


2023

SPECIALTY COLD CHAIN SUPPLIES

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INTRODUCTION

At Mercury, we make it our top priority to ensure the safe transportation of your valuable commodities. Our partnerships with the best logistics vendors in the industry allow us to offer high-quality supplies. To make sure you have a comprehensive understanding of our products and their capabilities, we suggest reviewing some essential shipping terminology and considerations before delving into the guide.

SHIPPING TERMINOLOGY AND CONSIDERATIONS

- **Polystyrene** is a term used to refer to Styrofoam, which is a type of foam commonly used in packaging.
- **PUR** is an abbreviation for Polyurethane, a type of insulation material typically blue on the inside.
- **PCM** is an acronym for Phase Change Material, designed to maintain temperatures within specific ranges during transportation.
- **VIP** stands for Vacuum Insulated Panels, designed to provide exceptional insulation for temperature-sensitive shipments.
- **Payload size** may be increased in Polystyrene shippers, but this can come at the expense of room for dry ice or ice packs. In contrast, VIP or PUR shippers may have internal cardboard boxes limiting payload size. In some cases, all shippers may have smaller payload sizes.
- **Dry ice** capacities are calculated based on the expected payload size. If the payload is larger than expected, the capacity of the shipper will be reduced, resulting in a shorter validated duration for the shipment.
- The cost/price of 2-8°C shippers includes the cost of PCMs, whereas the cost/price of Dry Ice shippers does not include the cost of the dry ice.

DRY ICE PACKAGING

AVAILABLE OPTIONS

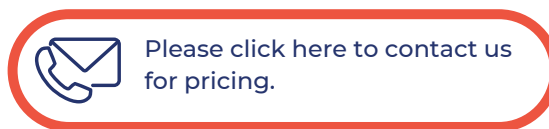
Product	Payload (in)			OD (in)			Dim Wt of Box	Tare Wt of Box	LBS of Dry Ice	Duration
	L	W	H	L	W	H				
Excel 3L	4.5	6.25	4.75	12	12	12	13 lbs	2 lbs	10	48 hrs
Excel 8L	9.5	7.5	6.25	16	15	14	25 lbs	2 lbs	20	48 hrs
Excel 15L	14.25	7.5	6.25	21.9	14.2	15	34 lbs	3 lbs	20	48 hrs

PUR 16L	15	7.1	8.9	26.4	18.5	17.9	64 lbs	32 lbs	40	107 hrs
PUR 32L	15	15	8.6	26.7	26.7	18.2	95 lbs	47 lbs	60	120 hrs

SU96 Medium 8.5L (VIP)	14.4	6.4	5.75	21.7	13.7	13.7	32 lbs	17 lbs	30	140+ hrs
SU96 Large 18L (VIP)	14.1	14.1	5.5	21.7	21.7	14	49 lbs	24 lbs	50	140+ hrs
SU96 X-Large 41L (VIP)	14.1	14.1	12.5	21.7	21.7	21	74 lbs	32 lbs	80	140+ hrs

NOTES:

- Dry Ice weight is the *MINIMUM* that can be used to qualify for Validated status. More can be used in shipments with smaller payloads.
- PUR may be used for DI without modification.
- VIP may be used for DI with proper scaffolding and "pizza" boxes.



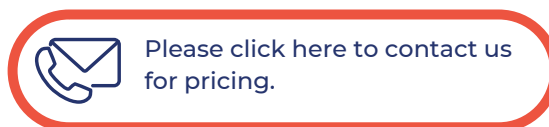
+2°C TO +8°C PACKAGING

AVAILABLE OPTIONS

Product	Payload (in)			OD (in)			Dim Wt of Box	Tare Wt of Box	PCMs Needed	Duration
	L	W	H	L	W	H				
Excel 3L	7.5	7.5	1.75	12	12	12	13 lbs	2 lbs	(3) 620E	36 hrs
Excel 8L	11.5	9.5	3.5	16	15	14	25 lbs	2 lbs	(6) 620E	36 hrs
Excel 15L	16.5	10	5	21.9	14.2	15	34 lbs	3 lbs	(6) 620E	36 hrs
PUR 16L	15	7.1	8.9	26.4	18.5	17.9	64 lbs	32 lbs	(8) 365F Brick (4) 722G14 PCM (Purple)	94 hrs
PUR 32L	15	15	8.6	26.7	26.7	18.2	95 lbs	47 lbs	(12) 365F Brick (6) 722G14 PCM (Purple)	96 hrs
SU96 Medium 15L (VIP)	15.6	7.6	7.1	21.7	13.7	13.7	32 lbs	17 lbs	(5) 105376 PCM (Green)	120+ hrs
SU96 Large 30L (VIP)	15.3	15.3	6.8	21.7	21.7	14	49 lbs	24 lbs	(8) 105376 PCM (Green)	136+ hrs
SU96 X-Large 59L (VIP)	15.3	15.3	13.8	21.7	21.7	21	74 lbs	32 lbs	(12) 105376 PCM (Green)	144+ hrs

NOTES:

- 105376 PCM (Green) must be Frozen for 24 hrs before being put in the fridge.
- 722G14 PCM (Purple) are only refrigerated. Not frozen.
- 365 Bricks are literal brick shapes only used for the PUR shippers.



