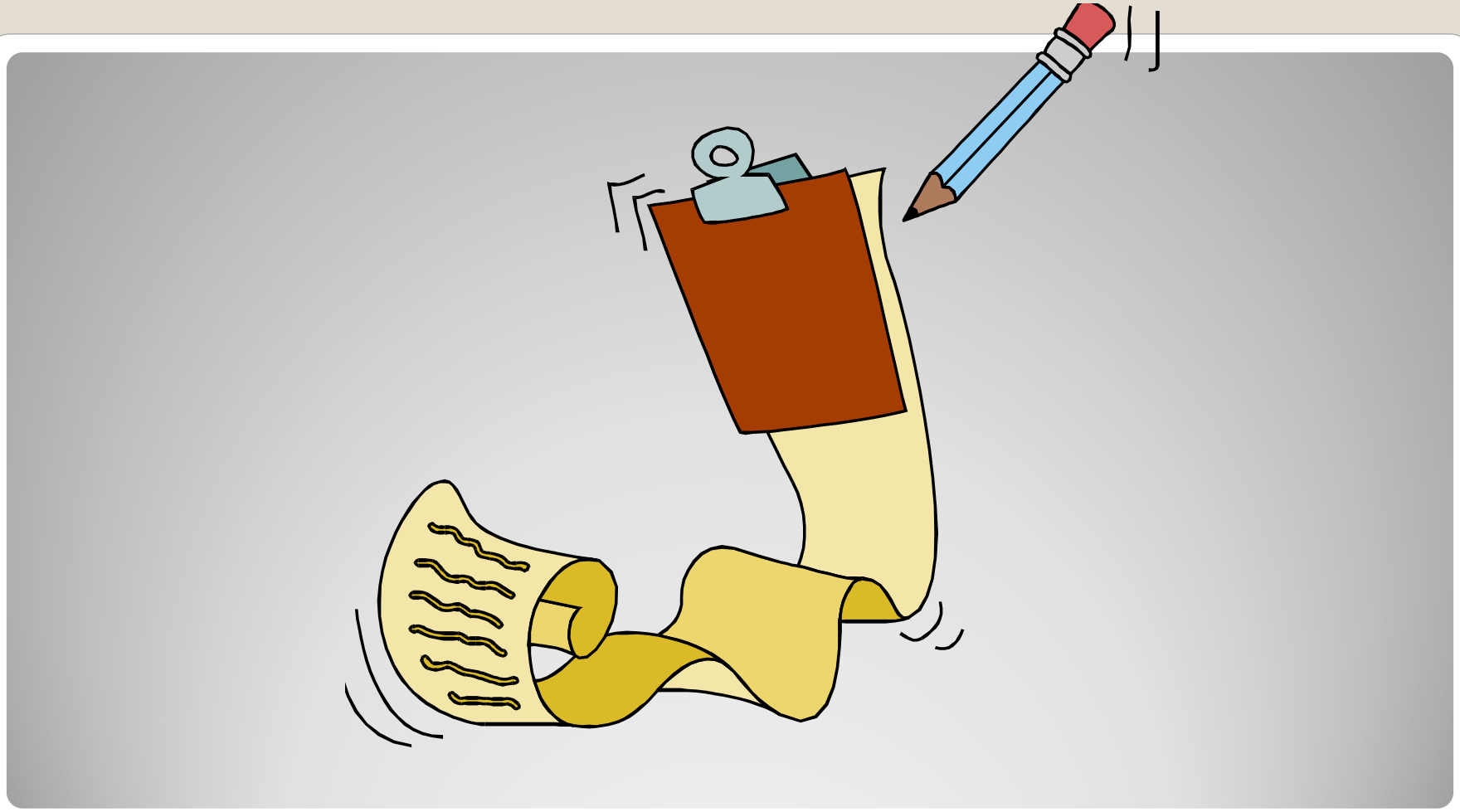
Packaging and Shipping Training

Washington Environmental Biomonitoring Survey (WEBS)



Responsibilities

Responsibilities of Shipper (Field Staff)

- Indentify any special arrangements
- Pack properly
- Label properly
- Mark correctly
- Document each shipment
- Notifies FedEx and Field Manager of shipment
  - Arranges a delivery with PHL
- Must report all spills or accidents to local authority, consignor, consignee and responsible person(s)

Collecting Urine

Collecting and Packing Urine at Participant Homes

- Use gloves
- Para-film top of urine container to ensure no leakage
- Place urine cup inside small biohazard bag containing absorbent sheet
- Place in gridded freezer box
- Put in cooler containing dry ice
- Be sure that all specimen, paperwork and coolers/containers have proper labeling

Basic Packaging = Triple Packaging

- **Primary receptacle** - watertight
  - Contains the specimen
- **Secondary packaging** - watertight
  - May contain multiple primaries
- **Outer packaging** –
  - Rigid material

Basic - Primary Receptacle

- Contains the specimen
- Properly Labeled (spelling, legibility, etc.)
- Seal – no leakage
  - Screw cap containers are sealed with adhesive tape (Para Film)
- Wrap in cushioning material or separate primary receptacles to prevent breakage
  - Grids separate primary receptacles in the freezer box

