Packaging & Transport of Biological Material Checklist

SCOPE:

- This checklist must be followed regardless of the destination of the biological material (i.e., between VU campuses, local/within Victoria, interstate, or overseas). Refer to the Biosafety – Packaging and Transport of Biological Materials Procedure.
- This document only relates to how the samples must be package/contained and does not cover whether or not a permit is required to ship the material. Please refer to the Biosafety – Importing and Exporting Biological Material Procedure for regulatory and permit requirements.

DETAILS OF PERSONNEL & MATERIAL

Researcher/Sender name:

Technical Manager name:

Description of material:

Destination/Recipient:

1. PRIOR TO TRANSPORT

☐ Have you confirmed if a Material Transfer Agreement is required, and if so, has it been implemented? An MTA is required PRIOR to the transport of any biological material to another organisation, including for research collaboration purposes, the transfer of research materials following the relocation of a researcher, or fee-for-service testing at another facility.

If an MTA is required, complete a **Material Transfer Agreement (MTA) Coversheet**, and submit to **Research Contracts**.

☐ Have you consulted your local **Technical Manager** (TM) to assist with the packaging and transport of your biological material, and provided them with a completed **Transfer of Biological Risk Group Material Form**? Please include the name of the TM above.

☐ Have you determined the Category of your Biological Material? See Appendix 1.

☐ Have you determined the mode of Transport: ☐ Air, ☐ Road, ☐ Rail, ☐ Internal

☐ Have you determined the type of packaging required for the mode of transport? See Appendix 2.

☐ Have you informed with the recipient of the intention to ship and the intended mode of transport?

☐ Have you determined that the recipient has the authority and infrastructure required to receive the shipment?

2. APPROPRIATE PACKAGING FOR EXTERNAL TRANSPORT (tick all applicable)

☐ **Category A:** Biological materials packed in a **triple**-containment, high integrity packaging, as illustrated in the accompanying Appendix 3 for air transport

☐ **Category B:** Biological materials packed in a **triple**-containment secure package, as illustrated in the accompanying Appendix 4 for air transport

☐ **Category C (Exempt Category):** Biological materials packed in a **triple**-containment secure package, as illustrated in the accompanying Appendix 4 for air transport

☐ **Category B and C Biological materials**: packed in a **basic triple**-containment secure package when transported by road or pedestrian, as illustrated in the accompanying Appendix 5

☐ Packaged and labelled by **qualified commercial courier? OR,**

☐ Packaged and labelled by **internal IATA qualified VU personnel and/or with assistance from local Technical Manager?**

3. APPROPRIATE PACKAGING FOR INTERNAL TRANSPORT (between or within VU sites)

☐ Basic triple-containment packaging for Internal Transport between buildings and campuses, as illustrated in the accompanying Appendices 5 and 6.

☐ PRIMARY PACKAGING

- Must be sealed, i.e., an Eppendorf tube sealed with tape/Parafilm, a petri dish sealed with tape/Parafilm, a bag of waste that has been secured closed (e.g., zip ties).
- Must be surrounded by enough absorbent material to soak up the volume of liquid inside.

☐ SECONDARY PACKAGING

- Must be sealed in watertight leak-proof packaging.
- If required, an appropriate coolant (e.g., ice bricks, gel packs or dry ice) can be included between the secondary and tertiary packaging. Wet ice is not recommended due to potential for leaks and spills, but may be used where the transit time is very short.

☐ TERTIARY/OUTER PACKAGING

- Must be sealed and be of rigid, solid and durable construction (e.g., solid esky).
- Must be clearly labelled (common esky must be labelled 'no food or drink').
- Must be larger than a 5cm cube. NB: polystyrene esky is NOT suitable, unless housed in a snuggly fitting cardboard box.