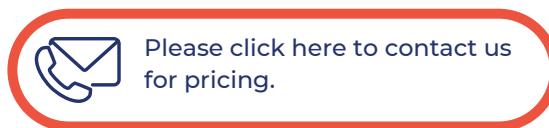
+15°C TO +25°C PACKAGING

AVAILABLE OPTIONS

Product	Payload (in)			OD (in)			Dim Wt of Box	Tare Wt of Box	PCMs Needed	Duration
	L	W	H	L	W	H				
Excel 3L	7.5	7.5	1.75	12	12	12	13 lbs	2 lbs	(5) 620E	36 hrs
Excel 8L	11.5	9.5	3.5	16	15	14	25 lbs	2 lbs	(7) 620E	36 hrs
Excel 15L	16.5	10	5	21.9	14.2	15	34 lbs	3 lbs	(7) 620E	36 hrs

PUR 16L	15	7.1	8.9	26.4	18.5	17.9	64 lbs	32 lbs	(8) 365F Brick (8) 711G12 PCM (Orange)	95 hrs
PUR 32L	15	15	8.6	26.7	26.7	18.2	95 lbs	47 lbs	(6) 365F Brick (12) 711G12 PCM (Orange)	120 hrs

SU96 Medium 15L (VIP)	15.6	7.6	7.1	21.7	13.7	13.7	32 lbs	17 lbs	(5) 711G12 PCM (Orange)	120+ hrs
SU96 Large 30L (VIP)	15.3	15.3	6.8	21.7	21.7	14	49 lbs	24 lbs	(8) 711G12 PCM (Orange)	136+ hrs
SU96 X-Large 59L (VIP)	15.3	15.3	13.8	21.7	21.7	21	74 lbs	32 lbs	(12) 711G12 PCM (Orange)	144+ hrs



BOXES

Cold Chain Technologies has over 50 years of experience providing innovative solutions for temperature-sensitive shipping. They invest in their people, equipment, and technology to provide effective and efficient custom and off-the-shelf thermal packaging solutions. This makes them a reliable and experienced partner for Mercury.



SUMMARY OF VALIDATED SHIPPERS

Expanded Polystyrene (EPS) – Styrofoam

- 3L, 8L, 15L
- Each can be used for all temp profiles (-80°C [dry ice], 2-8°C, 15-25°C)

Polyurethane (PUR)

- 16L, 32L
- Each can be used for all temp profiles (-80°C [dry ice], 2-8°C, 15-25°C)

Vacuum Insulated Panels (VIP)

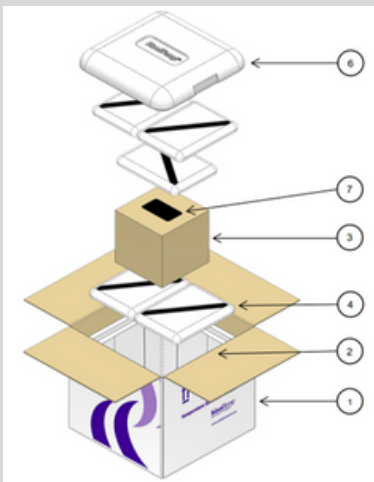
- Medium, Large, X-Large (actual volumes differ depending on temperature profile)
- Built for specific temp profiles (we carry -80°C [dry ice] and 2-8°C in each size)

EXPANDED POLYSTYRENE (EPS) – STYROFOAM

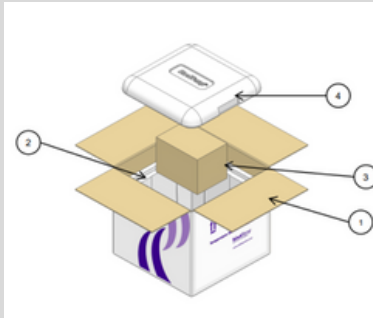
Validated Shipper – 3L PS (Polystyrene)

All Expected Payload and Dims can be found on the Packout Instructions for each shipper.

ROOM TEMP, COLD PACK OUT (3 L)



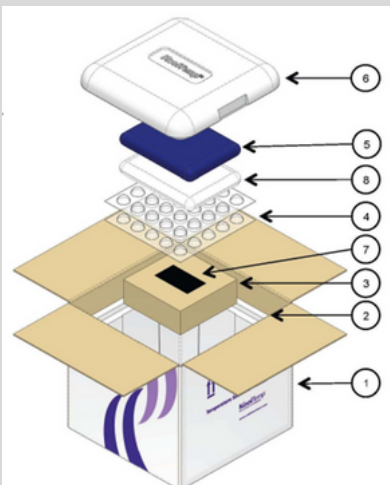
FROZEN, UNIVERSAL PACK OUT (3 L)



[Click here for Packout instructions](#)

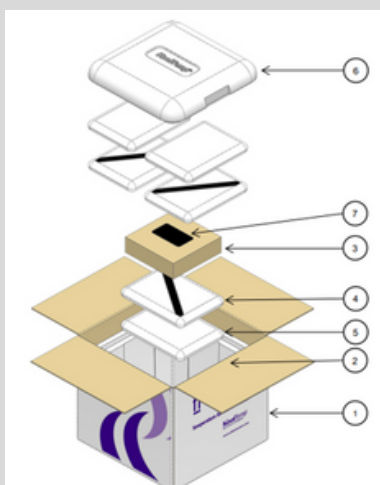


+2°C TO +8°C, COLD PACK OUT (3 L)