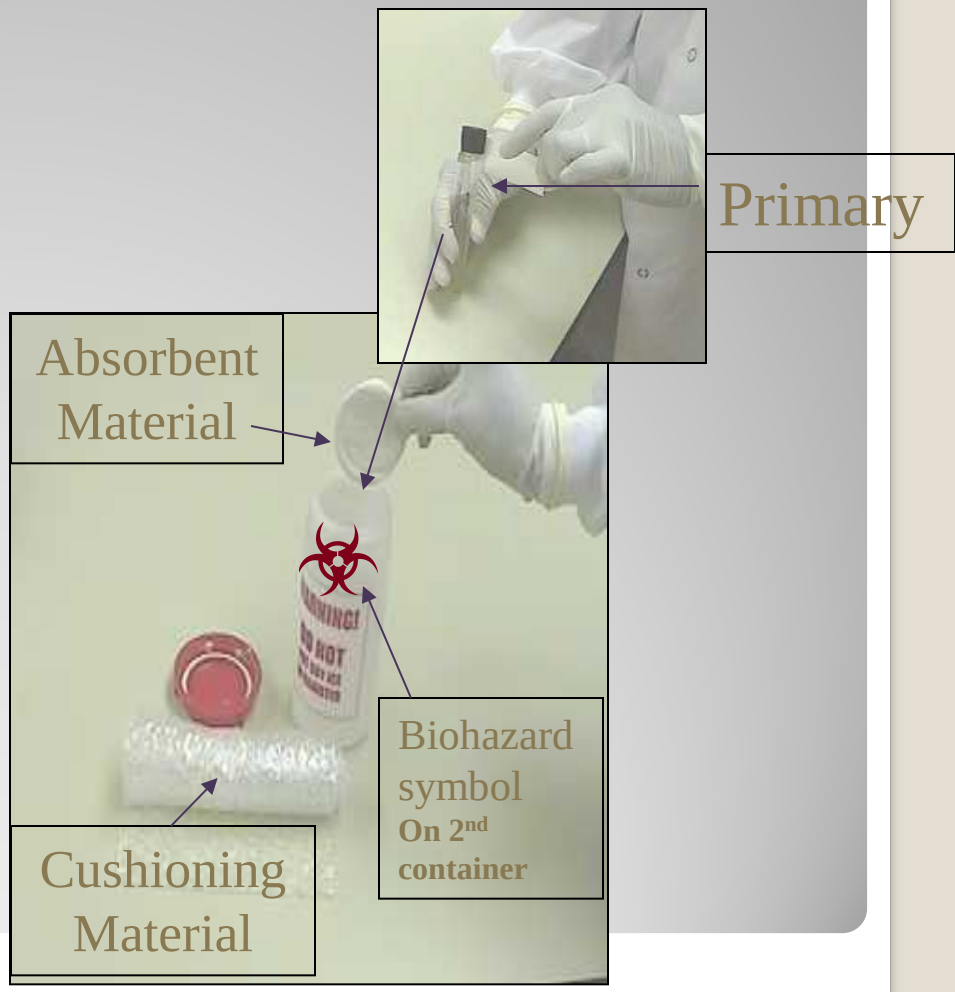
Leak Proof Primary Container

Leak Proof Primary Container

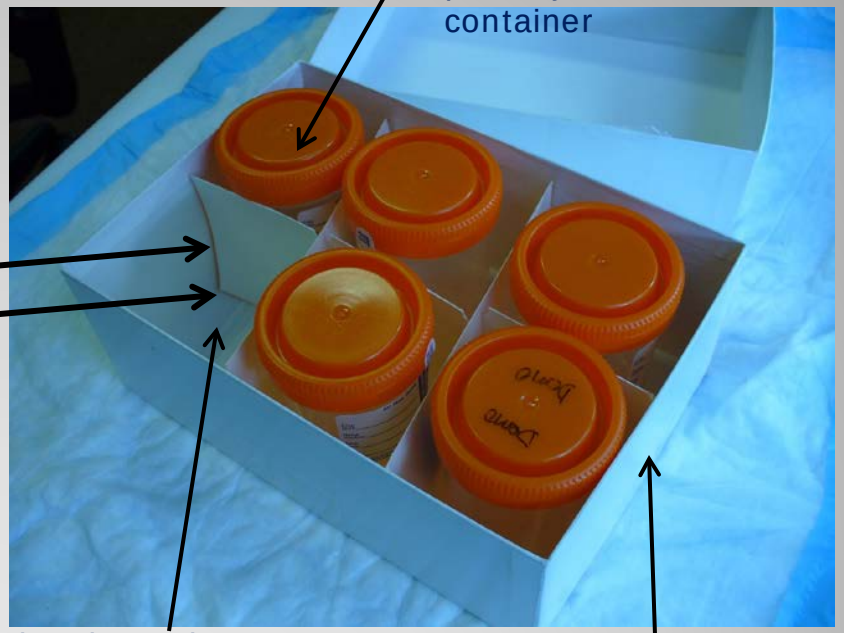
Urine Cup in Small Biohazard Bag with Absorbent Sheet

Basic - Secondary Container

- Contains
  - Cushioning for primary receptacle(s)
  - Absorbent material, if liquid specimens
  - Include absorbent material with frozen liquid – in case of melting
- Must be leak proof or sift proof
- Can be locking seal or taped.



