

PACKAGING SOLUTIONS FOR TEMPERATURE SENSITIVE SHIPMENTS



MEDICALEXPRESS

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EXCELLENCE. SIMPLY DELIVERED.



INTRODUCTION TO DHL MEDICAL EXPRESS

DHL MEDICAL EXPRESS COMES WITH THE SECTOR EXPERIENCE AND NETWORK CAPABILITIES TO MANAGE THE SPECIALIZED TRANSPORT REQUIREMENTS OF CONTRACT RESEARCH ORGANIZATIONS, BIOTECHNOLOGY AND PHARMACEUTICAL COMPANIES.

The DHL MEDICAL EXPRESS solution will provide your business with the following support:

- A dedicated central contact for the duration of the program
- Local contacts in each of the countries where the trial is being performed
- Compliance to local, regional or IATA regulations for restricted contents
- Billing options to allow for the Receiver to pay full transport costs
- Proactive monitoring of your shipments at Quality Control Centers for immediate service recovery
- Latest possible pickup times and earliest possible deliveries as standard practice
- Dedicated program set up depending on the duration, geography, sensitivity and volume of the trial
- Inhouse customs clearance experts to handle the import and export processes
- The reliability of a global DHL Express network of aircraft and delivery vehicles.



PACKAGING OPTIONS FOR EVERY TEMPERATURE: AMBIENT, CONTROLLED, CHILLED OR FROZEN



PACKAGING INNOVATION FOR BROAD TEMPERATURE RANGES TO PROTECT YOUR LIFE SCIENCE & HEALTHCARE SHIPMENTS.

DHL MEDICAL EXPRESS has been developed by DHL Express to support the specific transportation needs of your time or temperature sensitive investigational medicines, patient specimens, clinical supplies and support materials from and to clinics and research organizations.

At DHL Express we know how critical the maintenance of a defined temperature range is for your shipments. We have therefore developed an extensive range of packaging solutions you can choose from. Different box sizes within each temperature range allow you to choose the most efficient solution whilst ensuring temperature accuracy and stability.

This brochure provides you with essential information on the packaging solutions that are available with DHL MEDICAL EXPRESS. All our boxes are entirely IATA compliant and have been extensively tested to give you the maximum confidence in their specification and durability.

Due to the sensitivity of shipments, DHL MEDICAL EXPRESS is designed to handle ambient, controlled at room temperature, chilled or frozen shipments, with capabilities in place for monitoring these during transit in our network.

Where required, DHL Express can also provide a Dry Ice or Coolant Wrap preconditioning service. Please contact your Sales Executive to find out more about these solutions.

AMBIENT TEMPERATURE SOLUTIONS

AMBIENT

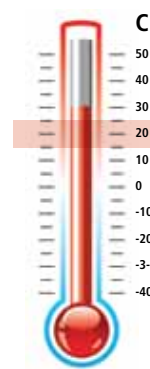
Our Ambient boxes are delivered as complete solutions that include Absorbent Sleeves, Pressure Bags, Coolant Wraps and packaging instructions within the box.

1 AMBIENT NON INSULATED

For the shipment of non-temperature controlled UN 3373 Biological Substances, Category B.

Ambient Non-Insulated solution in one size		
Content	External Dimensions	Product Space
1 x Outer Carton 1 x 95kPa Bag 1 x Absorbent Sleeve 1 x Bubble Bag	23.5 x 19.4 x 12.1 cm	6 x 10 ml vials

Ambient Non-Insulated solution



AMBIENT TEMPERATURE SOLUTIONS

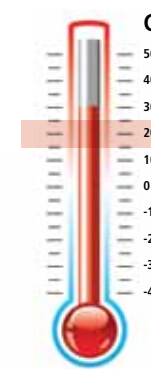
2 AMBIENT INSULATED

For the shipments of temperature controlled UN3373 Biological Substances, Category B.

An additional insulated liner gives your ambient temperature shipments more protection against changes in outside temperature.

Ambient Insulated solution in one size		
Content	External Dimensions	Product Space
1 x Outer Carton 1 x 95kPa Pressure Bag 1 x Absorbent Sleeve 1 x Air Pillow 2 x Coolant Wrap 1 x Insulated Liner	23.5 x 19.4 x 12.1 cm	6 x 10 ml vials

Ambient Insulated temperature solution



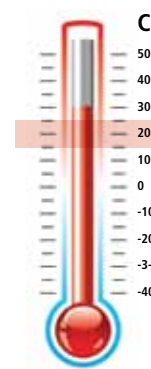
3 AMBIENT EXTREME

This unique packaging system provides thermal protection from extreme temperature fluctuations that might occur during transport or because of season or geography.

Using DHL's ambient extreme packaging will keep the temperature of your ambient shipments above 0°C for 48 hours.

Ambient Extreme solution in one size		
Content	External Dimensions	Product Space
1 x Outer Carton 1 x 95kPa Pressure Bag 1 x Absorbent Sleeve 2 x Coolant Wrap 1 x EPS Box	28.9 x 24.1 x 17.8 cm	6 x 10 ml vials

Ambient Extreme temperature solution



CONTROLLED ROOM TEMPERATURE SOLUTIONS

CHILLED TEMPERATURE SOLUTIONS

CONTROLLED

Designed to cope with a controlled room temperature environment between 15° and 25° C for up to 72 hours. The boxes are available in Small, Medium and Large sizes and are supplied with different sized Pharmacool Cassettes. Handling instructions for summer and winter temperature profiles are provided to allow for correct pre conditioning of the Pharmacool Cassettes.

