Shared health
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Manitoba

Document History:

Title:	Packaging and Transport of Patient Samples	Site(s):	Shared Health Diagnostic Services All Sites
Document #:	**100-10-87**	**Version #:**	**05**
Section:	**General Operations**	**Subsection:**	**General**

Approved by: *(approval on file)*	Theresa Wiwchar	**Date:**	23-JUL-2024
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Details of Recent Revision

-I have added to the 100-10-87 to ensure proper accuracy as it pertains to Transport Canada. Section 1.1
-Section 2.2.2 – added the word inner

Contents

1.0 PURPOSE:

1.1 To provide instructions for classifying laboratory specimens (non-pathology), and packaging and labeling according to the Transport Canada Dangerous Goods Regulation (TDGR) requirements.

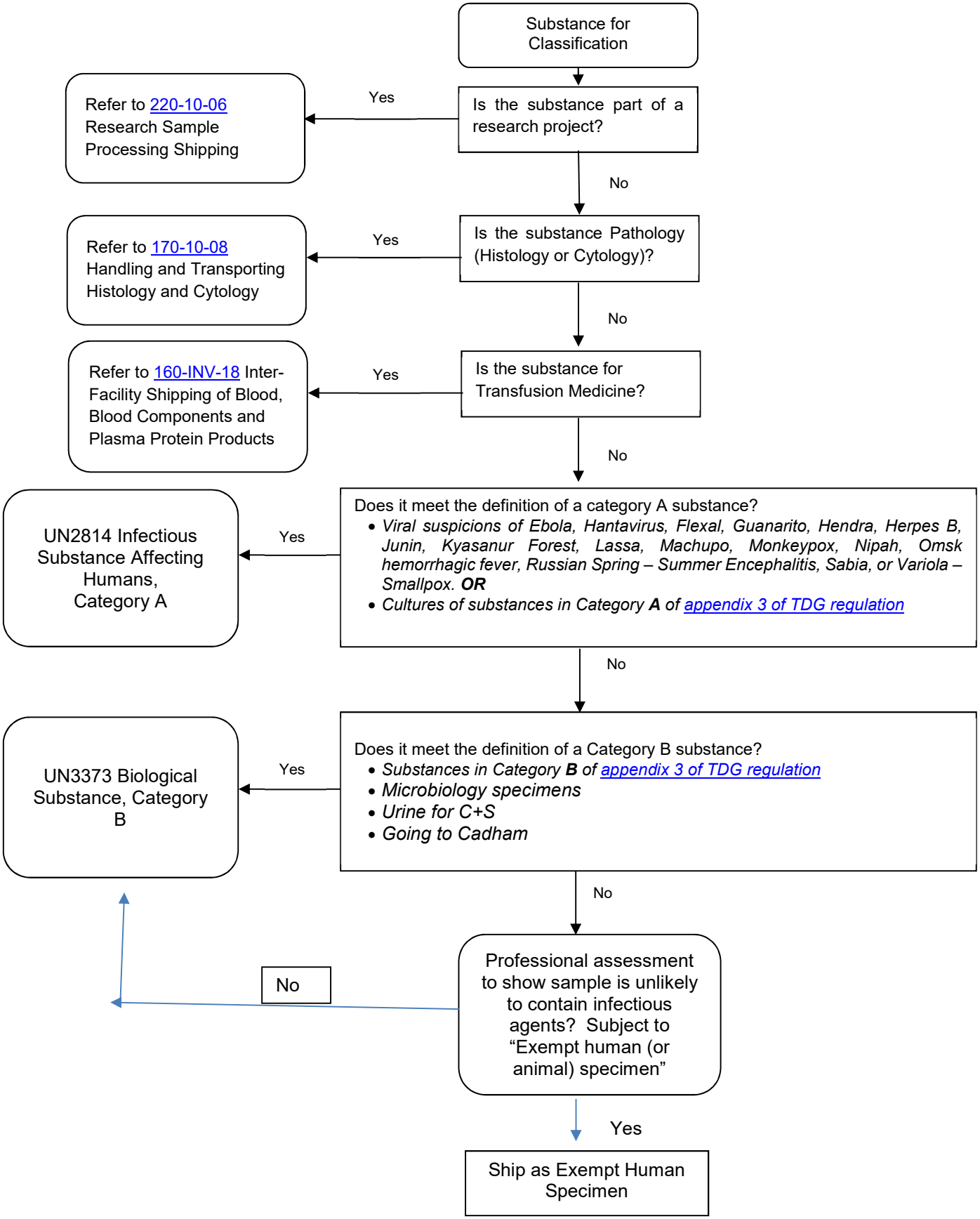
2.0 PROCEDURE:

