED DASHED** border.
- Shipper responsible for all shipping costs, unless other arrangements have been made.
- Shipper may select a carrier other than FedEx.
- Package prepared and DG Form completed and signed by qualified and trained shipper.
- Refer to Title 49 §§172.101, 172.202-204, 172.403, 172.704, 173.403, 173.433. Other requirements apply.

* Return source shipped as Limited Quantity, **UN 2910** in accordance with §173.421 and guidance provided:

- Remove or cover any of the original labels attached to the shipping package.
- Apply the following stickers, as supplied, to the package:
 - Radioactive Material Accepted Package UN 2910.
 - Return Authorization (F-115)
- Complete Block 1 of the FedEx Airbill
- Complete Block 6 of the FedEx Airbill, by checking "Yes" Shipper's Declaration not required.

NOTES

- Shipper responsible for all shipping costs, unless other arrangements have been made.
- Shipper may select a carrier other than FedEx.
- Package prepared by qualified and trained shipper.



Source Return Kit Contents

1. Informational Packet
 - F-107 HAZARDOUS MATERIALS Training Warning and Flow Chart
 - F-106 Return Kit Contents and FedEx DG Form Help
 - F-433 FedEx Airway Bill Form Help
 - Guide 163 Radioactive Material (Low to High Level Radiation)
2. F-108 Source Return Authorization Form
3. F-115 RA# Return Address Sticker
4. Provided Stickers
 - (1) UN2910
 - (2) II-Yellow Trefoil
 - (2) White Kraft Stickers
5. Small FedEx Pouch
6. FedEx Airway Bill

Note:

- Labels to be applied to package provided by International Isotopes, Inc.
- If radiation levels require shipping as Type A Quantity UN 2915, refer to form F-107 in this packet.
- If replacement box is needed, contact your distributor.
- For our Source Return Policy, please see Radqual.com/shipping-returns or contact your distributor.

Federal Express Declaration of Dangerous Goods Form

You may or may not be required to ship using a Declaration of Dangerous Goods (DG form).

Federal Express requires these forms to be type-written. For an online form:

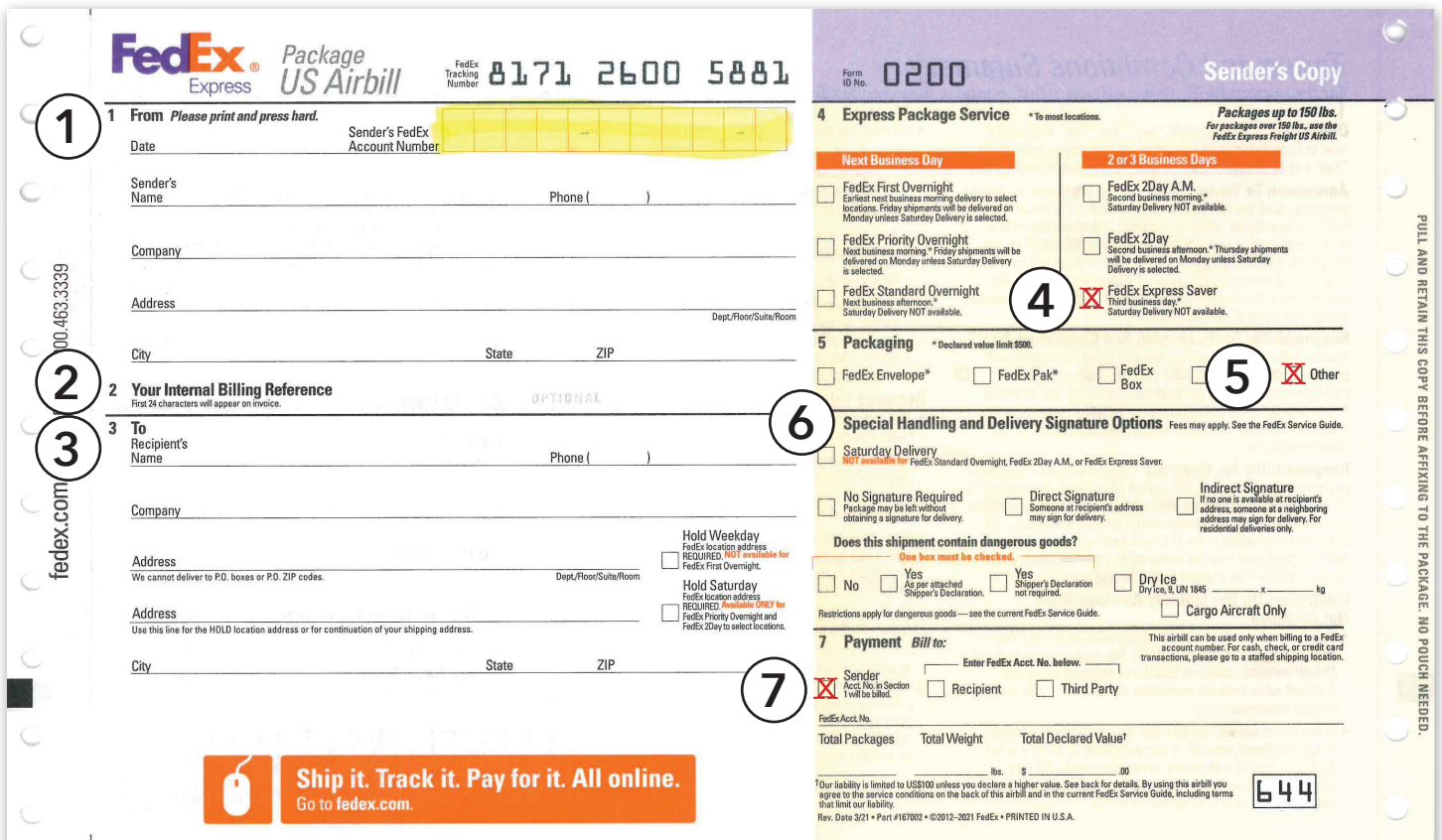
1. Go to fedex.com/en-us/service-guide/dangerous-goods/resources.html
2. Select "Tools to help you ship"
3. Select "Declaration forms" then the PDF link and complete the declaration form

The website also offers information and guidance on the shipment of dangerous goods.