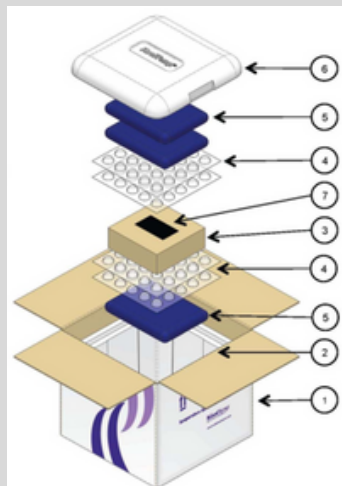



Best used for Dry Ice shipments lasting not longer than 48 hours (domestic), or when shipments can be topped off with Dry Ice (Specialty Cold Chain)

ROOM TEMP, HOT PACK OUT (3 L)



+2°C TO +8°C, HOT PACK OUT (3 L)

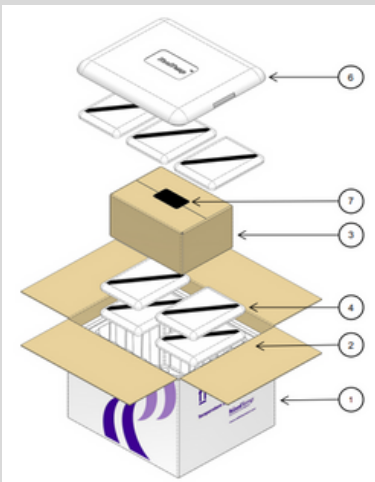


 Please click here to contact us for pricing.

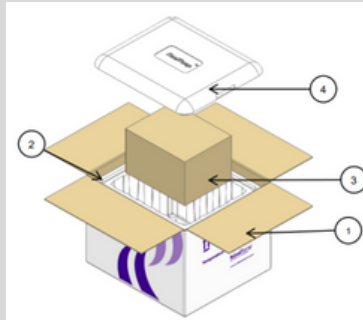
Validated Shipper – 8L PS (Polystyrene)

All Expected Payload and Dims can be found on the Packout Instructions for each shipper.

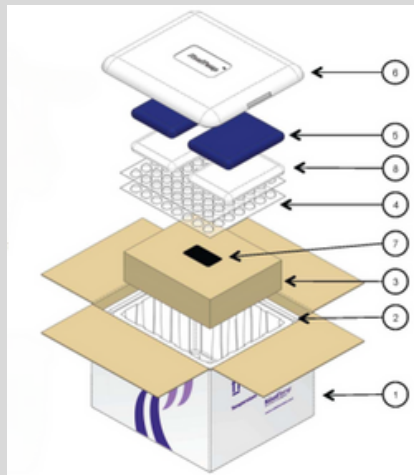
ROOM TEMP, COLD PACK OUT (8L)



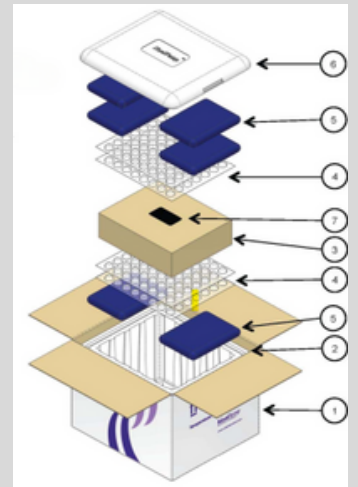
FROZEN, UNIVERSAL PACK OUT (8 L)



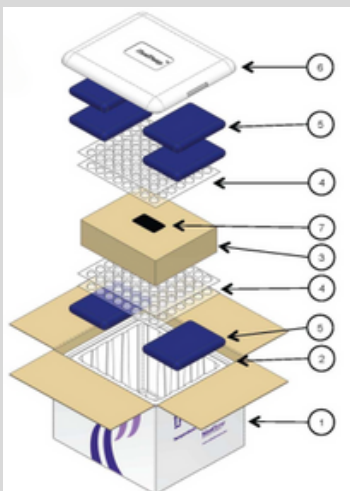
+2°C TO +8°C, COLD PACK OUT (8 L)



+2°C TO +8°C, HOT PACK OUT (8 L)



ROOM TEMP, HOT PACK OUT (8 L)



Best used for Dry Ice shipments lasting not longer than 48 hours (domestic), or when shipments can be topped off with Dry Ice (Specialty Cold Chain)



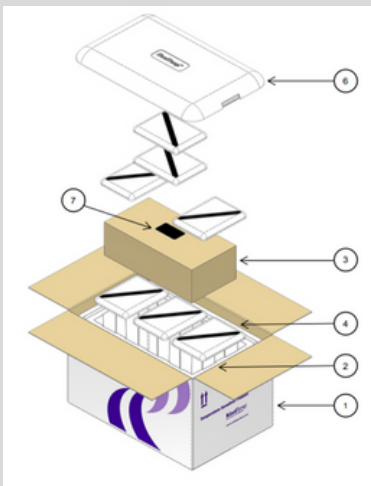
Please click here to contact us for pricing.

