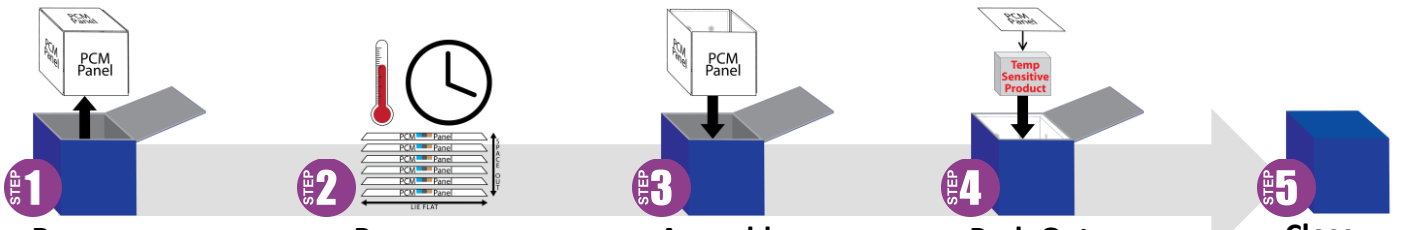
Cool Cube™ Best Practices

Call for Technical Support
(608) 526-6901

- ❑ Always prep the PCM (phase change material) panels before use according to one of the described methods provided by VeriCor.
- ❑ Ensure all components are clean and free of damage.
- ❑ Lay panels flat when turning them solid (to disperse liquid throughout the panel).
- ❑ Enable ample air flow around all panel sides.
  - Use spacers (pencils) or racks. →

- ❑ Freezing/melting times vary depending on number of panels being prepped and equipment being used.
- ❑ Assemble using all six panels for maximum hold time.
  - Using less panels does not change the holding temperature, but does decrease the hold time.
- ❑ Panels are reusable (10,000+ cycles).
  - End-of-life disposal: Panels use a plastic #2, typically recycled by businesses/communities. PCM is nontoxic and readily biodegradable.
- ❑ Use a calibrated data logger or other temperature monitoring device to observe internal temperature.
- ❑ Avoid unnecessary opening of the Cool Cube™ after loading payload. Opening of the Cool Cube™ will decrease hold time.
- ❑ An infrared temperature thermometer can assist in ensuring the panels reach a safe pack-out temperature (good for finding out the approximate temperature of each panel).
- ❑ The farther the ambient temperatures are from the melting point, the quicker PCM will change states (solidify/liquefy).



Remove PCM Panels

Prep PCM Panels

Various methods based on type of panel, equipment available & purpose.

Assemble PCM Panels

Pack-Out Product

Close Bag/Case

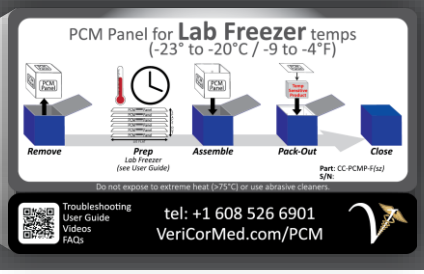
VERICOR LLC

Cool Cube™ Lab Freezer PCM Panels

for varicella, MMRV, Zoster, FFP & more.

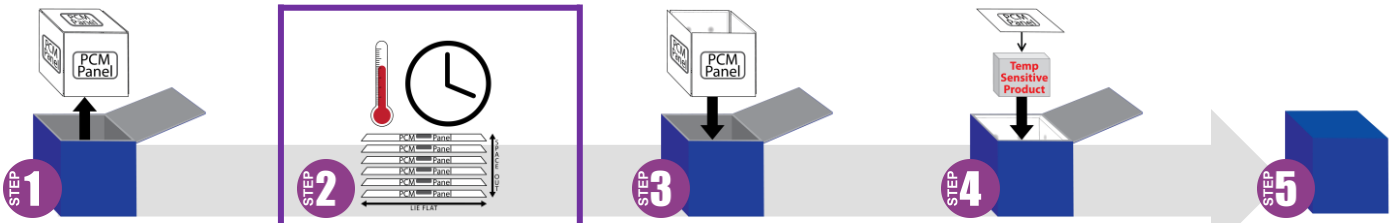
All Sizes

Grey Tab/Label



Video

Prep Method **A**: **Ultra-Low Freezer** Prep to keep product frozen



Remove PCM Panels

Prep PCM Panels

Assemble PCM Panels

Pack-Out Product

Close Bag/Case

A freezer kept colder than -30°C is necessary to turn PCM completely solid.

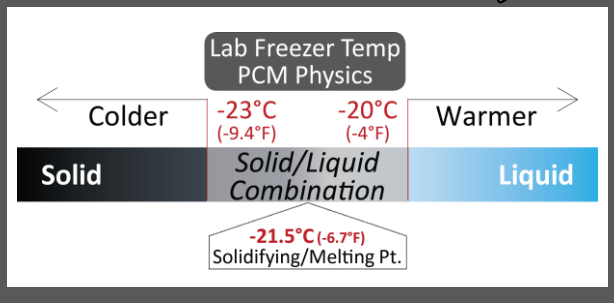
Panel Prep

2.1 Lay panels flat in an ultra-low freezer until all the PCM (phase change material inside the panel) turns solid. At -30°C/-13°F the PCM will solidify in a day or two.*

** If the freezer temperature is ever warmer than -30°C, PCM may not get completely solid (due to the possibility of supercooling). If panels are stored within the temperature parameters of the product but the PCM is liquid, panels may be used but the hold time will decrease.*

2.2 Shake panels to verify the PCM is solid. If there is liquid, restart at step 2.1 to ensure the longest hold time. Using liquid PCM or panels with a solid/liquid combination decreases the hold time.

PCM Panel Shake Test



ISTA 7D Thermal Performance Study

Lab-Qualified Hold Times When Starting with Solid PCM

	Qualified Temp:	-50 to -15°C
Cool Cube™ 03	**Utilizing Six (6)**	62 hrs
Cool Cube™ 08	**Lab Freezer Temp**	60 hrs
Cool Cube™ 28	**PCM Panels**	94 hrs
Cool Cube™ 96	(Grey Tab/Label)	139 hrs

Times listed are based on lab-validated, 24-hour cycles of a summer profile (hot ambient temperatures) without the additional thermal mass of a payload, which if conditioned properly, will improve hold times. Actual performance times may vary.