

# Biomedical Research Institute (BRI)

## BRI LN<sub>2</sub> Shipper



### This part of the presentation covers:

- How to request an LN<sub>2</sub> shipper from BRI
- Review the steps, documentation, and requirements to ship specimens to BRI
- How to charge and pack an LN<sub>2</sub> shipment to BRI

☐ **Viable cryopreserved PBMCs that have been stored in LN<sub>2</sub> or transferred to LN<sub>2</sub> storage at a CRS/Laboratory. They must be sent to BRI in an LN<sub>2</sub> shipper. (This applies to all PBMCs greater than 5 weeks after collection)**

☐ **Both Domestic (US) and International (Non-US) CRSs/Laboratories can request a LN<sub>2</sub> shipper from BRI**

# LN<sub>2</sub> Shipper Request E-mails:

LN<sub>2</sub> 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	<b>brirepository@afbr-bri.org</b>	Bcc
Cc		
Add a subject	<b>Lab # __: BRI LN2 Shipper Request</b>	

(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:**

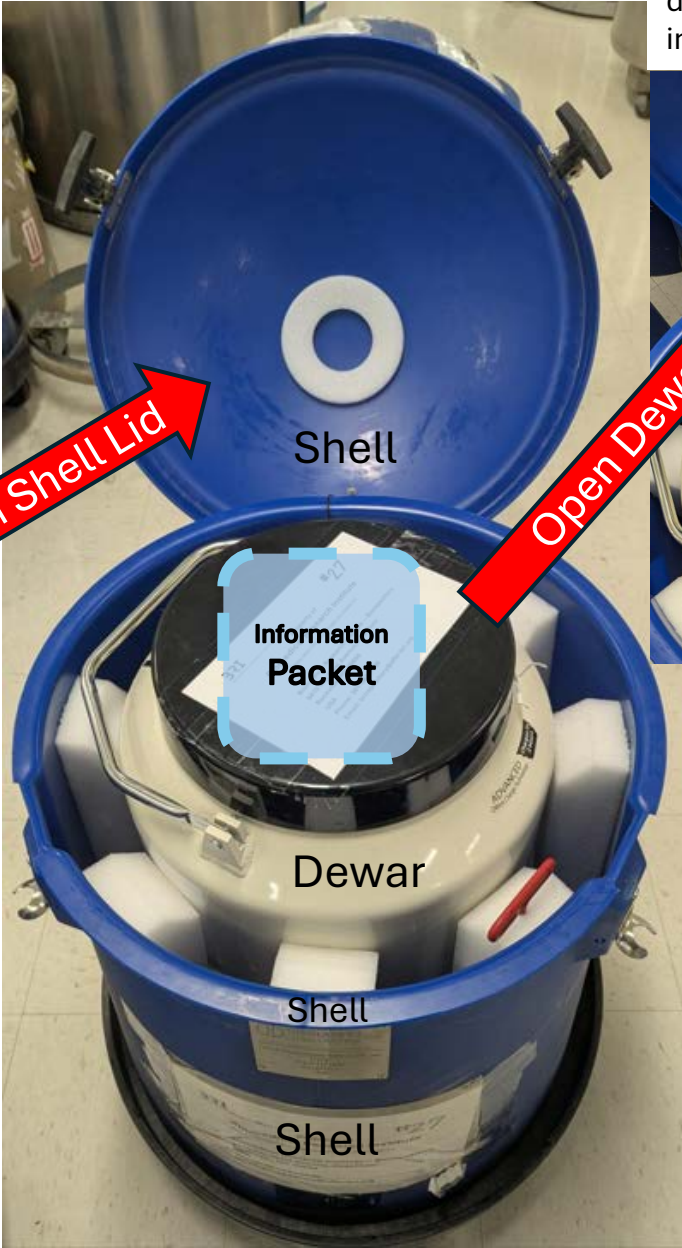
**All LN<sub>2</sub> shippers should be returned as soon as possible in order for BRI to maintain an adequate inventory.**

**BRI LN<sub>2</sub> Shipper:**  
**Empty shipper arrives at CRS/Laboratory**

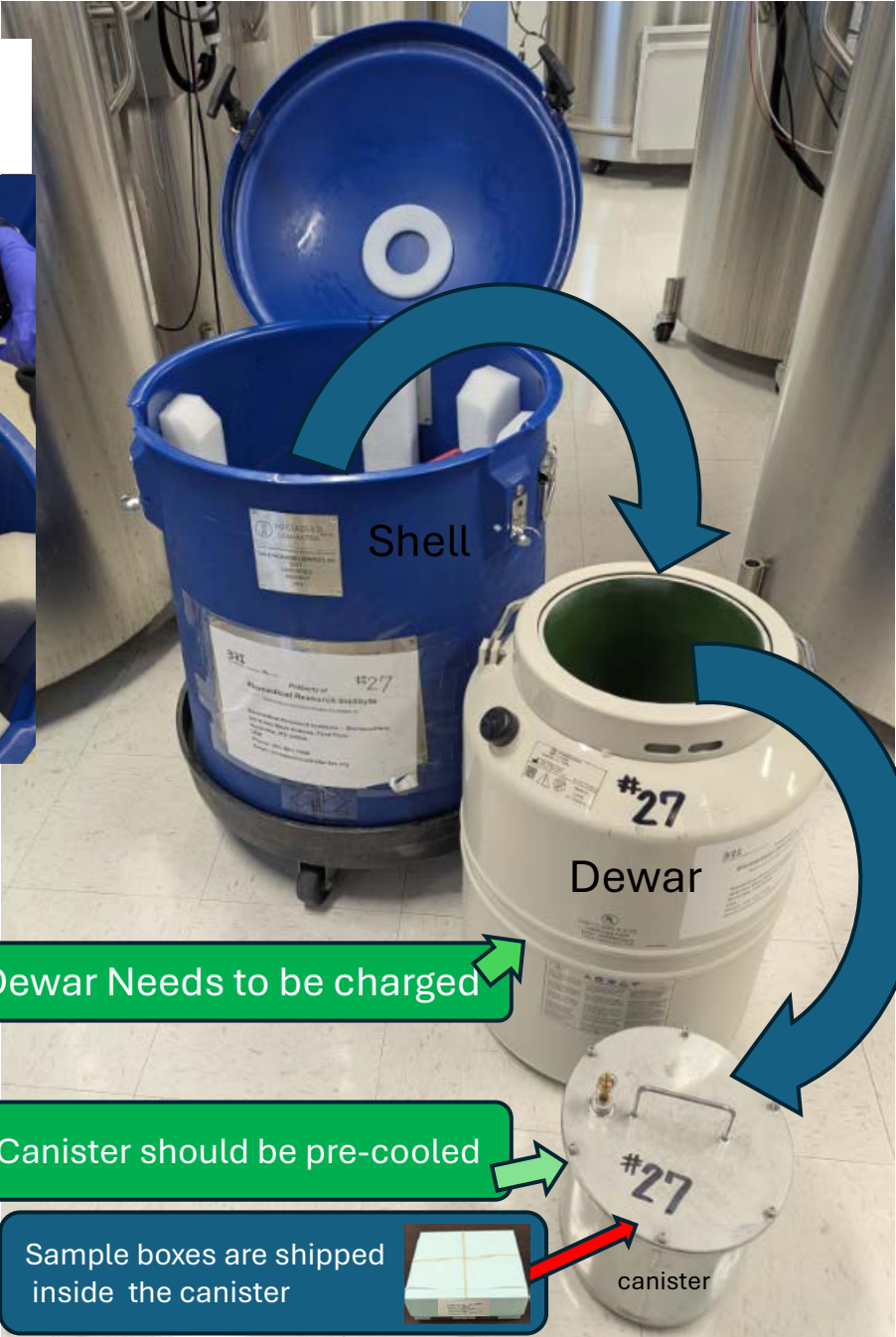
Labels upon arrival:



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

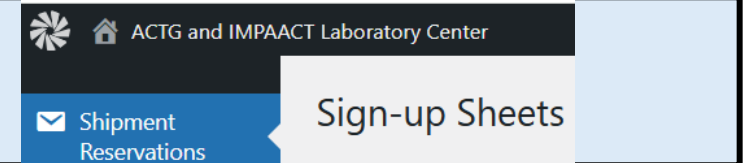
The *Permission to Ship Email* must include but not limited to the following information:

- **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, LN<sub>2</sub> 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/LN<sub>2</sub> shippers must be on site before reserving slots



## (3) Email BRI: Shipment Notification Email

The *Shipment Notification Email* must include following attachments:

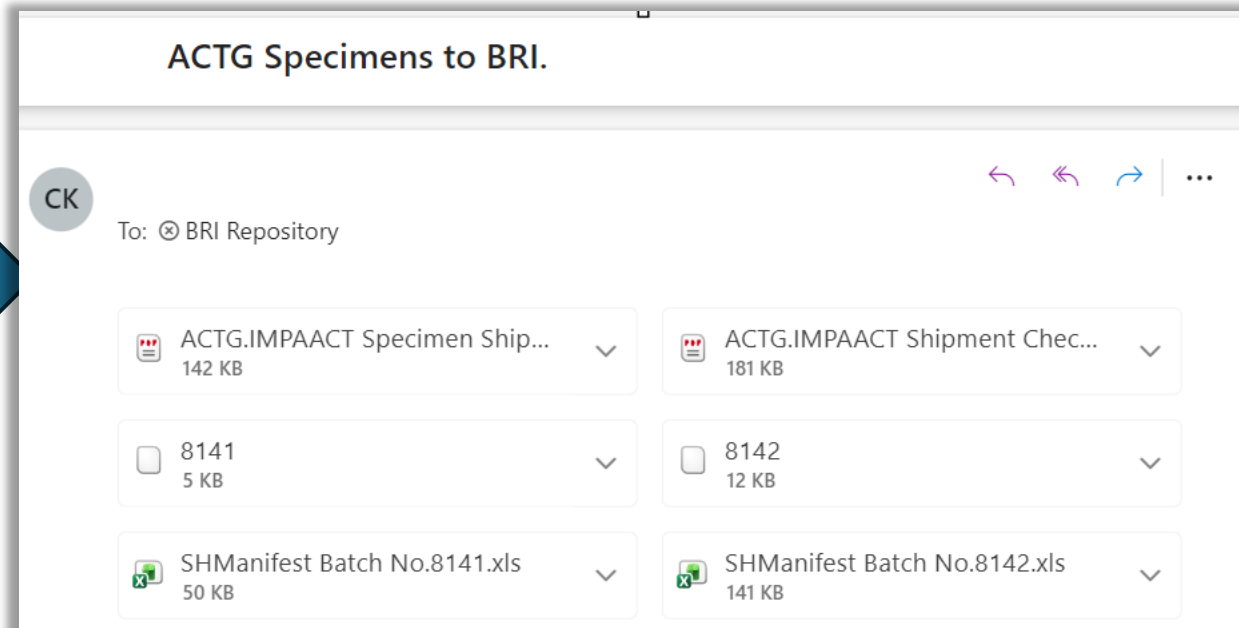
- **Shipment Notice Form**
- **International Checklist**
- **LDMS Batch file**
- **Manifest**

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/LN<sub>2</sub> shippers must be on site before reserving slots



ACTG and IMPAACT Laboratory Center



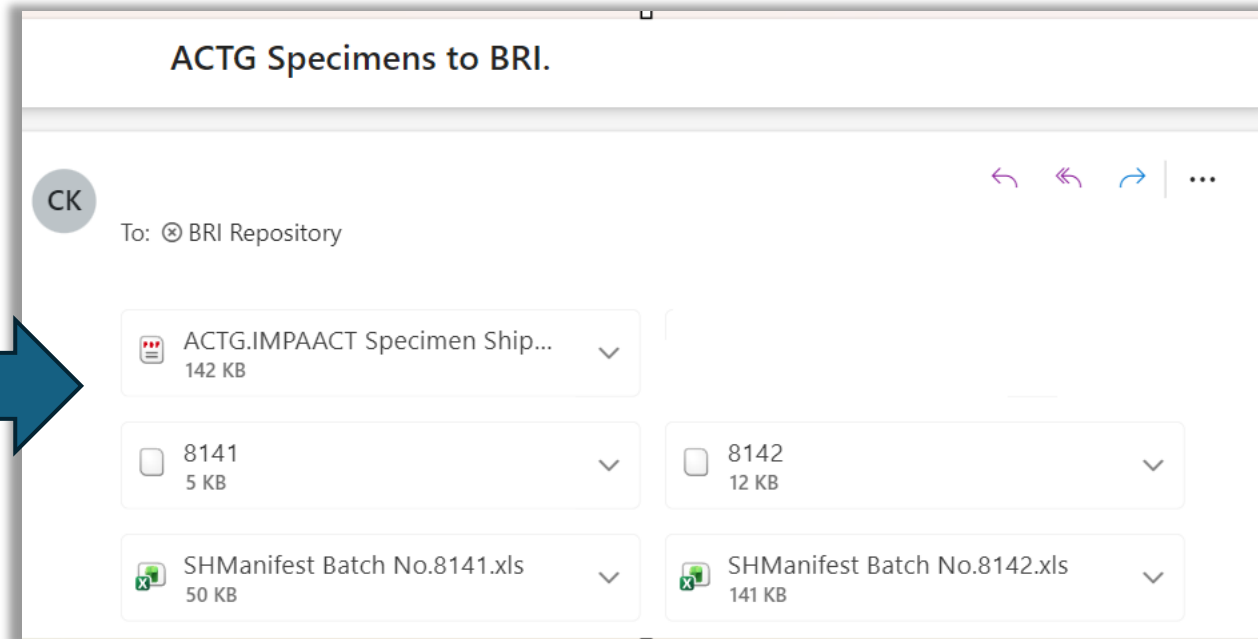
Shipment  
Reservations

Sign-up Sheets

## (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:	biorepository@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 #:	XXXXXXXX (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 (DDMMYY):	16Jan2026	LDMS Shipment (Batch) Number(s)	8141 8142
Courier Service (e.g., FedEx, World Courier, etc.):	World Courier /Biosci /FedEx Priority Overnight		
*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 (QD1 30) / or/ BRI LNZ 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 <sub>2</sub> ) <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 ori) (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 #2:	A54XX	Protocol #6:
	Protocol #3:		Protocol #7:
	Protocol #4:		Protocol #8:
			Protocol #9:
			Protocol #10:
			Protocol #11:
			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

Section 1 Recipient Information

Section 2 Shipment Information

Section 3 Specimen Information

- ★ 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)

