



**THERMAL CUSTOM PACKAGING**



For Frozen Wizards use either PC-7 (-7 centigrade) or PC-16 (-16 centigrade).

For Refrigerated Wizards use PC0 (0 centigrade)

# Wizard

**Weight: 16lbs**

**ID: 9 1/2 X 9 1/2 X 9 1/2**

**OD: 16X16X16**

The TCP Wizard maintains freezing or refrigerated conditions for shipments of laboratory specimens over long distances which require prolonged transport times of up to four days.

1. Internal temperature keeps the laboratory specimens frozen or refrigerated in varying outside temperature conditions.
2. The Wizard requires no dry ice, wet ice or gel packs.
3. The Wizard uses proprietary phase change materials (PCMs) which are prepared by freezing for 24 hours in a standard freezer
4. The Wizard is reusable and contains no hazardous materials, it does not require any hazmat training for use and does not require a hazmat disclosure statement for commercial shipment. For domestic use, frozen or refrigerated shipments can be sent second day air or three day ground instead of overnight at a considerable less cost for shipping

Wizards are made for use with the following products and more...

- Medical Specimens
- Pharmaceuticals
- Viruses
- Food
- Wine

## Features

- Frozen shipments: 0°C and below or refrigerated shipments 1-10°C
- For up to 96 hours
- No dry ice, wet ice or gel packs.
- Designed for multiple use
- Use by clinical research studies, medical & biomedical laboratories
- Payload Space: 9.5x9.5x9.5

