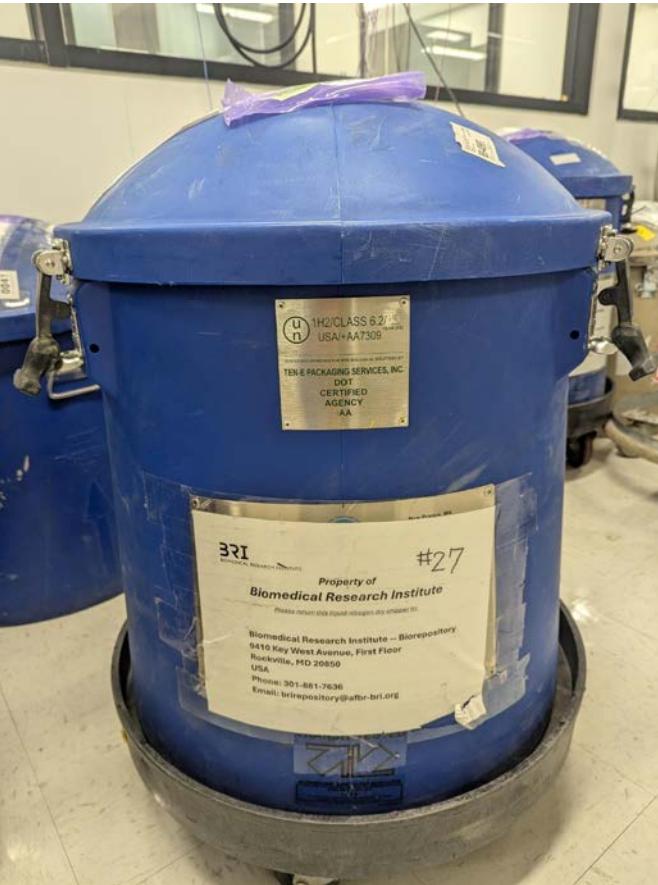


Biomedical Research Institute (BRI)

BRI LN₂ Shipper



This part of the presentation covers:

- How to request an LN₂ shipper from BRI
- Review the steps, documentation, and requirements to ship specimens to BRI
- How to charge and pack an LN₂ shipment to BRI

- Viable cryopreserved PBMCs that have been stored in LN₂ or transferred to LN₂ storage at a CRS/Laboratory. They must be sent to BRI in an LN₂ shipper. (This applies to all PBMCs greater than 5 weeks after collection)**
- Both Domestic (US) and International (Non-US) CRSs/Laboratories can request a LN₂ shipper from BRI**

LN₂ Shipper Request E-mails:

LN₂ shipper request e-mails need to be sent to BRI at least two weeks ahead of need for domestic sites (US) and as much advance notice as possible for international sites (Non-US).

The email should contain the following information:

❖ **Subject of Email:** Lab # __: BRI LN2 Shipper Request

(1) Requesting Lab Information:

Lab Name:

LDMS Lab Number:

(2) Requester Contact Information:

BRI will contact this person if there are any questions regarding the request

Name of Contact Person:

Contact Person E-mail:

Contact Person Phone:

To birepository@afbr-bri.org Bcc

Cc

Add a subject **Lab # __: BRI LN2 Shipper Request**

(3) What material is being shipped:

Protocol/Study:

Number of Sample Boxes:

2-inch standard sample boxes



(4) Complete shipping Address:

Contact/Attention to:

Shipping Address:

(include the institution's name, as well as floor or room number if applicable)

E-mail:

Phone:

All LN₂ shippers should be returned as soon as possible in order for BRI to maintain an adequate inventory.

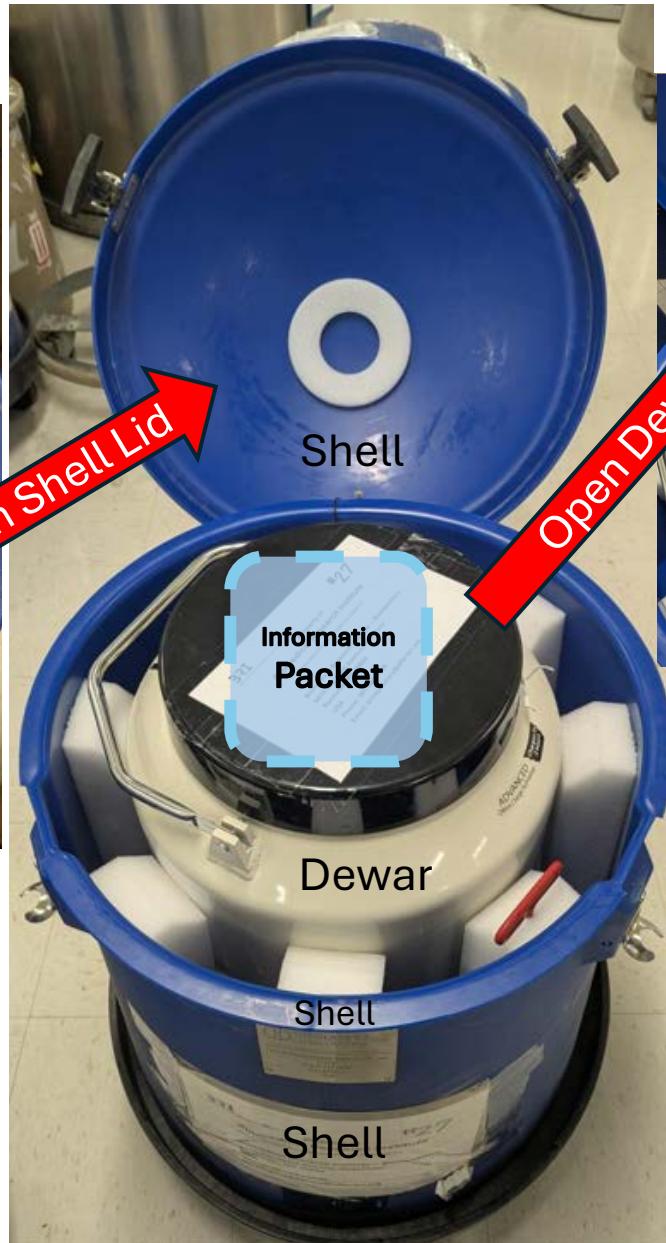
BRI LN₂ Shipper:

Empty shipper arrives at CRS/Laboratory

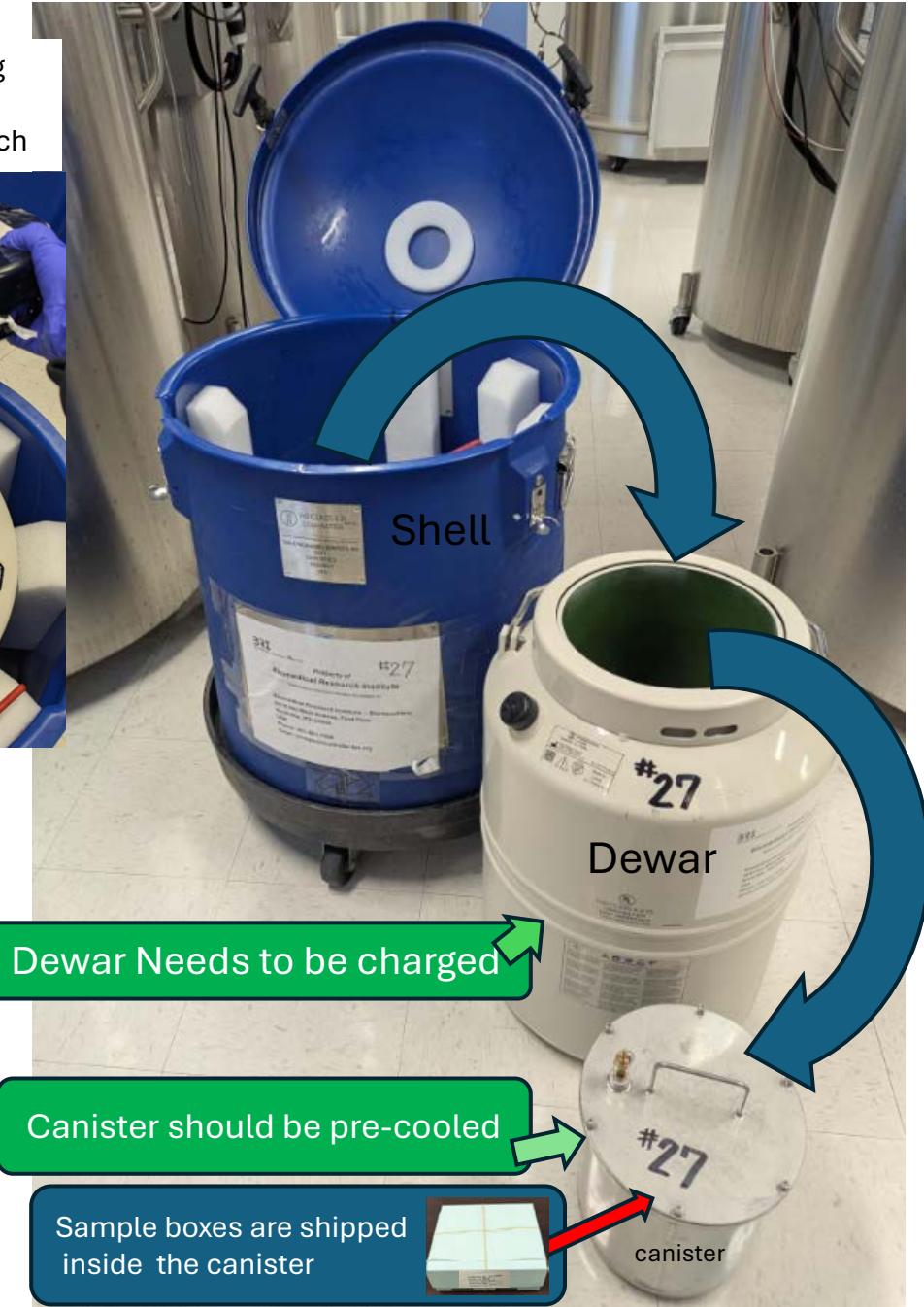
Labels upon arrival:



All labels will be replaced for the outgoing shipment to BRI



Be gentle when removing dewar lid so that the insulation does not detach



Steps to Ship Samples to BRI: International sites (Non-US)

(1) Email BRI: Permission to Ship Email

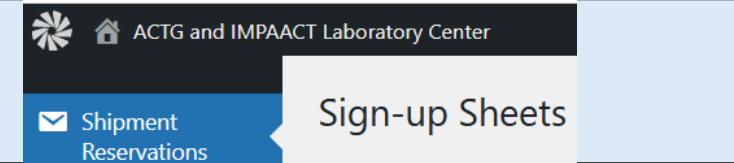
The *Permission to Ship Email* must include but not limited to the following information:

- **Timeframe or anticipated date of shipment:** (would like to ship the week of _____, Would like to ship in the next two weeks)
- **Shipment Type:** (Dry ice shipment, LN₂ shipper, Ambient shipment)
- **Protocols/Study:**
- **Specimen Type(s):** (examples: Serum, Plasma, Urine, PBMCs, Whole Blood, PAX gene Tubes, Hair, Swabs)

**Need to wait for response from BRI to proceed

(2) Use Reservation Tool: Reserve slots (ACTG shipment to BRI)

*Note: All shipping materials must be ready/LN₂ shippers must be on site before reserving slots



(3) Email BRI: Shipment Notification Email

The *Shipment Notification Email* must include following attachments:

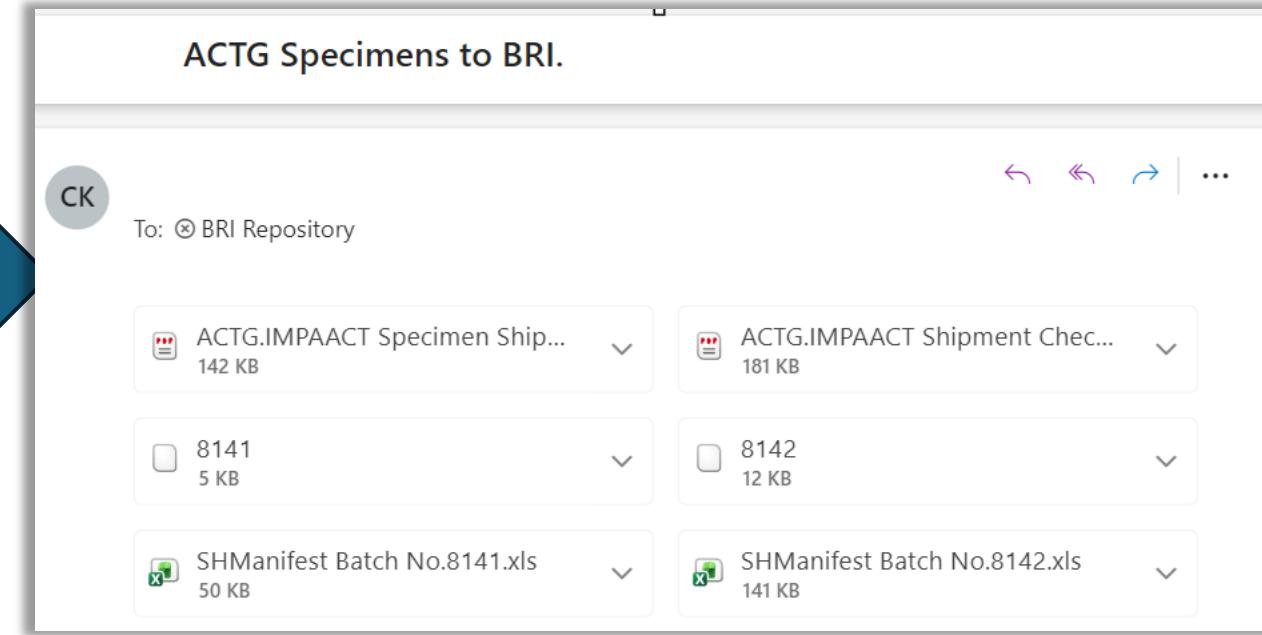
- **Shipment Notice Form**
- **International Checklist**
- **LDMS Batch file**
- **Manifest**

Note: Additional information is welcome on the e-mail

For example:
Tracking #,Protocols, Batch #,
how many boxes are in each batch, what specimens are being sent

Reminder: **Paper copies** of the following need to be included in the shipper

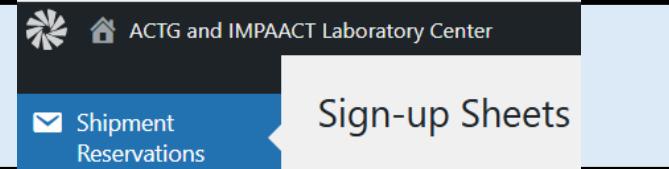
- **Shipment Notice Form**
- **International Checklist**
- **Manifest**
- **Box map(s)**



Steps to Ship Samples to BRI: Domestic sites (US):

(1) Use Reservation Tool: Reserve slots (ACTG shipment to BRI)

*Note: All shipping materials must be ready/LN₂ shippers must be on site before reserving slots



(2) Email BRI: Shipment Notification Email

The Shipment Notification Email must include following attachments:

- **Shipment Notice Form**
- **LDMS Batch file**
- **Manifest**

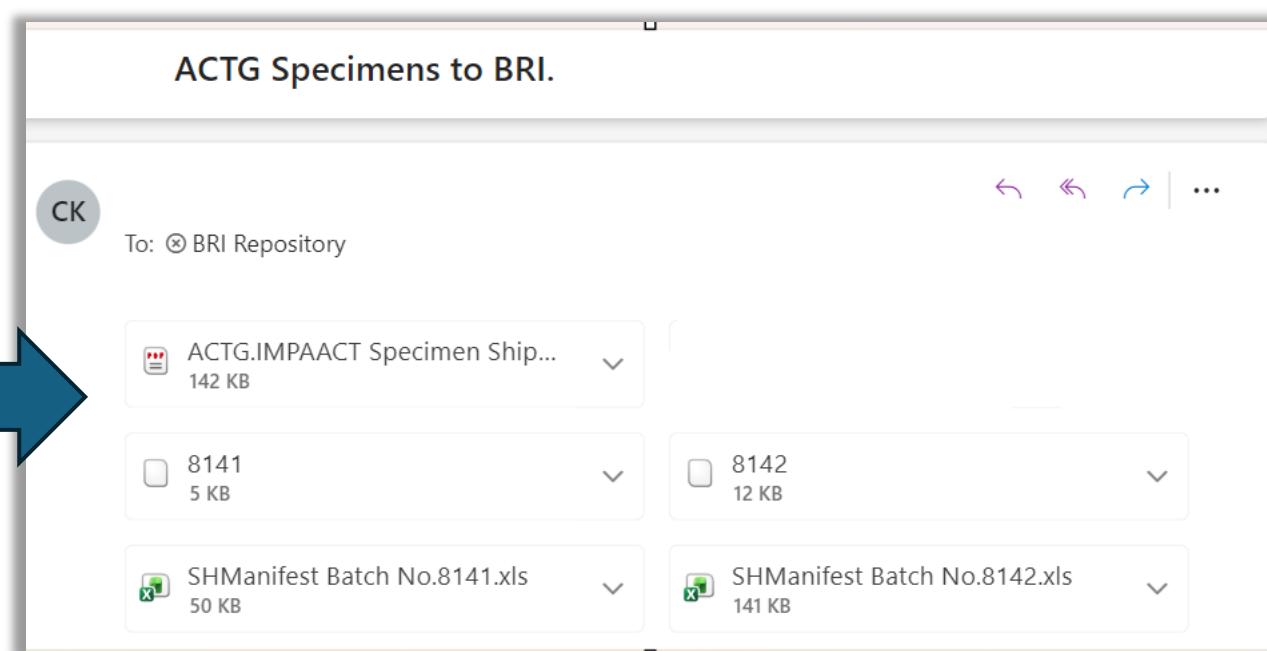


Note: Additional information is welcome on the e-mail
For example:

Tracking #,Protocols, Batch #,
how many boxes are in each batch, what specimens are
being sent

Reminder: **Paper copies** of the following need to be included in the shipper

- **Shipment Notice Form**
- **Manifest**
- **Box map(s)**



ACTG/IMPAACT SPECIMEN SHIPMENT NOTICE FORM

ACTG/IMPAACT SPECIMEN SHIPMENT NOTICE

INSTRUCTIONS: Email a copy of the completed Shipment Notice to the recipient/consignee on the day of or prior to shipping specimens. In addition, when shipping to the biorepository, all requirements outlined in ACTG- SOP144 (<https://member.mis.s-3.net/cms/fpage/6172/1290>) or the IMPAACT Manual of Operations (<https://www.impaactnetwork.org/resources/manual-procedures>) must be met.

NOTE: Prenotification of international shipments must be emailed and approved by the repository BEFORE the shipment is sent.