4. CORRECT LABELLING & DOCUMENTATION FOR MODE OF TRANSPORT: Air, Road, Rail, or Internal (tick all applicable)

☐ Biohazard symbol

☐ Dangerous Goods label/s, as applicable (e.g. DG Class 6.2 for infectious material, DG Class 9 Miscellaneous for dry ice)

☐ UN Number

☐ IATA Shipper's Declaration for Dangerous Goods

☐ Consignment note or airway bill

☐ Brief description of the contents

☐ Name and contact phone number of a Researcher, Technical Manager, or the Biosafety Manager

☐ Name and contact phone number of recipient

☐ All applicable risk assessments must be completed (especially relevant for internal transport)

☐ Documented procedure for dealing with spills. Note that a spill kit should be available during transportation, e.g. the location of the nearest spill kit must be known, or a spill kit carried during transport.

5. ALL PACKAGING, LABELLING, MARKING AND DOCUMENTATION CHECKED

☐ Appropriate mode of transport for the type of biological material

☐ Appropriate packaging for the type of biological material

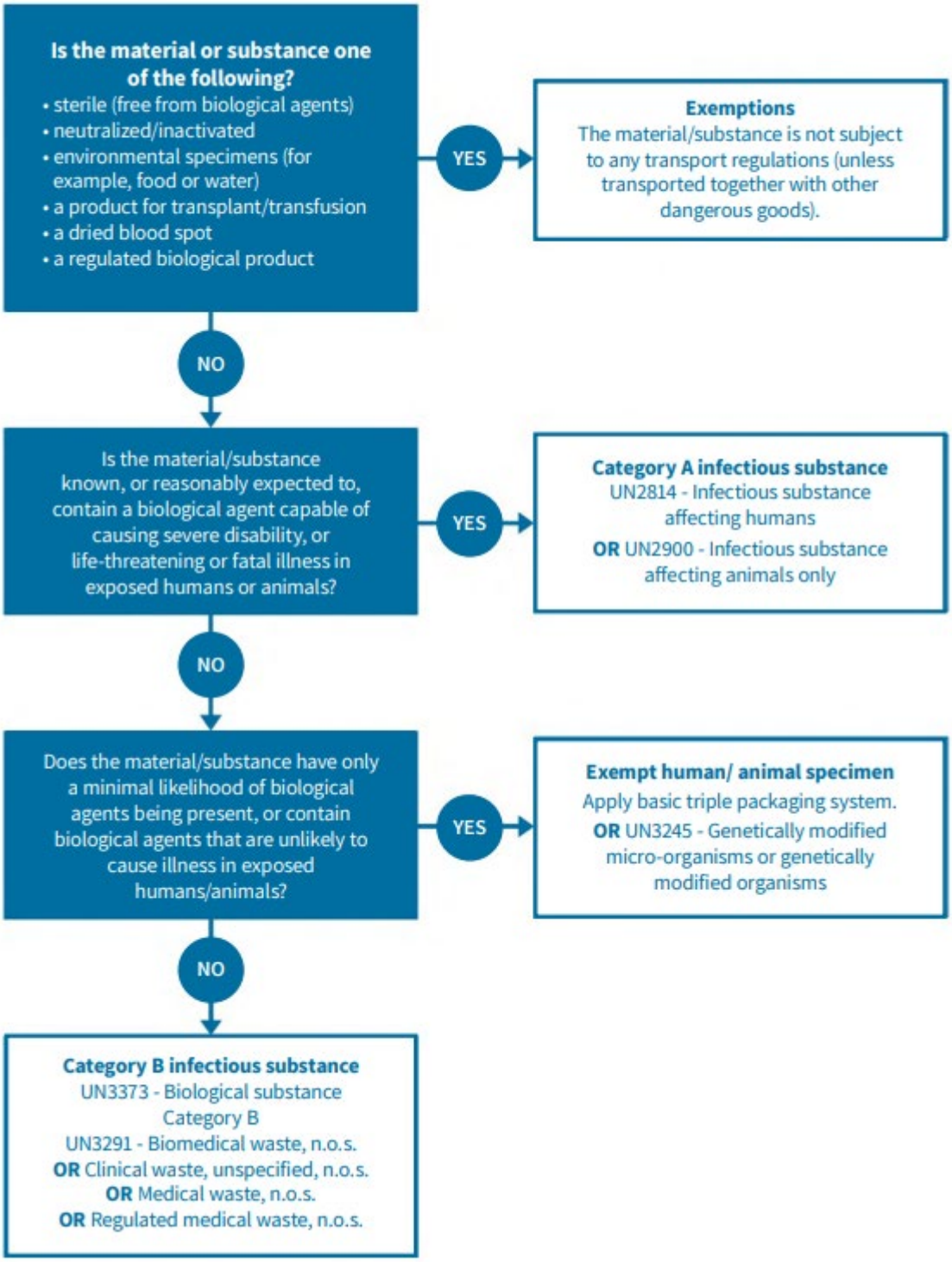
☐ All labelling and supporting documentation checked and correct