The TCP Wizard will keep payload frozen or refrigerated for over 96 hours

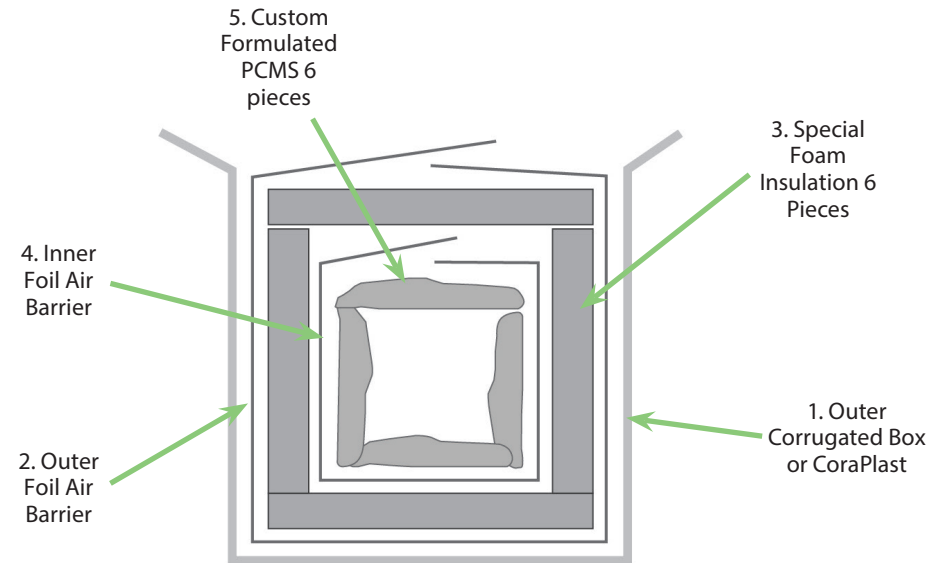
**NO DRY ICE**

**NO WET ICE**

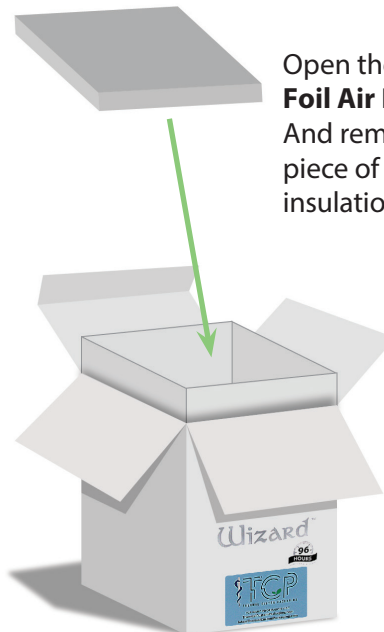
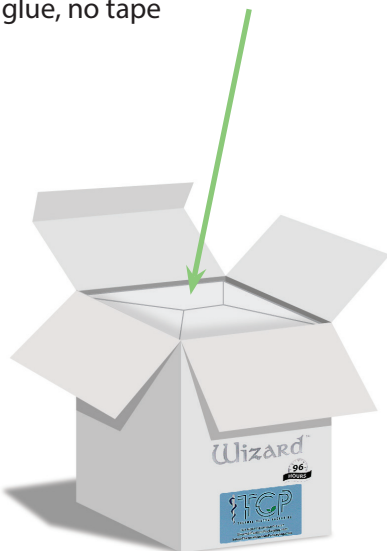
**NO GEL PACKS**



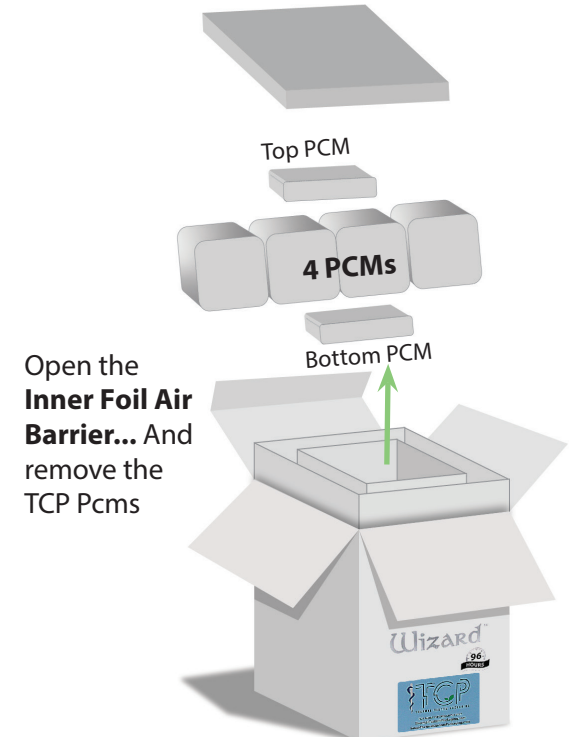
## 5 Layers Nested Together



The first thing you see when you open TCP Wizard is the **Outer Foil Air Barrier...** with the "gift wrap" fold... no glue, no tape

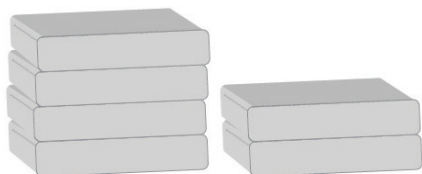


Open the **Outer Foil Air Barrier...**  
And remove the top piece of the foam insulation



Open the **Inner Foil Air Barrier...** And remove the TCP Pcms

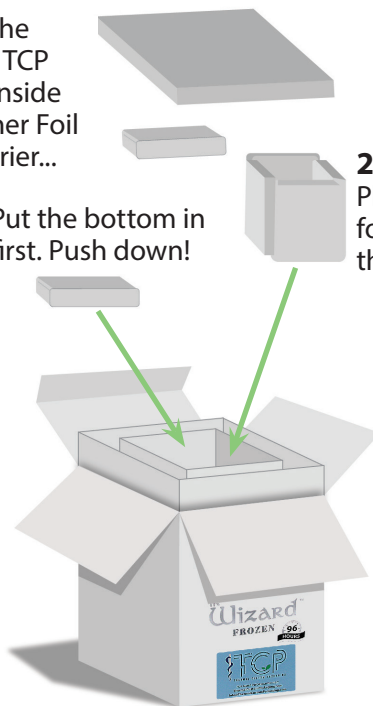
Place the TCP Pcms in a freezer for at least **24 hours**



Place the frozen TCP Pcms inside the inner Foil Air Barrier...