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:**

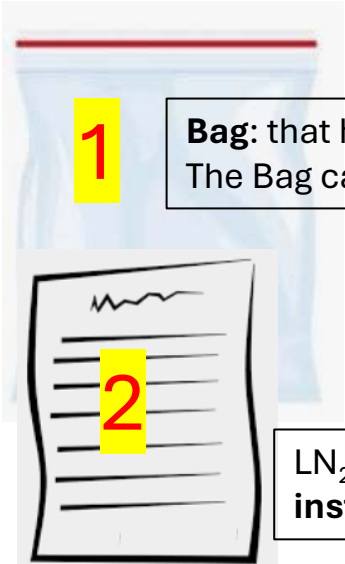
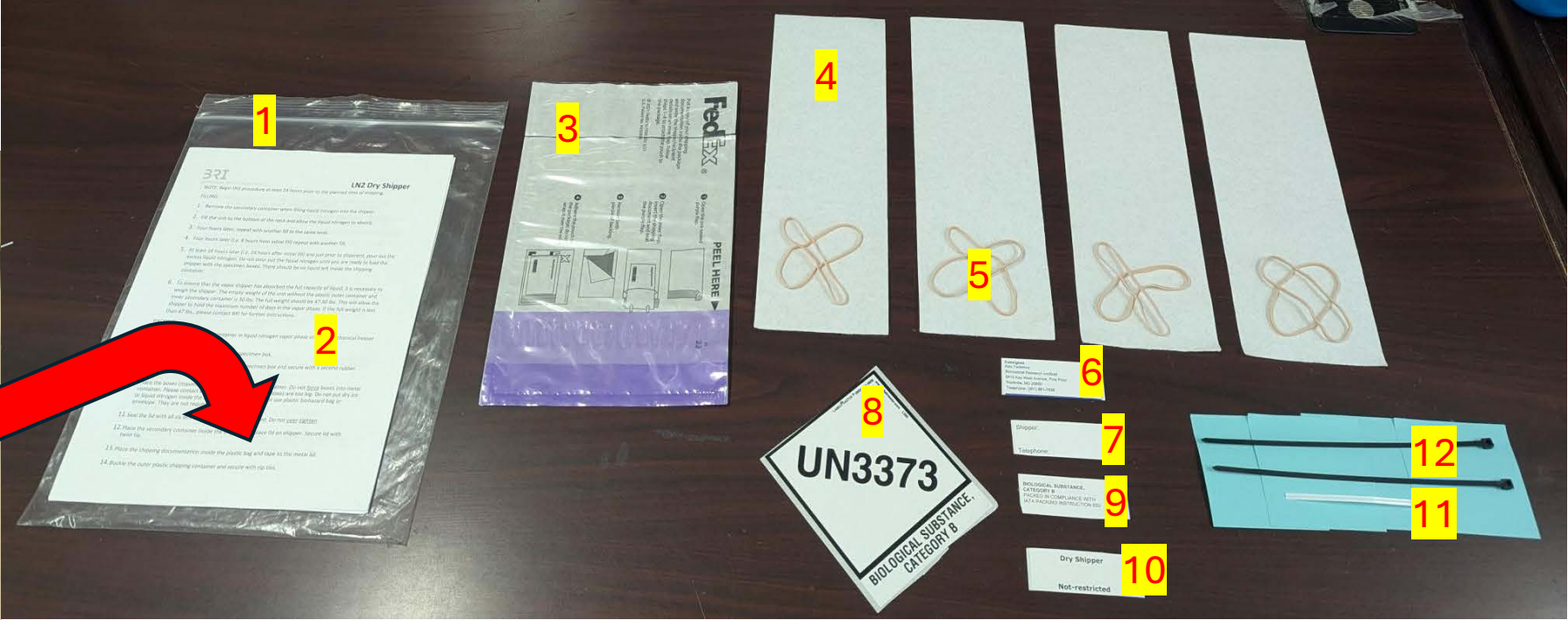
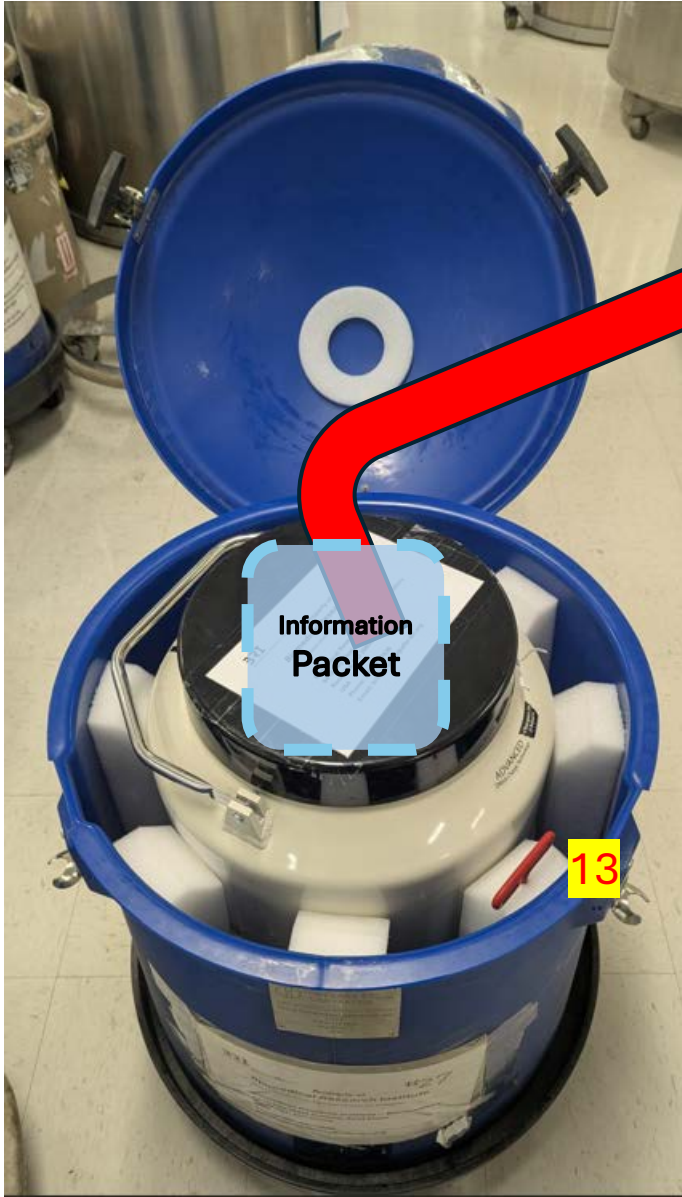
Shipper's lab or site #:	Lab # /CRS#	Courier Airbill #:	XXXXXXXXXX (updated)
Shipper's Network Affiliation:	<input checked="" type="checkbox"/> ACTG <input type="checkbox"/> IMPAACT <input type="checkbox"/> OTHER:	LDMS Manifest Report:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> 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 (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 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 <sub>2</sub> ) <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:	