RECIPIENT INFORMATION:

Recipient's Name:	Alex Federline	Recipient's Email:	lbirepository@afbr-bri.org
Recipient's Phone:	(301) 881-7636	Recipient Lab number/Name:	999/BRI

SHIPMENT INFORMATION:

Shipper's lab or site #:	Lab # /CRS#	Courier Airbill #:	XXXXXXXXXX (updated)
Shipper's Network Affiliation:	<input checked="" type="checkbox"/> ACTG <input type="checkbox"/> IMPAACT <input type="checkbox"/> OTHER:	LDMS Manifest Report:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO*
Shipper's Name:	XXXX XXXX	Case Report Forms (CRF):	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Not Required
Shipper's Phone:	XX-XXXX-XXXX ext XXX	LDMS File Sent by Email:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO*
Date of Shipment (DDMMYYYY):	16Jan2026	LDMS Shipment (Batch) Number(s):	8141 8142
Courier Service (e.g., FedEx, World Courier, etc.):	World Courier /Biocair /FedEx Priority Overnight	**# of sample boxes in each batch	
*Other Relevant Information (e.g., Partial box explanation, PBMC shipment, or explanation for missing paperwork, etc.)		**# of sample boxes in each batch	
Description of shipping container(s) (color, size, manufacturer type) in case of loss by courier.		1X STP-320 shipper /or/ 1X World Courier Box (GDI 30) / or/ BRI LN2 shipper	

SPECIMEN INFORMATION:

Type of Shipment (Circle/Check the appropriate type):	<input checked="" type="checkbox"/> Category B (Diagnostics) <input type="checkbox"/> Category A (Infectious) <input type="checkbox"/> Exempt Specimen(s)		
Shipping Condition (Circle/Check the appropriate condition):	<input type="checkbox"/> Dry Ice <input checked="" type="checkbox"/> Dry Shipper (LN ₂) <input type="checkbox"/> Ambient <input type="checkbox"/> Refrigerated/Gel Packs		
Number of Primary Containers (e.g., blood tubes (ambient) or cryovials (frozen):	Total # samples /and or/ (40 SER, 5 DBS cards, 20 PAX, 50 PBMC)		
Specify Protocol # for batched shipments (e.g., Quest, Fisher, and BRI):	Protocol #1: A53XX	Protocol #5:	Protocol #9:
	Protocol #2: A54XX	Protocol #6:	Protocol #10:
	Protocol #3:	Protocol #7:	Protocol #11:
	Protocol #4:	Protocol #8:	Protocol #12:

Copy of the Shipment Notice Form can be found:



ABOUT COORDINATION AREAS RESOURCES NEWS & EVENTS

ACTG/IMPAACT Laboratory Resources

Most recent version:

ACTG/IMPAACT Specimen Shipment Notice
Nov. 01, 2023

★ *Other Relevant Information* field

★ **New** - Moving forward need to include the number of sample boxes in a batch

Please complete ALL sections (DO not leave a field blank)

Section 1 Recipient Information

Section 2 Shipment Information

Section 3 Specimen Information

Remember to Review and Update the Form for each shipment

RECIPIENT INFORMATION:

Recipient's Name:	Alex Federline	Recipient's Email:	brirepository@afbr-bri.org
Recipient's Phone:	(301) 881-7636	Recipient Lab number/Name:	999/BRI

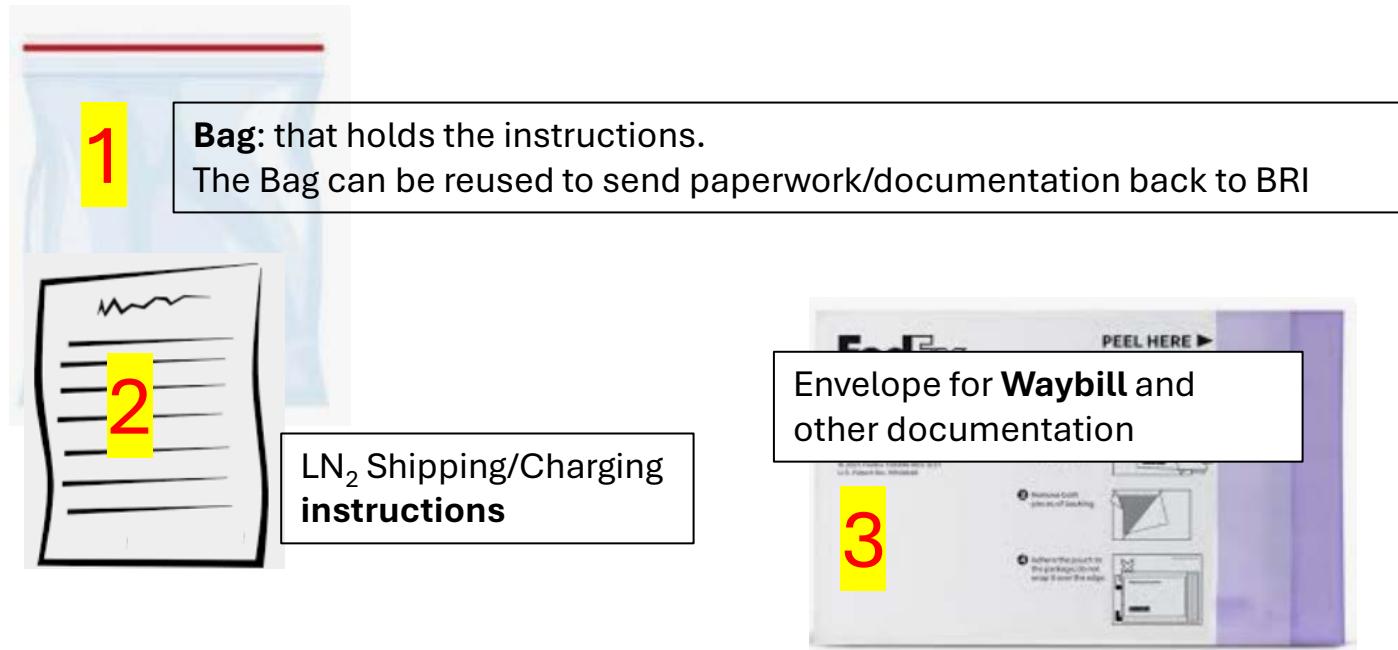
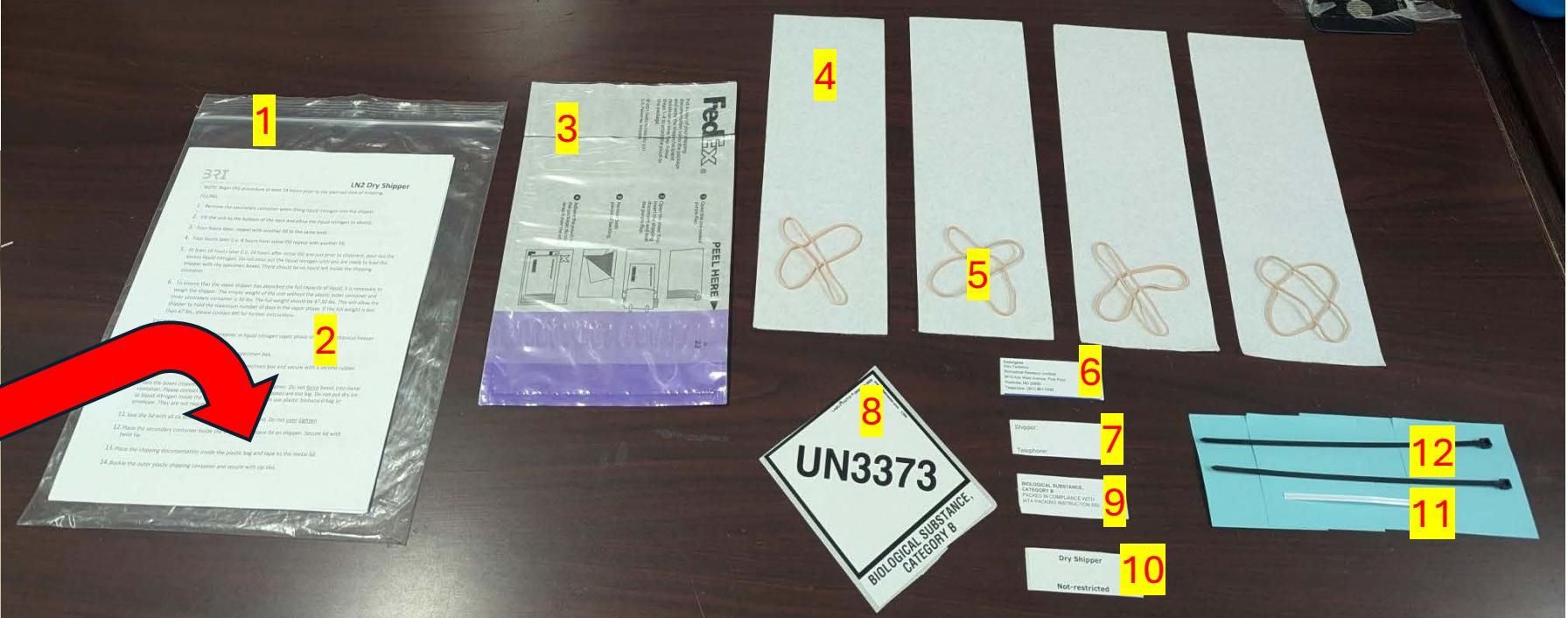
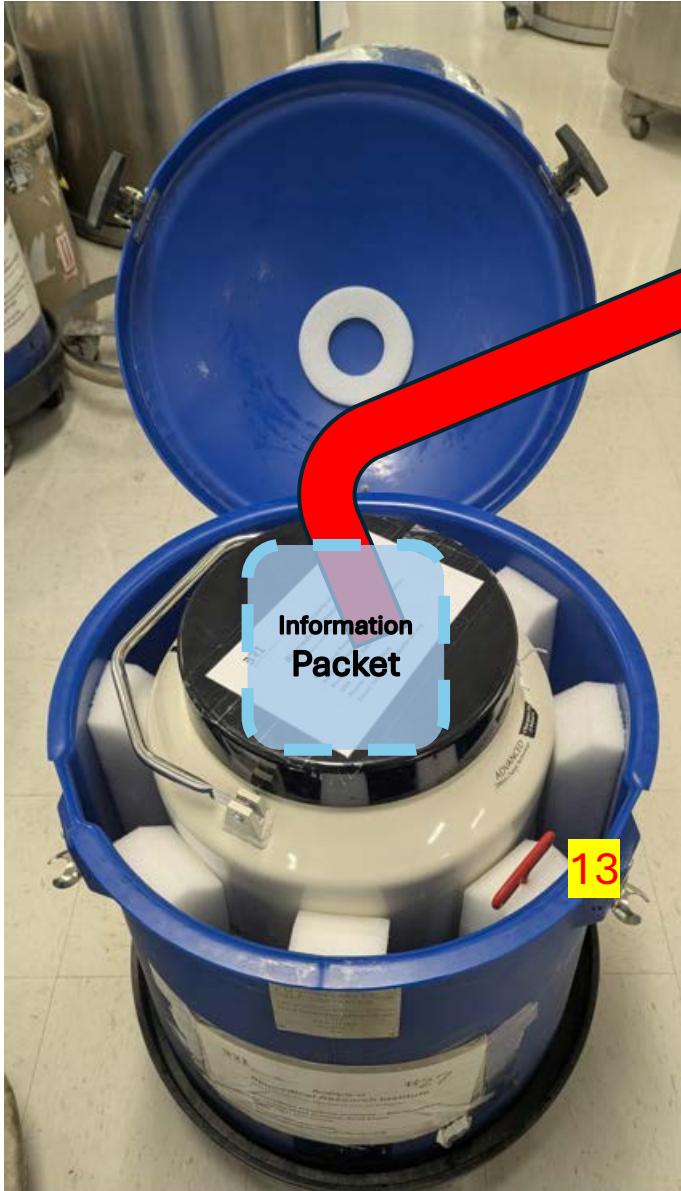
SHIPMENT INFORMATION:

Shipper's lab or site #:	Lab # /CRS#	Courier Airbill #:	XXXXXXXXX (updated)
Shipper's Network Affiliation:	<input type="checkbox"/> ACTG <input type="checkbox"/> IMPAACT <input type="checkbox"/> OTHER:	LDMS Manifest Report:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO*
Shipper's Name:	XXXX XXXX	Case Report Forms (CRF):	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Not Required
Shipper's Phone:	XX-XXXX-XXXX ext XXX	LDMS File Sent by Email:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO*
Date of Shipment (DDMmmYYYY):	16Jan2026	LDMS Shipment (Batch) Number(s)	8141
Courier Service (e.g., FedEx, World Courier, etc.):	World Courier /Biocair /FedEx Priority Overnight		8142
*Other Relevant Information (e.g., Partial box explanation, PBMC shipment, or explanation for missing paperwork, etc.)		**# of sample boxes in each batch	
Description of shipping container(s) (color, size, manufacturer type) in case of loss by courier.		1X STP-320 shipper /or/ 1X World Courier Box (GDI 30) / or/ BRI LN2 shipper	

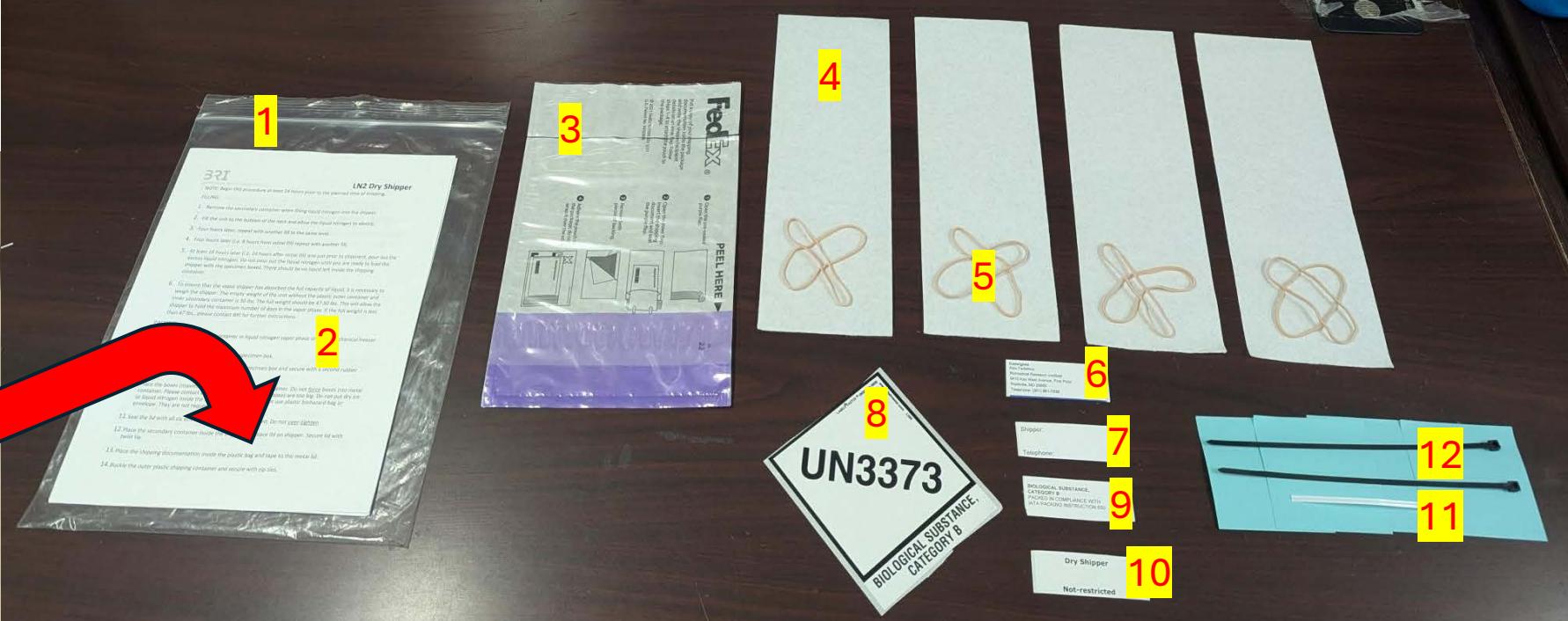
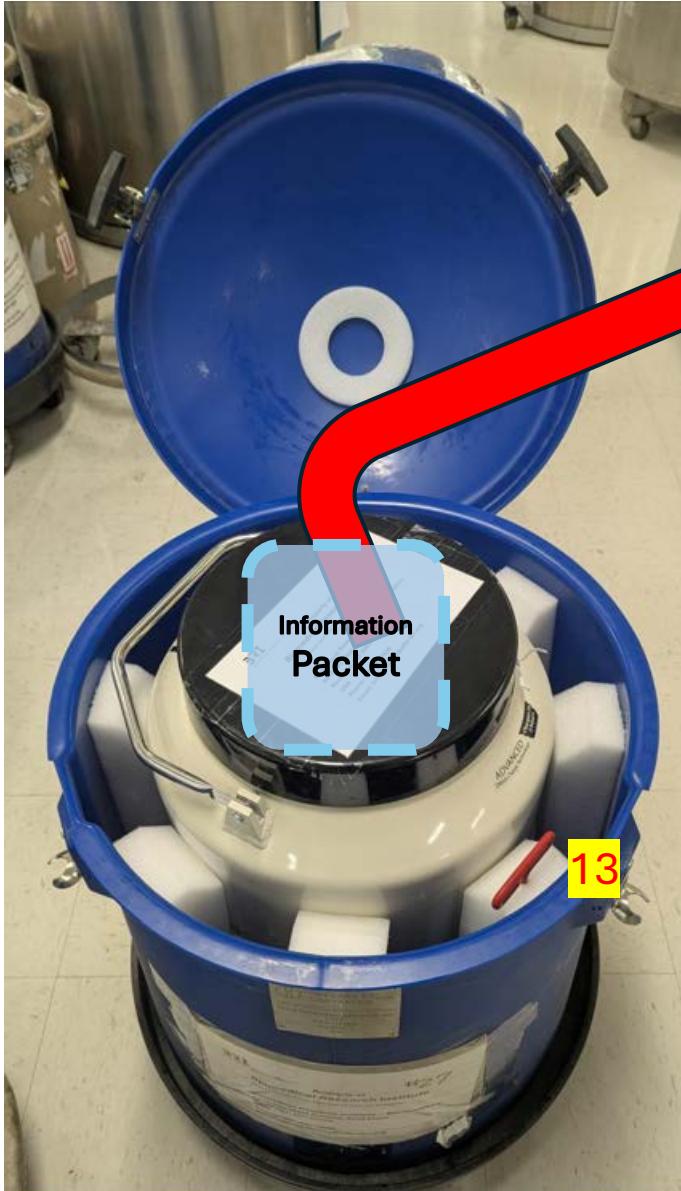
SPECIMEN INFORMATION:

Type of Shipment (Circle/Check the appropriate type):	<input type="checkbox"/> Category B (Diagnostics) <input type="checkbox"/> Category A (Infectious) <input type="checkbox"/> Exempt Specimen(s)					
Shipping Condition (Circle/Check the appropriate condition):	<input type="checkbox"/> Dry Ice <input checked="" type="checkbox"/> Dry Shipper (LN ₂) <input type="checkbox"/> Ambient <input type="checkbox"/> Refrigerated/Gel Packs					
Number of Primary Containers (e.g., blood tubes (ambient) or cryovials (frozen):	Total # samples /and or/ (40 SER, 5 DBS cards, 20 PAX, 50 PBMC)					
Specify Protocol # for batched shipments (e.g., Quest, Fisher, and BRI):	Protocol #1:	A53XX	Protocol #5:		Protocol #9:	
	Protocol #2:	A54XX	Protocol #6:		Protocol #10:	
	Protocol #3:		Protocol #7:		Protocol #11:	
	Protocol #4:		Protocol #8:		Protocol #12:	

Information Packet Sent in Empty LN₂ Shipper



Information Packet Sent in Empty LN₂ Shipper



- ❖ 4 sample boxes can be shipped in one LN2 shipper
- ❖ supplies to ship 4 sample boxes provided in the information packet



4 Absorbent: 1 sheet per sample box

5 Rubber bands: 2 bands per sample box

PBMC Sample Box Requirements:



Reminders:

- PBMC specimens must **not** be stored and shipped to BRI in the same box with other specimen types such as serum or plasma
- PBMC specimens from multiple ACTG protocols can be sent in the same box unless otherwise stated in the protocol specific LPC



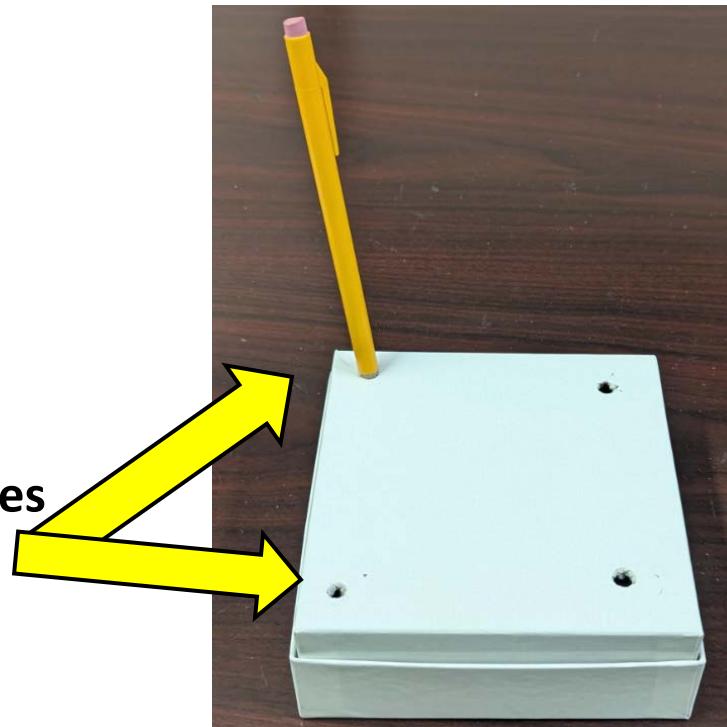
No Plastic Boxes

- **Boxes with vent holes must be used to ship PBMC samples to BRI**



- **If CRSs/laboratories do not have boxes with pre-made vent holes**

A hole can be punctured in the bottom of the box in each of the 4 corners

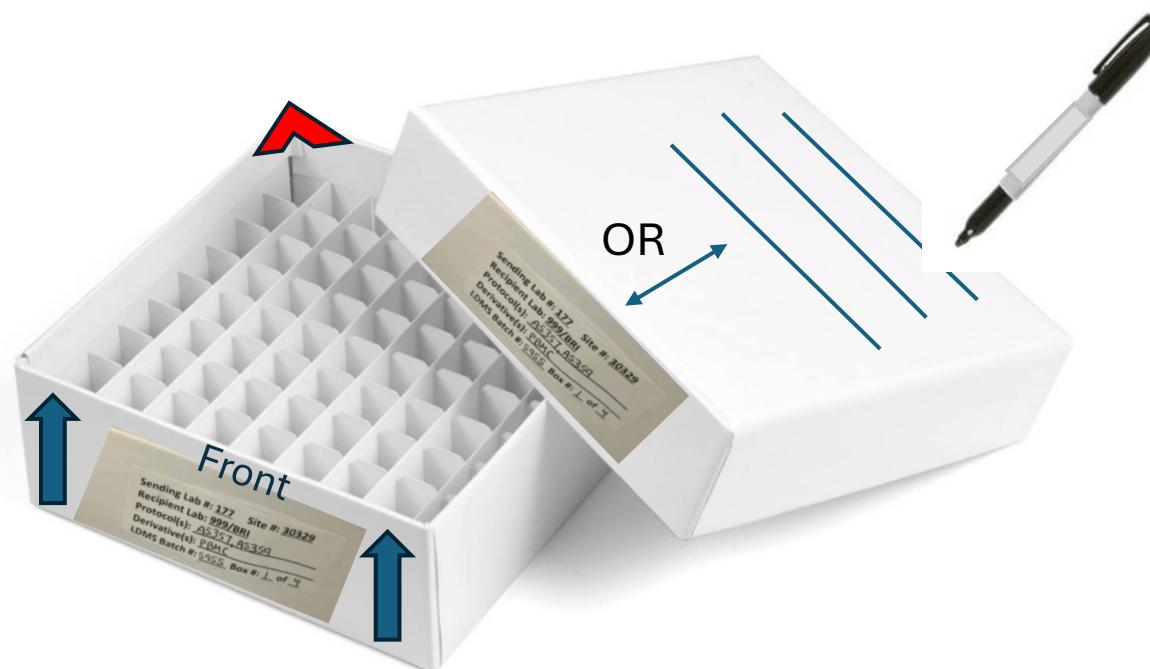
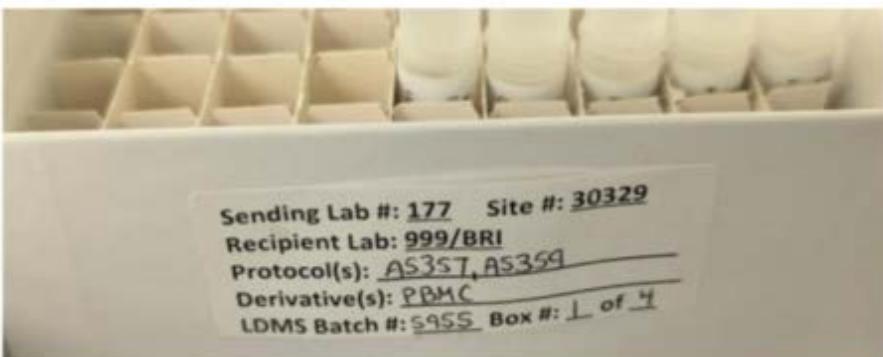


Sample Box Labeling Requirements:

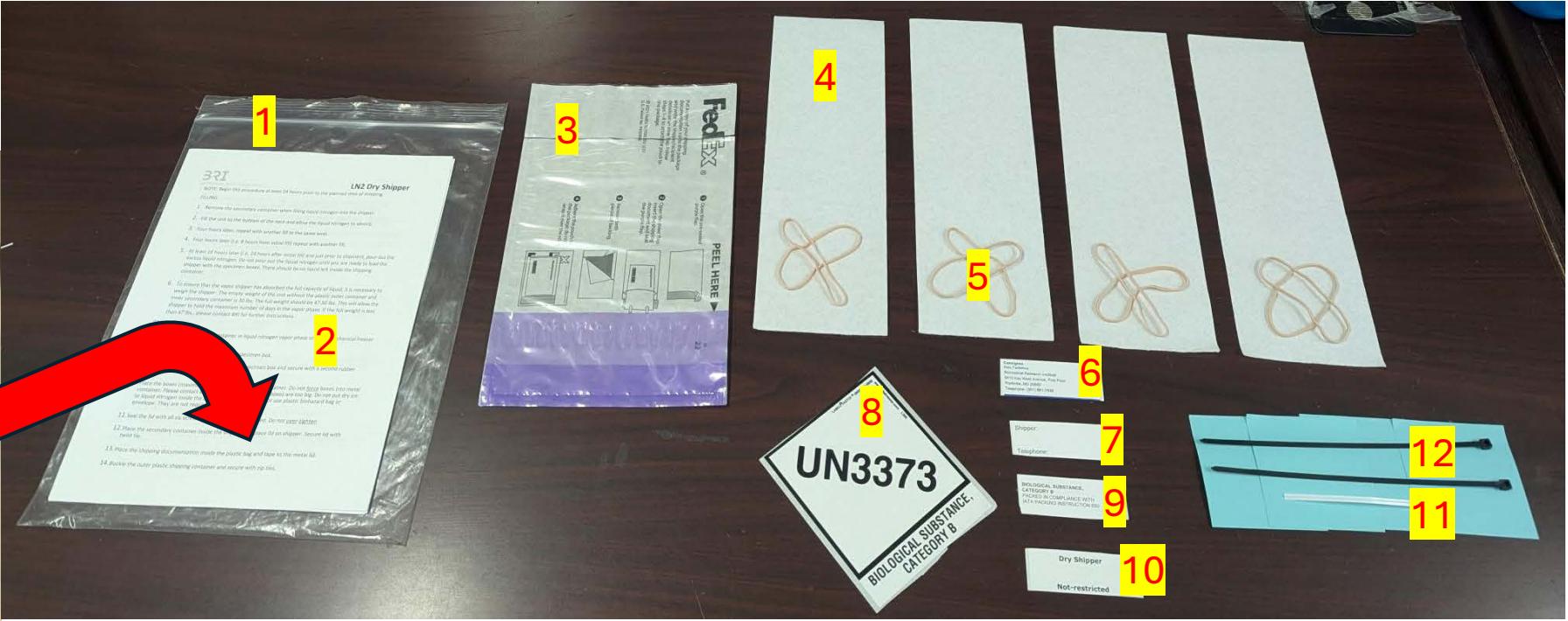
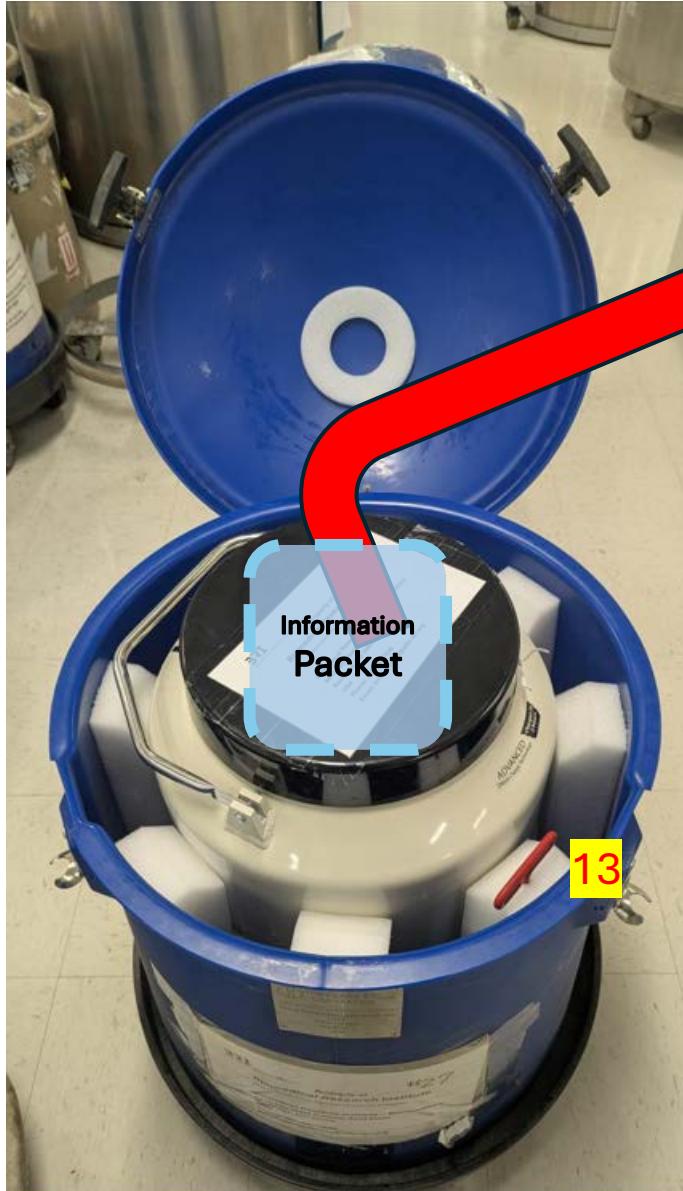
Sample boxes must be labeled with the following information on the **top** and **bottom** of the box:

- Sending lab Name and LDMS number
- Receiving lab (To: BRI/ Lab 999)
- LDMS Batch file #
- Box number when more than one box is in a batch
- Include a **mark** at A1 or (1,1) for box orientation

Example of PBMC sample box label:



Information Packet Sent in Empty LN₂ Shipper



Labels for outgoing shipment to BRI

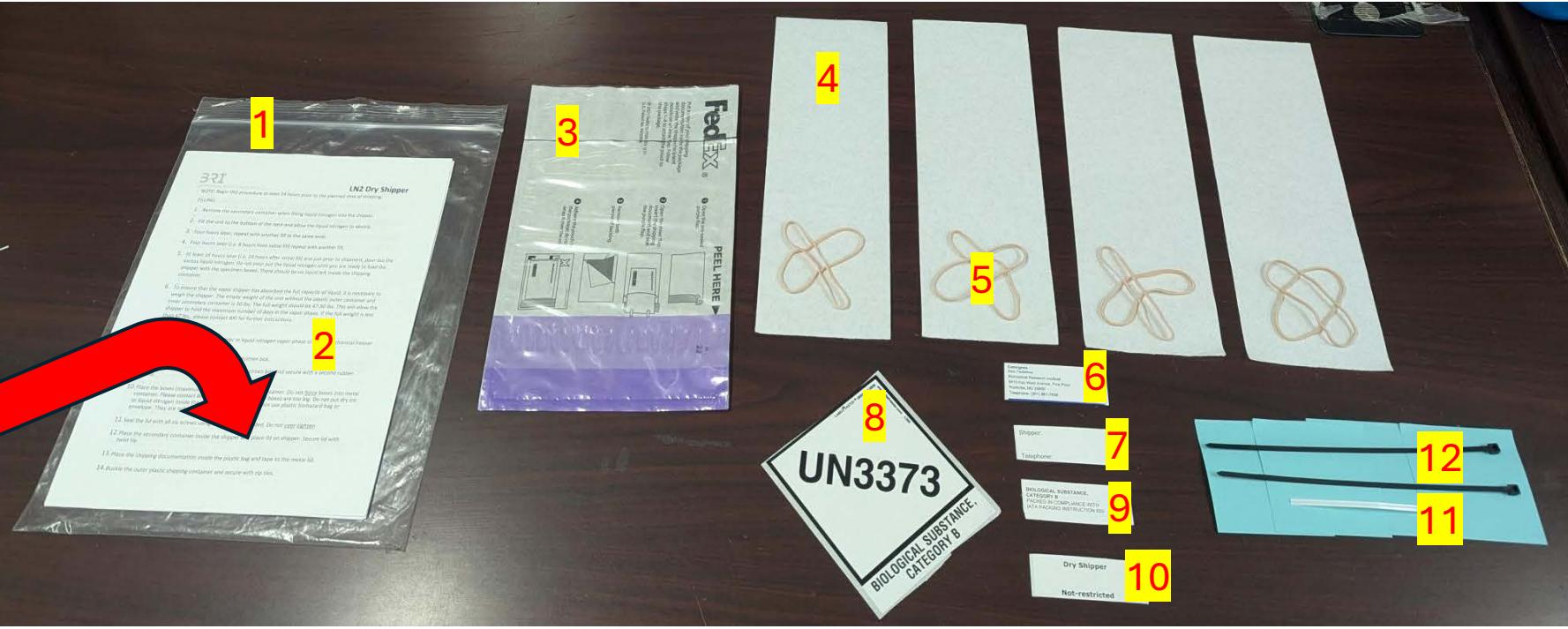
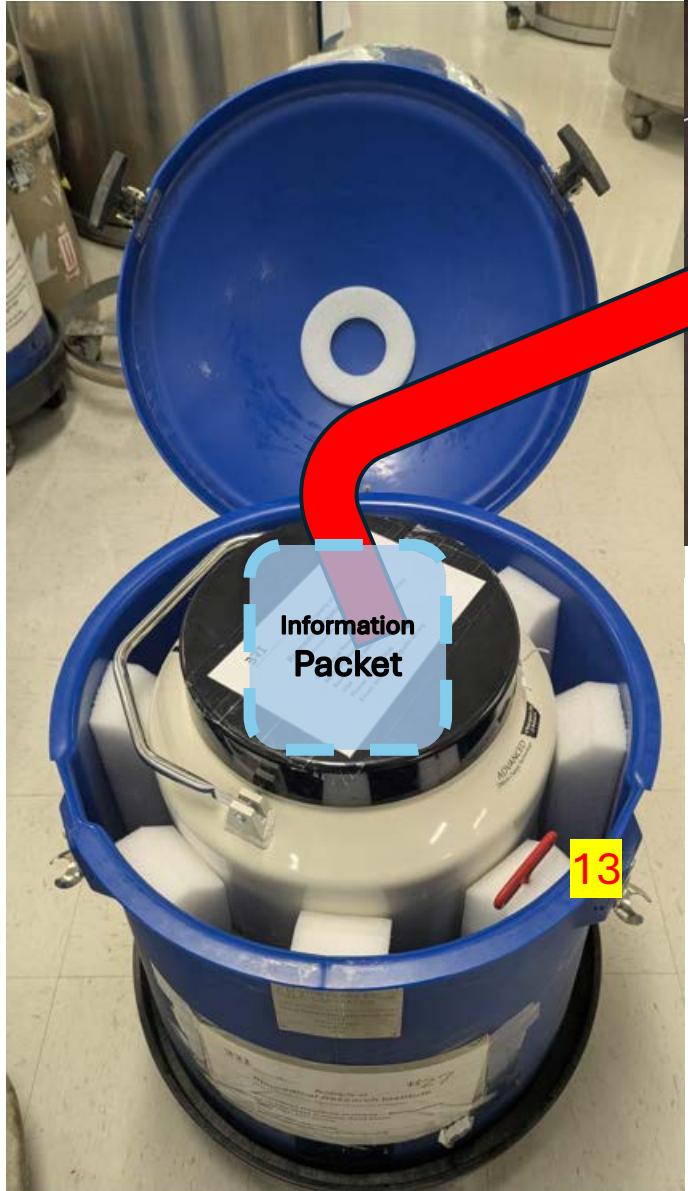


LN₂ Shipper labels: To (Consignee) and From (Shipper)

Consignee
Alex Federline
Biomedical Research Institute
9410 Key West Avenue, First Floor
Rockville, MD 20850
Telephone- (301) 881-7636