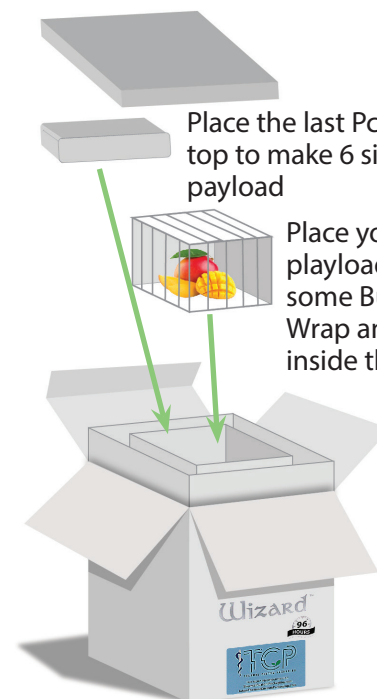
**1** Put the bottom in first. Push down!

**2** Place the four sides in the second



Place the last Pcm on top to make 6 sided payload

Place your frozen payload inside some Bubble Wrap and place inside the Pcms

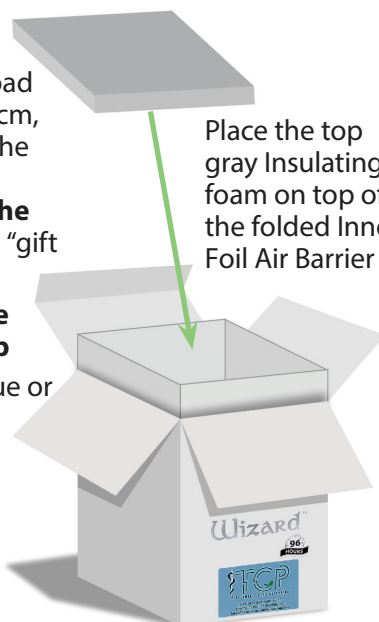


With the payload inside of the Pcm, carefully fold the **Inner Foil Air Barrier over the top Pcm** use a "gift wrap" fold.

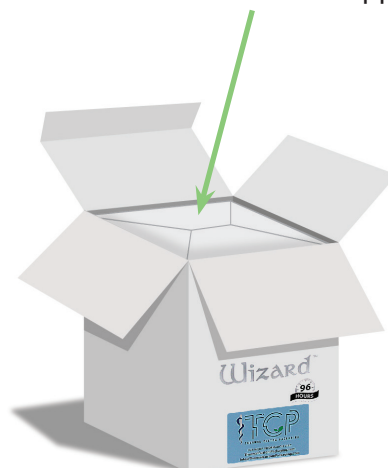
**Make sure the edges overlap**

No need to glue or tape it down

Place the top gray Insulating foam on top of the folded Inner Foil Air Barrier



Finally, Fold the **Outer Foil Air Barrier...** Using a "gift wrap" fold... no need to glue or tape.  
Fold and close the Wizard for shipping



The TCP Wizard will keep payload frozen or refrigerated for over 96 hours  
**NO DRY ICE**  
**NO WET ICE**  
**NO GEL PACKS**