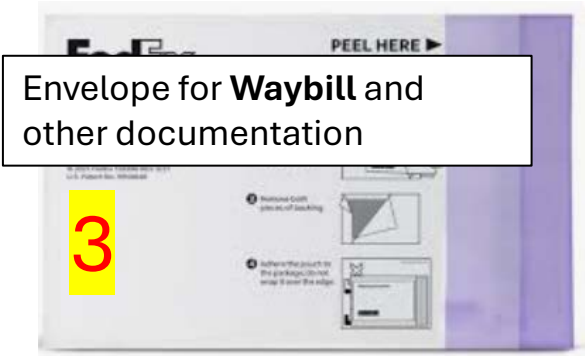


Information Packet  
Sent in Empty LN<sub>2</sub> Shipper



**1** **Bag:** that holds the instructions.  
The Bag can be reused to send paperwork/documentation back to BRI

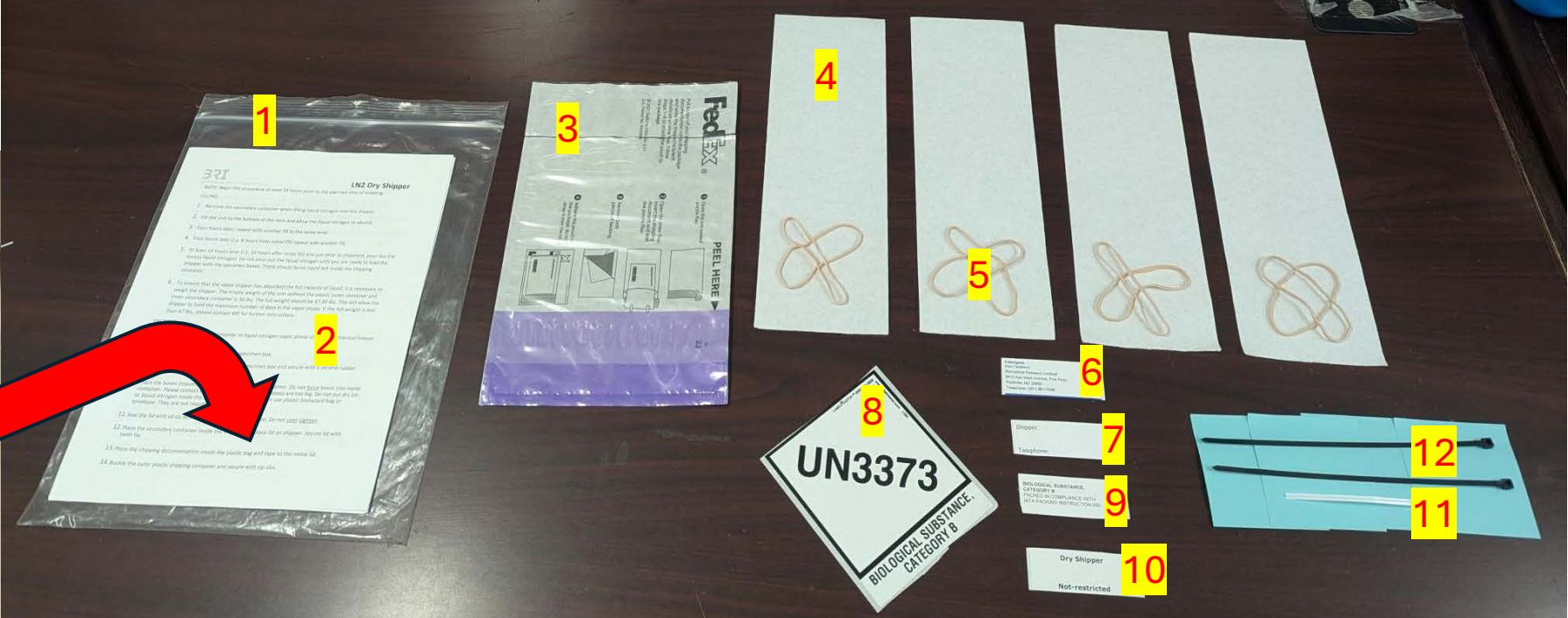
**2** LN<sub>2</sub> Shipping/Charging  
instructions



Envelope for **Waybill** and  
other documentation



Information Packet  
Sent in Empty LN<sub>2</sub> Shipper



- ❖ 4 sample boxes can be shipped in one LN<sub>2</sub> 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
- PMBC specimens from multiple ACTG protocols can be sent in the same box unless otherwise stated in the protocol specific LPC

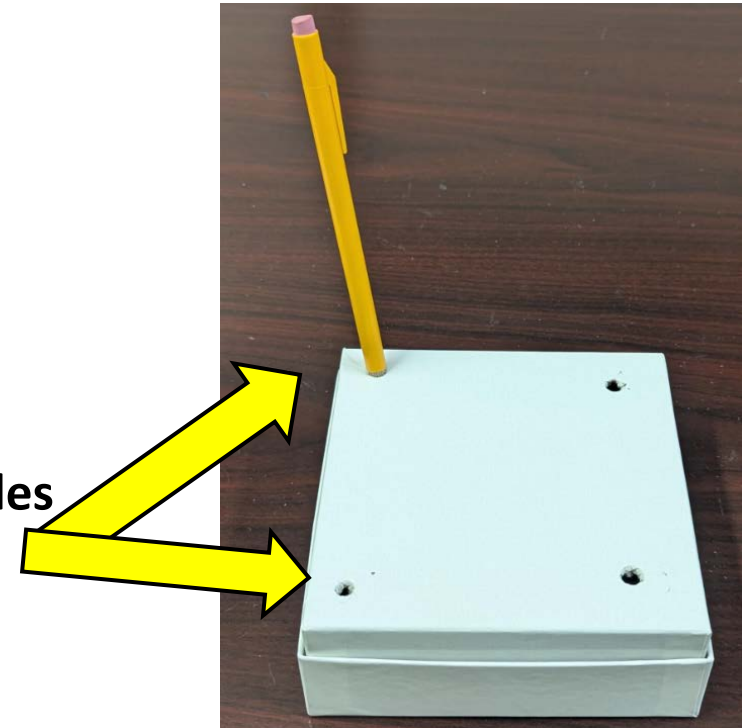


**No Plastic Boxes**

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



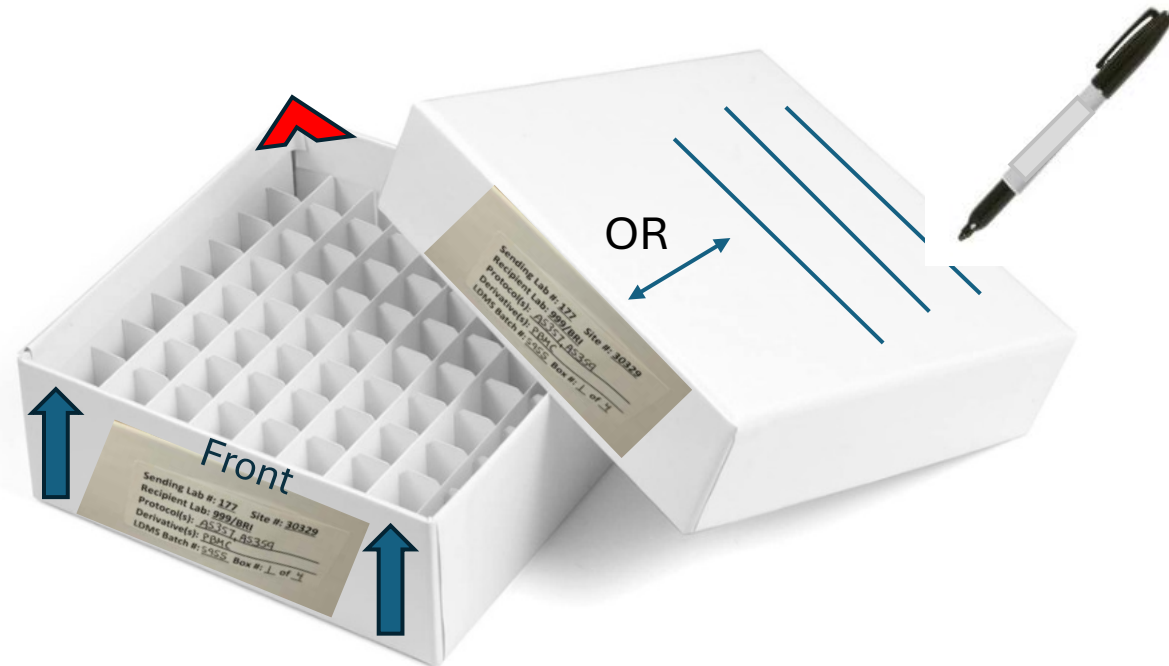
- **If CRSs/laboratories do not have boxes with premade vent holes**  
A hole can be punctured in the bottom of the box in each of the 4 corners



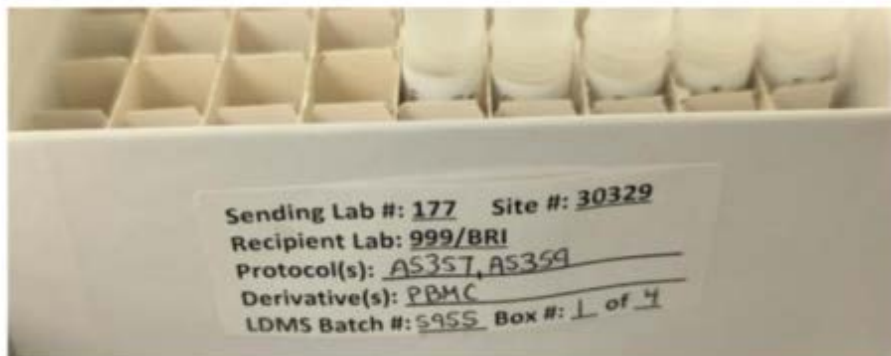
# Sample Box Labeling Requirements:

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

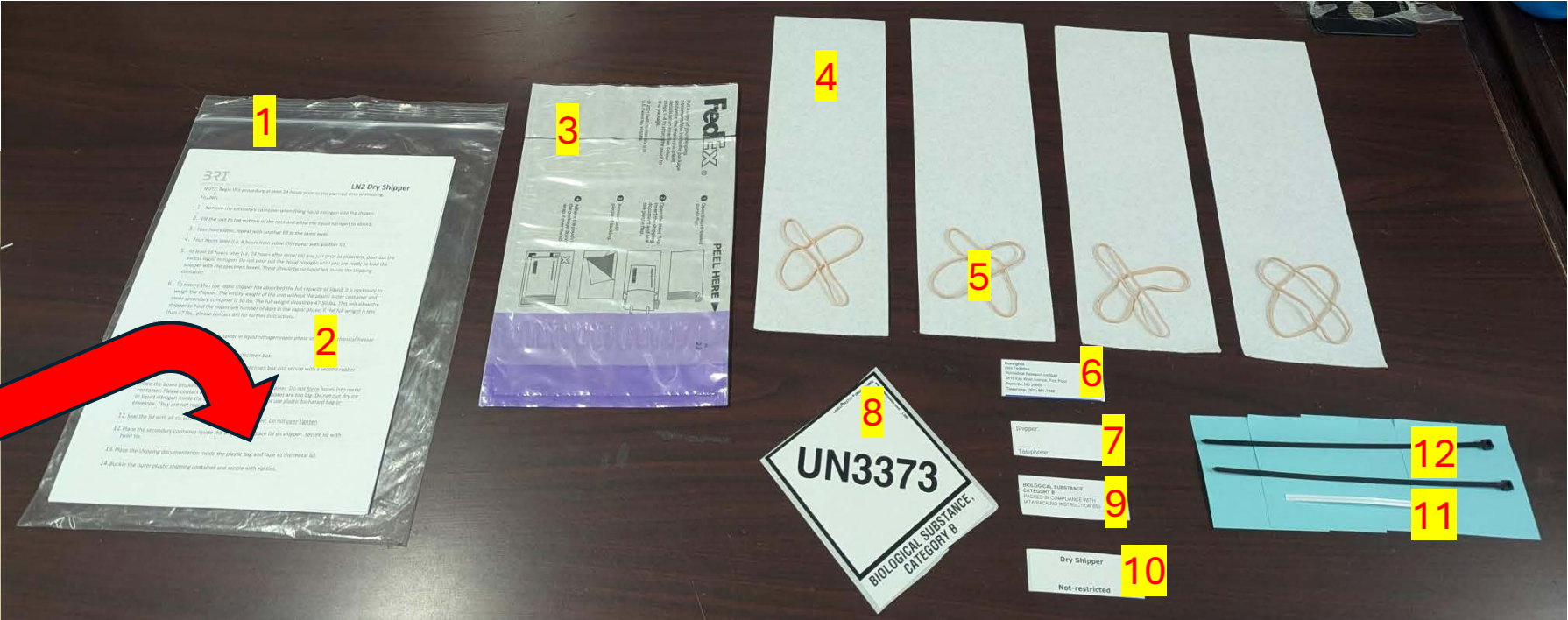
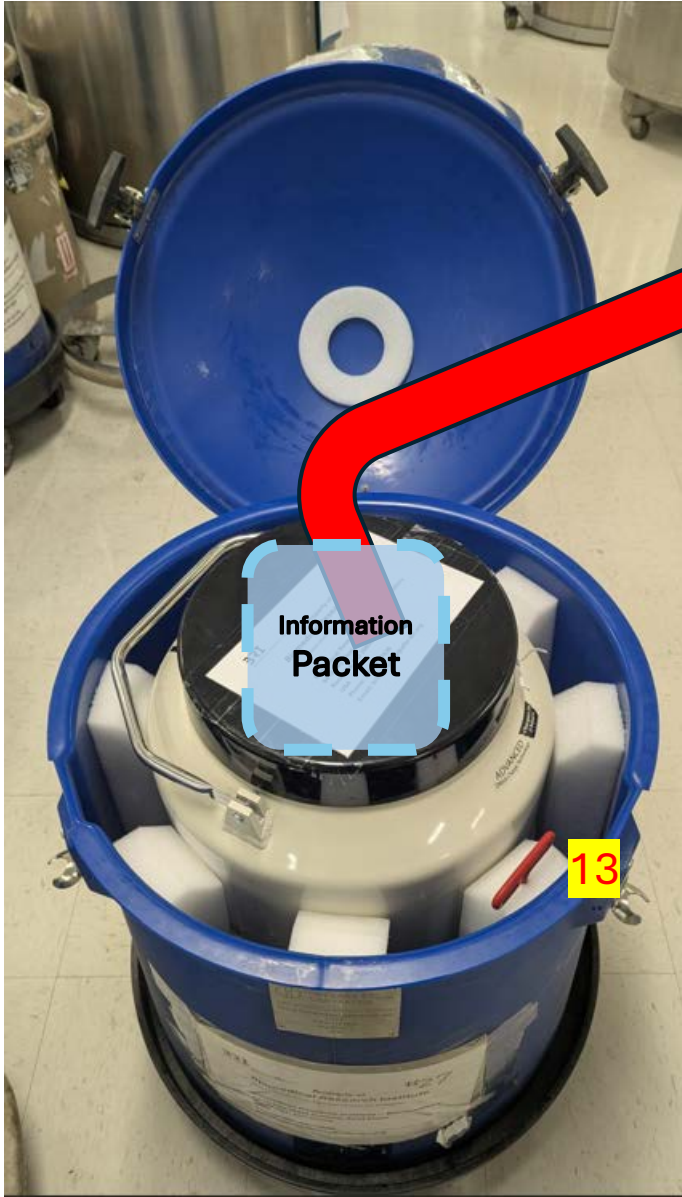


Example of PBMC sample box label:





Information Packet  
Sent in Empty LN<sub>2</sub> Shipper



Labels for outgoing shipment to BRI



LN<sub>2</sub> 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

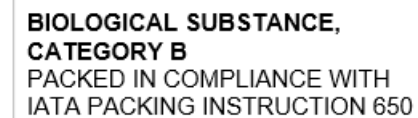
Shipper:

Telephone:



Information Packet

13

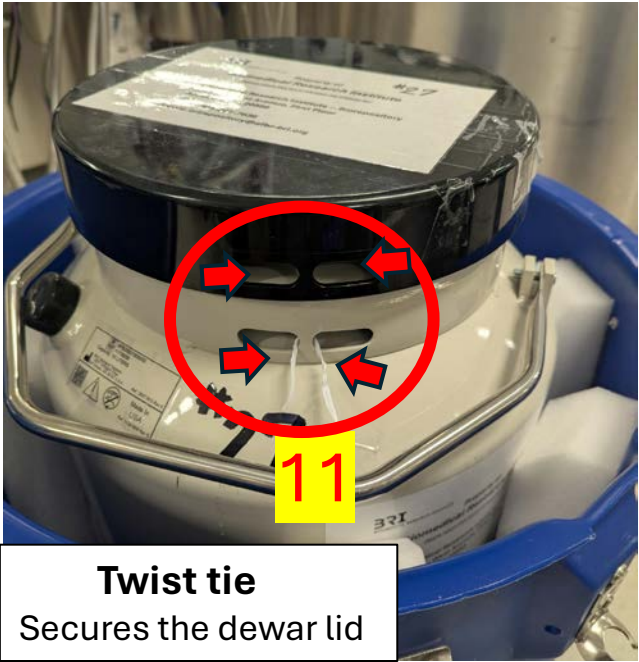
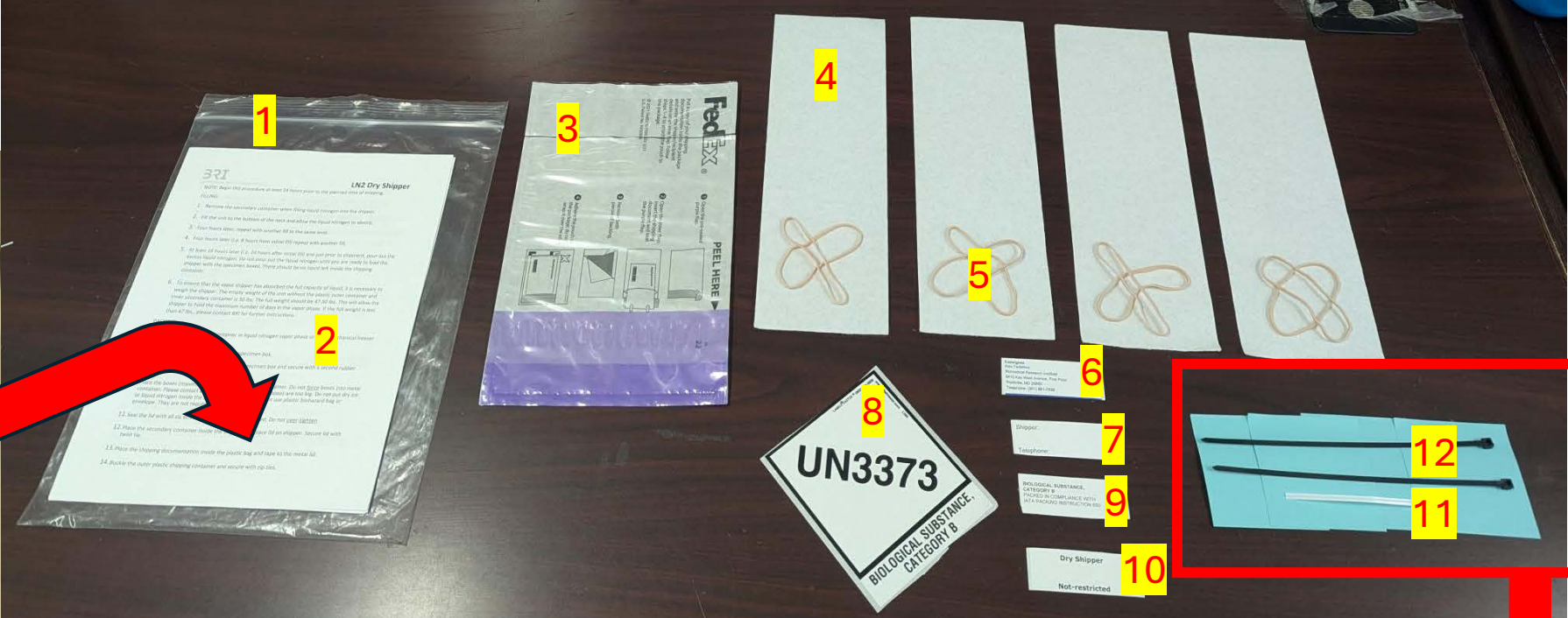
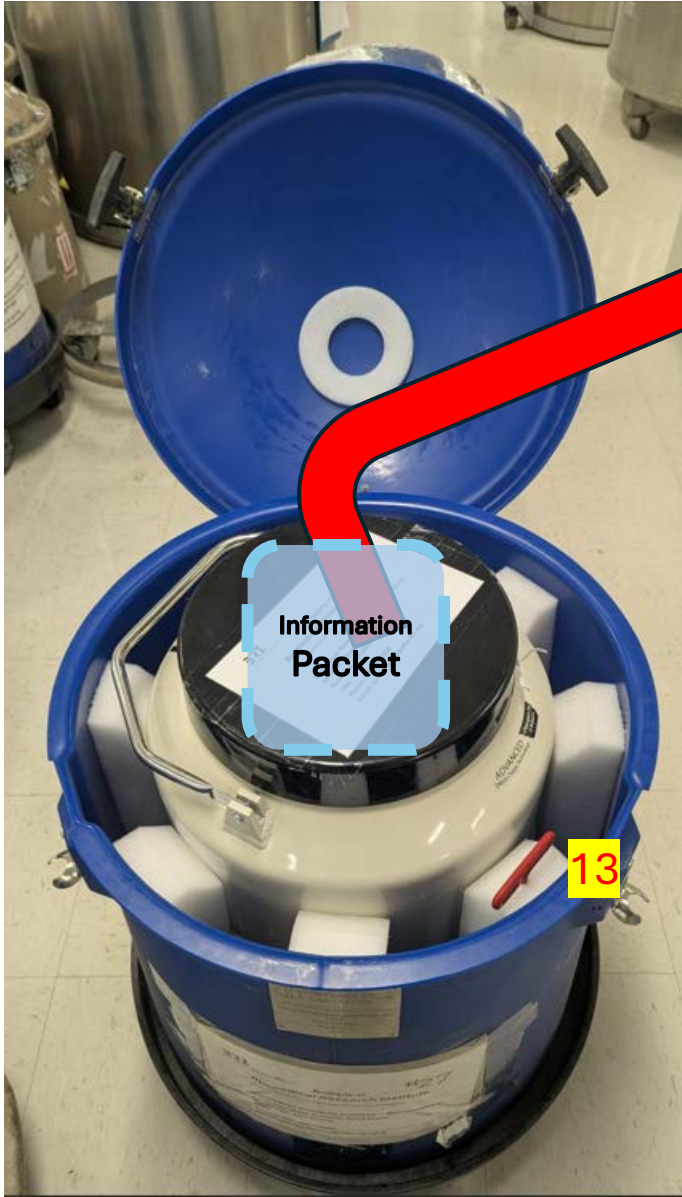