Shipper:
Telephone:

Information Packet Sent in Empty LN₂ Shipper



Labels for outgoing shipment to BRI



LN₂ Shipper labels: What is being shipped



9

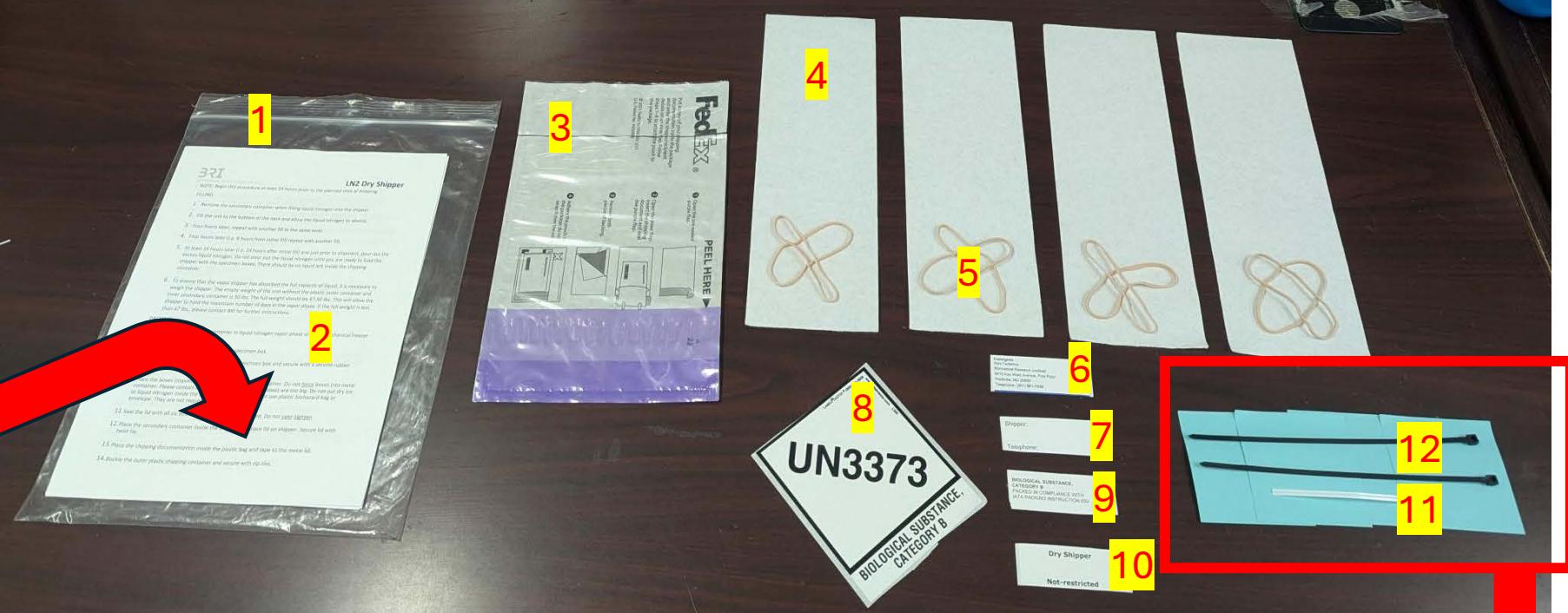
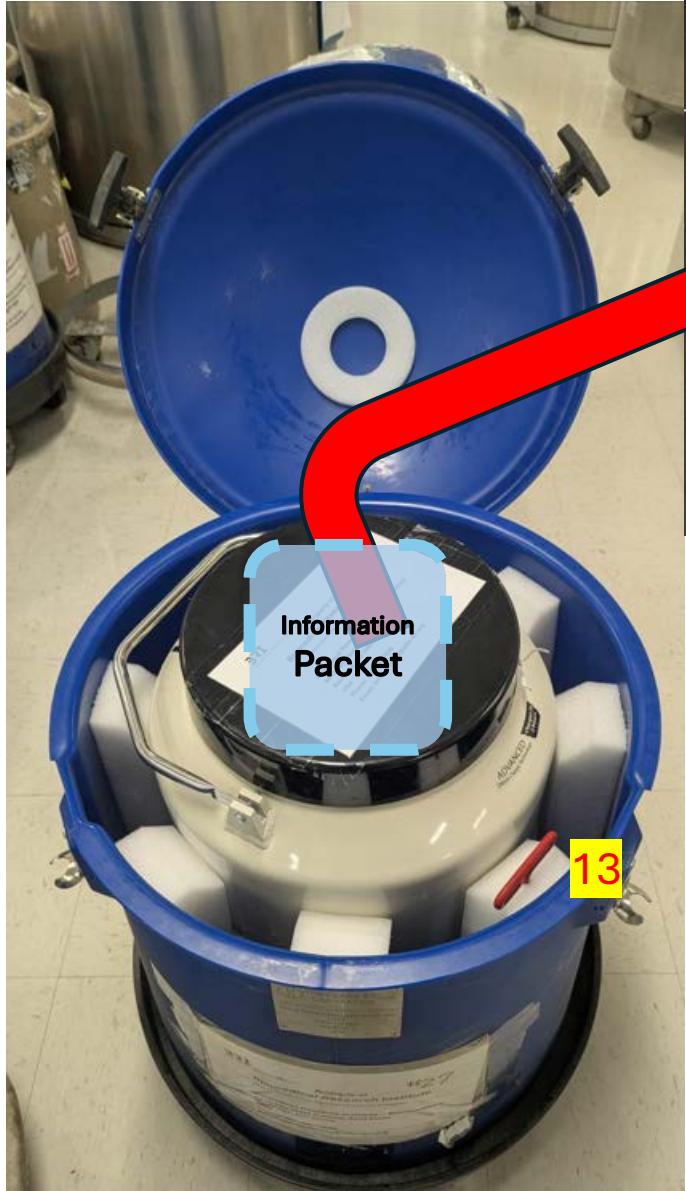
BIOLOGICAL SUBSTANCE,
CATEGORY B
PACKED IN COMPLIANCE WITH
IATA PACKING INSTRUCTION 650

10

Dry Shipper

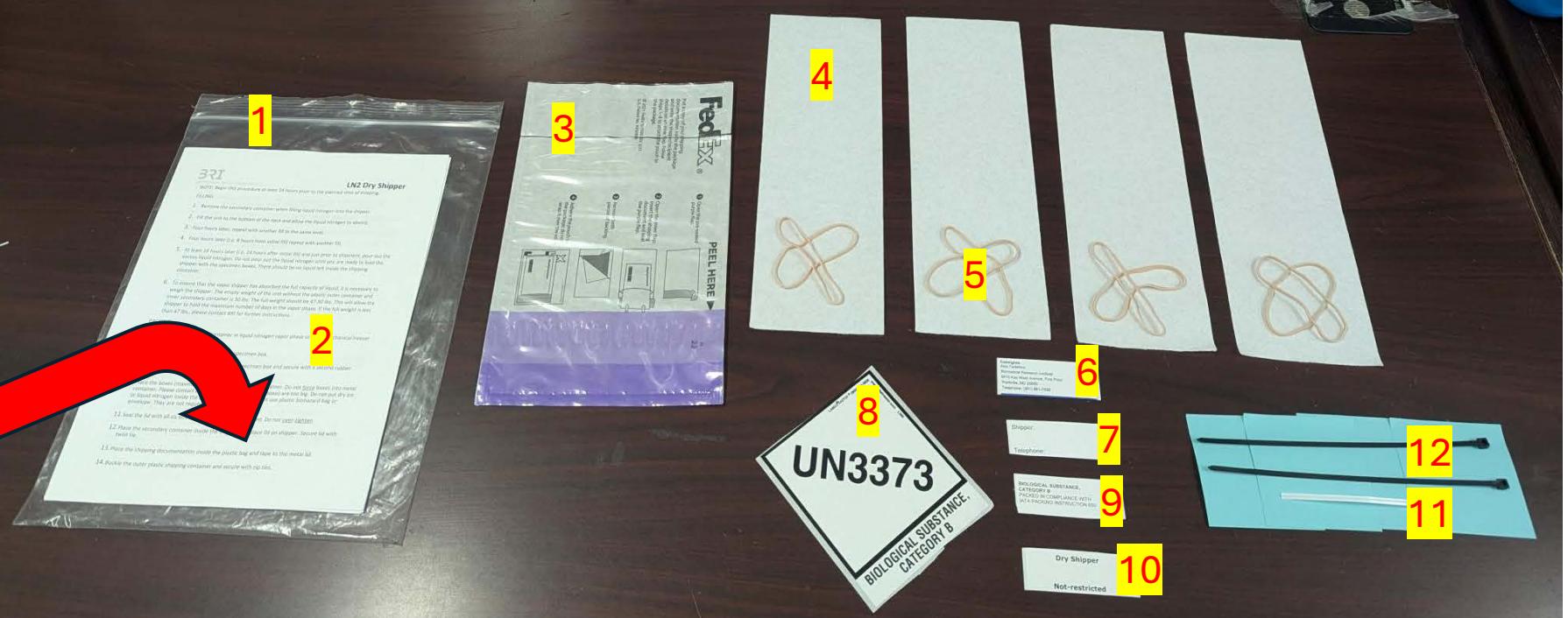
Not-restricted

Information Packet Sent in Empty LN₂ Shipper



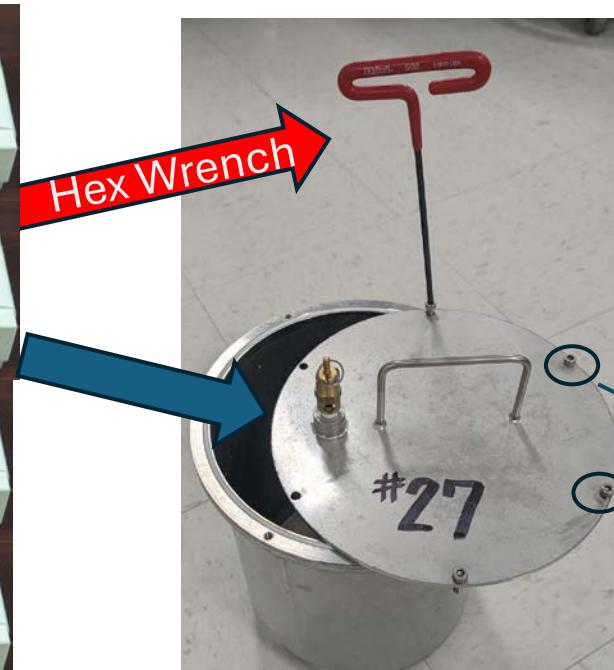
Tool sent in Empty LN₂ Shipper

➤ Hex wrench



Hex Wrench: Used to loosen screws(open canister lid) and tighten screws (close canister lid)