Urine Container = leak proof primary container

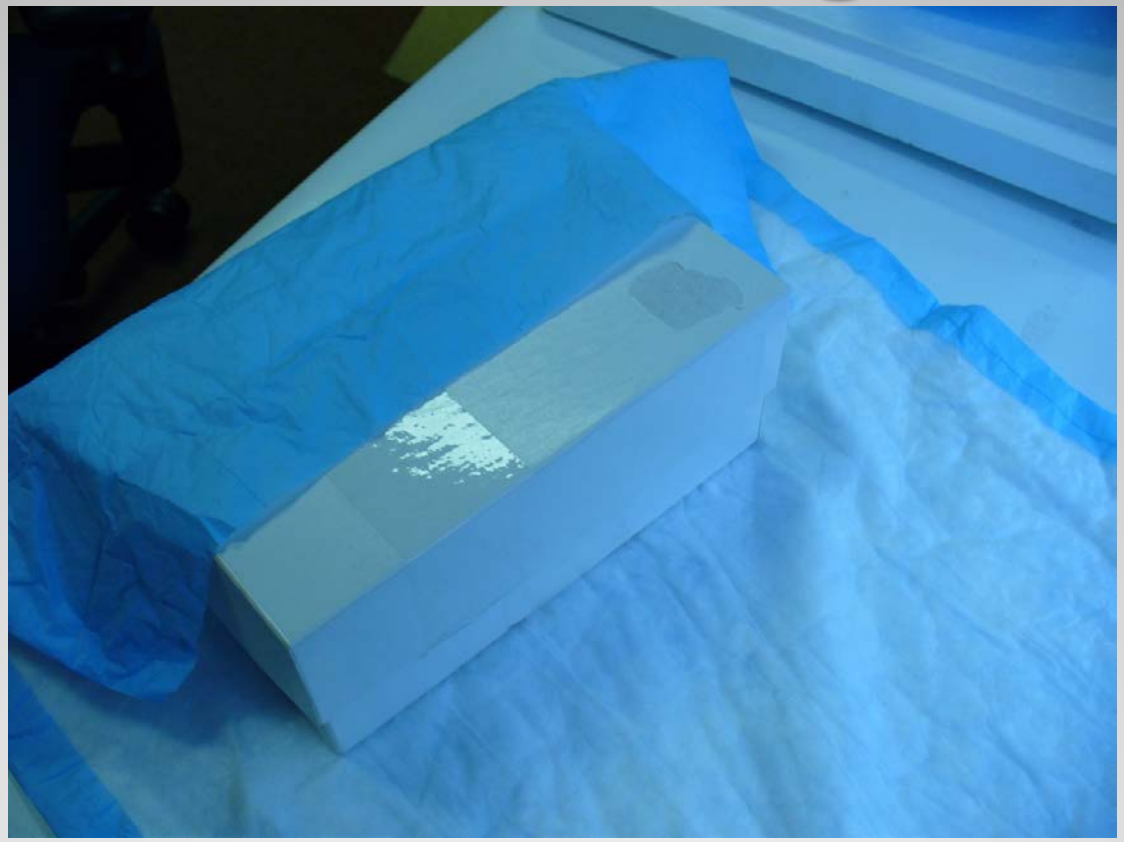


Absorbent sheets placed at bottom of freezer box capable of absorbing TOTAL volume of liquid in containers

6 Cell Urine Freezer Box = Secondary Container

Secondary Container / Packaging

Absorbent Pad Wrapped Around Freezer Box for Extra Protection and Padding



Freezer Box Containing Urine Specimen Placed Inside Leak Proof Secondary Packaging