2.1 Classify Specimens.

2.1.1 If specimen is a Research sample refer to 220-10-06 Research Sample Processing Shipping.

2.1.2 If specimen is a Pathology sample refer to 170-10-08 Handling and Transporting Histology and Cytology Specimens.

2.1.3 Determine if the specimen/culture is a Category A Infectious Substance, Category B Biological Substance or Exempt Human Specimen (patient specimen) by the following chart below and checking the LINK: https://tc.canada.ca/sites/default/files/migrated/bulletin___shipping_infectious_substances.pdf


Substance for Classification
Is the substance part of a research project?
Yes
Refer to 220-10-06 Research Sample Processing Shipping
No
Is the substance Pathology (Histology or Cytology)?
Yes
Refer to 170-10-08 Handling and Transporting Histology and Cytology
No
Is the substance for Transfusion Medicine?
Yes
Refer to 160-INV-18 Inter-Facility Shipping of Blood, Blood Components and Plasma Protein Products
No
Does it meet the definition of a category A substance?
• Viral suspicions of Ebola, Hantavirus, Flexal, Guanarito, Hendra, Herpes B, Junin, Kyasanur Forest, Lassa, Machupo, Monkeypox, Nipah, Omsk hemorrhagic fever, Russian Spring – Summer Encephalitis, Sabia, or Variola – Smallpox. OR
• Cultures of substances in Category A of appendix 3 of TDG regulation
Yes
UN2814 Infectious Substance Affecting Humans, Category A
No
Does it meet the definition of a Category B substance?
• Substances in Category B of appendix 3 of TDG regulation
• Microbiology specimens
• Urine for C+S
• Going to Cadham
Yes
UN3373 Biological Substance, Category B
No
Professional assessment to show sample is unlikely to contain infectious agents? Subject to "Exempt human (or animal) specimen"
No
Yes
Ship as Exempt Human Specimen

2.2 Exempt Human Specimens and UN3373 Biological Substance Category B.
Exempt Human Specimens: Only when professional assessment rules out infectious substances UN3373 Biological Substance, Category B: Majority of Microbiology specimens, urine for C+S. Also, specimens going to Cadham

2.2.1 The requirements for these categories are very similar and often transported together, with a difference in labeling.

2.2.2 A rigid outer/inner container or box is required for both categories, and Category B requires one side to be at least 10cm by 10cm. Appropriate transport containers (fiberboard boxes, rated Transport Canada (TC) containers that meet CAN/CGSB-43.125-20121 are suitable outer containers for both categories, as are boxed Styrofoam (particularly for dry ice).

2.2.3 Retrieve an appropriate outer container

2.2.4 A Ziploc bag for each category of samples is needed, and must be large enough to be sealed with samples. Clear plastic Ziploc bags are preferred, no biohazard design required.

2.2.5 Place absorbent packing material in the bottom of the Ziploc bag(s). Absorbent packing material must be able to absorb/neutralize all the fluid in case of leak.

2.2.6 Keep all liquid type samples in an upright position when transporting, if possible. The use of racks and packaging material will aid in this.

2.2.7 **For Exempt Human Specimen** samples, place in a plastic sample rack. Place samples in Ziploc bag. Seal Ziploc bag.

2.2.8 **For UN3373 Biological Substance Category B** samples, place patient's samples in Ziploc bag. Seal Ziploc bag. If sample container is glass, use extra precautions to minimize contact between other samples such as the use of racks or bubble wrap.

2.2.9 Place accompanying patient/test requisitions between the Ziploc bag(s) and container, or in the pouch(es) of the Ziploc bag(s).

2.2.10 **Note:** If dry ice is required, it must be placed between the Ziploc bags and the container, both above and below the Ziploc bags. The container must permit the release of carbon dioxide gas, therefore do not use a cooler, use an appropriate Styrofoam container that meets TC CAN/CGSB-43.125-2021.

2.2.11 Insert Ziploc bags(s) into the outer container.

2.2.12 **For non-routine shipments it may be valuable to include a waybill or return addressed Purolator bag (or similar) to prompt the return of the empty shipping container.

