

# 5 COMMON COLD CHAIN LOGISTICS MISTAKES

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# INTRODUCTION

Managing a cold chain is not as easy as it sounds. Having temperature-sensitive goods leave your factory and reaching the end user without being exposed and affected by heat is an incredibly complex task, a task that requires a lot of refrigeration, multiple companies, hundreds of workers and potentially thousands of machines.

As with all things complex, mistakes just happen... human error, mechanical malfunctions and equipment failures, refrigerator truck breakdowns, unattended pallets and pest outbreaks happen from time to time, the list goes on...

With that in mind, how can you as a business leader manage your cold chain better? What are the common cold chain logistic mistakes that you can look out for? How can you save thousands by avoiding these mistakes?

We hope you enjoy this Ebook.

Brought to you by:  
Adam Wilson  
Founder of The Wilpak Group



# MISTAKE #1

## RADIANT HEAT

There is a stage in most cold chains, referred to as “breaks in the chain” where temperature-sensitive goods (whether pallet or even small-packets) are off-loaded from one refrigerated container onto a loading dock or sorting area to be on-loaded to another refrigerated container.

“Breaks in the chain” may happen multiple times over the course of a cold chain and this is where mistakes are most likely to happen.

It is not uncommon for pallets to be accidentally left exposed to sunlight and other extreme conditions on a loading dock or in a shipping container for hours.

Perishable goods are extremely vulnerable to rapid temperature changes. An example of a sensitive perishable is a vaccine. The temperature range for safely storing or transporting vaccines is between 2-8°C.

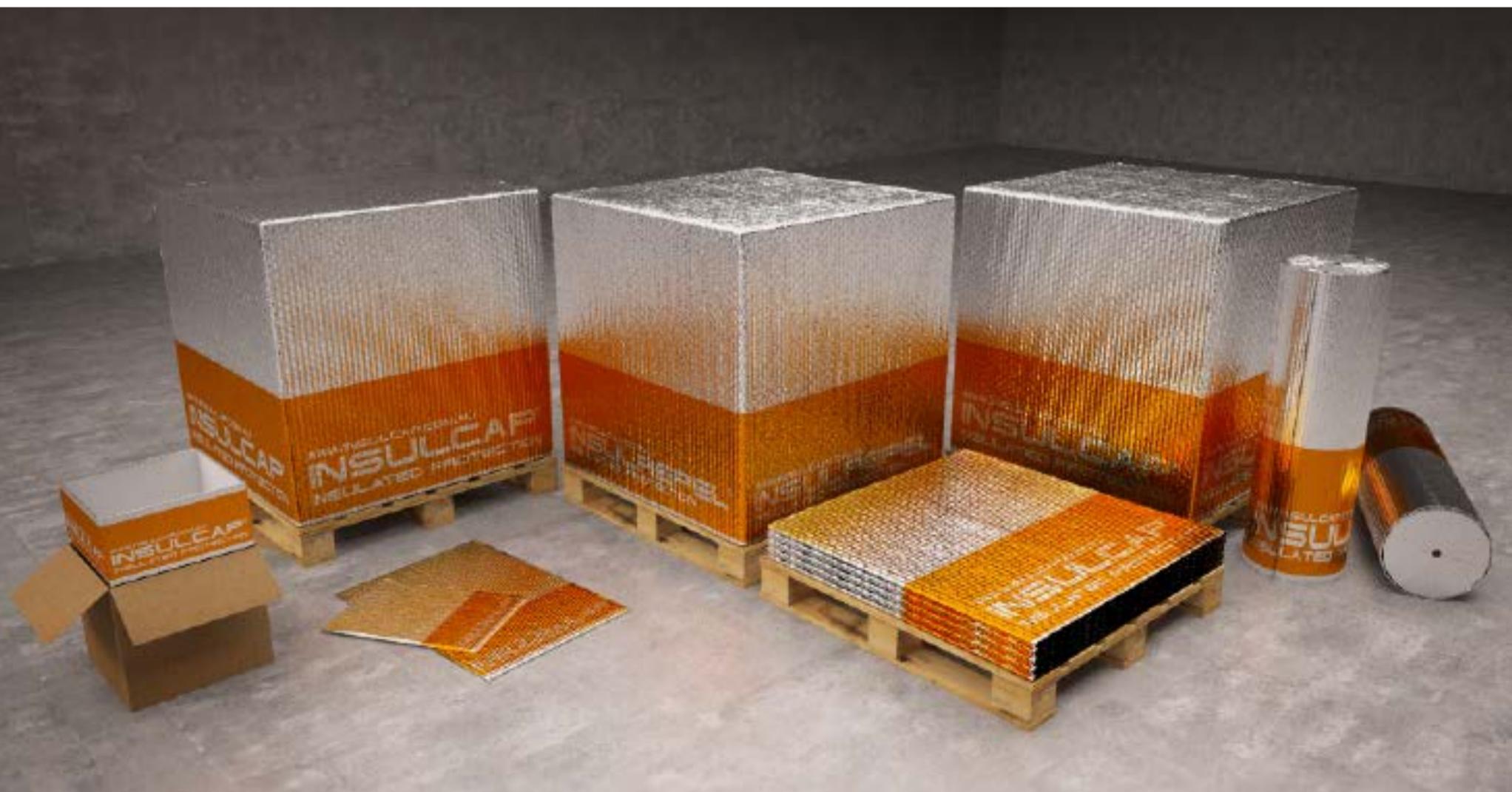
If perishables such as vaccines were left exposed to radiating sunlight for even an hour, rapid temperature changes within the pallets could be enough to destroy the goods.