# **US Air Force Reference Lab**

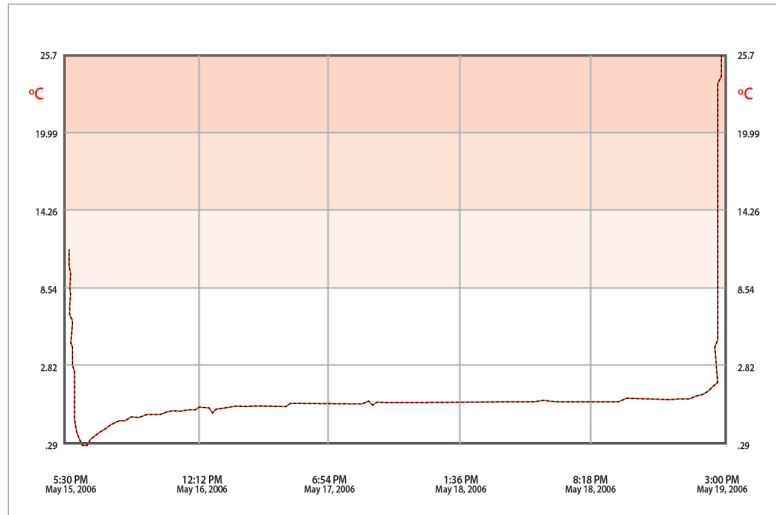
Linda Canas, Chief Virologist

## Testing Rationale...

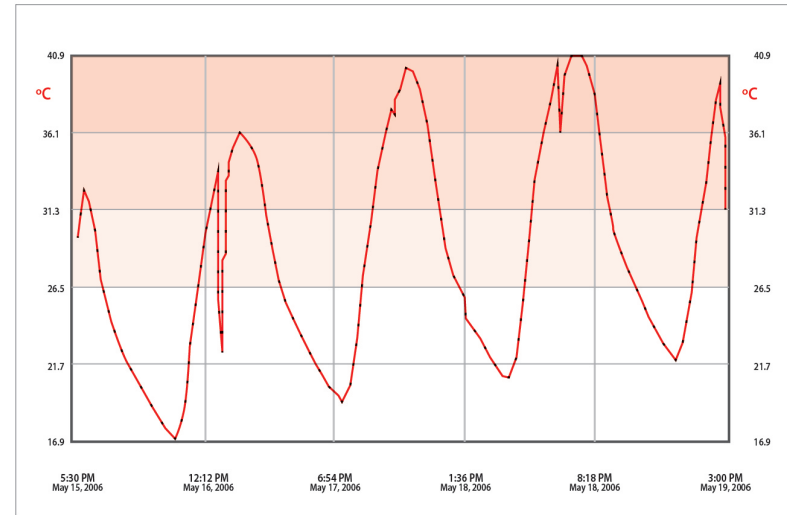
"As part of the President's Influenza Pandemic plan, the GEIS influenza surveillance program is growing in both scope and numbers. We are expecting to double the number of collection sites in the next year. Many of the existing as well as the proposed sites are unable to use dry ice. Without the ability to freeze the samples at -70 degrees and ship on dry ice, they must be kept at refrigerated temperatures. There is little in the literature addressing stability requirements for shipping viral samples, and it is a long term goal of this section to be able to conduct such studies. For now, we are interested in evaluating shipping containers that advertise the ability to maintain a given temperature for a period of time." \*