Validated Shipper - 15L PS (Polystyrene)

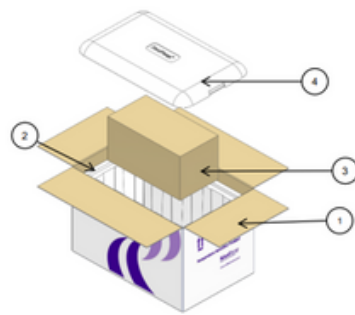
All Expected Payload and Dims can be found on the Packout Instructions for each shipper.



ROOM TEMP, COLD PACK OUT (15 L)

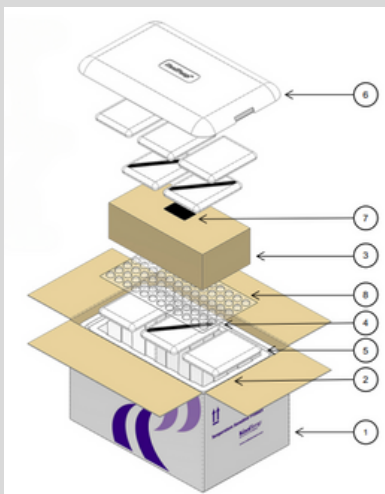


FROZEN, UNIVERSAL PACK OUT (15 L)

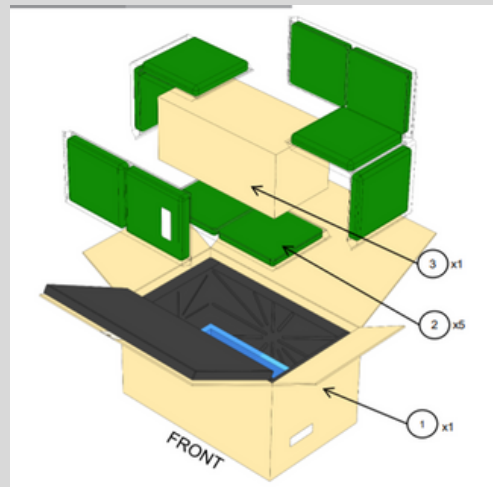


Best used for Dry Ice shipments lasting not longer than 48 hours (domestic), or when shipments can be topped off with Dry Ice (Specialty Cold Chain)

ROOM TEMP, HOT PACK OUT (15 L)



+2°C TO +8°C, UNIVERSAL PACK OUT (15 L)



Please click here to contact us for pricing.

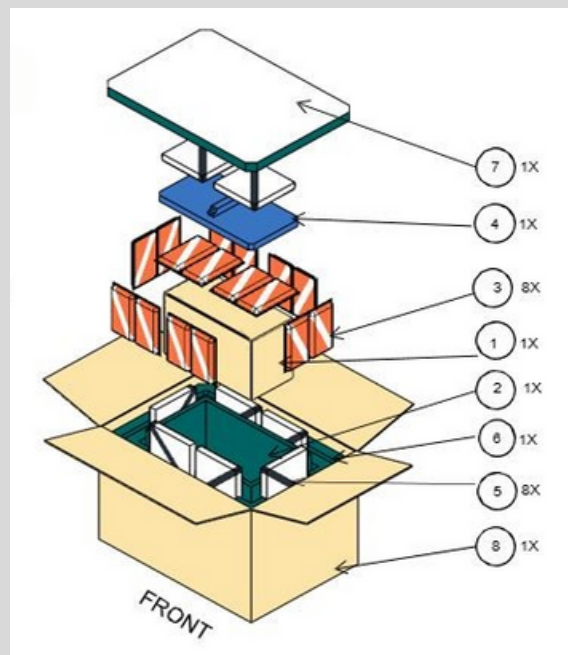
POLYURETHANE (PUR)

Validated Shipper - 16L PUR

All Expected Payload and Dims can be found on the Packout Instructions for each shipper.



+15°C TO +25°C, UNIVERSAL PACK OUT (16 L)



Please click here to contact us for pricing.

KoolTemp GTS 16L Extreme Frozen Universal Pack-Out 102555-001



Step 1: Place product box against one corner inside the PUR inner box



Step 2: Fill the open cavities between the product box and PUR inner box with approx. 15.0 lbs. of pelletized dry ice (not shown).



Step 3: Place approx. 5.0 lbs. of pelletized dry ice (not shown) on top of the product box. Fill the left and right cavities between the PUR inner box and PUR base each with approx. 3.0 lbs of pelletized dry ice (not shown) and fill the front and back cavities between the PUR inner box and the PUR base each with approx. 5.0 lbs of pelletized dry ice (not shown), approx. 16.0 lbs. total.

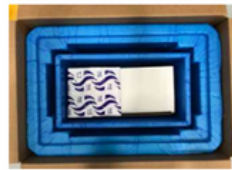


Step 4: Place the molded PUR lid on top of the molded PUR base. Close and seal the outer corrugate container using packing tape

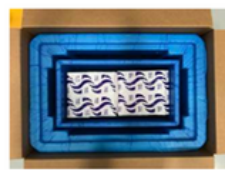
KoolTemp GTS 16L Extreme (gelled PCM) 2°C to 8°C Universal Pack-Out 102469-001



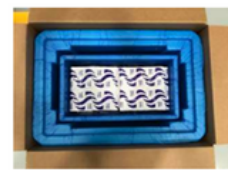
Step 1: Place product box, centered inside PUR inner box



Step 2: Place one refrigerated 722G14+3C PCM gel evenly folded around the left and top sides of the product box.