In an ideal world, removing “breaks in the chain” should be Plan A for managers. However, completely removing “breaks in the chain” is not only incredibly expensive but is realistically an almost impossible feat. So what can you do to minimise damaged goods from over exposure to heat?

The best cost-effective solution (A.K.A Plan B) is very simple: Reflective temperature regulation insulation materials! Pallet covers, box liners or even small packet liners made from reflective materials such as Insul® 7-Layer technologies can encapsulate your goods while reflecting up to 98% of sunlight (radiant heat).

If “breaks in the chains” occur, having a pallet of sensitive goods sealed in temperature-regulated covers will last substantially longer if left exposed to the sun, saving you thousands of dollars.

Consider Insul® technology as a safety net or insurance policy so you can relax with the peace of mind that your perishable goods are being transported in a stable temperature-controlled environment.



# MISTAKE #2

## NO CONTINGENCY PLAN

Despite all your best efforts to ensure the seamless transportation of your goods by minimising the “breaks in the chain”, a lot of things can happen between points A and B.

There are mistakes such as human error that can be avoided with proper training and systems. However there are some mistakes that are practically unforeseeable, and to a degree, not avoidable (mechanical failure).

Creating a contingency plan that considers the worst-case scenarios is crucial for any cold chain logistic company. It is all too common for a major shipment of perishables to be completely scrapped due to a refrigerator or truck breakdown en route to a loading dock.

A lack of a contingency plan will result in:

- Damaged Goods
- Damaged Reputation
- Loss of Profit.

What should be included in the contingency plan?

- Clear instructions of the appropriate measures to be taken
- Contact information of key personnel
- Product evaluation guide
- Back up machinery, transportation, cooling
- Steps to be taken if perishables expire and break before final destination.

The key factor in any cold chain contingency plan is time. As soon as the refrigerators break down or machines go offline, time is ticking and your goods will begin to heat up and will eventually reach breaking point.

Maximise your window of time to execute the contingency plan and recover from an emergency situation (such as a refrigerator malfunctioning) by implementing an Insulcap® or temperature-controlled pallet cover solution.

Insulcap® is a pallet good made of a strong insulation and reflective material. Insulcap® can protect your goods from rapid temperature changes (e.g. refrigerator breakdown) and buy you more time to recover your goods from a potential loss of profit.



# MISTAKE #3

## LACK OF QUALITY VALIDATION AND MEASUREMENT

### Scenario:

A pallet of quality salmon and oysters is delivered to a market loading dock every Sunday morning. However every month a batch of salmon will be have been spoiled before arriving to the dock while the oysters will always be fresh.

The truck driver inspects his vehicle and finds that the refrigerator temperatures are safe and consistent. The truck driver continues to dispose of the salmon but has no idea why they would be spoiled.

