



## Transportation of Dangerous Goods (TDG) – Packaging Infectious Substances

### **1. Purpose:**

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To provide instruction on how to properly and safely package infectious substances (dangerous goods).

### **2. Scope:**

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Applies to everybody working in the CL2 facility who will be packaging infectious substances for transport.

### **3. Prerequisites:**

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WHMIS, Laboratory Biosafety Training, TDG training, [Biosafety Permit](#), and relevant import/export documents which can be found here: [Biosafety Website](#)

### **4. Responsibilities:**

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Principal investigators are responsible to enforce this SOP and lab-personnel are responsible to comply. It is the responsibility of those packaging the goods, that they use the appropriate type of packaging.

### **5. Personal Protection Equipment (PPE):**

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### **6. Procedure:**

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- 1) Determine whether Risk Group 2 organism belongs to **Category A or B**, by consulting [Appendix 3 SOR/2008-34](#) of the TDG Regulations. Infectious substances in Category A are **high risk**.

- a. If **Category A**, determine proper shipping name. Note: Category A infectious substances that are infectious to both humans and animals are classified as UN2814.
    - UN2814, Infectious substance, affecting humans, or
    - UN2900, Infectious Substance, affecting animals only
  - b. If **Category B**, the proper shipping name is:
    - UN3373, Biological Substance, Category B
- 2) Choose appropriate packaging based on Category and shipping name:
- a. **Type P620** (used for UN2814, 2900, 3291 and 3373);
    - UN2814- Category A
    - UN2900- Category A
    - UN3291- Waste
    - UN3373- Category B
  - b. **Type P650** (used for UN3291 and 3373); OR
    - UN3291- Waste
    - UN3373- Category B (including Category A infectious substances that can be shipped as Category B)
  - c. Standardized and non-standardized packaging permitted in Part III of the [CAN/CGSB-43.125](#) standard for the transport of infectious substances intended for disposal (UN2841 or 2900) or clinical, (bio) medical or regulated waste (UN3291)
- 3) Packaging must protect the material from damage during shipping and conform to UN requirements (must have the UN safety mark on the outside) and must meet the shipping criteria of the International Civil Aviation Organization (ICAO). In most circumstances, combination packaging is used (a leak-proof container which cushions and stabilizes the contents from shifting or movement inside a box. The dangerous good(s) are within a sealed container, which is then placed in an outer package that protects it from damage). See [Appendix Figure 1](#) for example.
- 4) A **Type P620** Packaging is a triple packaging system consisting of:
- a. Inner packagings:
    - leakproof primary receptacle(s);
    - leakproof secondary packaging(s);
  - b. a rigid UN Standardized outer packaging
  - c. a UN packaging symbol, packaging code, the text "CLASS 6.2", the last two digits of the year of manufacture, the country authorizing the allocation of the marking, and the name or symbol of the manufacturer and other identification of the container as specified by the country authorizing the allocation of the mark (e.g., design registration number).

Note: The assembled packaging must be capable of successfully passing the performance tests set out in section 7 of the [CAN/CGSB-43.125](#) standard. Refer to [Appendix Figure 2](#) for Type P620 Packaging example.

- 5) A **Type P650** packaging is a triple packaging system consisting of:
  - a. Inner packaging comprising:
    - Primary receptacle(s) (leakproof or siftproof);
    - Secondary receptacle(s) (leakproof or siftproof) with a list of contents on the outside of the secondary receptacle is required;
  - b. An outer packaging with at least one surface having a minimum dimension of 100 mm x 100 mm designed to protect contents from outside influences, such as physical damage, while in transit.

Note: Either the secondary packaging(s) or the outer packaging shall be rigid. Refer to [Appendix Figure 3](#) for Type P650 Packaging example.

- 6) The primary receptacle is restricted to contain less than 1 L, and absorbent material must be placed between the primary and secondary packaging in sufficient quantity to absorb the entire contents of the primary receptacle. The outer packaging must not contain more than 4 L for liquids or 4 KG for solids.

### **Labelling requirements**

- 7) For labelling, there is a set of requirements for what must appear on the outside of a package of dangerous goods which include:
  - Shipping Name
  - UN Identification Number
  - Hazard Class Label(s)
  - Packaging Certification Mark
  - Ship to address

Note: The manufacturer of the carton will typically print on the orientation mark and packaging certification – the shipper usually applies the shipping name, UN number, the hazard class label stickers and the shipping address. See [Appendix Figure 4](#) for example.

- 8) **Shipments of Category A**, Infectious Substances must have a Category A label, which reads: INFECTIOUS- IN CASE OF DAMAGE OR LEAKAGE IMMEDIATELY NOTIFY LOCAL AUTHORITIES AND CANUTEC 613-996-6666. See [Appendix Figure 5](#) for example.
- 9) **Shipments of Category B**, Infectious Substances must have diamond hazard label identifying the UN number on the outer container. The shipping name, Biological Substance, Category B must be written in font at least 6mm high, instead of displaying the Class 6.2, Infectious Substances label. In the case of Category B materials, a 24h emergency response number must also be provided. This would be the telephone number of a responsible person, knowledgeable about the shipment. See [Appendix Figure 6](#) for example.