CHECKLIST REVIEW / DETAILS OF TRANSPORT

- ☐ **Commercial Courier** (if applicable)**:**
- ☐ **Dispatch date:**
- ☐ **Tracking details:**
- ☐ **Confirmation of delivery:**
- ☐ **Researcher/sender confirmation:**
- ☐ **Technical Manager confirmation:**

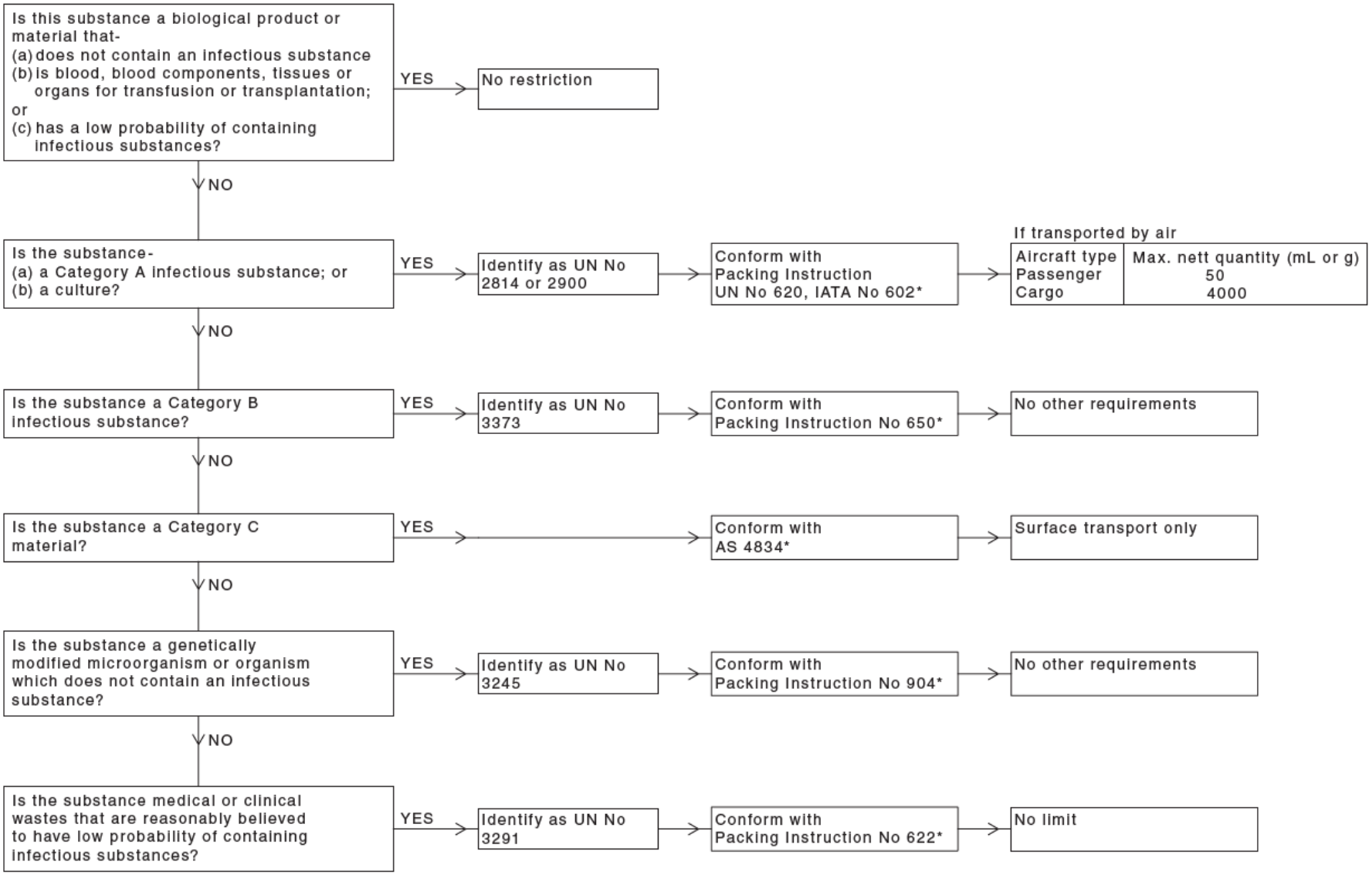
NB: Immediately notify the Senior Manager, Research Infrastructure & Biosafety, of any adverse events that occur during transport.