Sample boxes are shipped inside the canister



screws
6 total screws

Reminders:

LN₂ Dewer Charging Instructions:

- Preparing and packing an LN₂ Shipper is a **2 Day** process
- Charging of the dewar needs to begin at least 24hrs prior to shipment pick-up by the courier

Day 1:



Initial Fill

- Fill Dewar with Liquid Nitrogen
- Fill up to color change line (Silver to Green)
- Allow Liquid Nitrogen to be absorbed into the walls of the dewar



4hr after initial fill

- Add more Liquid Nitrogen into the dewar (level will have decreased from initial fill)
- Fill up to color change line (Silver to Green)
- Allow Liquid Nitrogen to be absorbed into the walls of the dewar

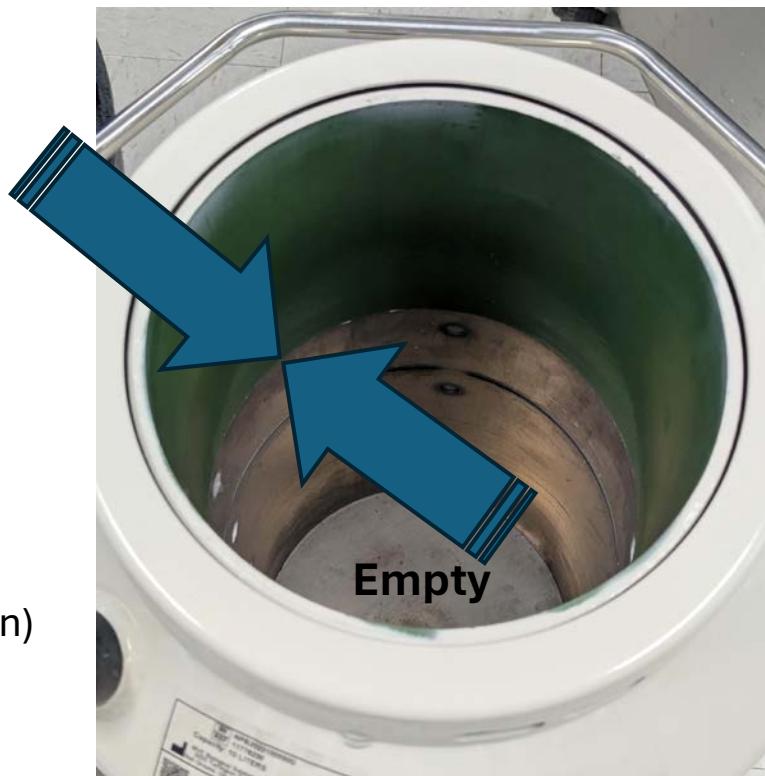


4 hours later (8hr after initial fill)

- Add/Top off the Liquid Nitrogen in the dewar (IF NEEDED)
- Liquid Nitrogen should be visible at the color change line (Silver to Green)
- Allow Liquid Nitrogen to be absorbed into the walls **OVER NIGHT**

(Next step at least 24hrs after initial fill)

Canister should be pre-cooled preferably in LN₂ freezer if not available than in (-80 °C) freezer



LN₂ Dewer Charging Instructions:

Day 2:



At least 24 hours after initial fill

**Do not perform step until ready to pack the shipment



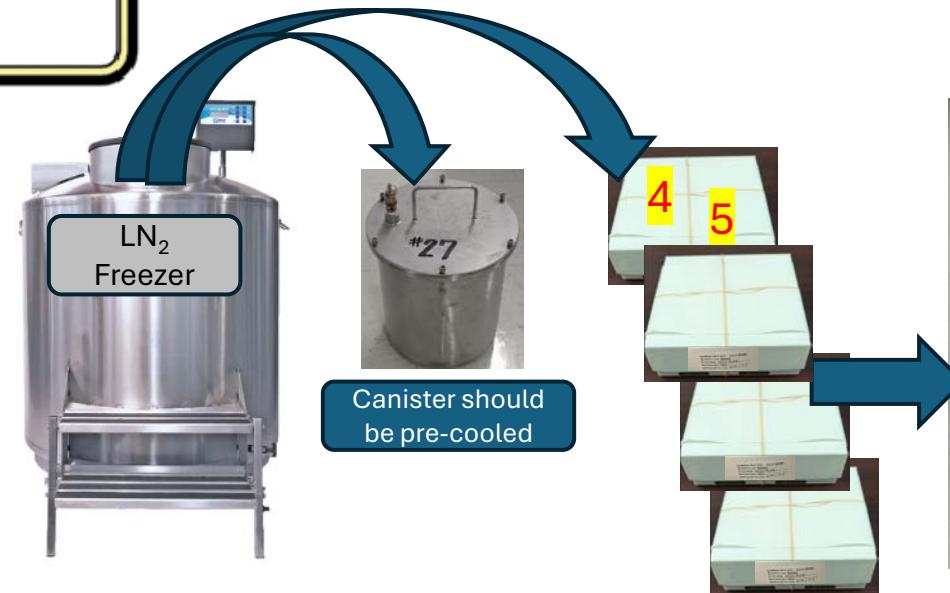
Pour out Liquid Nitrogen (hold dewar tilted/upside down for at least 30 sec) To remove excess liquid Nitrogen hold dewar tilted/upside again for 30 sec.

Weigh the dewar. A charged shipper should be **greater or equal to 47 lbs or 21.3kg**. (An empty dewar weights 30 lbs or 13.6kg)

A properly charged LN₂ will hold temperature for 14 days



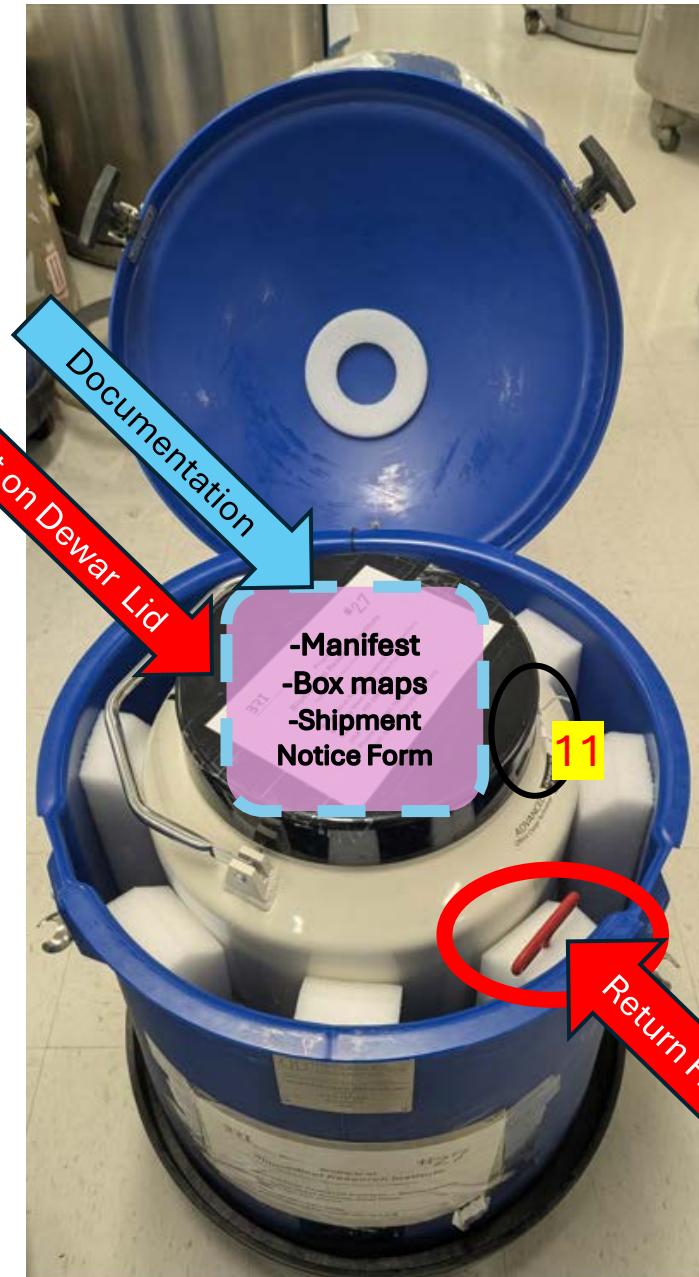
Prepare and pack sample boxes



Shipment Packing

Time

Pack the shipper



Paperwork/Documentation

Labels for outgoing shipment to BRI