\*Complete paper appended

## TCP phase gels: 96+ hours

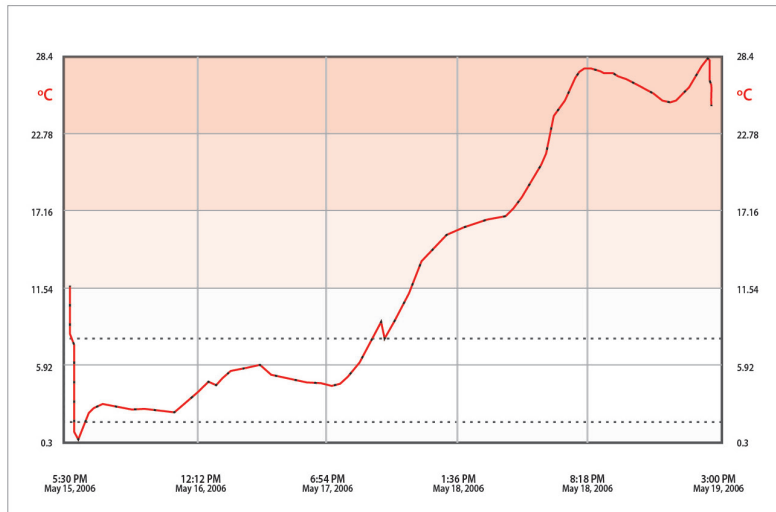


## Depiction of exterior temperature fluctuation actual shipment from Texas Guam\*

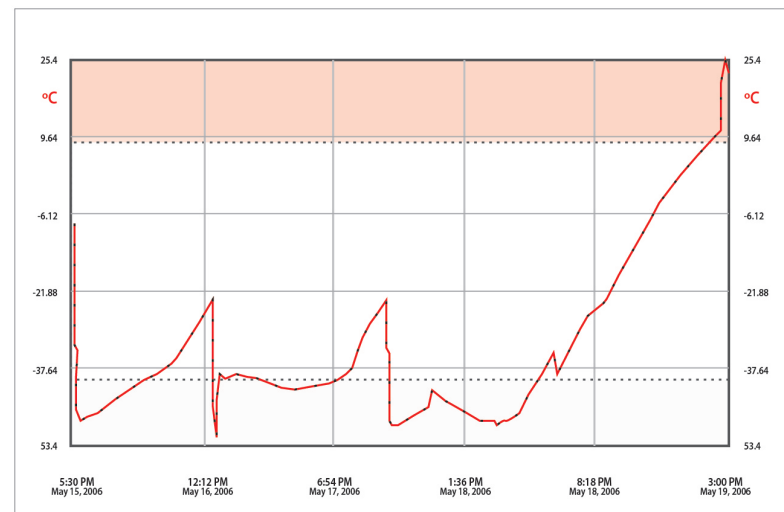


\*Data Linda Cana, GEIS

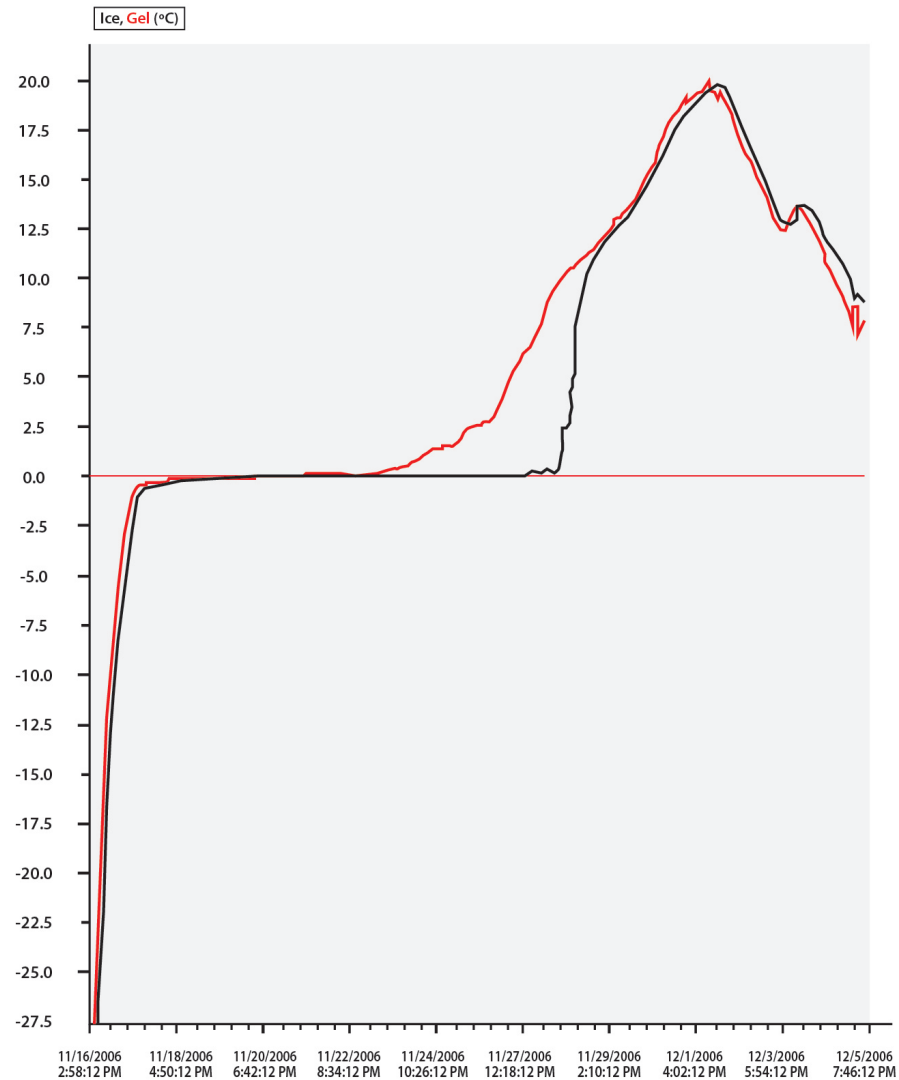
## Payload temperature analysis Texas to Guam shipment: Data from another company's phase gel pack- <50% efficiency, unstable



## Texas to Guam: Dry Ice Failure



## TCP Pcm data over 96 hours refrigerated temperature during transit



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