Step 3: Place one refrigerated PCM gel evenly folded around the right and top sides of the product box.



Step 4: Place one refrigerated PCM gel evenly folded around the front and back sides of the product box (two total).



Step 5: Place one frozen 365F brick in each of the left and right cavities and two in each of the front and back cavities (six total) between the PUR base and the PUR inner box



Step 6: Place the foam pad on top of the PCM mat – pop up foam divider is not pictured in this photo



Step 7: Place one frozen 365F brick on the foam pad on either side of the pop up foam divider (two total)



Step 8: Place the PUR lid on top of the PUR base. Close and seal the outer corrugate container using packing tape

KoolTemp GTS 16L Extreme (gelled PCM) 2°C to 8°C Universal Bill of Materials 102469-001

PART NO.	DESCRIPTION	QTY	PRE-CONDITIONING TEMPERATURE
101275-001	Shipper, PUR, Base	1	+20°C ± 5°C
102120-001	Shipper, PUR, Lid	1	
102493-001	Shipper, PUR, Inner Box	1	
102079-001	PE Foam Pad	1	
102487-001	Container, Product Box	1	
101292-002	Corrugate, Container, RSC	1	
722G14+3C	Refrigerant PCM, Gelled	4	+5°C ± 3°C
365F	Refrigerant Brick	8	-20°C ± 5°C
N/A	Product Load	1	+5°C ± 3°C

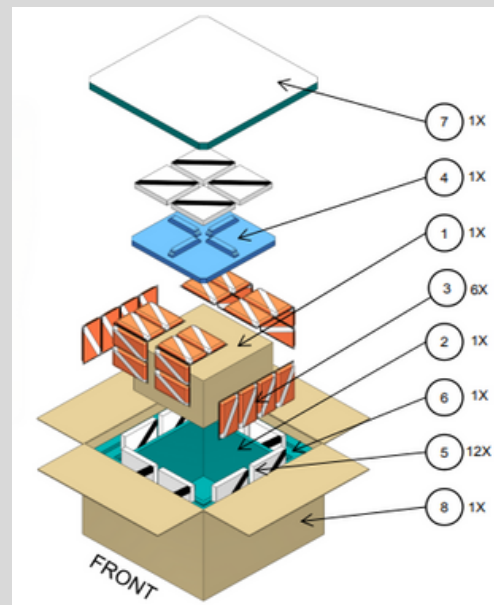
Validated Shipper – 32L PUR



All Expected Payload and Dims can be found on the Packout Instructions for each shipper.

Best used for 2-8c shipments that are high value or have long transit times. Also best used for Dry Ice Express shipments that have long transit times.

+15°C TO +25°C, UNIVERSAL PACK OUT (32 L)



Please click here to contact us for pricing.

KoolTemp GTS 32L Extreme Frozen Universal Pack-Out 102556-001



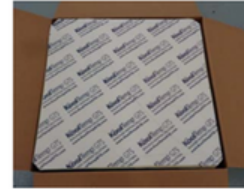
Step 1: Place product box against one corner inside the PUR inner box



Step 2: Fill the open cavities between the product box and PUR inner box with approx. 25.0 lbs. of pelletized dry ice (not shown).



Step 3: Place approx. 5.0 lbs. of pelletized dry ice (not shown) on top of the product box. Fill each cavity between the PUR inner box and the PUR base with approx. 6.0 lbs. of pelletized dry ice (not shown), approx. 24.0 lbs. total.



Step 4: Place the molded PUR lid on top of the molded PUR base. Close and seal the outer corrugate container using packing tape

KoolTemp GTS 32L Extreme (gelled PCM) 2°C to 8°C Universal Pack-Out 102471-001



Step 1: Place product box, centered inside the PUR inner box



Step 2: Place two refrigerated 722G14+3C PCM gels each side by side evenly folded around the front and top sides of the product box.



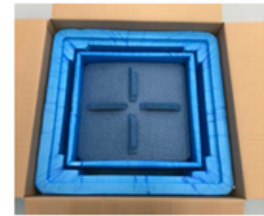
Step 3: Place two refrigerated PCM gels each side by side evenly folded around the back and top sides of the product box.



Step 4: Place two refrigerated PCM gels each side by side evenly folded around the back and top sides of the product box.



Step 5: Place two frozen 365F bricks in each of the four cavities between the PUR base and the PUR inner box (8 total)



Step 6: Place the pop up foam pad on top of the PCM mats



Step 7: Place one frozen 365F brick, in each section of the pop up foam pad (4 total)



Step 8: Place molded PUR lid on top of the molded PUR base. Close and seal the outer corrugate container using packing tape

KoolTemp GTS 32L Extreme (gelled PCM) 2°C to 8°C Universal Bill of Material 102471-001

Part#	Description	Quantity	Preconditioning Temperature
101268-001	Shipper, PUR, Base	1	+20°C ± 5°C
102494-001	Shipper, PUR, Inner Box	1	
102121-001	Shipper, PUR, Lid	1	
102488-001	Corrugate, Container, Product Box	1	
101876-001	Corrugate, Container, RSC	1	
102080-001	PE Foam	1	
722G14+3C	PCM, Gelled, Refrigerant	6	+5°C ± 3°C
365F	Brick, Refrigerant	12	-20°C ± 5°C
N/A	Product Load	1	+5°C ± 3°C

