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The Top 5 Hidden Costs of Dry Ice Shipping

The combination of dry ice, Styrofoam® and overnight shipping worked miracles in the 1960s and helped transform medicine in many ways. This combination still remains a popular shipping method for biomaterials today, despite the availability of advanced cryoshipping technologies that improve reliability and cut costs. That's because many still perceive the cost of dry ice, packaging and transportation as relatively low, however, when recurring and non-recurring cradle-to-grave costs are considered, their perceptions quickly change. The costs associated with materials, training, HAZMAT compliance, warehousing, tracking, regulatory issues, packaging disposal, ventilation for dry ice handling, insurance, labor, time, and the potential loss of sample viability due to degradation can add from fifty to a hundred and fifty dollars or more per shipment.

Here's a look at the top five expenses that are often overlooked:

1. **Specialty Couriers and**

2. **Overnight Shipping**

An important aspect of specialty couriers' business includes managing the dry ice supply chain. Dry ice sublimates at -78.5 degrees Celsius in one to two days and specimens must be monitored and re-iced. This not only causes potential temperature excursions, but also requires that specimens be shipped using a specialty courier regardless of the lane. It also necessitates the fastest and in most cases, the most expensive shipping methods.

By using a more stable solution, such as the Cryoport Express® Liquid Nitrogen Dry Vapor Shipper, specimens are maintained at a stable -150 degrees Celsius for 10 days. This allows the option to choose freight forwarders, such as FedEx and DHL, and standard carriers and shipping companies, including ground transportation, over the more expensive overnight option. It also opens up the shipment day possibilities to include the entire five-day work week instead of only a four-day week, which is common today because of the fear that specimens will be compromised if shipped over a weekend. The combination of the two can have a transformative effect, not only on the shipping costs, but also on the way a clinical trial is designed.

3. **HAZMAT Requirements**

Dry vapor liquid nitrogen is a non-hazardous, inert gas with no shipping restrictions. Dry ice, on the other hand, is classified by the International Air Transport Association (IATA) and the Federal Aviation Administration (FAA) as a dangerous good and accordingly requires Dangerous Goods documentation, special handling and ventilation. Additionally, only a certain amount of dry ice is allowed on planes at one time. Since airlines and couriers limit the quantity of dry ice they carry, packages are occasionally bumped from flights. Dry ice stays at a temperature of -70 degrees Celsius for only one to two days, putting deliveries at risk of temperature excursions if a delivery delay occurs.

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4. Overhead

In addition to the hazard of shipping dry ice, there is the care, training and subsequent overhead of handling the dry ice on site. Facilities must be equipped to store and handle dry ice and Styrofoam material in well-ventilated spaces. Staff must be properly equipped, trained and spend time packing and handling materials. Failure to train staff properly has resulted in significant fines by the FAA for companies regularly making dry ice shipments. Staff at multiple locations must also coordinate the ordering of these materials, calling couriers, coordinating paperwork, confirming requirements, and handling logistics. The overhead costs add up quickly and may not be realized initially in the cost per shipment.

5. Sustainability

Most companies focus on their overhead and shipping costs, but may overlook the issue of sustainability, which can have a significant impact on the bottom line and on the environment. In addition to the hazards of dry ice, Styrofoam is a major concern for companies looking to lessen their environmental impact.

Styrofoam is non-biodegradable and considered a leading source of hazardous waste. In addition, this packaging, when used with dry ice, is typically used once and thrown away. Cryoport, in contrast, cleans and reuses its aluminum dewars more than a hundred times before recycling. Even the cardboard shipping boxes and trays contain thirty-five percent recycled content. Additionally, nitrogen, unlike dry ice, is environmentally safe and non-hazardous. The hard costs of disposing of such materials, in addition to the benefits of becoming a more eco-friendly company, create a compelling reason for companies to consider a more sustainable shipping alternative.

The Alternative

Cryoport provides an ideal choice for companies looking for sustainability improvements in their cold-chain by offering an innovative alternative to traditional shipping methods that eliminates many of the hidden costs associated with dry ice and other outdated materials. In addition to solving the problems with sustainability, overhead costs, HAZMAT ratings, shipping and couriers, Cryoport provides companies with cost-effective, reliable and safe solutions to improve their bottom lines.

To learn how you can avoid the hidden costs of dry-ice and update your shipping packaging with an innovative and eco-friendly frozen shipping solution, visit www.cryoport.com or call 949.232.1900.