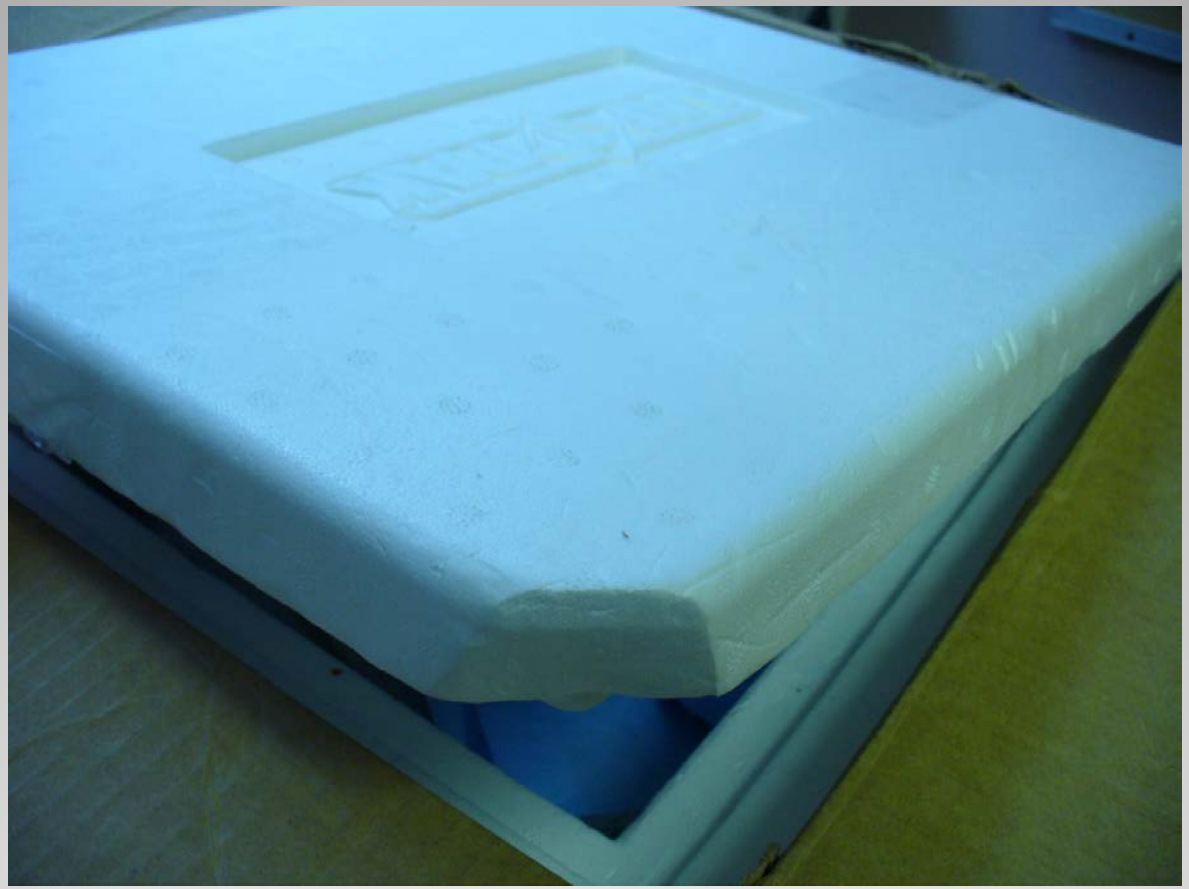
(one freezer box/bag)

Insulating Layer made of Styrofoam

Secondary container placed inside rigid outer container

Rigid cardboard shell protecting integrity of entire shipper

(Rigid) Outer Container

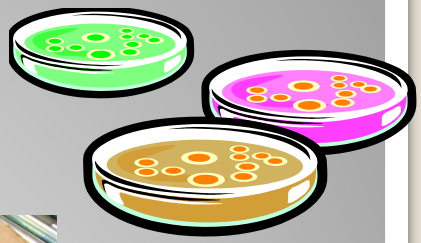


Styrofoam Lid

Packaging

Packaging of Specimen

- Use **ONLY** container provided by WEBS
- Triple Pack
- Completely fill out Chain of Custody (CoC) form
- Place the CoC (which is also a list of contents) in the label pouch on the outer container holding the specimen
  - If shipping FedEx place CoC behind FedEx label in the label pouch
  - If it's just a few urine cups tape the ziploc bag to the bundle of cups



