



Cargo Tips:
Protecting Temperature Sensitive Products

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Cargo that must remain refrigerated, frozen, chilled or heated is sensitive to damage and requires a temperature and humidity controlled environment during storage and transit.



Chubb's Marine Risk Management specialists recommend paying special attention to the packaging, handling and transportation of your temperature-sensitive products.

Packaging

- _ When a shipment will not move under refrigeration such as during transport in reefer trailers or intermodal containers, the product will have to rely solely on protective packaging. Therefore, package all temperature-sensitive products in qualified shipping cartons. This means that the final packaging has been tested and proven effective in maintaining the desired temperature range given the product, its mass, transport mode, trade route, anticipated transit period and expected environmental conditions.
- _ Provide temperature stability data with specific details relating to the acceptable excursion temperatures and duration for each product. For example, a product that should be maintained between +2 and +8 degrees Celsius may be able to tolerate temperatures between 0 and +15 degrees Celsius for up to 48 hours.
- _ Package-test your temperature-sensitive

products in order to determine the suitability of the packaging to withstand the anticipated rigors (e.g., weather, compression, impact, vibration and shock.) Testing protocols should conform to the International Safe Transit Association, American Society of Testing & Materials or equivalent standards.

- _ Document formal packaging specifications for each temperature-sensitive product. An inspection should be made on the packaged product prior to shipment to ensure compliance with quality control or assurance standards. Retain a copy of the report, signed and dated by the inspector, for at least 90 days.
- _ Identify the optimal temperature and humidity for the packaged product using both written handling instructions and internationally recognized cautionary symbols. Examples of appropriate markings include Keep Cool, Do Not Freeze, and Protect from Light.
- _ Place a temperature recording device in each carton, pallet or shipment, depending on the method of shipment and mode of transport. A self-contained data logger is preferred. Single-use indicator strips do not have the ability to identify the actual temperature extremes reached and the length of time the product was subjected

to these temperatures. There are transportation providers as well as other entities that offer remote monitoring of environmental (temperature & humidity) conditions during transit allowing the potential to intervene should there be a malfunction. You may contact Chubb Marine Risk Management for more information on remote monitoring options.

- _ Inspect the trailer/container prior to loading to ensure there are no holes, tears or defects. The door gaskets need to be intact and in good condition. Make sure the trailer/container is clean, dry, odor-free and suitable for the cargo to be transported.
- _ Inspect the trailer/container prior to loading to ensure that the refrigeration unit is fully functional and that the temperature is set correctly per the shipping documents.
- _ After loading, the trailer/container should not leave until the temperature inside is appropriate.
- _ Stow cargo according to the following practices:

- _ Pre cool cargo to the required carriage temperature.
- _ Pre cool the trailer/container to the appropriate temperature when necessary.
- _ Do not leave any areas open or uncovered on the floor, the front bulkhead or side walls.
- _ Do not stow cargo above the red load line.
- _ Do not stack cargo beyond the end of the "T"-floor.
- _ Turn off the ventilation and humidity if cargo is frozen

- _ Affix a high-security, tamper-evident seal on the trailer/container door. The seal number should be recorded on shipping documentation.
- _ Advise the driver to check the temperature of the trailer/container

every time he/she stops. Temperatures should be recorded in a log. Any deviation outside the acceptable temperature range should be immediately reported to the transport company dispatcher and then to the shipper.

- _ Make sure the driver has the name and phone number of both mechanical and refrigeration facilities that can respond to emergency situations throughout the transit route.

Handling

- _ Establish and document proper handling equipment and procedures for your temperature-sensitive products.
- _ Provide these procedures to all transportation providers and intermediaries that are involved with the shipment's transit, including those that arrange for transportation and/or give shipping instructions, such as freight forwarders.

Transportation

- _ Establish transport provider selection criteria. Aside from generic requirements like excellent on-time performance and claims-free loss experience, they must follow practices specific to temperature-sensitive products, such as:
 - _ Provide specific equipment, such as state-of-the-art trailers/containers and temperature monitors and controls, for the transportation of temperature-sensitive products. There are a number of trucking companies, ocean carriers and airlines that offer special services dealing with perishable goods.
- _ Establish written procedures for ground handling and storage

throughout the supply chain.

- _ Provide suitable refrigerated space or reefer plug-ins for all your temperature-sensitive products that are temporarily stored in any facility in the course of transportation.
- _ Provide evidence, such as facility thermal mapping, to ensure both product quality and regulatory compliance.
- _ Route temperature-sensitive products in the most efficient manner with minimal transfers and transshipments.
- _ Include information on optimal temperature and humidity levels for the product on the shipment documentation.
- _ Include 24-hour contact information on the shipment documentation. The contact person must have the technical knowledge and authority to deal with an emergency.

Procedures in Case of Loss

- _ Perform an immediate inspection of all cargo to both identify the damage and take steps to mitigate the loss.
- _ If there is suspected loss or damage, contact your agent/broker or Chubb North America Claims for guidance. You should also note the loss or damage on the bill of lading or delivery receipt. If a full inspection is impractical at the time the goods are received, state on the documentation "subject to detailed inspection".
- _ You should conduct an incident review on any shipment that is damaged in transit. The review should focus on the nature, cause and extent of the damage and look to packaging, handling and transportation improvements as a way to prevent future casualties.



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