## Dry Shipper

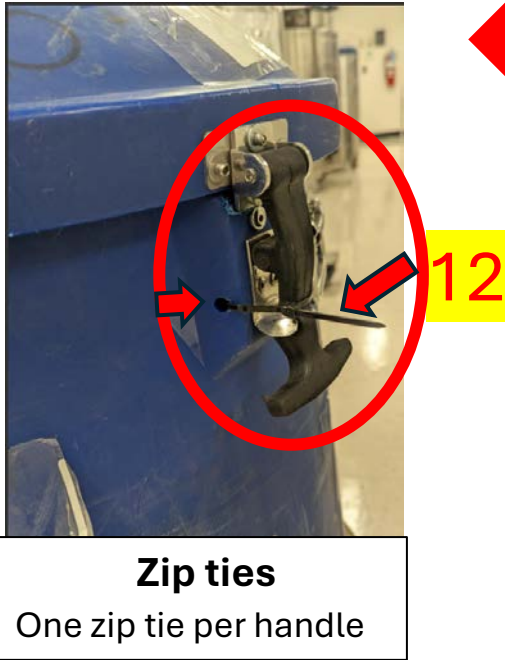
**Not-restricted**



Information Packet  
Sent in Empty LN<sub>2</sub> Shipper



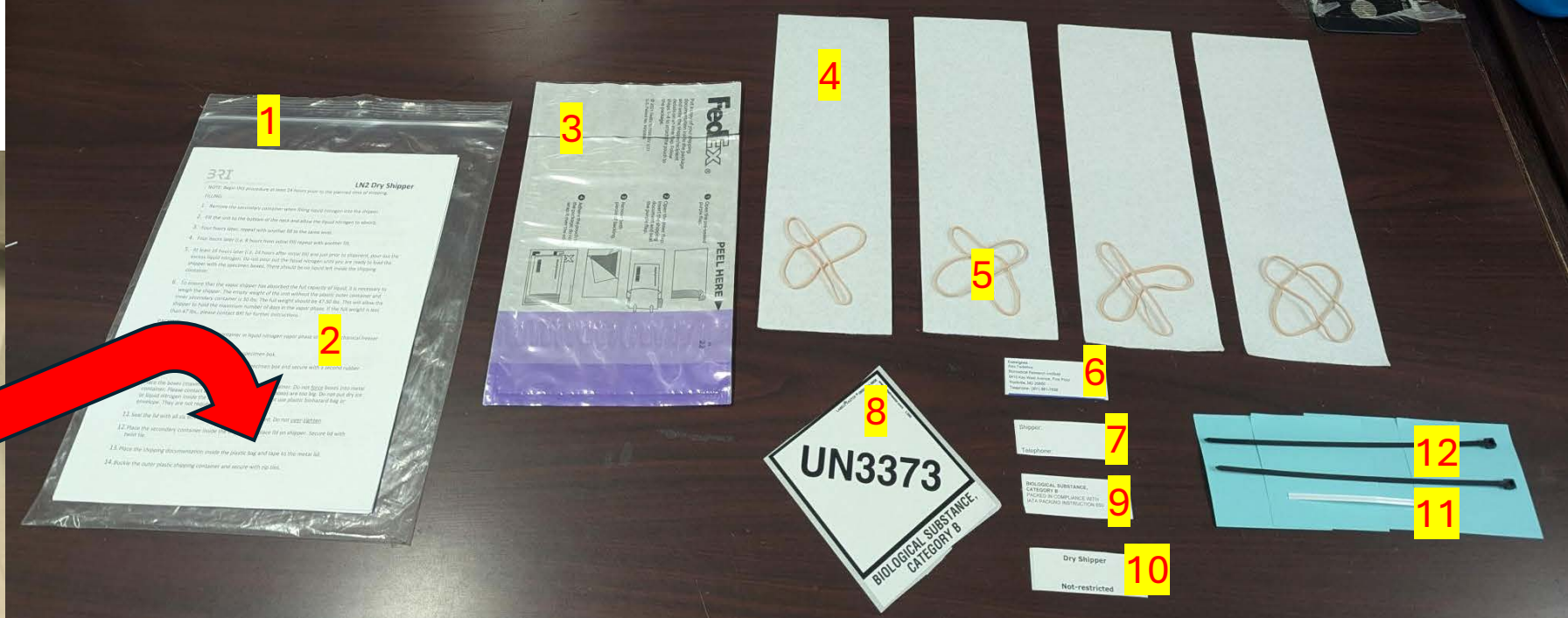
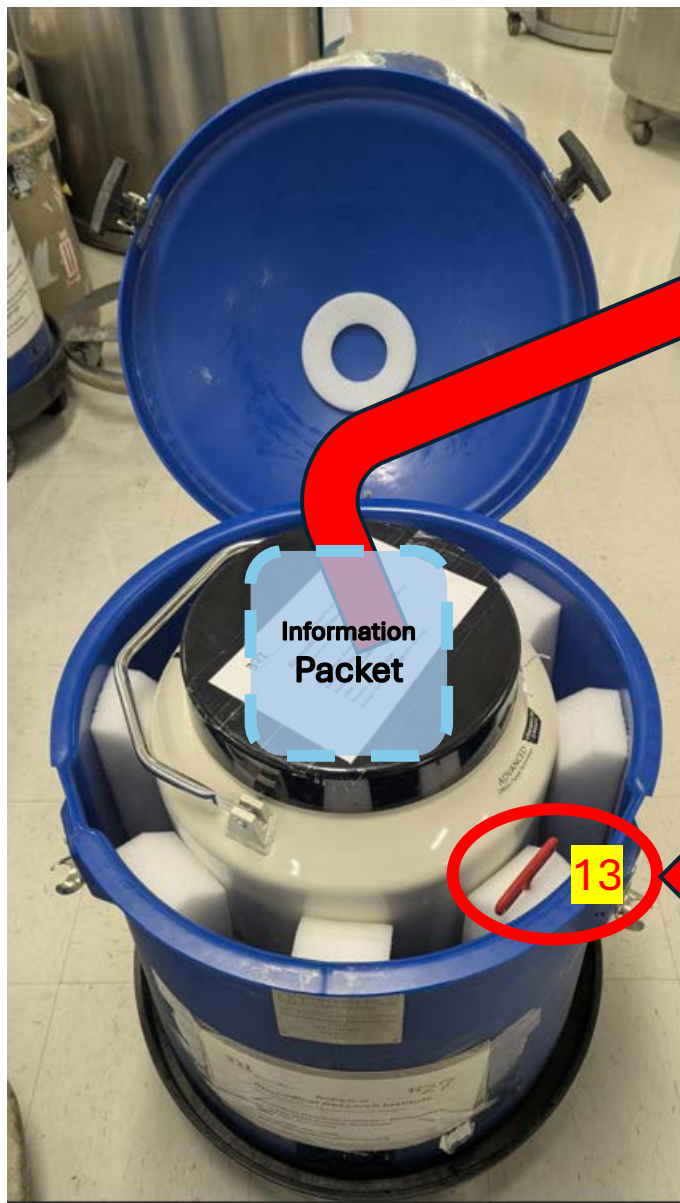
**Twist tie**  
Secures the dewar lid



**Zip ties**  
One zip tie per handle



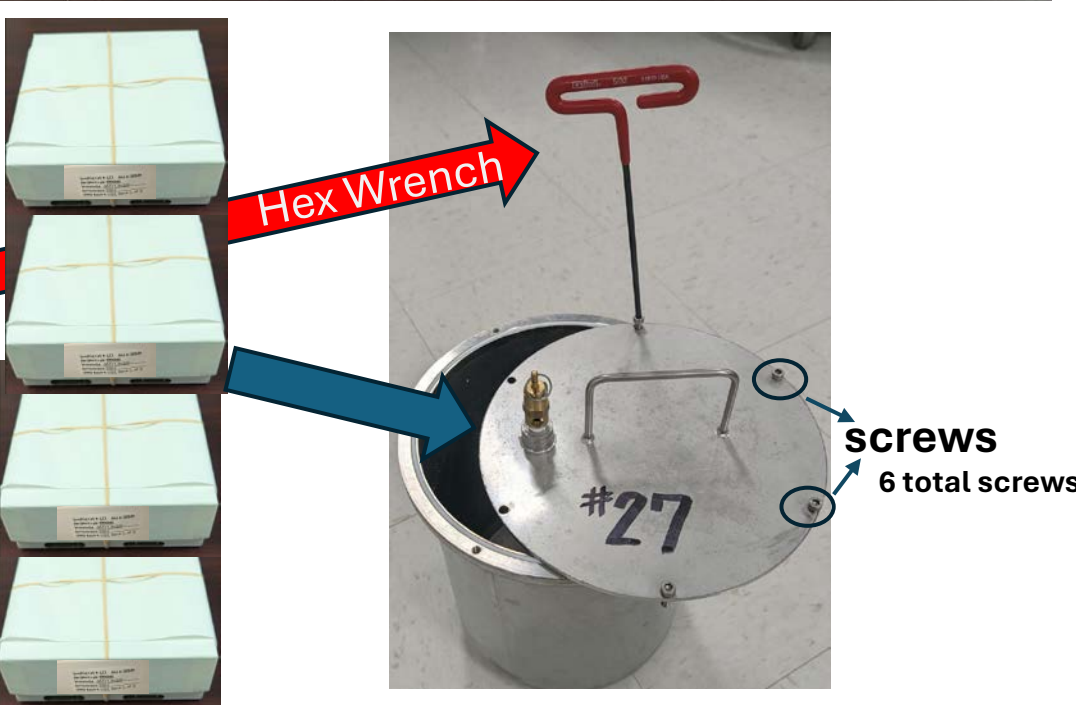
Tool sent in Empty LN<sub>2</sub> Shipper  
➤ Hex wrench