Appendix 1: A simplified overview of the process of defining and classifying infectious substances



(Source: WHO Guidance on regulations for the transport of infectious substances 2023-2024)

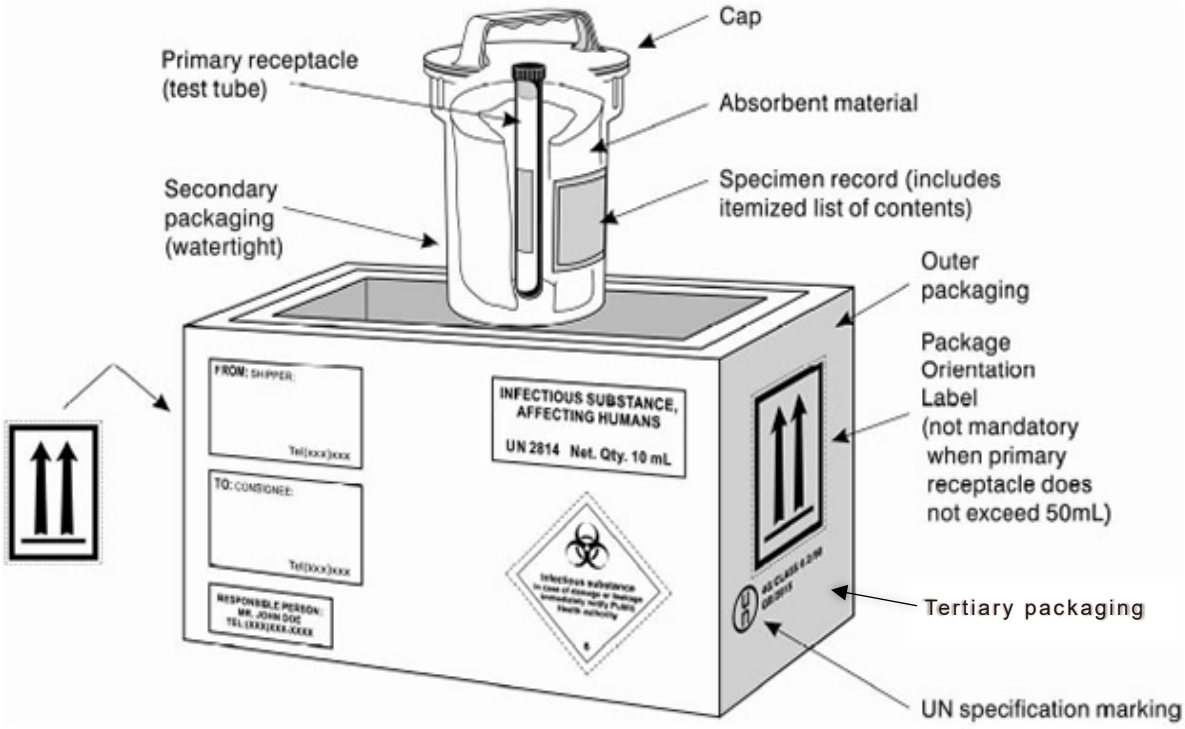
Appendix 2: Summary of biological material packaging instruction classification