FedEx Airbill Form

Instructions for filling out FedEx Airbill when returning sources. (NOTE: For each step see corresponding numbers in picture below):

1. In the **From** section, fill in your company's information.
2. You are **NOT** required to fill in your company's Internal Billing Reference.
3. In the **To** section, fill in the information for International Isotopes, Inc.
4. In the **Express Package Service** section, select the "FedEx Express Saver" option.
5. In the **Packaging** section, select the "Other" option.
6. You are **NOT** required to complete this section.
7. In the **Payment** section, select the "Sender" option.



FedEx Express Package US Airbill Form ID No. **0200** Sender's Copy

FedEx Tracking Number: **8171 2600 5881**

1 From Please print and press hard. Sender's FedEx Account Number: [Redacted]

Date: [Redacted]

Sender's Name: _____ Phone () _____

Company: _____

Address: _____ Dept./Floor/Suite/Room _____

City: _____ State: _____ ZIP: _____

2 Your Internal Billing Reference First 24 characters will appear on invoice. [Redacted]

3 To Recipient's Name: _____ Phone () _____

Company: _____

Address: _____ Dept./Floor/Suite/Room _____

Address: _____

City: _____ State: _____ ZIP: _____

4 Express Package Service *To most locations. Packages up to 150 lbs. For packages over 150 lbs. use the FedEx Express Freight US Airbill.

Next Business Day

FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

FedEx 2Day A.M.
Second business morning.* Saturday Delivery NOT available.

FedEx 2Day
Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.

4 FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging *Declared value limit \$500.

FedEx Envelope* FedEx Pak* FedEx Box **5** Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

No Signature Required
Package may be left without obtaining a signature for delivery.

Direct Signature
Someone at recipient's address may sign for delivery.

Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods? One box must be checked.

No Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required. Dry Ice Dry Ice, 9, UN 1845 _____ x _____ kg

Restrictions apply for dangerous goods — see the current FedEx Service Guide. Cargo Aircraft Only

7 Payment Bill to: This airbill can be used only when billing to a FedEx account number. For cash, check, or credit card transactions, please go to a staffed shipping location.

Sender Acct. No. in Section 1 will be billed. Sender Recipient Third Party

Enter FedEx Acct. No. below: _____

FedEx Acct. No. _____

Total Packages _____ Total Weight _____ Total Declared Value[†] _____

lbs. \$ _____ 00

[†]Our liability is limited to US\$100 unless you declare a higher value. See back for details. By using this airbill you agree to the service conditions on the back of this airbill and in the current FedEx Service Guide, including terms that limit our liability.

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POTENTIAL HAZARDS

Health

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases.
- Undamaged packages are safe. Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released.
- Type A packages (cartons, boxes, drums, articles, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life-endangering amounts. Partial releases might be expected if "Type A" packages are damaged in moderately severe accidents.
- Type B packages, and the rarely occurring Type C packages (large and small, usually metal), contain the most hazardous amounts. They can be identified by package markings or by shipping papers. Life-threatening conditions may exist only if contents are released or package shielding fails. Because of design, evaluation and testing of packages, these conditions would be expected only for accidents of utmost severity.
- The rarely occurring "Special Arrangement" shipments may be of Type A, Type B or Type C packages. Package type will be marked on packages, and shipment details will be on shipping papers.
- Radioactive White-I labels indicate radiation levels outside single, isolated, undamaged packages are very low (less than 0.005 mSv/h (0.5 mrem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mrem/h one meter from a single, isolated, undamaged package.
- Some radioactive materials cannot be detected by commonly available instruments.
- Water from cargo fire control may cause pollution.

Fire or Explosion

- Some of these materials may burn, but most do not ignite readily.
- Radioactivity does not change flammability or other properties of materials.
- Type B packages are designed and evaluated to withstand total engulfment in flames at temperatures of 800°C (1475°F) for a period of 30 minutes.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- Stay upwind, uphill and/or upstream.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

Protective Clothing

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

Evacuation

Immediate precautionary measure

- Isolate spill or leak area for at least 25 meters (75 feet) in all directions.

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE

Fire

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Do not move damaged packages; move undamaged packages out of fire zone.

Small Fire

- Dry chemical, CO₂, water spray or regular foam.

Large Fire

- Water spray, fog (flooding amounts).
- Dike runoff from fire control for later disposal.

Spill or Leak

- Do not touch damaged packages or spilled material.
- Damp surfaces on undamaged or slightly damaged packages are seldom an indication of packaging failure. Most packaging for liquid content have inner containers and/or inner absorbent materials.
- Cover liquid spill with sand, earth or other non-combustible absorbent material.

First Aid

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.