

International Sample Shipping with Arrayjet Advance™

1. Introduction

Arrayjet Advance™ is our custom array printing service, where customers can outsource their R&D and manufacturing project requirements to an experienced team of scientists equipped with the latest bio-printing technology. Using Advance™ services often involves shipping samples internationally. This document describes how our shipping processes guarantee the greatest care for your samples and ensure your products reach you in perfect condition, every time.

2. What is International Sample Shipping?

Advance™ has been operational since 2010 and we have considerable experience in executing international transportation of biological samples using diverse logistics companies. Samples normally arrive at the Advance™ facility, from all parts of the world, within a 1-3 days of collection. We will guide you on the best country-specific logistic options, the required documentation, and provide detailed instructions on labelling and sealing to keep your samples in prime condition.

We understand that sending samples overseas can seem daunting and done incorrectly it can carry potential risks, including:

- Delays due to improperly completed paperwork during customs clearance;
- Leaks or mixed up of samples due to incorrect sealing or labelling;
- Damaged shipments due to improper handling or packaging;
- Sample damage through insufficient temperature control and monitoring;
- Frustrations when dealing shipping agents who don't appreciate why your samples are precious.

To mitigate these risks for our global customers, Arrayjet Advance™ scientists provide end to end sample shipment support.

3. Advantages with Arrayjet

Our Advance™ experts will guide you through every step of the process to ensure smooth delivery of your samples from anywhere in the world.

We provide a helping hand by –

- Reviewing your forms line-by-line with the shipping carrier
- Offering guidance with labelling, packaging and sample sealing

- Advising on preparing commercial invoice, other documents and additional country-specific paper work
- Recommend shipping requirements for multiple different sample types.
- Advising on custom documents (wording and harmonised codes)

4. Shipment Methods and Carriers

Our Advance™ customers are located all over the world and we routinely manage their sample logistics successfully. Many customers, particularly our pharma and biotech customers, ship to us weekly for time dependent laboratory work.

Biological samples are routinely shipped by 3 methods:

- **Dry Ice shipment (sample storage < -20°C)** using a premium full-service carrier;
- **Refrigerated shipment (samples storage at 4°C)** using an international priority carrier;
- **Ambient shipment (optionally under vacuum of controlled humidity)** using an international priority carrier.

Our shipment support ensures your samples leave the destination securely, clear customs without delays, and arrive at our Advance™ laboratory in good condition.

The choice of a preferred carrier depends on the type of sample being shipped. If your samples need to be shipped frozen then we recommend using a premium full-service carrier which offers temperature monitoring, dry ice packaging and dry ice refills during transit. Our preferred partners are BioCair - <https://www.biocair.com/> and World Couriers - <http://www.worldcourier.com/> .

If your samples need refrigerated (4 °C) or room temperature shipment, then we recommend an international priority services with our trusted carriers FedEx and DHL. They offer package tracing with delivery within 2-3 days and allow for your parcel to be filled with cold packs if required [see Appendix for more information].

5. Shipment Procedures

Samples should be shipped at appropriate environmental conditions to maintain sample stability and integrity i.e. ambient, frozen or refrigerated. Arrayjet will provide documents detailing the process for shipment of samples in microfuge tubes, buffers as microplates containing samples. Arrayjet accepts samples in either of the following formats:

- Microcentrifuge tubes, Falcon tubes or similar sealable containers;
- Sealed microplates (384 or 96 wells).

6. Packaging and Labelling

When shipping microcentrifuge tubes or plastic vials please ensure:

- A secure lid;
- Clear, permanent labelling;
- Lids secured with Parafilm*;
- For light sensitive samples, tubes should be wrapped up in aluminium foil.

When shipping with dry ice, we recommend having two 2 layers of dry ice, one underneath and one covering the samples. *Parafilm is not required when shipping samples on dry ice as it disintegrates at low temperatures. Figure 1 provides a detailed representation of the steps to be followed when shipping with dry ice using FedEx.

- Place the sample tubes inside a primary sample container box and place box inside a leak-proof plastic bag containing an absorbent material (Fig.1.a).
- Place the sample bag inside a styrofoam box with fitted outer packaging of a fibreboard box. Ensure that the fibreboard box contains a visible dry ice label (Fig.1.b).
- Make sure you have plenty of dry ice. Fill the inner styrofoam box with 2-3kg of dry ice creating a base layer and then place your sample bag on top (Fig.1.c).
- Cover the bag by filling 3-5kg of dry ice as a top layer for your sample bag (Fig.1.d).
- Securely close the lid of the outer fibreboard box and seal the box with tape (Fig.1.e).
- Place all relevant documents pertaining to your destination (such as waybill, commercial invoice, destination control statement, declaration of biological shipment, exempt label for non-infectious specimen) inside a carrier pouch provided by FedEx. Secure the pouch on the top side of the fibreboard box and ensure the sender and recipient addresses are clearly mentioned on the box (Fig.1.f).