2.2.13 Close and fasten the outer packaging ensuring it cannot pop open during transport.

2.2.14 Affix an outer label/tag indicating if the cooler contains STAT specimens

2.2.15 **LABELS:**

2.2.15.1 Consignor/From and Consignee/To address labels that include the name and phone number of contact persons.

2.2.15.2 Additional Safety Mark Labels as required:

a) Dry Ice labels (when shipping with dry ice) with the net quantity of dry ice in kg must be marked on the outside of the package/label

b) Orientation/Upright (when shipping by air)

2.2.15.3 **If Category B substances are included,**
- *a) "Biological Substance Category B"*
- *b) UN Number – UN3373*
- *c) a 24-Hour Number for the consignor*

2.2.15.4 **If Exempt Human Specimens only,**
- *a)* "*Exempt Human Specimen*"

2.3 UN 2814, Infectious Substance Category A (Virus & Bacteria)

2.3.1 **If assistance with the classifying, packing and labelling procedure is required, please contact Health & Safety staff. (204-926-8130)**

e.g: **1)** Ebola, Hantavirus, Flexal, Guanarito, Hendra, Herpes B, Junin, Kyasanur Forest, Lassa, Machupo, Monkeypox, Nipah, Omsk hemorrhagic fever, Russian Spring – Summer Encephalitis, Sabia, or Variola – Smallpox. OR
2) Cultures of , or substances in Category A of appendix 3 of TDG regulation

2.3.2 Retrieve a Category A Kit: Saf-T-Pak.
Outer containers used to ship UN 2814 Category A Infectious Substances must pass stringent testing requirements. Manufacturers are required to place UN certifying markings on the container. The outer container must be of a rigid material. A cardboard coil inside the outer container holds a rigid plastic secondary packaging from moving around.

2.3.3 Verify that the Outer container is in good shape and has the UN Certification Label. Containers without the certification mark will be rejected for shipment.

2.3.4 Place absorbent material inside a Ziploc bag and then inside the hard-plastic secondary packaging. Absorbent packing material must be able to absorb all the fluid in case of leak.

2.3.5 Para film the lids on every sample. Samples containing liquids must be wrapped with absorbent packing material.

2.3.6 If multiple samples, they must be either individually wrapped or separated so as to prevent contact between them. Wrap each specimen snugly in bubble wrap to prevent contact between each specimen.

2.3.7 Insert samples into the hard-plastic secondary packaging, keep all liquid type samples in an upright position when transporting, if possible. The use of racks and packaging material will aid in this.

2.3.8 **Note**: If dry ice is required, it must be placed between the Secondary Packaging and the container. The container must permit the release of carbon dioxide gas and meet the requirements of TC CAN/CGSB-43.125-2021.

2.3.9 Place lid on the plastic packaging and place in the cardboard coil in the box.

2.3.10 Place accompanying patient/test requisitions between box and the plastic secondary packaging.

2.3.11 **For non-routine shipments it may be valuable to include a waybill or return addressed Purolator bag (or similar) to prompt the return of the empty shipping container.

2.3.12 Close and fasten the outer packaging ensuring it cannot pop open during transport.

2.3.13 Affix an outer label/tag if the cooler contains STAT specimens

2.3.14 **LABELS:**

2.3.14.1 Consignor/From and Consignee/To address labels that include the name and phone number of contact persons.
2.3.14.2 Date Shipped
2.3.14.3 Primary Class Label – 6.2 Infectious Substance and orientation labels.
2.3.14.4 UN Number – UN2814
2.3.14.5 Proper Shipping Name – UN 2814, Infectious Substances Affecting Humans, Category A
2.3.14.6 Additional Safety Mark Labels as required:
a) Dry Ice labels (when shipping with dry ice) with the net quantity of dry ice in kg must be marked on the outside of the package/label
b) Orientation/Upright (when shipping by air)
2.3.14.7 UN Package Certification mark

4G Class 6.2/09

CAN/SAF-T-PAK 8-39

UN symbol (u over n in a circle)

First number indicates package type – 4 – box; 5 - bag

Next letter indicates material (G – Fiberboard; H – plastic)

DG Class (Class 6.2)

2.3.14.8 Carrier
2.3.14.9 # of packages requiring labels
2.3.14.10 1 Fiberboard (or applicable packaging materials) package weighing xx grams
2.3.14.11 Additional information or special instructions

3.0 **REFERENCES/Associated Documents:**

3.1 Transport Canada – TDG Regulations: https://laws-lois.justice.gc.ca/eng/regulations/sor-2001-286/page-1.html#h-1227366

3.2 Transport Canada – Shipping Infectious Specimens - TC CAN/CGSB-43.125-2016

3.3 Transport Canada - Special Provision # 165 - https://wwwapps.tc.gc.ca/saf-sec-sur/3/sched-ann/schedule2.aspx?UN=&SP=165