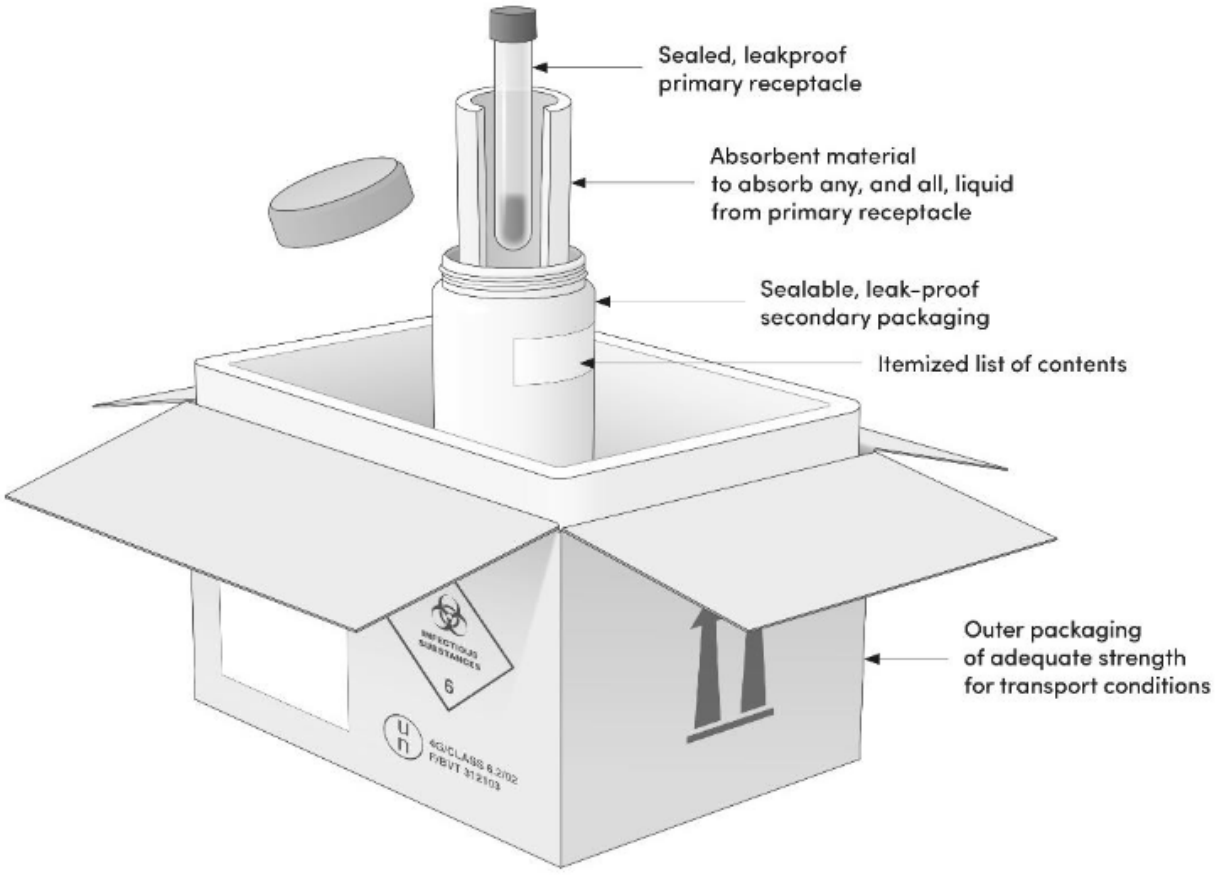
(Source AS/NZS 2243.3)

NB: Biological material with minimal likelihood that pathogens are present is considered Category C for surface transport in Australia only, and Exempt Category for air transport under IATA.