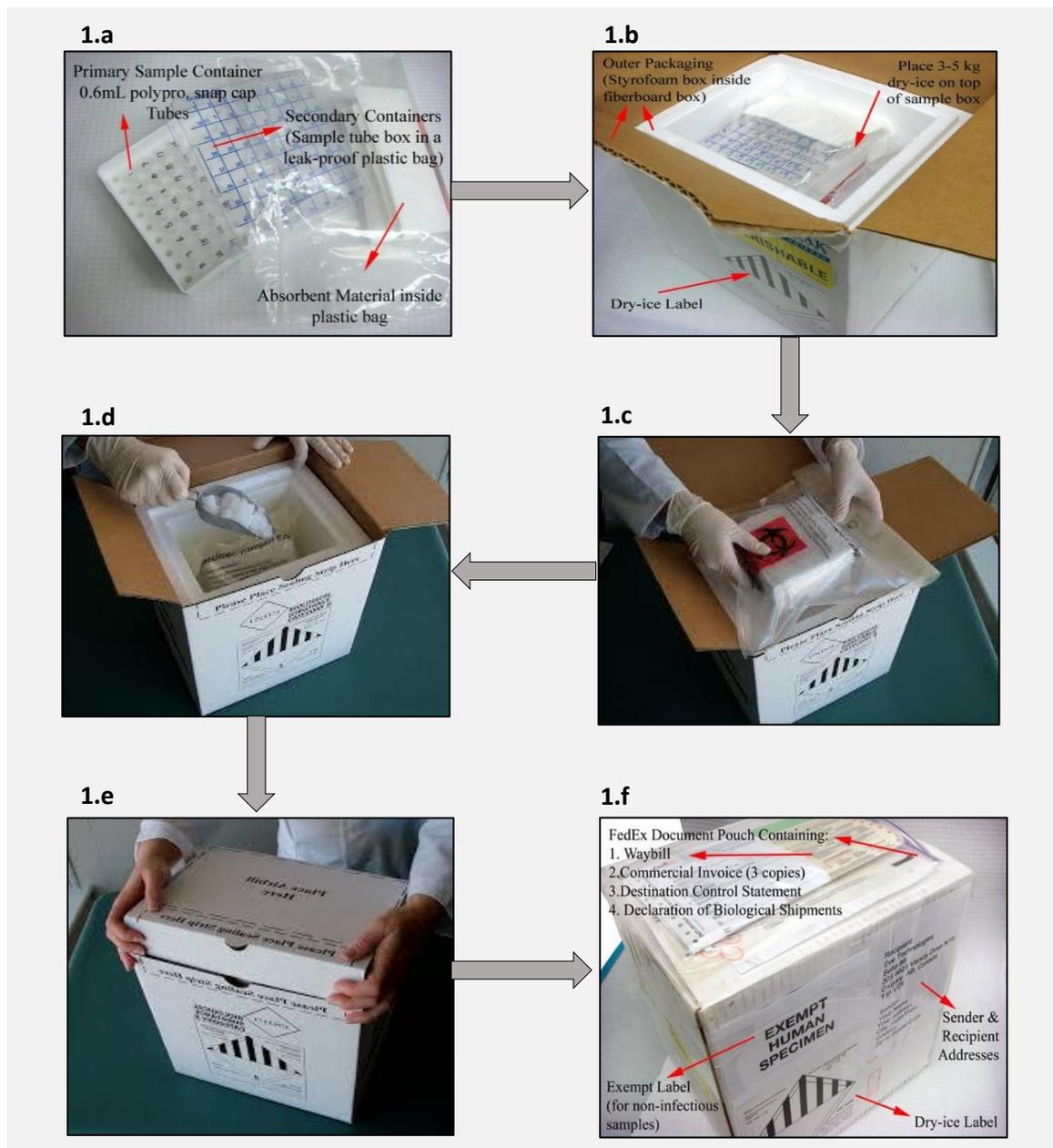


Figure 1: Step by step guide on shipping samples with dry ice using FedEx.

7. Arrival and Storage

Arrayjet will ensure that all samples are stored according to your requirements. The following storage conditions are available at Arrayjet's facility:

- Room temperature with humidity control
- Fridge 4 °C
- -20 °C Freezer
- -80 °C Freezer

Once the shipment is received, our Application Science team will be in touch with a receipt confirmation (visual proof available on request). They will also confirm that the samples have been stored at the required temperature.

8. Appendix

Premium Full-Service Carriers (E.g. Biocair and World Courier)

Arrayjet Advance™ team can easily organise a controlled export of your precious samples, from anywhere in the world to our HQ in Edinburgh UK, using premium full-service carriers offering several advantages such as:

- Comprehensive guidance with country specific shipping requirements
- In-transit temperature monitoring
- Refrigerated trucking services
- Expedited customs clearance
- Dry Ice and Top up
- Top-up of samples
- International priority
- Regulatory compliance
- Tracked and Traced



International Priority Services (E.g. DHL, DPD, FedEx, TNT)

There are other highly reliable services which are frequently used and recommended by our experts with several benefits such as:

- Room Temperature
- Cool Packs/ Gels
- International Priority
- Regulatory compliance
- Tracked and Traced