## References

- AAC (Advanced Analysis Centre) Transportation of Dangerous Goods SOP
- [Transportation of Dangerous Goods Regulations | Government of Canada](#)

## Appendix



Figure 1 Combination Packaging Examples

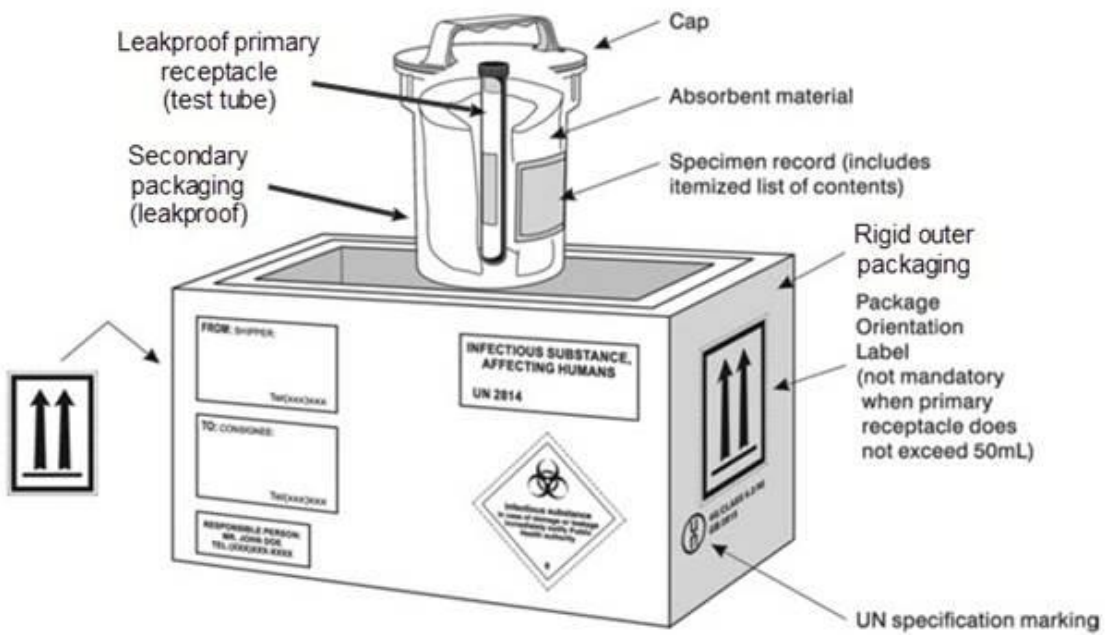


Figure 2 Type P620 Packaging

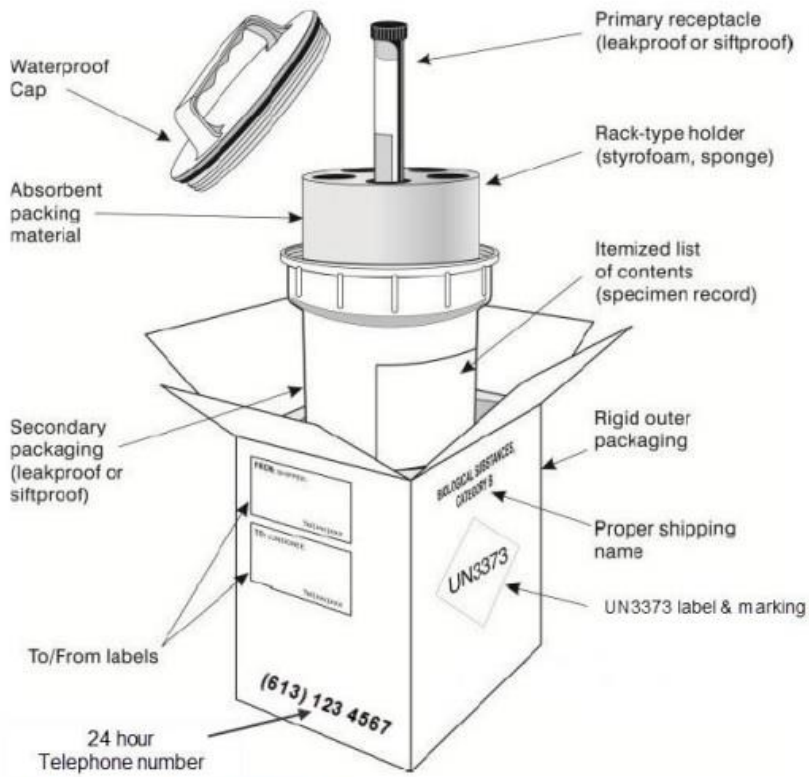


Figure 3 Example of Type P-650 Packaging



Figure 4 Labelling



*Figure 5 Category A Label*



*Figure 6 Category B Label*