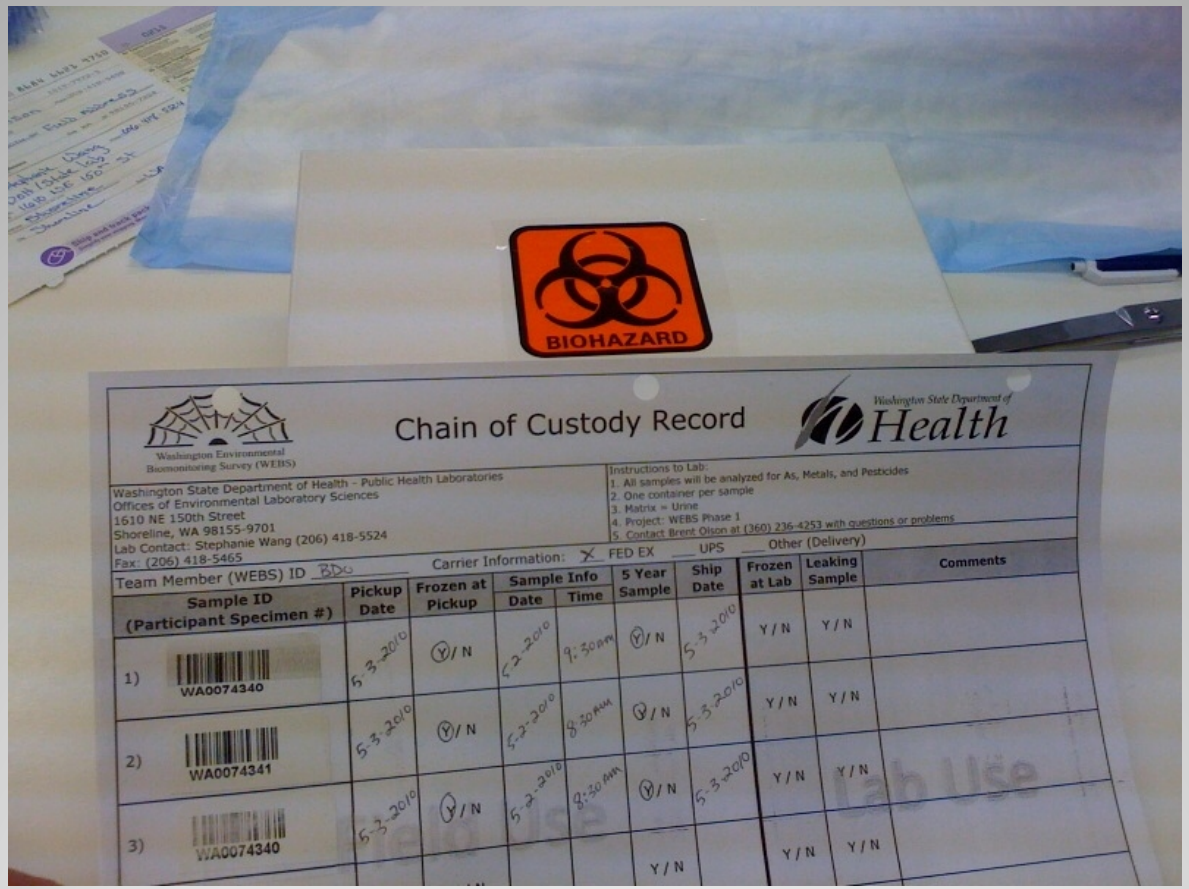
Labeling Specimen and Packages

Barcode Labels

- "**X**" rows of barcode labels per household
- One row of 5 barcodes labels per participant
  1. Urine Cup
  2. CoC
  3. Participant Survey
  4. Contact Form
  5. Household Survey (only 1 participant/household)

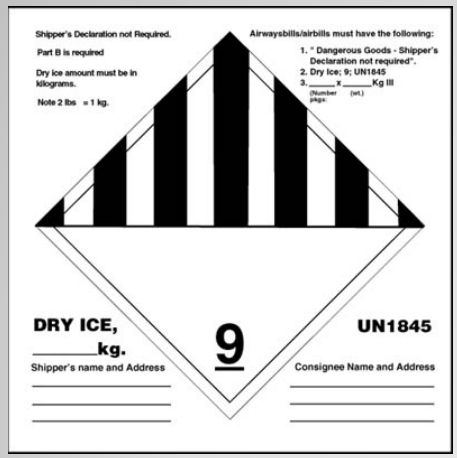
Barcode label must be **vertical** (like a ladder)

Proper Specimen Labeling



Matching Chain of Custody

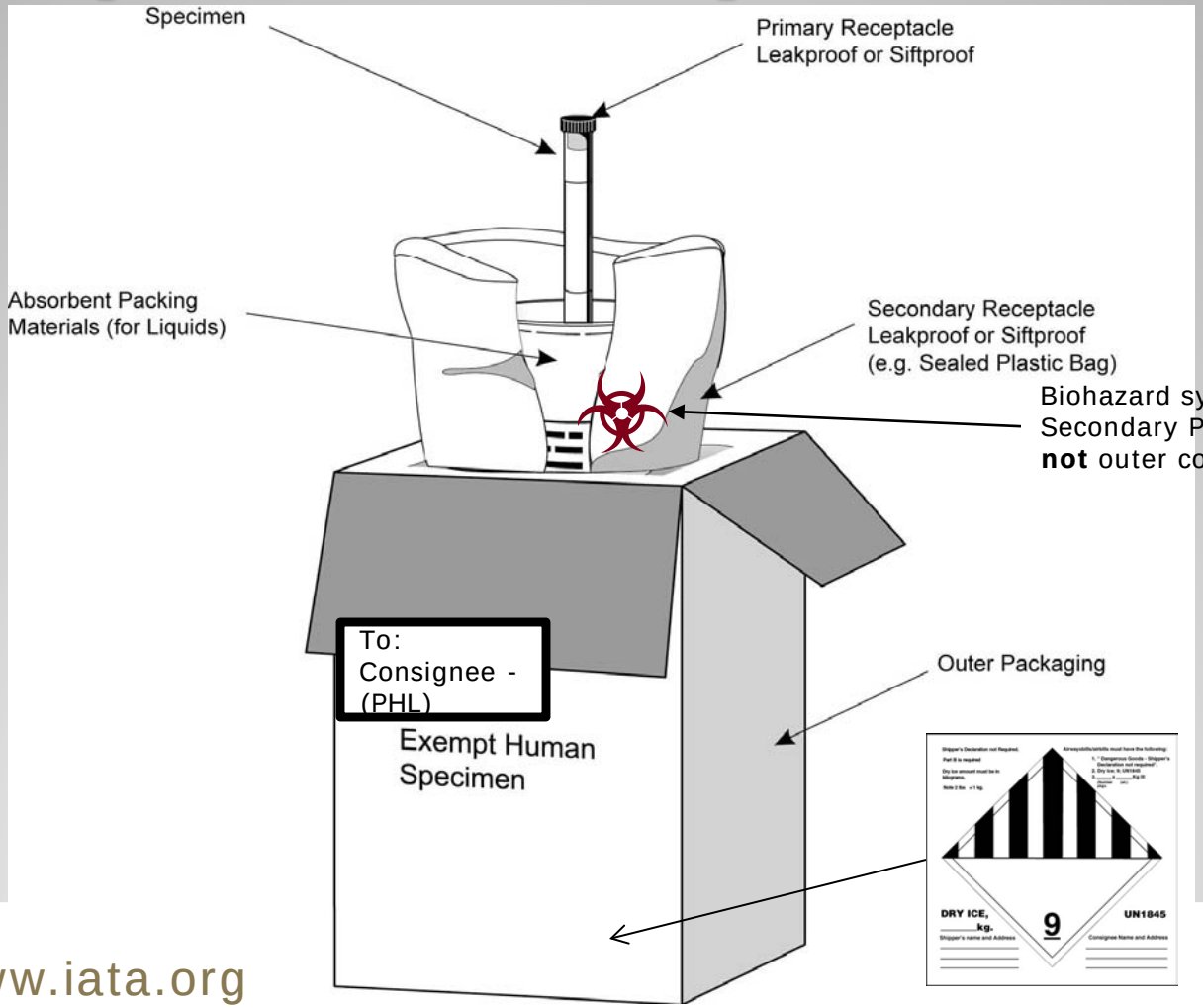
- Labels and markings on the package are the source of information to everyone who transports it.
- Labels must be placed on the packages so that they are not covered.