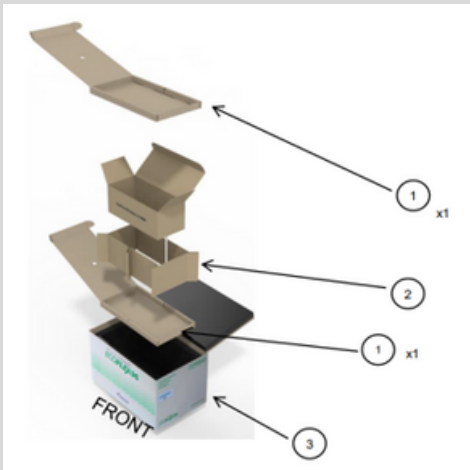
VACUUM INSULATED PANELS (VIP)

Validated Shipper – VIP for Dry Ice

All Expected Payload and Dims can be found on the Packout Instructions for each shipper.

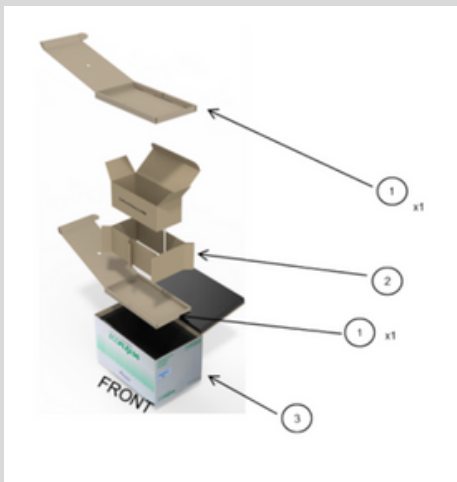


DRY ICE UNIVERSAL PACK OUT (8.5 L) - MD

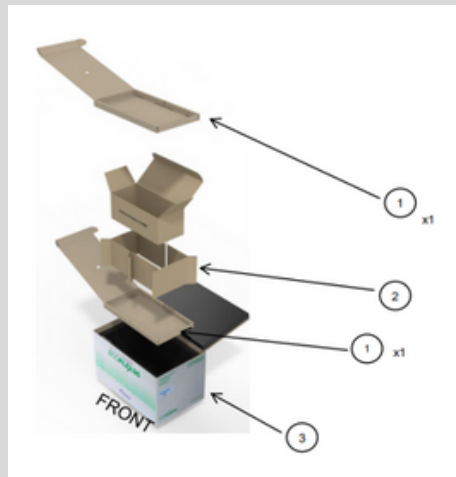


Please click here to contact us for pricing.

DRY ICE UNIVERSAL PACK OUT (18 L) - LRG



DRY ICE UNIVERSAL PACK OUT (41 L) - XLRG



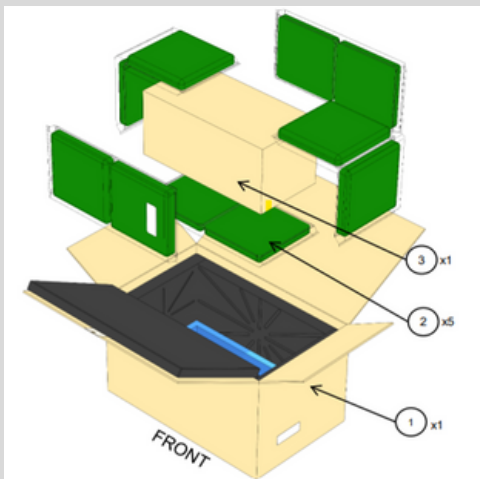
Validated Shipper - VIP for +2°C to +8°C

! CANNOT BE USED WITH DRY ICE

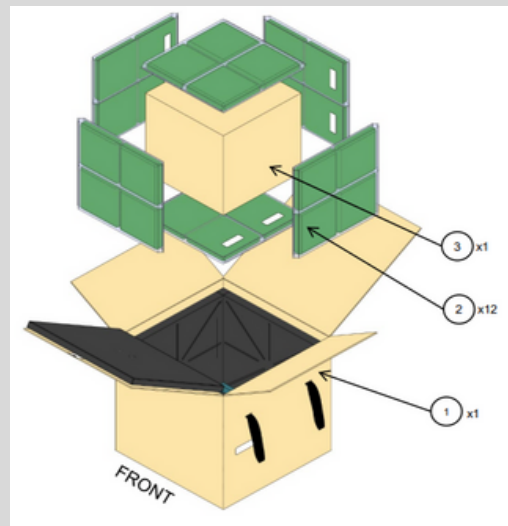
All Expected Payload and Dims can be found on the Packout Instructions for each shipper.



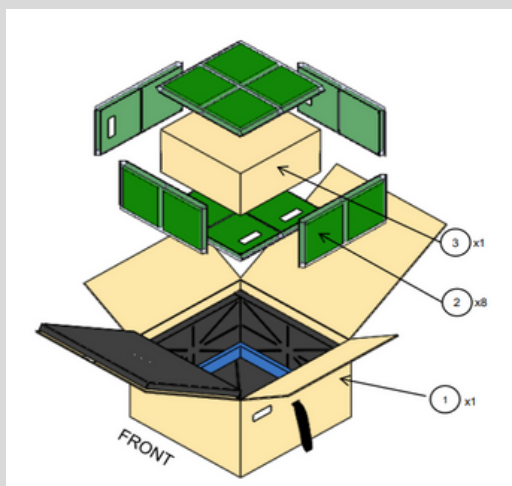
+2°C TO +8°C UNIVERSAL PACK OUT (15 L) - MD



+2°C TO +8°C UNIVERSAL PACK OUT (59 L) - XLRG



+2°C TO +8°C UNIVERSAL PACK OUT (30 L) - LRG



Please click here to contact us for pricing.

