### Packing with Dry Ice

The following diagrams are illustrating a typical packaging system. All package components for Category A and B substances. **They must be assembled per the manufacturer’s packing system instructions.**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Primary containers are in direct contact with substance. These leak-proof containers are supplied by the shipper and are not part of the vendor-supplied system.</td>
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</table>
| 2.   | The primary container(s) are then wrapped with enough absorbent material necessary to absorb the total volume of infectious material, should the primary container(s) fail, the infectious substances would be absorbed.  
  a. This absorbent material is typically provided in the packaging system. |
| 3.   | Place the wrapped primary container(s) in an airtight, leak-proof container – called the **secondary container**. |
| 4.   | Place a list of contents between the secondary and tertiary containers.  
  a. Vendors often place a sticker on the exterior of the secondary container for listing the contents. |
| 5.   | Place the secondary container inside a Styrofoam box, enclosed within a fiberboard box.  
  a. If the orientation of the sample has to be maintained (e.g., Category A shipments, use the vendor-provided materials to orient the secondary container within the Styrofoam and fiberboard box.  
  b. Weigh the box before and after adding dry ice to determine the amount of dry ice added. |
6. Place the lid on the Styrofoam box and seal the fiberboard box with packaging tape.
   a. If sample orientation is required, ensure orientation labels are placed on two opposing sides of the box.

7. Affix Shipper, Cosignee, and Responsible Person Information
   a. Shipper and Cosignee: Name, address, and phone numbers
   b. Responsible Person: Name and phone number (to be reached at all times)

8. Affix labels appropriate to the samples being shipped on dry ice
   a. E.g., UN3373 diamond point label, and “Biological Substance, Category B.”

9. Affix Dry Ice Labels
   a. Diamond point class 9 miscellaneous hazard
   b. Proper shipping name and UN#:
      Dry Ice, UN1845
   c. Net weight of Dry Ice (Kg)
Marks and Labels

Dry Ice shipments require the labels described below:

- A Class 9 Miscellaneous hazard black & white diamond-on-point label
- Proper Shipping Name and UN Number (which is either “UN 1845 Dry Ice” or “UN 1845 Carbon Dioxide, Solid”)
- The weight of the Dry Ice (in kilograms) must be included adjacent to the black & white on-point label or the Proper Shipping Name (PSN)
- Any additional substance-specific Marks and Labels required of the material being refrigerated by the Dry Ice

Vendors provide Marks and Labels with the appropriate packaging components. These labels must meet minimal font and dimension requirements.

This is an example of a pre-printed label available on the OH&S website that you can complete and affix on the outside of packages that do not contain Category A or B substances. If you are not shipping Category A or B substances but are shipping with Dry Ice, you must label the contents being cooled.

CONTENTS BEING COOLED:

- Diagnostic or Treatment Purposes
- Exempt Animal Specimen
- Exempt Human Specimen
- Non-Regulated

If you have any questions about the appropriate required Marks and Labels, contact OH&S at 205-934-2487.
Shipper’s Declaration

A Shipper’s Declaration is **required** for UN 1845 Dry Ice **only** when it is used as a refrigerant for Infectious Substances, Category A. If it contains Dry Ice as the packing refrigerant, then the Dry Ice **must** also be listed on the Shipper’s Declaration.

Refer to [49 CFR 173.127](#) to confirm that all requirements have been met.

Waybill

If the items you are shipping do **not** require a Shipper’s Declaration (non-dangerous goods, “Biological Substance, Category B,” or Exempt Human/Animal Specimens) then the following information must be included on the waybill in the “Nature and Quantity of Goods” section:

- UN Number: UN1845
- Proper Shipping Name: “Carbon Dioxide, Solid” or “Dry Ice”
- The Class or Division Number: 9
- The number of packages
- The Net Weight of the Dry Ice in each package
- “UN3373, Biological Substances, Category B” (if appropriate).