Exempt Human Specimens

Labeling Outer Container

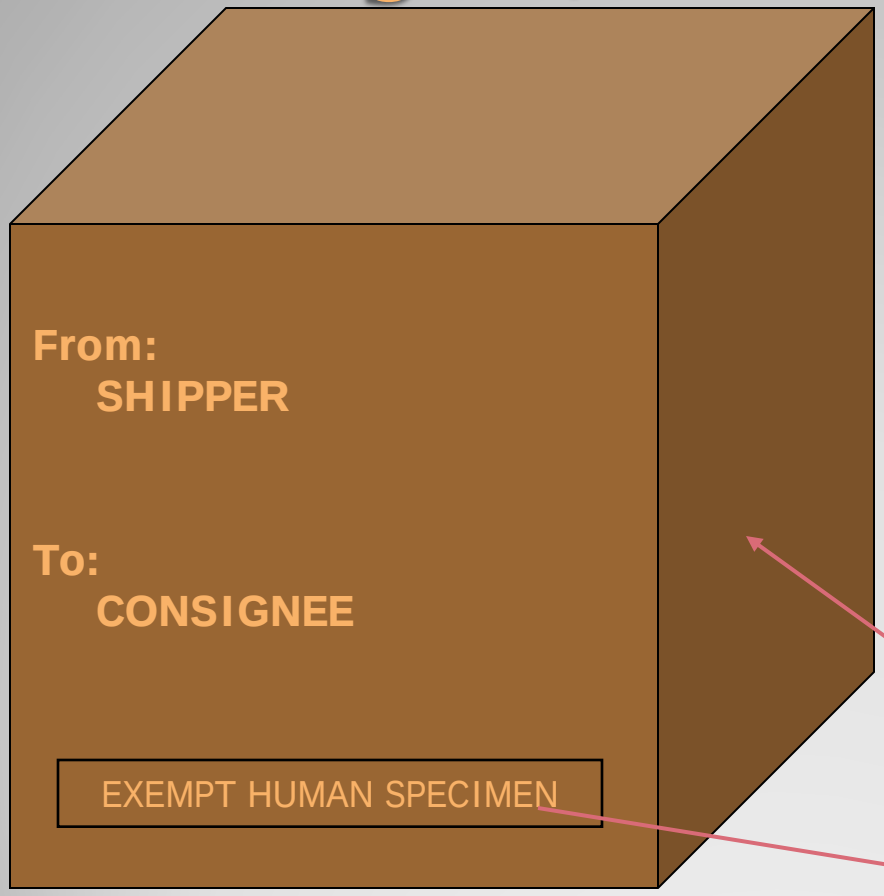
Packing and Marking for "Exempt Human Specimen"