Validated Shipper – VIP for +15°C to +25°C

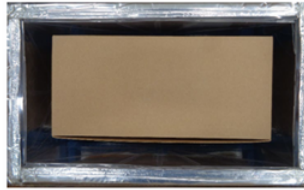
! CANNOT BE USED WITH DRY ICE

+2°C TO +8°C UNIVERSAL PACK OUT (15 L) -MD

EcoFlex 15L CRT – Pack out 104278



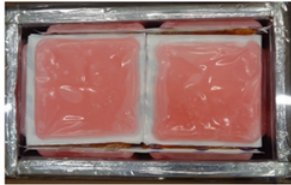
Step 1. Place one room temperature PCM assembly centered in the bottom of the shipper, ensuring the 17C/orange side is facing the product box.



Step 2. Place the product box into the shipper, on top of the previously placed room temperature PCM assembly.



Step 3. Place one room temperature PCM assembly, ensuring the 17C/orange side is facing the product box, with one segment at the right side. Fold down the remaining segment on top of the product box. Repeat on the left side (not shown).



Step 4. Place one room temperature PCM assembly along the back and the front of the product box, ensuring the 17C/orange side is facing the product box.



Step 5. Close the lid assembly on top of the PCM and product box.

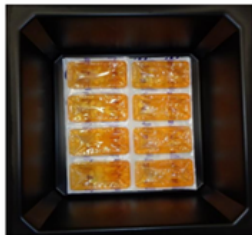


Step 6. Close the minor flaps and the remaining major flap. Seal the outer corrugate container with tape.

SUMMARY EXCERPT - REF ONLY
Cold Chain Technologies LLC Confidential

+2°C TO +8°C UNIVERSAL PACK OUT (30 L) - LRG

EcoFlex 30L CRT CCT – Pack out 103146



Step 1. Place two room temperature PCM assemblies side by side and centered in the bottom of the thermoform base. Ensure that the 17C/orange side is facing the product box.



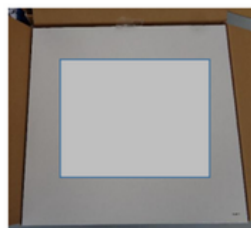
Step 2. Place the product box into the thermoform, on top of the two previously placed room temperature PCM assemblies.



Step 3. Place one room temperature PCM assembly along the back, front, left, and right sides of the product box (four total). Ensure that the 17C/orange side is facing the product box.



Step 4. Place two room temperature PCM assemblies side by side and centered evenly on top of the product box. Ensure that the 17C/orange side is facing the product box.



Step 5. Close the lid assembly on top of the PCM and product box.



Step 6. Close the minor flaps and the remaining major flap. Seal the outer corrugate container with tape.

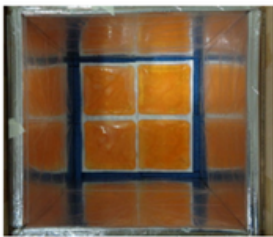
SUMMARY EXCERPT - REF ONLY
Cold Chain Technologies Inc., CONFIDENTIAL

Validated Shipper – VIP for +15°C to +25°C

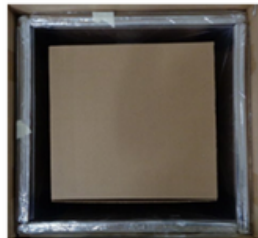


+2°C TO +8°C UNIVERSAL PACK OUT (59 L) - XLRG

EcoFlex 59L CRT – Pack out 104280



Step 1. Place two room temperature PCM assemblies side by side and centered in the bottom of the shipper. Ensure that the 17C/orange side is facing the product box.



Step 2. Place the product box into the base, on top of the two previously placed room temperature PCM assemblies.



Step 3. Place two room temperature PCM assemblies along the back, front, left, and right sides of the product box (eight total). Ensure that the 17C/orange side is facing the product box.



Step 4. Place two room temperature PCM assemblies side by side and centered evenly on top of the product box. Ensure that the 17C/orange side is facing the product box.



Step 5. Close the lid assembly on top of the PCM and product box.



Step 6. Close the minor flaps and the remaining major flap. Seal the outer corrugate container with tape.

SUMMARY EXCERPT - REF ONLY
Cold Chain Technologies LLC Confidential



Please click here to contact us for pricing.

ADVANCED TEMPERATURE MONITORING AND TRACKING DEVICES

SUMMARY OF SUPPLIES



Please click here to contact us for pricing.

