

## DuPont™ Tyvek™ air cargo covers for pharmaceuticals



### Advanced protection for temperature-sensitive pharmaceuticals

Protecting your products through today's complex global healthcare supply chains is a real challenge. Revised Good Distribution Practice (GDP) guidelines raise the bar for temperature control and have brought a new level of focus and scrutiny on products in the "controlled room temperature" category (+15°C to +25°C).

DuPont™ Tyvek™ air cargo covers<sup>1</sup> for pharmaceuticals help reduce the supply chain risk associated with transporting temperature-sensitive products by targeting the time when they are most vulnerable—during temporary breaks in the cold chain (e.g., sitting on the tarmac), where they are subject to solar radiation and extreme temperatures.

Pharmaceutical manufacturers, 3PLs and airlines worldwide have chosen DuPont™ Tyvek™ air cargo covers because they deliver **real benefits at an affordable cost**.

Engineered with the legendary lightweight strength of DuPont™ Tyvek®,<sup>1</sup> our covers can be installed or removed in as little as one minute and are simple to use. Simply slip them on or off; and there's no need to deal with return logistics, costs or hassles.

DuPont™ Tyvek™ air cargo covers provide hours of additional cold chain break protection by substantially lowering peak temperatures<sup>2</sup> for each and every cold chain break vs. metallized bubble wrap based covers (see graph on back).

Only DuPont™ Tyvek™ air cargo covers offer multi-threat defense against temperature excursions and physical hazards in an elegantly simple structure that leverages the unique combination of properties inherent to DuPont™ Tyvek®:

**High Reflectance + Low Emissivity<sup>3</sup>**—shield your products from heat-up when exposed to solar radiation, the leading cause of high-temperature spikes.

**Low Thermal Conductivity**—dampen the effect of extreme temperatures (hot and cold).

**Breathable Barrier**—vent gases (e.g., CO<sub>2</sub>) and reduce the probability of condensation damage while protecting against a variety of physical hazards such as rain, snow and airborne contaminants.

### Proven protection

DuPont™ Tyvek™ air cargo covers are specifically engineered to address the threat of cold chain breaks during air transit and have been **validated** in a wide variety of applications by pharmaceutical manufacturers worldwide, including applications subject to the newly revised EU GDP guidelines.

### Real benefits

- Minimize brand risk and losses
- Multi-threat defense against temperature excursions: solar radiation and ambient extremes
- Enhance shipment security
- Simple and easy to use
- Reduce costs: losses, excursion management, packaging and shipping logistics (protection without the weight and bulk of alternatives)
- Ideal for CRT applications
- Strengthen or de-cost your +2°C to +8°C supply chains

### Trusted brand

DuPont™ Tyvek™ air cargo covers for pharmaceuticals are backed by DuPont, one of the most trusted names in the healthcare industry.

(1) Multiple patents/patents pending.

(2) Simulated pharmaceutical pallet test. Lakeland, FL— November 2012.

(3) Low emissivity feature is available on metallized covers only.



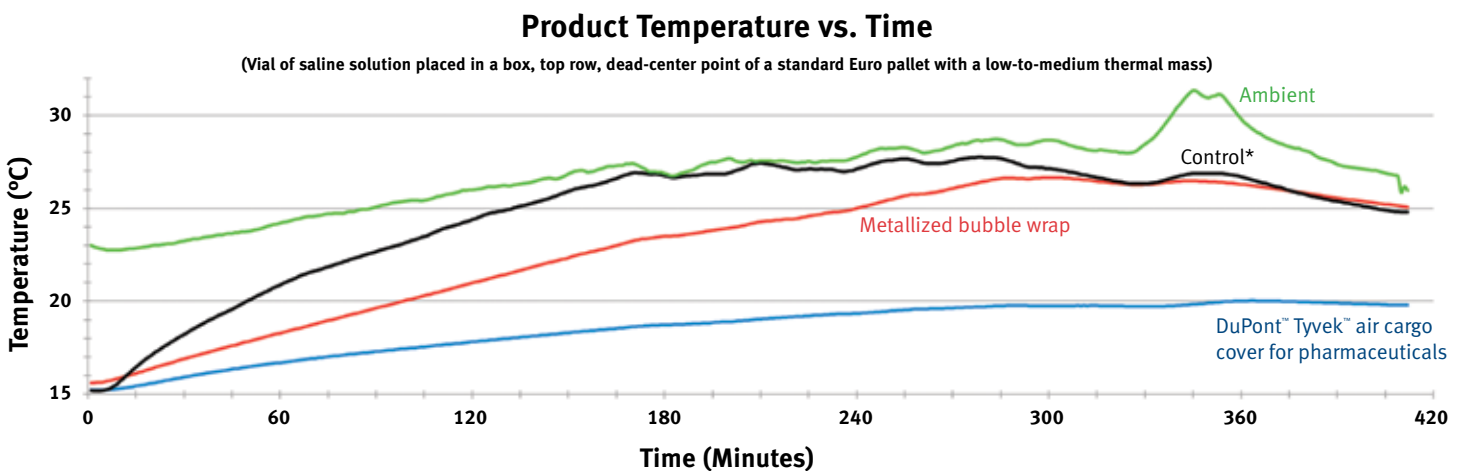
DuPont™ Tyvek™ air cargo covers for pharmaceuticals are recyclable in streams accepting high-density polyethylene (HDPE). The covers have been verified to have a low risk of flame propagation and comply with FAR/JAR/CS 25.853 b(5), Appendix F to part 25 part 1 § (a) (1) (iv).

DuPont™ Tyvek™ air cargo covers for pharmaceuticals are used by pharmaceutical manufacturers, 3PLs and airlines to protect temperature-sensitive products from solar radiation, extreme temperatures (hot and cold) and from a variety of physical threats that result from environmental conditions or poor cold chain infrastructure.

DuPont™ Tyvek™ air cargo covers for pharmaceuticals are available worldwide and are tailor-made for standard cargo sizes, such as: Euro and UK/US pallets, ULD PMC, PAG, AKE, LD3, etc. Contact your regional DuPont representative for custom requests.

## Only DuPont™ Tyvek™ air cargo covers deliver advanced protection in a simple, inherently robust design

Effect of solar radiation and ambient temperature on simulated pharmaceutical load—typical “hot spot”



\*The Control pallet is an identical load, conditioned the same as the other loads. It has clear stretch wrap around the sides (not on top) for load stabilization. No protective cover is used. The other loads tested are stabilized under the protective covers with clear stretch wrap.

### Talk to us about how we can help you

Tyvek™ air cargo covers are only available from DuPont and our authorized distributors. Please visit our website for more information. Contact your regional DuPont™ Tyvek™ air cargo covers representative for a product list or to discuss your sizing needs.

[www.aircargocovers.dupont.com](http://www.aircargocovers.dupont.com)



For additional information about DuPont™ Tyvek™ air cargo covers, including a full list of products and a video showing how DuPont™ Tyvek™ air cargo covers—developed by DuPont using technology by Blueye LLC—are helping to protect the global food supply, visit our website at [www.aircargocovers.dupont.com](http://www.aircargocovers.dupont.com)