

JTS Johanson Transportation Service

# Freight Industry Guidebook

Topical insights from JTS Thought Leaders

## A Shipper's Guide to Moving Temperature-Controlled Freight

By Jeff Mosqueda, VP of Corporate Sales

In temperature-controlled freight, a few degrees can turn a full load into a rejected one. A missed setpoint, a warm trailer or a gap in records can mean a claim, a destroyed shipment and a damaged customer relationship. The right preparation and the right transportation partner prevent most of these failures.

This guide covers the core guidelines for frozen and fresh shipments, what to look for in a carrier or 3PL, what's changing in the cold chain now, and a checklist you can use on every load.

### Know Your Commodity

Every temperature-controlled load starts with a clear, written temperature requirement. The ranges below are typical; always follow the product's own specifications.

When products need different temperatures, use a multi-temperature trailer with separate zones or ship them separately.

| Category | Typical range | Examples | Handling notes |
|---|---|---|---|
| Frozen | 0°F to (-18°C) or colder | Frozen meat, seafood, prepared foods, vegetables | Ice cream and some seafood need -10 F or colder |
| Chilled | 33 to 38°F (1 to 3°C) | Fresh meat, poultry, dairy, deli | Keep at or below 41F for food safety |
| Fresh produce (cold) | 32 to 36°F (0 to 2°C) | Leafy greens, berries, apples, broccoli | Usually continuous airflow; high humidity helps |
| Fresh produce (cool) | 45 to 58° F (7 to 14°C) | Bananas, tomatoes, citrus, potatoes | Too cold causes chilling injury |
| Mixed loads | Varies | Multi-temperature or multi-stop | Check temp and ethylene compat-ibility before combining. |

### Key Guidelines for Every Load

A reefer is built to hold temperature, not to cool product down. Most cold chain failures start before the truck leaves the dock.

- **Pre-cool the product:** load product at its target temperature. A reefer can't recover warm product quickly.
- **Pre-cool the trailer:** bring the trailer to setpoint before loading, then turn the unit off while doors are open at the dock.
- **Put the setpoint in writing:** list the exact temperature on the bill of lading and load tender, in °F or °C, never as "frozen" or "cool."
- **Choose continuous or cycle mode:** fresh produce usually needs continuous airflow. Frozen loads can often run on cycle (start-stop). State which one you need.
- **Load for airflow:** keep pallets off the walls, leave space at the top and rear, and don't block the return air. Use pallets and packaging designed for cold airflow.
- **Check sanitation:** trailers should be clean, odor-free and free of residue from prior loads, as required under FDA sanitary transportation rules.
- **Keep records:** temperature logs, pulp temperatures at loading and seal numbers support food safety records and any claim.

### What to Look for in a Transportation Partner

The best cold chain partners can prove their performance with data, not promises.

| Capability | What to look for | Why it matters |
|---|---|---|
| Equipment | Late-model reefers, multi-temp options, documented maintenance and pre-trip inspections | Fewer breakdowns and temperature failures |
| Real-time temp monitoring | Telematics with live readings, alerts, and downloadable logs | Problems get fixed in transit, not discovered at delivery |
| Food safety compliance | Written procedures and driver training under the FDA Sanitary Transportation rule | Protects your product and your compliance record |
| Capacity and coverage | Access to reefer capacity in your lanes, including peak produce season | Loads move on time when the market tightens |
| Claims handling | Adequate cargo insurance, clear reefer breakdown coverage and a fast claims process | Losses get resolved instead of disputed |
| Communication | Proactive updates, exception alerts and one point of contact | Earlier warning when plans change |
| Track record | On-time ad temperature-compliance metrics, references in your commodity | Proof they can handle your product |
| Regulatory readiness | Compliance with state equipment rules, such as California's reefer unit regulations | No surprises at delivery in regulated states. |

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## What's Changing in the Cold Chain Now

**Food traceability requirements are coming.** The FDA's Food Traceability Rule (FSMA 204) requires firms handling foods on the Food Traceability List to keep detailed records of key events, including shipping and receiving, and provide them to FDA within 24 hours on request. Compliance is expected by July 20, 2028. *(FDA, NC State Extension)* Start organizing lot codes and shipping records with your partners now.

**California is enforcing reefer unit rules.** CARB's regulation for diesel transport refrigeration units requires unit owners, includin out-of-state carriers, to register units and display compliance labels. Large, refrigerated warehouses, distribution centers and grocery stores in California must report or refuse non-compliant units, and penalties can reach $10,000 per day. (Benesch) If you ship into California, confirm your carriers' units are compliant.

**Sanitary transportation rules still apply.** FDA's Sanitary Transportation of Human and Animal Food rule requires shippers, loaders, carriers and receivers to keep equipment clean, control temperatures and train staff. Your written requirements to carriers are part of compliance.

## Shipper's Checklist

A 3PL works with the carrier assigned to your freight from start to finish, helping your temperature-controlled commodities travel as safely and efficiently as possible.

**Before tender**

- Temperature setpoint written in °F or °C
- Continuous or cycle mode specified
- Product compatibility checked for mixed or multi-stop loads
- Carrier's equipment, insurance and compliance confirmed
- Pickup and delivery appointments set with realistic transit time

**At pickup**

- Trailer clean, odor-free and pre-cooled to setpoint
- Product pulp temperatures taken and recorded
- Pallets loaded for airflow, clear of walls and return air
- Setpoint and mode on the bill of lading match the reefer display
- Seal applied and number recorded

**In transit**

- Trailers should be clean, odor-free and free of residue from prior loads, as required under FDA sanitary transportation rules.

**At delivery**

- Confirm seal intact and number matches
- Product temperatures checked before unloading
- Temperature log downloaded and saved
- Damage, shortages or temperature issues noted on the proof of delivery
- Records retained for food safety and traceability requirements

## The Bottom Line

Cold chain success depends on clear temperature requirements, disciplined loading and a third-party logistics provider that proves performance with data.

Johanson Transportation Service has decades of proven success helping shippers move their frozen and fresh commodities with access to reliable reefer capacity, real-time visibility through our state-of-the-art arriviture® TMS, and experienced people who manage every load from pickup to delivery.

**For help with your temperature-controlled freight, contact our Temperature-Controlled Division at at (800) 742-2053 or ratequote@johansontrans.com.**

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