GPS Trackers 5G (Tive)

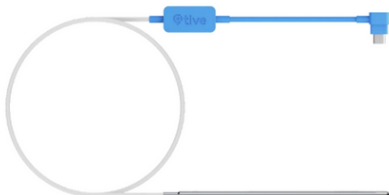
Dry Ice Temperature Probes (Tive)

- Note: You must use a Tive GPS tracker to use one of these probes

Dry Ice Temperature Monitor – Temptale (SensiTech)

Liquid Nitrogen Dewar – Temperature-controlled shipper (Cyroport)

GPS TRACKER & DRY ICE TEMPERATURE PROBE (TIVE)



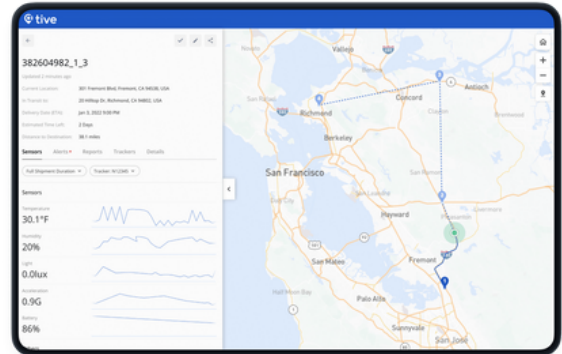
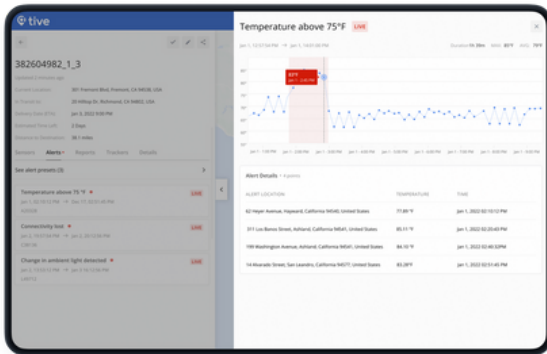
Mercury has selected Tive for its exceptional solutions, including the 5G first single-use multi-sensor tracker that provides real-time visibility using the latest advancements in location technology. This small and powerful tracker captures data in real-time with high accuracy, and there's no need to return the tracker, eliminating complex reverse logistics operations.

With a temperature range of -100°C , the Tive Dry Ice Probe is specifically designed to monitor product stability inside dry ice shippers, ensuring your products are transported optimally and arrive at their destination in perfect condition.

By combining the GPS tracker and the probe, you have steady temperature and location monitoring in real-time to ensure the utmost safety for cold chain shipments — ideal for Life Sciences companies.

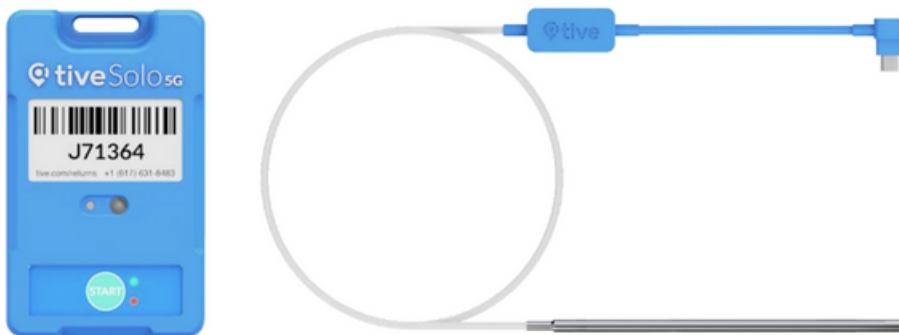
Tive and Real-Time Visibility

View the location and condition data of your shipments in real-time to ensure on-time and full delivery.



INSTRUCTIONS GPS TRACKER & DRY ICE TEMPERATURE PROBE (TIVE)


To start using your Dry Ice Probe, you first need a charged Tive Solo 5G pharma device.



Plug the probe's Micro-USB connector into the tracker's Micro-USB port. The port is on the tracker's left side, under the protective silicone cover.



Once the probe is connected securely, press the Start button on the tracker until the tracker turns ON. The blue LED light will turn ON and blink three times to indicate that the tracker is active and will start transmitting data.

 Please click here to contact us for pricing.

DRY ICE TEMPERATURE MONITOR – TEMPTALE (SENSITECH)



The TempTale® Ultra device is chosen for its exceptional ability to monitor in-transit and store temperatures of biological samples and temperature-sensitive biomedical/pharmacological products. This requires very low temperatures to maintain their stability.

This device is specifically designed to ensure optimal cold chain management and can monitor extremely low temperatures. This tracker will provide an overview of the shipment's journey. Mercury trusts the TempTale® Ultra monitor to provide complete visibility and control over your time and temperature-sensitive shipments.



Please click here to contact us for pricing.

DRY ICE TEMPERATURE MONITORING SHIPPER – (CRYOPORT)



Cryoport Express® High Volume Cryogenic General Purpose Shipper is the ultimate reusable solution for time- and temperature-sensitive shipments requiring frozen temperatures. This shipper provides unparalleled security for your invaluable commodities and can be charged and reused for your projects. The temperatures are validated for up to 10 days once the Cryoport is charged!

WHY MERCURY?

Mercury specializes in time-sensitive and temperature-controlled logistics services for Life Sciences and Healthcare companies.

Our team is dedicated to exceptional client service and 24/7 individualized support.

Key Benefits of Shipping with Mercury:

- 24/7 client support rather than an automated system.
- Easy tracking of your shipments through our portal.
- Expert knowledge of shipping regulations.
- Experience with complex international shipping.
- Transparent pricing with no hidden fees.



Contact us today to learn more about our comprehensive shipping solutions and experience the Mercury difference for yourself.