Dry Ice Label

http://www.iata.org

Exempt Specimens – Labeling Air, USPS and Ground



For Secondary Packaging, **not** outer container

Rigid outer container

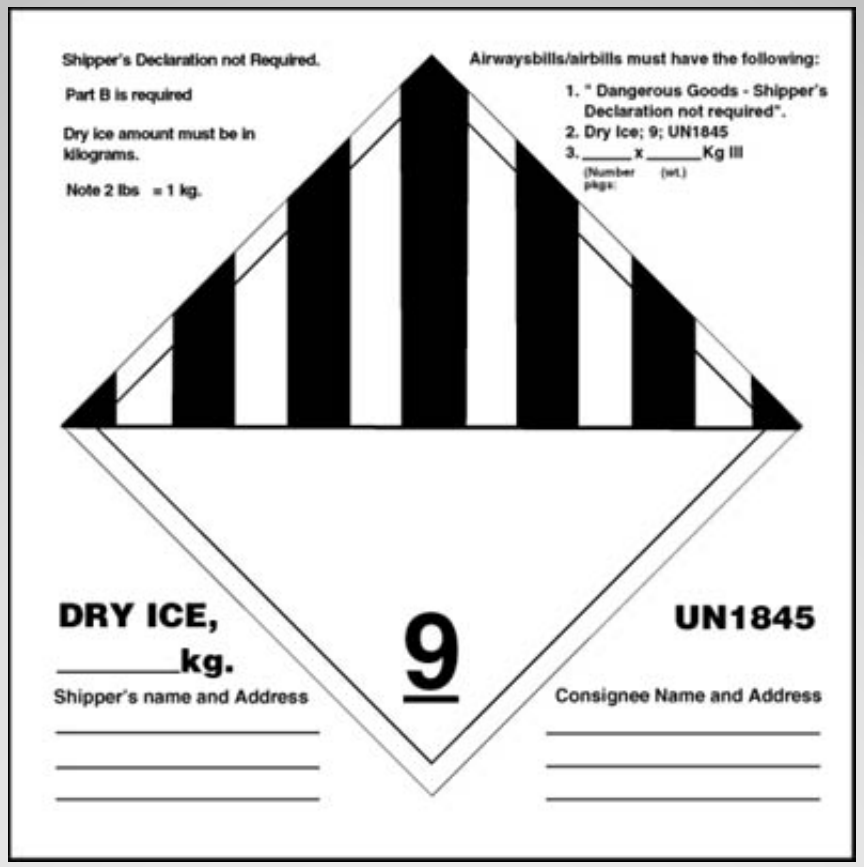
Very Important Label

Shipping Specimens with Dry Ice

Personal Protection for Dry Ice

- Use leather gloves when touching Dry Ice
- Dry Ice is a “dangerous goods, or hazardous material”...if the CO_2 is not released, the container and contents could explode!
- Keep windows down when driving with Dry Ice in the car

Dry Ice
Packaging Labels & Markings



Dry Ice/Refrigerated Container

- The address side of each mail piece must be clearly marked with the Dry Ice Label
- Include absorbent pad at the bottom of the container to absorb any condensation
- Break Dry Ice into smaller chunks

Dry Ice

- When shipped, dry ice will sublimate from a solid to a gas at a rate of 5-10 pounds per 24 hours when shipped in an insulated cooler with lid

  → Therefore, when using dry ice for shipping, it is important to determine how much dry ice is needed to maintain the proper temperature throughout the entire transit time of the shipment.

Better to have too much than too little dry ice!

Amount of Dry Ice to Carry

		Time in Transit				
Weight of Frozen Urine	**Placement of Dry Ice**	**4 Hours**	**8 Hours**	**12 Hours**	**24 Hours**	**36 hrs - 2 Days**
1 lb. ***~3 Urine Cups**	Top Bottom	12 oz. None	1 ¼ lb None	1 ½ lb. None	3 lbs. 1 lb	5 lbs. 2 lbs.
2 lbs. ***1 freezer box/6 Urine Cups**	Top Bottom	3 lb		4 lb	8 lb	16 lb
6 lbs. ***2 freezer boxes/12 urine Cups**	Top Center Bottom	2 lbs. None ½ lb	2 ½ lbs. None ½ lb.	3 lbs. None 1 lb.	5 lbs. 1 lb. 2 lbs.	7 lbs. 1 lb. 3 lbs.
10 lbs.		4 lb		8 lb.	14 lb	18 lb
12 lbs.	Top Center Bottom	2 ½ lbs. None 1 lb.	3 ½ lbs. None 1 ½ lbs	5 lbs. ½ lb 2 lbs.	9 lbs 1 lb 4 lbs.	12 lbs. 1 lb. 6 lbs.
18 lbs.	Top Center Bottom	4 lbs. 1 lb. 2 lbs.	5 lbs. 1 ½ lbs. 3 lbs.	7 lbs 2 lbs. 4 lbs	15 lbs. 3 lbs. 8 lbs	20 lbs. 5 lbs. 10 lbs.

For each additional day add 8 to 15 pounds.

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Source: www.dryiceinfo.com/shipping.htm

