



Cold Chain Logistics Planning Aid

For ensuring safe, temperature-controlled transport for highly sensitive biological materials.

This planning aid and checklist is available to help SciSafe customers identify and complete the necessary steps to set up cold chain management and logistics. Your situation may require more or fewer actions, but this template can serve as a baseline for your planning.

Start planning at least 6-8 weeks before the first shipment.

Planning Actions:

A. Inventory Preparation and Organization

- Create a detailed inventory spreadsheet
 - Unique IDs for each material (lot number, sample ID)
 - Container types (vial size, box dimensions, pallet size)
 - Quantity per item
 - Storage condition requirements
 - Expiration dates (if applicable)
 - Specify real-time inventory reporting needs (weekly, monthly)

B. Identify Products and Conditions

- Material type (i.e. vaccine, live cells, monoclonal antibodies, gene therapy vectors)
- Required shipment temperature, including:
 - Cryogenic (LN2),
 - Ultra-low temperature (-80°C)
 - Freezer (-20°C)
 - Refrigerated (2-8°C)
 - Ambient



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C. Select Packaging and Monitoring

- Choose validated shipper types:
 - LN2 Dry Shippers
 - Pre-qualified thermal containers
- Define if GPS tracking and temperature logging are required
- Determine backup shipper requirements for redundancy

D. Route Planning and Risk Management

- Confirm all transit routes (city pairs, connection points, shipping lanes, etc.)
- Map maximum travel times allowed for each temperature range
- Define backup carriers or rerouting plans in case of travel or weather delays
- Identify and plan for any customs requirements and/or delays

E. Documentation and Regulatory Prep

- Commercial Invoice (clearly state research or commercial use)
- Packing list with temperature requirements
- Import licenses, if applicable
- Import permits for biological or other materials (where needed)
- Export permits for biological or other materials (where needed)
- Review Quality Management System
 - Manuals
 - Process
 - Structure

F. Chain-of-Custody Management

- Set up end-to-end tracking, scanning, and notification alerts
- Include detailed delivery instructions
- Review storage partner's receipt and storage procedures



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G. Emergency Response Planning



- Emergency escalation contact tree
- Pre-approved Standard Operating Procedures (SOPs) for shipment excursions, lost-in-transit events, or customs holds

H. Audit Readiness



- Review storage partner's external audit process
- Review storage partner's internal audit process, schedule, and results