3.4 Transport Canada - CAN/CGSB-43.125-2021 - https://tc.canada.ca/en/dangerous-goods/can-cgsb-43125

3.5 Job Aid JA100-10-87A V01 Packaging Send Out Samples Using Specimen Racks

3.6 Job Aid JA100-10-87B V01 Pathology Laboratory Specimen Packaging and Shipment Guide

3.7 TDG Bulletin - Shipping Infectious Substances Transport Canada 2023

3.8 Classification of Patient Specimens Transport Canada 2023

Appendix A: Materials

- Specimens and requisitions
- Specimen Classification flow chart
- Appendix 3 of TDG Regulation
- 220-10-06 Research Sample Processing Shipping SOP
- Shipping documents ex. Waybills
- Appropriate box/shipping container, type is specimen category dependent. Ex. Container or Saf-T-Pak kit
- Zipper type plastic bags –generically referred to as Ziploc.
- Absorbent Packing Material. – An appropriate type for the fluid being absorbed
- Sample racks (labelled with the site for return later)
- bubble wrap, category dependent
- Dry Ice and associated safety material & PPE, as required
- Parafilm
- Stat label/tag
- PPE
- Labels:
    - Address labels
    - UN 2814 Infectious Substance Category A - Primary Class Label – 6.2
        - (Already included on Saf-T-Pak)

& UN2814-Infectious Substance Affecting Humans, Category A

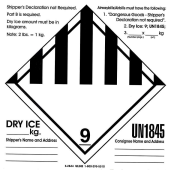
    - UN 3373 Biological Substance Category B

& UN3373-Biological Substance, Category B & a 24-Hour Number

    - Exempt Human Specimens

Exempt Human Specimens

    - Safety Mark Labels
        - Orientation arrows
        - Dry Ice label with quantity & Class 9 Miscellaneous



OR 

& UN 1845, Dry Ice
_____KG NET WT

See Appendix 1A/2A – Shipping of Specimens/Shipment of Reagent or Equipment Labels below

Appendix B: Receipt and Returning of Transport Containers

Materials required:

- PPE – lab coat, gloves
- Facility Approved Disinfectant wipes (ex. Percept/Accel)
- "Empty" labels

Receiving and Returning Transport Containers:

1. Upon receipt ensure proper labeling was in place on container ie. cooler/box
    a. Category B Saf-T-Paks are pre-printed with UN 3373
2. Open and remove all items inside container
3. Remove all shipping labels and return reusable labels.
4. Wipe the inside of the container with disinfectant wipes if visibly soiled or contents had leaked
5. Replace racks, ice packs, and Nalgene containers for return to the referring site.
6. Discard specimen foam inserts *(One time use only)*
7. Special Provision 165 of the TDG Regulations allows the use of the Category B mark even if the packaging is empty.

For returning multiple Category B Saf-T-Paks

(Note: special provision 165 allows Category B Saf-T-Paks to be sent empty while displaying UN3373. (ie. diamond)), However the label stating "…Biological Substance, Category B" is not covered by this provision and must not show.

8. Fold lid into box to indicate it is empty
9. Place Saf-T-Pak into large clear bag, or larger transport container
10. Fill larger transport container/bag with as many Saf-T-Paks as possible to return to sending site.
11. Place collection of Saf-T-Paks in appropriate or designated location for courier pick up to return to site

Receiving Empty Transport Containers:

1. Unpack returned items ex. heat/ice packs, and racks as necessary
2. Check for supplies sent
3. Check for returned or missed samples
4. Wipe the container with disinfectant wipes

Appendix 1A: Shipment of Specimens

TO:

Shared health Soins communs Manitoba

SITE NAME

STREET ADDRESS
CITY, PROVINCE
POSTAL CODE
PHONE NUMBER

FROM:

SITE NAME
STREET ADDRESS
CITY, PROVINCE
POSTAL CODE
PHONE NUMBER

Specimen	
Room Temp	☐
Fridge	☐
Freezer	☐
Winnipeg Sample Enclosed	☐

EMPTY COOLER

Second Checked Cooler is Empty (Initials) _____

Return to:

SITE NAME

STREET ADDRESS
TOWN, PROVINCE
POSTAL CODE
PHONE NUMBER

Appendix 2A: Shipment of Reagent or Equipment

TO:

Shared health Soins communs Manitoba

SITE NAME

STREET ADDRESS
CITY, PROVINCE
POSTAL CODE
PHONE NUMBER

FROM:

SITE NAME
STREET ADDRESS
CITY, PROVINCE
POSTAL CODE
PHONE NUMBER

Reagent/Equipment	
Room Temp	☐
Fridge	☐
Freezer	☐

EMPTY COOLER

Second Checked Cooler is Empty (Initials) _____

Return to:

SITE NAME

STREET ADDRESS
TOWN, PROVINCE
POSTAL CODE
PHONE NUMBER