Appendix 3: Triple packing and labelling requirements of Category A infectious substances.

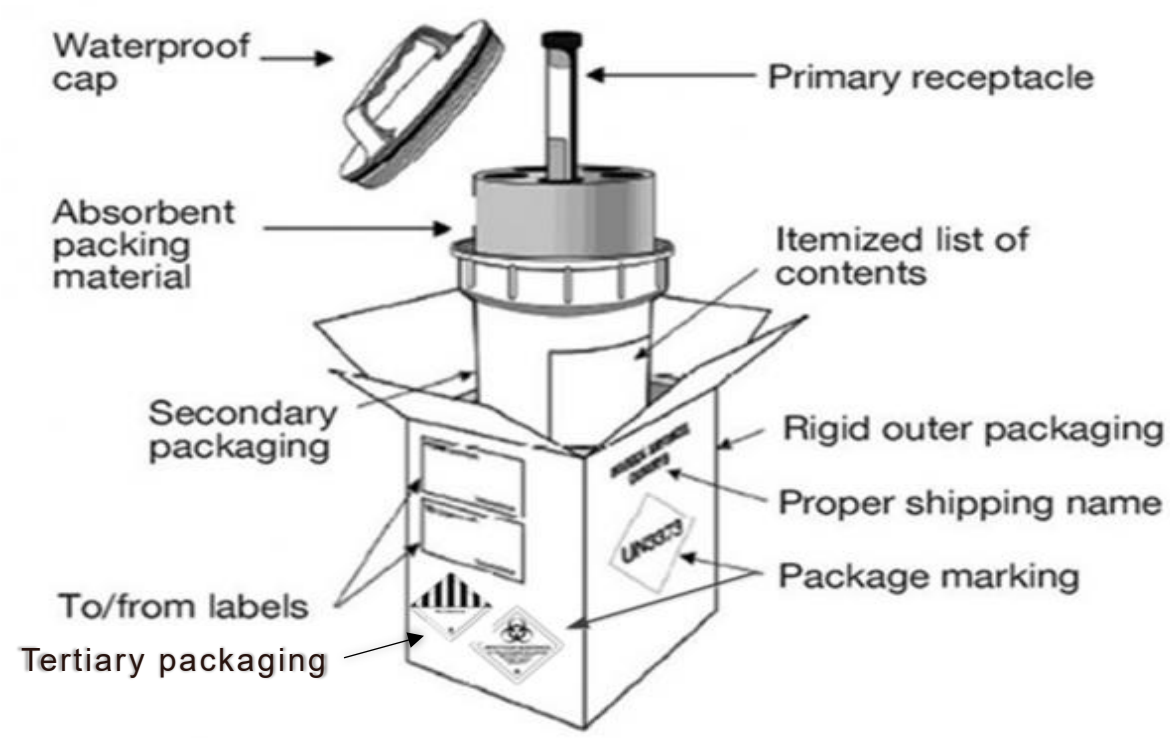


(Source AS/NZS 2243.3)

