

## One If by Land, Two If by Sea

*Cargo shipping costs can be reduced through safe, stable ocean freight companies.*

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**S**crutiny over manufacturer distribution methods has increased packaging costs. Shipping by sea is an efficient, cost-effective alternative for distributing temperature-sensitive healthcare products internationally, and the practice is expanding. For example, a major healthcare manufacturing company shipped 18% of its temperature-sensitive products by ocean last year to Germany from the United States and saved approximately \$1.5 million. Senior management has mandated an increase to 40% in 2008.

### CURRENT AIR SHIPMENTS

With air transport, pallet-size shipments originating in the United States and intended for international destinations are typically picked up at the origin, trucked by a logistics/air carrier, and delivered to an airline terminal. There, insulated protective packages are sorted by destination and loaded onto freighter aircraft, usually Boeing 747-400s or MD11s. Upon landing, the reverse logistics carrier manages the pallet through customs to the final destination.

After precise examination of time and temperature, the result of the study is a "time/temperature profile" used by packaging designers to generate insulated, protective packaging and then qualify it by a certified laboratory. The tests verify the protective packaging system's ability to

keep the products at the required temperatures throughout distribution. Laboratory testing, which qualifies the package, simulates realistic worst-case scenarios of shipping. Electronic, mechanical, or chemical devices are often employed inside the packaging to record and/or set off an alarm if the temperatures have exceeded prescribed high or low limits.

### COST SAVINGS POTENTIAL

Sea transport containers maintain stable temperature environments, e.g., 2° to 8°C or 20°C, door to door, throughout the international distribution cycle, and decrease the transportation costs by an average of 60%. ("Refrigerated" products between 2° to 8°C can be held to relatively tight and safe tolerances; for "room-temperature" products, 20°C is used.) A U.S. affiliate can receive and inventory temperature-sensitive products on a 30-day turnover cycle with inventories replenished in

each cycle. Many manufacturers report that at least 50% of their products can meet this timing requirement.

The time/temperature profile is simplified and stable if the carrier picks up the pallets in a temperature-controlled container, never exposing the pallets to ambient temperatures for the entire trip. The cost of thermal packaging in a refrigerated ocean container is a fraction of aircraft-routed insulated packaging systems. Packaging might not require certain testing; the product remains in the temperature-controlled environment dock to dock.

Additionally, freight costs are significantly reduced. Several leading ocean freight carriers and their customers confirmed that a shipment of 40 to 44 pallets (filled containers) shipped from the United States to Europe can reduce distribution costs from nearly \$40,000 to about \$7,500. Similar economies of scale are realized for smaller shipments using smaller containers or other destinations.

While refrigerated containers shipped by sea are mostly used today for the food industry (projected annual growth rate of 4%), the healthcare industry can use the same economies of scale with proper planning. Ocean freight carriers are ready and willing to accommodate our requirements and help reduce distribution costs, significantly and safely. ■



Weight is not a cost factor when shipping by sea; however, it is significant when shipping by air. Many "hazardous" classifications are also less significant by sea.