Turn the tide on shipping pharmaceuticals

Softbox Systems is an award-winning temperature-control packaging company that has been designing and producing high-performance solutions for over 20 years. Its product range with advanced phase change materials is a new game-changer of the industry, lowering excursion rates and meeting compliance.

One of the most bone-chilling facts the pharmaceutical industry now faces is that – according to IMS Health – losses associated with temperature excursions during transportation currently sit at around $35 million. Even for an industry that is projected to have sales of $1.36 trillion by 2019, that figure seems staggeringly high. The most alarming part? It's growing. The usual suspects take their place at the top of the list of reasons for excursions: product degradation due to incorrect shipping, scrapping as a result of logistics and temperature-sensitivity damage due to a broken cold chain.

It's hardly surprising then, that these kinds of figures have attracted the attention of industry CEOs, as well as serving as a springboard for new, increased regulatory control. So with compliance standing as king, what steps are forward-thinking pharmaceutical and biopharmaceutical companies taking to ensure the safety, efficacy and quality of their products? And how is the condition of these products going to remain as stated within registration files, all the way through a shipment's journey?

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Battling the weather

If we take increasing demand as being perhaps the most credible yardstick, then cost-effective, easy-to-prepare temperature-control packaging (TCP) systems appear to be the clear way forward for those organisations that move goods around the globe. While the compliance process has played a part in driving this trend, there's another process that's supporting it: selection simplification and the qualification of TCP systems.

Traditionally, the water-based packaging systems used by the industry have required local and regional qualifications. To ensure temperature control during shipping, companies often required the use of seasonal pack-outs. While these systems are fit for purpose – they are designed to cope with a range of average ambient temperatures, ideal for temperate summer or winter shipping, with narrow fields of variation due to their material properties – their effectiveness can diminish when required to function outside their qualified ambient temperature range. For example, if a company should need to ship pharmaceuticals between Germany and Australia, there is an obvious obstacle – it is winter in one location and summer in the other. Significant differences in seasonal temperatures can cause significant complications; it's not uncommon for excursion rates to reach around 30%.

Not only does Softbox Systems offer systems that incorporate vacuum panels and advanced phase change materials, but its products are also environmentally friendly and capable of true end-of-life recyclability.

The challenges don't stop there. Historically, temperature-control packaging providers have operated regionally, creating solutions for their immediate local markets. But as international trade diversifies and expands into the new global growth markets of Asia, Europe, South America and Africa, a fresh challenge emerges – the need for higher-performing packaging systems suitable for all-year-round, local, regional and international shipping purposes. Couple this with an increase in life-science companies and industry groups taking a more global approach to packaging qualification and selection, and you come face-to-face with a quintessential problem-opportunity dynamic.

The new, smart solution

To meet new requirements and keep pace with change, TCP providers are increasingly making use of progressive insulation packaging materials, such as vacuum insulation panels, as well as phase change materials that freeze and thaw within the required temperature range for a particular product. The effect of combining these components is a game-changer for the entire industry. Now, pharmaceutical companies can not only ship, but ship confidently.

While some of the latest cold chain packaging solutions offer the kind of increased thermal protection that businesses have been crying out for, they are now also much more robust. They are totally reusable and palpably smaller, potentially lowering the outlay in shipping costs. But what's given with one hand can be taken away with the other.

Higher performance inevitably comes at a higher price, in packaging terms and through increased control of the phase change material conditioning processes, which are absolutely essential to ensuring product integrity – nothing is more critical in the shipping of pharmaceuticals. Thus far, it would seem that any initial financial outlays are being outweighed by the results. The fact that these elements have helped overcome global qualification requirements while significantly reducing the risk of temperature excursion during transit, is all-important. The pharmaceutical and biopharmaceutical companies are winning.

With availability of these new higher-performing temperature-control packaging systems on the rise, we are now witnessing an increasing demand for more innovative products and services. Never has the choice of a packaging system and its supplier been more crucial.

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Creating the future

Softbox Systems continually listens to what its customers are saying and evaluates what can be done. In particular, consignors of time and temperature-sensitive products need to be more confident that the risk of excursion during transport is significantly minimised. Understandably, they're also looking to reduce packaging spend wherever possible. As their voices grow louder, a service provision model emerges.

This poses the question, how will increased and continual demand be met? Firstly, there are the raw materials to consider. Phase change materials are relatively new and they operate by absorbing or generating heat as they change from liquid to solid states, or vice versa, at a preformulated temperature. Such materials are typically comprised of oils, salts or paraffin. Although historically they have been difficult to source, demand seems to be fuelling change, with new supply chains emerging.

The company's next generation of TCP systems are developed to work within defined rental programmes to ensure cost-effective reuse is possible, irrespective of the volume and frequency of shipments.

Where such precision is at play, quality is everything. These materials are vital to the ultimate performance of the new systems and it's the global biopharmaceutical manufacturers that now find themselves spearheading the push for governance. Perhaps more than anybody else, they need a zero-tolerance approach to shipping temperature-sensitive products in extreme, uncontrolled conditions. They need the sustainability and they need the industry standardisation. Therefore, careful investigation must be carried out regarding the material combinations and composition of packaging systems to guarantee the kind of suitability and efficacy that's required.

This has also been a catalyst for Softbox Systems. Continued investment and innovation in product design has allowed the company to offer a wide range of high-performance temperature-control packaging systems; a feat that has been recognised by the industry and made Softbox Systems a go-to vendor for the pharmaceutical sector.

Not only does it offer systems that incorporate vacuum insulation panels and advanced phase change materials, but its products are also environmentally friendly and capable of true end-of-life recyclability. What's more, in a bid to make its high-performance solutions as affordable as possible, Softbox Systems' next generation of TCP systems are being developed to work within defined rental programmes to ensure that cost-effective reuse is possible, irrespective of the volume and frequency of shipments. ■

Further information
Softbox Systems
www.softboxsystems.com