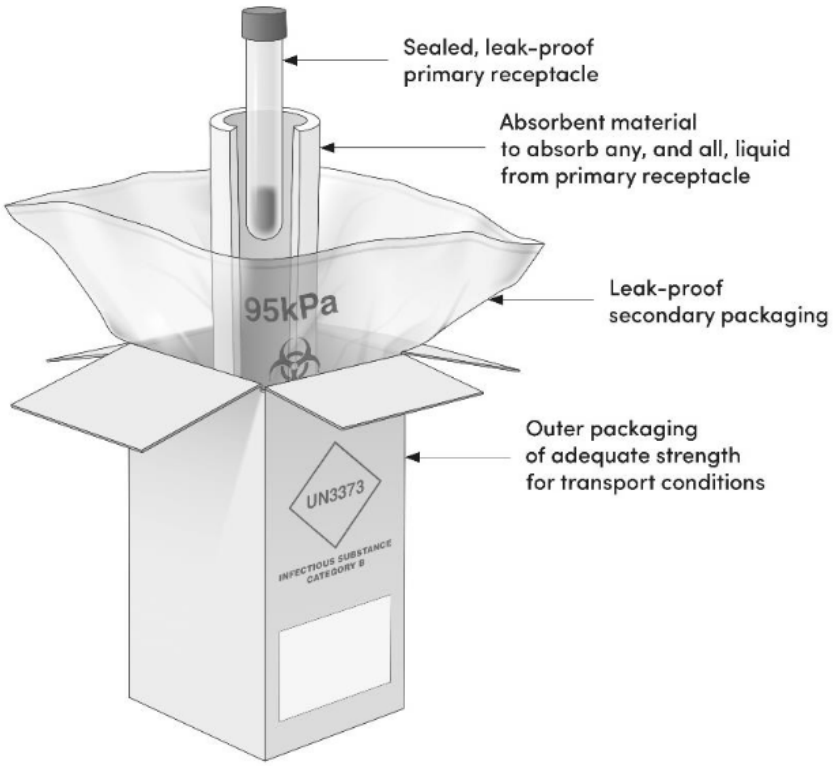


(Source: WHO Guidance on regulations for the transport of infectious substances 2023-2024)

Appendix 4: Triple packing and labelling requirements of Category B infectious substances, or exempt biological material, when transported by air.



(Source AS/NZS 2243.3)



(Source: WHO Guidance on regulations for the transport of infectious substances 2023-2024)

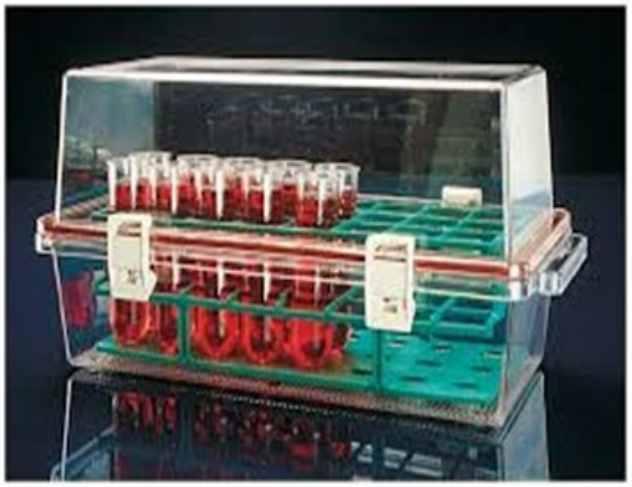
Appendix 5: Examples of basic triple containment packaging materials, suitable for transporting Category B and C materials by road, or for internal pedestrian transport of biological material.

(Source: WHO Guidance on regulations for the transport of infectious substances 2023-2024)

Appendix 6: Examples of packing for transport between or within VU campuses and sites

Suggested Carriers:

Bio Transport Carrier: This closed-system carrier is designed to protect the lab worker during transportation of vessels filled with potentially hazardous biological material. The box should offer excellent visibility of contents, be tough and break-resistant with easy-to-grasp side handles that are moulded in clamps to securely hold the carrier closed and assure a leak-proof seal. The box should be autoclavable.



Esky / insulated boxes: For larger items, a suitably labelled esky can be used (clearly labelled as containing biological material and 'no food or drink'), or commercially available insulated boxes.

Example of triple packaging for Category B material:

(Source: HT Polar Box online store)

Example of triple packaging for Category C material:

Primary container and absorbent material are placed together in a sealable zip lock bag as the secondary container. The assembled pack is placed in a leak-proof carrier as the tertiary container. Coolant can be added to the tertiary container, e.g., ice bricks, gel packs, or dry ice. Note that wet ice is not recommended due to potential for leaks and spills, but may be used where the transit time is very short.