**Tool: Hex Wrench**

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

Sample boxes are shipped inside the canister



## Reminders:

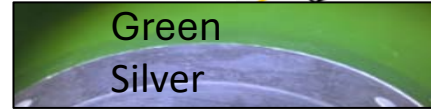
# LN<sub>2</sub> Dewer Charging Instructions:

- Preparing and packing an LN<sub>2</sub> 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



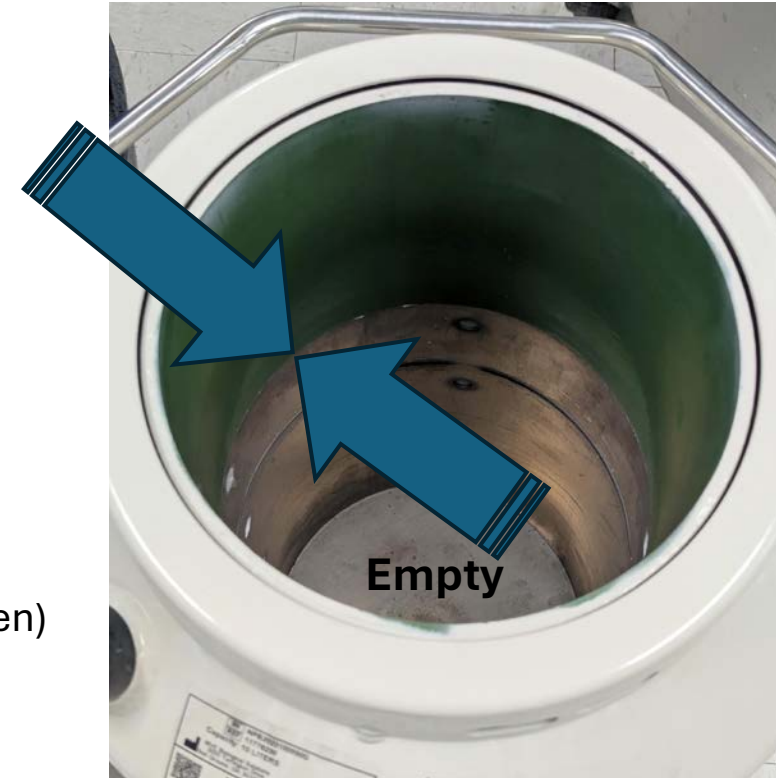
### 4hr after initial fill

- 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 LN<sub>2</sub> freezer if not available than in (-80 ° C) freezer





# LN<sub>2</sub> 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.

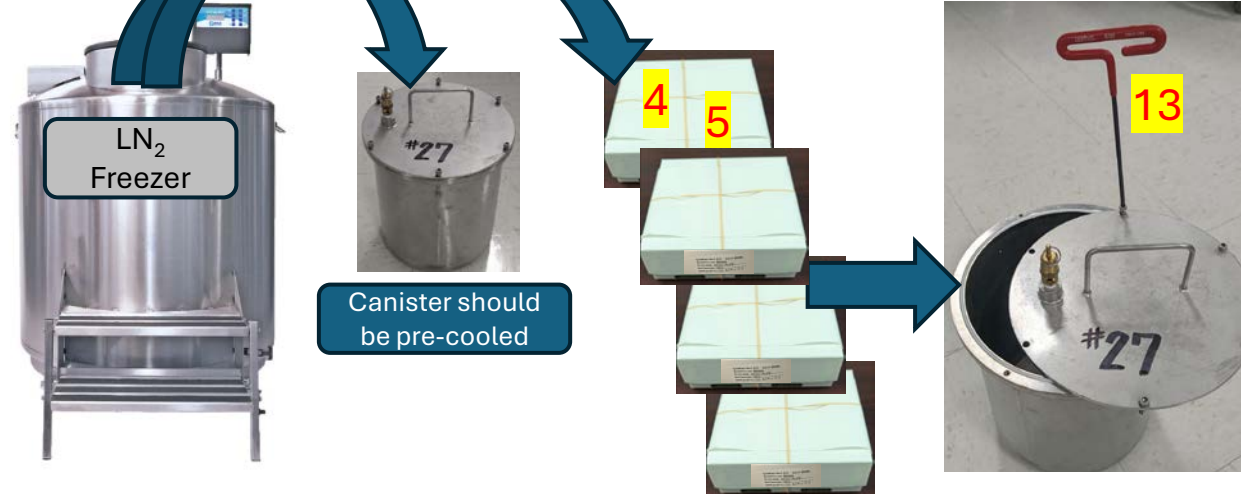
Weigh the dewar. A charged shipper should be **greater or equal to 47 lbs or 21.3kg**. (An empty dewar weights 30 lbs or 13.6kg)

A properly charged LN<sub>2</sub> will hold temperature for 14 days



Shipment Packing Time

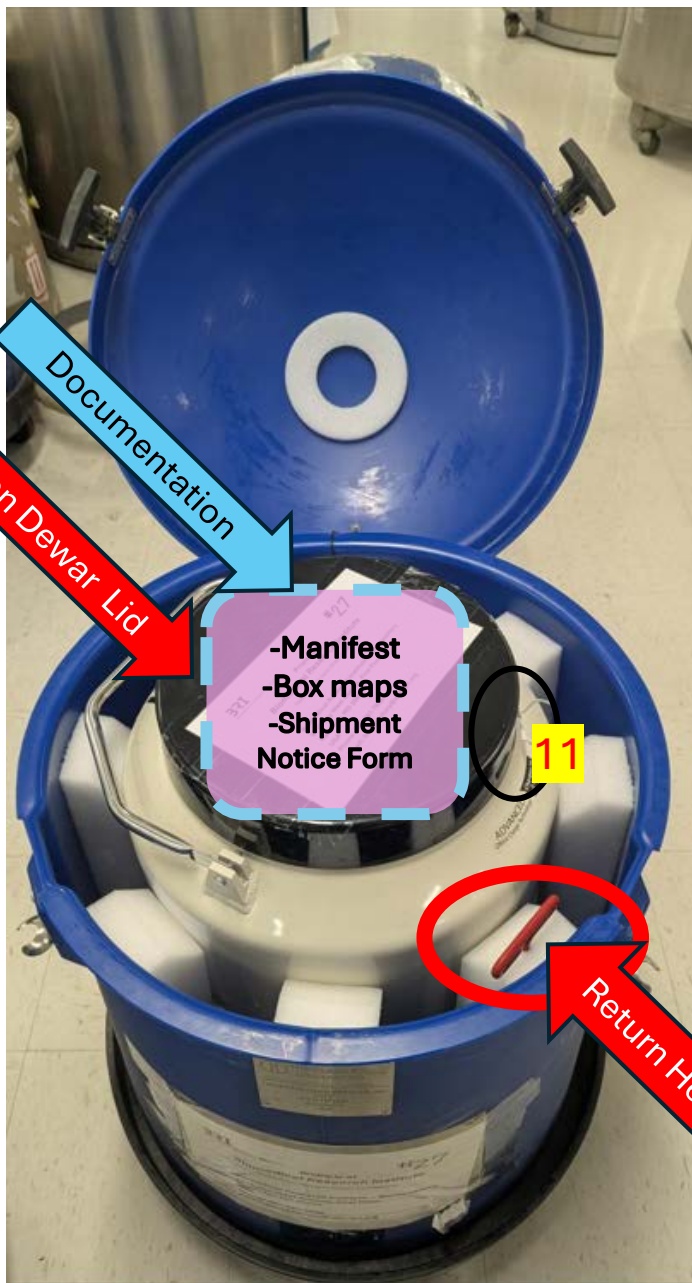
**Prepare and pack sample boxes**





Shipment Packing  
Time

## Pack the shipper



## Paperwork/Documentation

## Labels for outgoing shipment to BRI