In this scenario we can see that the problem is a 'money leak' with thousands of dollars lost on a monthly basis due to a lack of quality validation methods, this is a common mistake in the cold chain industry.

In many transport companies there are sometimes no systems in place to know if your products have been exposed to imperfect conditions (such as radiant heat), where the exposure occurred along the cold chain and the duration of the exposure.

Without a quality assurance system there would be no cost-effective way to pinpoint the cause of loss of quality on your goods. In the scenario above, there could be multiple reasons why the salmon was off. The salmon could have been exposed to extreme radiant heat before being loaded onto the truck, the temperatures may vary in different areas of the truck or there may be a faulty refrigerator that turns on and off. The possibilities are endless...

This common mistake is easily remedied by a quality validation system on all of your goods such as temperature logger or a data logger.

The benefits of a quality validation system:

- Consistent results
- Earn trust and reputation of product
- Increase cold chain efficiency
- Identify and resolve 'money leaks'.

TempTRIP is a HACPP & ISO accredited quality validation system in the form of a cost-effective RFID label. The label is small and will monitor temperatures 24/7, recording any temperature abnormalities. The label will also instantly alert inspectors of exposure to abnormal temperatures by changing colours.

If the above scenario, TempTRIP was implemented, the truck driver would know exactly if the products have been exposed to radiant heat before loading, exactly which products have been exposed to radiant heat and at what time the error occurred.



# MISTAKE #4

## DECISIONS WITHOUT CONSIDERATION OF THE END USER

Following on from mistake #3, decisions about quality assurance that are made without the end user in mind is a common mistake.

A case study for an award winning wine company is included to demonstrate why your business should consider the end user when shipping goods to distributors.

### Case Study: Yering Station

Yering Station is a critically acclaimed winery located in Australia, famous for their export wines and Pinot Noir. From the United States to France, Yering station exports wines to over 29 countries worldwide.

As you can imagine Yering Station's ability to connect with and engage international wine drinkers is paramount to their long-term success of their export wines.

Yering Station trialed two different materials to encapsulate their wine shipments.

### Trial A: Standard Container Liners

Yering Station's first method of preparing wine pallets for shipment was to utilise container liners that would regulate temperature extremes.

Yering Station discovered that there were times within "the chain" where wine pallets were left in direct sunlight while containers were unloading. This directly affected the quality and taste of the wine which would only be known when the consumer (end user) consumed the wine.

### Trial B: Insulcap® Pallet Covers

Yering Station's second trial was to use Insulcap® to cover their wine pallets on selected shipments. The Insulcap® regulated temperature extremes and reflected radiant heat.

Yering Station found that the Insulcap® would reflect the sunrays during "breaks in the chain" and protected the wine throughout the supply chain.

### Verdict

Yering Station knew that the standard container liners would sufficiently protect the wine pallets for distributors. However, with the end user in mind, Yering Station wanted to be confident that their wines would arrive in its best possible condition and decided to use Insulcap® for their export shipments.

As a result Yering Station continues to be highly reviewed and are consistent award winners.



# MISTAKE #5

## Room Temperature vs. Regulated Temperature

A major mistake companies often make is confusing room temperature (unregulated) with regulated temperature.

Room temperature is not regulated! Many goods that would not be affected or damaged by room temperature and unregulated temperatures may still be damaged when the temperature naturally rises.

