

Using Coolants and Refrigerants (Dry Ice) to Ship Temperature Sensitive Materials

Coolants and refrigerants are used to keep temperature-sensitive products cold or frozen while in transit. Dry ice (frozen carbon dioxide) and gel packs are the most common types of coolants/refrigerants used for transport.

Preparing Dry Ice Shipments under IATA or 49 CFR (DOT) Regulations

U.S. Ground Shipments:

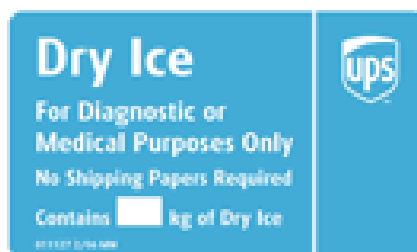
Because dry ice shipments are not regulated for ground transport, simply process these shipments as you would any of your UPS Ground shipments.

Note: Dry ice shipments to and from Alaska, Hawaii, Puerto Rico and Catalina Island must be processed as air shipments.

U.S. Domestic Air Shipments:

(1) For all medical packages on dry ice (prepared under 49 CFR):

- No Hazardous Material Agreement is required
- No Hazardous Material Shipping Papers are required
- Hazardous Material accessorial charges will not be applied
- Process through UPS WorldShip® 2008 version 10.0 (or higher) or compatible software
- Mark the outer carton with:
 - The words "Dry Ice for Medical Purposes"
 - The amount of dry ice contained in the package
- No other paperwork is required.
- You can obtain *Dry Ice for Medical Purposes* stickers (Item #011127) online or by calling 1-800-554-9964.



(2) For non-medical, non-hazardous U.S. domestic air packages with 2.5 kg (5.5 pounds) or less of dry ice (prepared under 49 CFR):

- No Hazardous Material Agreement is required
- No Hazardous Material Shipping Papers required
- Hazardous material accessorial charges will not be applied
- Process through UPS WorldShip 2008 version 10.0 (or higher) or compliant software
- Mark the outer carton with:

- The words "Dry Ice" or "Carbon Dioxide, Solid"
- A description of the non-hazardous contents (e.g. food, meat)
- The amount of the dry ice contained in the package (or a statement that there is 2.5 kg [5.5 pounds] or less in the package)
- No other paperwork is required for these packages

(3) For non-medical U.S. domestic packages with greater than 2.5 kg (5.5 pounds) of dry ice (or all IATA prepared shipments containing dry ice):

- **The following are required under 49 CFR:**
 - UPS Dangerous Goods Agreement required
 - Hazardous Materials shipping papers (\$5 per package dry ice fee applies)
 - The package must be properly marked as containing "Dry Ice" (or "Carbon Dioxide, Solid"), UN1845
 - The net weight of dry ice must be indicated on the shipping papers and can also be marked on the outer package
- **The following are required under IATA:**
 - Process through UPS WorldShip 2008 version 10.0 (or higher), CampusShip or compliant software (\$5 per package dry ice fee applies)
 - Mark the outer carton with:
 - The words "Dry Ice" or "Carbon Dioxide, Solid" and "UN1845"
 - The amount of dry ice contained in the package in KG
 - Class 9 Diamond label

For assistance with these types of shipments, please call the UPS Hazardous Materials Support Center at 1-800-554-9964, or visit the online Hazardous Materials Guide.

Note: When the contents inside a package with dry ice are hazardous materials, please follow normal UPS Hazardous Materials procedures for that commodity in preparing your shipment. For assistance, please call the UPS Hazardous Materials Support Center at 1-800-554-9964, or visit the online Hazardous Materials Guide.

International Shipments:

International shipments containing dry ice may require the shipper to have a UPS International Special Commodities contract. For more information, please contact the UPS Hazardous Materials Support Center at 1-800-554-9964, or visit the online UPS Guide for Shipping International Dangerous Goods.

International dry ice packages require the following under IATA:

- Process through UPS WorldShip 2008 version 10.0 (or higher), CampusShip or compliant software (\$5 per package dry ice fee applies)
- Mark the outer carton with:
 - The words "Dry Ice" or "Carbon Dioxide, Solid" and "UN1845"
 - The amount of dry ice contained in the package in KG

- Class 9 Diamond label

Requirements for Preparing Your Dry Ice Shipments:

- Fill any empty space in your package with appropriate packing material to prevent product movement in transit.
- Wrap temperature-sensitive products in two watertight plastic bags or use absorbent material along with a plastic liner.
- Avoid shipping temperature-sensitive products over the weekend.
- Wrap the refrigerant in paper or another carton to slow the melting rate and prevent excess space when using dry ice.
- Do not place the refrigerant at the bottom of the package because cold air will not circulate.
- Do not seal the inner insulated container when using dry ice. Venting is required to allow some carbon dioxide gas to escape the package.

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Radiation Safety, Shipping Hazardous Materials, Odor Investigations, Regulatory Compliance