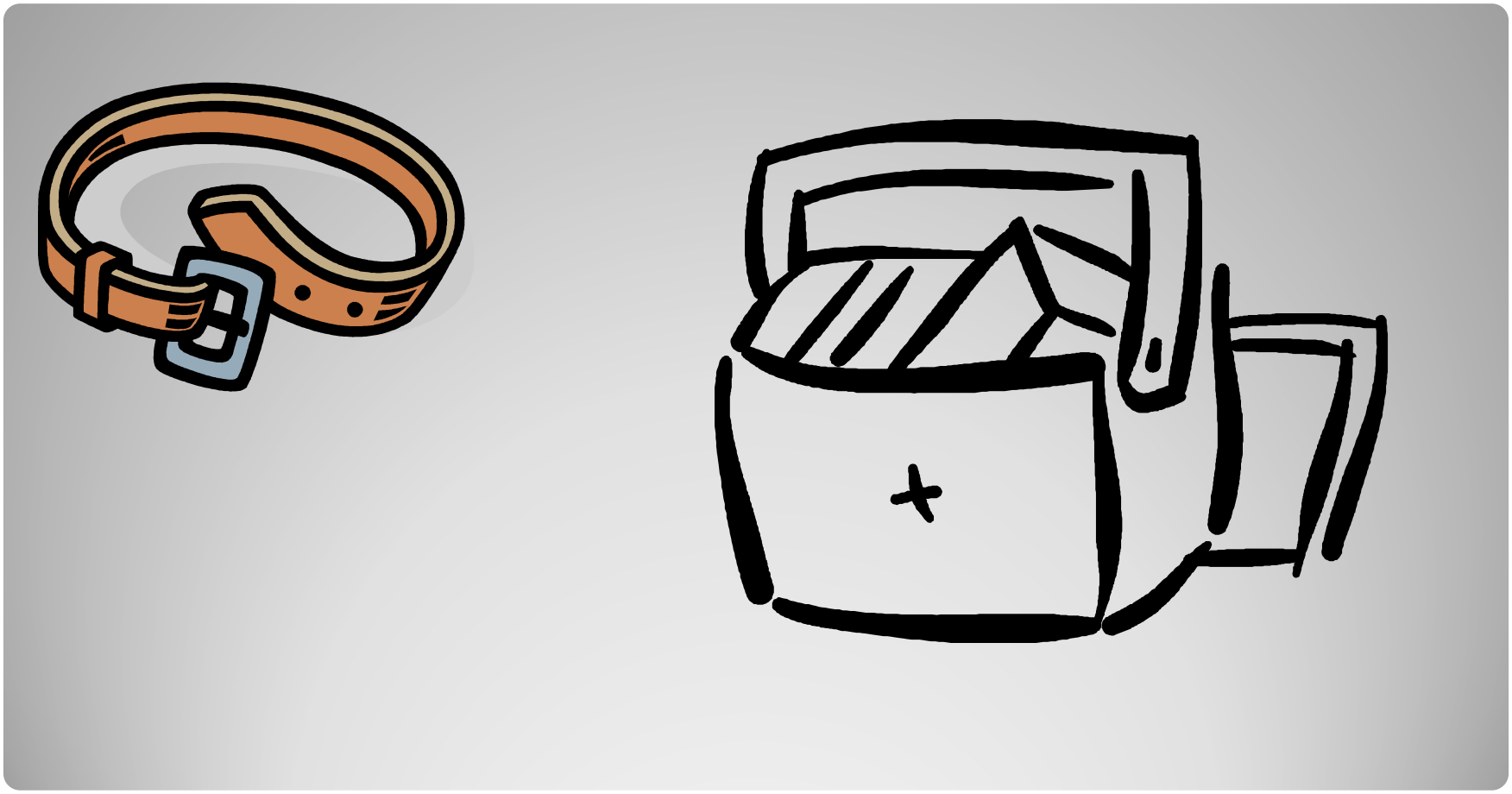
Shipping Paperwork

- When shipping FedEx:
  - Completely fill Out FedEx form with proper recipient information (PHL)
- Include CoC **BEHIND FedEx form in the label pouch**
- Be sure to declare *Dry Ice* on shipping paperwork and that proper labeling is on packaging
  - Weight marked in **Kilograms**
- Send tracking information to WEBS team


FedEx
FedEx US Airbill
8684 6621 9750
0215
5/3/10
Brent Olson
1019-7972-3
DOH/STATE LAB
(206) 418-5458
1610 NE 150TH ST
Field Address
SHORELINE
WA
ZIP 98155-7224
Stephanie Wang
(206) 418-5524
DOH/State lab
1610 NE 150th St
Shoreline
Shoreline
WA 98155
0400760717
Ship and track packages at fedex.com
Chain of Custody R


Chain of Custody
Carrier Information
Pickup Date
Frozen at Pickup
Sample Info
Date
Time
Sample ID
(Participant Specimen #)
WAG0741340

Label Pouch



Transporting Urine Specimen

Transporting Specimens

- After completion of pick-up, properly pack specimen for shipment/transportation
- Make sure coolers containing specimens are secured and will not shift or tip during transport
  - Can use a seatbelt to secure the cooler
  - Make sure all specimen are **triple packed** and will not spill or touch other specimens
- Leave windows down when driving with Dry Ice to ensure proper ventilation

Storage of Specimen at Field Office

- **IF** specimen cannot be shipped same day, they will be stored at the field office freezer for shipment the following day
- Each field staff member is responsible for properly packing, labeling and storing their specimen
  - Field Staff will **initial** top of **CoC** and **masking tape** holding the absorbent pad (with permanent pen)

Delivering to PHL

- Specimens delivered to the PHL must be packed and labeled the same as if you would for FedEx
  - Triple Packed
  - Completed CoC
  - Proper Labeling on Outside of Container
- Coordinate with PHL contact prior to delivering specimen to ensure someone is available to receive
  - Delivery must occur between:

8:00 am – 3:00 PM

(unless arrangements are made)

Identifying Risk & Common Errors

Where are the Real Risks of Exempt Specimens in Transport?

Potential Risk	Mitigation
1. Liquid (body fluids) 2. Touching leaking containers with bare hands with sores, e.g. 3. Specimens from people who don't feel ill but are infectious 4. Improperly packaged specimens	1. Absorbent packaging required 2. Gloves to protect handlers; clean-up protocols 3. Likelihood of infections low (<1%); likelihood of transmission lower 4. Triple packaging

Packaging Specimens Prevent Common Errors

- All forms must be completed in full.
- Label the shipping containers correctly.
- Seal urine containers with Para-film.
- Use enough Dry Ice in Styrofoam cooler to keep specimens cold.
- Place ice outside of secondary package.
- Use triple containment.