### Case Study: Innovia

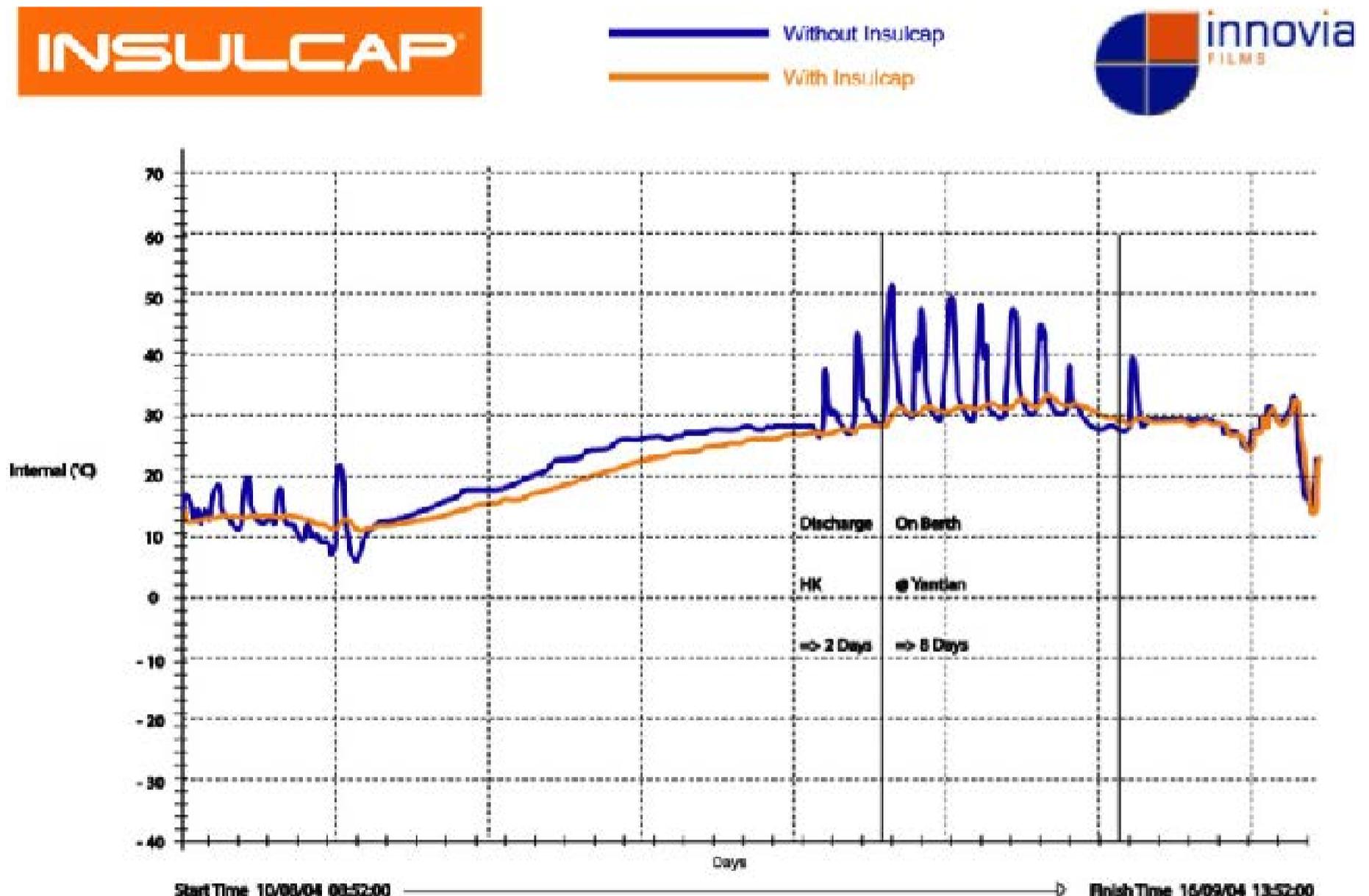
Major film exporter, Innovia Films, conducted a test on Insulcap® on their five-week shipment of film from Melbourne to Hong Kong.

The blue line represents the shipment of film without Insulcap® under the effect of unregulated ambient temperatures.

The orange line represents the shipment of film utilising Insulcap® under the effect of regulated temperatures.

The shipment was left unattended on a loading dock for up to 8 days resulting in temperature spiking (28°C to 54°C) for the pallet without Insulcap® protection. As a result of the temperature spikes the film contracted, expanded, became brittle and unusable.

Unsurprisingly the pallet with Insulcap® technology did not spike in heat and maintained a consistent regulated temperature. As a result of utilising Insulcap® temperature regulating technology the film arrived in perfect condition.



# NEXT STEPS

## NEXT STEPS

If you would like to know more about how you can improve your cold chain and save thousands of dollars:

Call us on **1300 881 660**

Visit us on **wilpak.com.au**

Download our **brochures, case studies and results**

### CONNECT WITH OUR DEDICATED TEAM



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