(Source: NUS Department of Medicine)

Example of specialist equipment for ultracold transport:

Vessels like the CryoHandy can be used for short-term transport of biological material at 150°C (max 4 hours). Note that this vessel constitutes a secondary container and would therefore need to be transported in a sealed tertiary container, noting that outer packaging must be rigid and durable, with vents or permeable design to allow gas escape.

- This form is used for the monitoring of incoming and outgoing biological risk group material at VU.
- This form must be signed and submitted to the Technical Manager responsible for the facility prior to the movement/receipt of material, so that the local lab inventory can be maintained.
- Accurate lab inventories are critical to ensure safety, regulatory compliance, ethical standards, and insurance requirements.
- Please refer to the Biosafety – Packaging and Transport of Biological Materials Procedure and the Packaging and Transport of Biological Material Checklist when transferring any biological material.
- Please refer to Research Contracts to determine if a Material Transfer Agreement (MTA) is required for this transfer. Note that an MTA, if required, must be approved ***prior*** to the transfer of biological material.

Contact details:

Name		**Staff ☐ Student ☐**	
Email		**College/Campus**	
Mobile		**Supervisor**	

Biological Material Source/Destination:

Tick the relevant box to determine which section(s) must be completed

Internal transfer between VU campuses [Material is being moved from one VU campus to another, and may be returned later]	☐	Please complete the **Outgoing** & **Incoming** Biological Material sections [for duplicated information between the sections, insert "as above"]
Receiving from an external provider (commercial or research organisation) [Material is coming from outside the university, includes new or returning material]	☐	Please complete the **Incoming** Biological Material section
Imported from overseas [Material is being received from an international provider]	☐	Please complete the **Incoming** Biological Material section
Transferring outside of VU, or being destroyed [Material is being removed from VU, either temporarily or permanently]	☐	Please complete the **Outgoing** Biological Material section

Outgoing Biological Material:

Add rows as required.

Identification of biological material *[Indicate name, sample ID, organism, species, strain, etc., as applicable]*	**Description** *[Indicate risk group classification, GMO/imported biological status, applicable ethics approval number, etc.]*	**Is the material to be transferred or destroyed?**	**Form & Quantity** *[E.g., plasma/serum, muscle tissue, cell culture, agar plate, environmental sample, etc., and include quantity of each and/or total quantity]*	**Storage location** *[Indicate building, floor, room, freezer/fridge/ LN2 tank, shelf/rack, box & box position number]*	**Transport arrangements** *[Indicate packaging arrangements & UN class, courier details, etc.]*	**Destination** *[Indicate name, organisation & contact details of recipient]*	**Date of transfer**

Incoming Biological Material:

Includes any new samples, or samples transferred between VU campuses (even if returning), as these are still considered active materials. Add rows as required.

Identification of biological material *[Indicate name, sample ID, organism, species, strain, etc., as applicable]*	**Description** *[Indicate risk group classification, GMO/imported biological status, applicable ethics approval number, etc.]*	**Source details** *[Indicate if source is commercial or non-commercial, domestic or imported, and the contact details of source]*	**Form & Quantity** *[E.g., plasma/serum, muscle tissue, cell culture, agar plate, environmental sample, etc., and include quantity of each and/or total quantity]*	**Storage location** *[Indicate building, floor, room, freezer/fridge/ LN2 tank, shelf/rack, box & box position number]*	**Access** *[Indicate if material is to be submitted to an existing VU database or culture collection, or if access is to be limited to a specific lab group, project or individual]*	**Campus of origin, if internal transfer** *[Leave blank if from external source]*	**Date of transfer**

MTA Criteria: Does this transfer require an MTA? **YES** ☐ **NO** ☐

If yes, has the MTA been approved and provided to the Technical Manager? **YES** ☐ **NO** ☐

Researcher & Technical Manager sign off:

Researcher name		**Technical Manager name**	
Signature		**Signature**	
Date		**Date**	