CHILLED

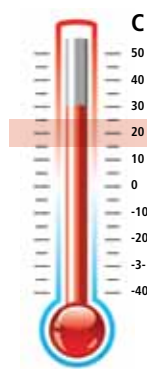
Designed to cope with a chilled temperature environment between 2° and 8° C for up to 108 hours. Box sizes are the same as the ones used for contents shipped at controlled room temperatures. The preparation of the Pharmacool Cassettes will create a chilled environment which be held for the desired time. Instruction sheets guide you through the correct preparation process.

Controlled Temperature solutions boxes available in Small, Medium and Large sizes				
	Content	External Dimensions	Product Space	Temperature and Duration
Small	1 x Outer Carton 1 x EPS Insulated Cooler 6 x 1350g Pharmacool Cassettes 1 x Product Carton	47.5 x 44.0 x 37.0 cm	25.0 x 21.4 x 13.0 (7 litres)	15° to 25° C for 72 hours
Medium	1 x Outer Carton 1 x EPS Insulated Cooler 6 x 2400g Pharmacool Cassettes 1 x Product Carton	56.4 x 51.4 x 43.5 cm	34.4 x 26.4 x 15.3 (14 litres)	15° to 25° C for 72 hours
Large	1 x Outer Carton 1 x EPS Insulated Cooler 2 x 2000g Pharmacool Cassettes 4 x 3000g Pharmacool Cassettes 1 x Product Carton	63.2 x 53.2 x 50.5 cm	38.5 x 28.5 x 25.0 (28 litres)	15° to 25° C for 72 hours

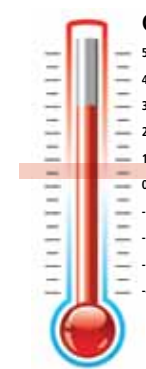
Chilled solutions available in Small, Medium and Large sizes				
	Content	External Dimensions	Product Space	Temperature and Duration
Small	1 x Outer Carton 1 x EPS Insulated Cooler 6 x 1350g Pharmacool Cassettes 1 x Product Carton	47.5 x 44.0 x 37.0 cm	25.0 x 21.4 x 13.0 (7 litres)	2° to 8° C for 85 hours
Medium	1 x Outer Carton 1 x EPS Insulated Cooler 6 x 2400g Pharmacool Cassettes 1 x Product Carton	56.4 x 51.4 x 43.5 cm	34.4 x 26.4 x 15.3 (14 litres)	2° to 8° C for 108 hours
Large	1 x Outer Carton 1 x EPS Insulated Cooler 2 x 2000g Pharmacool Cassettes 4 x 3000g Pharmacool Cassettes 1 x Product Carton	63.2 x 53.2 x 50.5 cm	38.5 x 28.5 x 25.0 (28 litres)	2° to 8° C for 96 hours



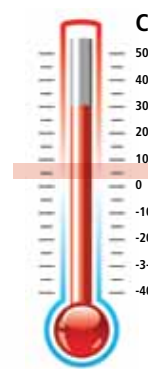
Controlled room temperature solutions in three sizes



Chilled temperature solution with medium sized box



Inside of box showing Pharmacool Cassettes



FROZEN TEMPERATURE SOLUTIONS

FROZEN

Designed for sending contents at temperatures below minus 20° C. Dry Ice is the most commonly used refrigerant to keep product or samples frozen. Dry Ice is available in several shapes and forms such as pellets, sticks or plates.

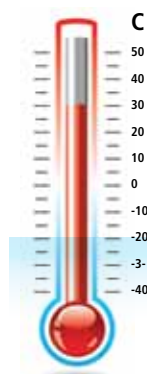
For transport by air, Dry Ice is regulated and considered a dangerous good. Dry Ice sublimates and at the same time displaces oxygen. Boxes therefore should never be hermetically sealed when they contain Dry Ice. These frozen temperature solutions ensure that air pressure does not build up and ensure an environment below minus 20° C can be maintained for up to 129 hours.

A Dry Ice supply service can be arranged separately. Please speak to your DHL Sales Executive to learn more about it.

Frozen solutions available in Small, Medium and Large sizes				
	Content	External Dimensions	Product Space	Temperature and Duration
Small	1 x Outer Carton 1 x EPS Insulated Cooler	31.0 x 31.0 x 32.0 cm	9.5 x 9.5 x 13.5 or 6 x 10 ml vials	< -20° C for 124 hours
Medium	1 x Outer Carton 1 x EPS Insulated Cooler	34.8 x 34.8 x 36.4 cm	10.0 x 10.0 x 2.5 or 12 x 10 ml vials	< -20° C for 122 hours
Large	1 x Outer Carton 1 x EPS Insulated Cooler	39.5 x 39.5 x 44.8 cm	18.0 x 14.5 x 15.0 or 36 x 10 ml vials	< -20° C for 129 hours



Frozen temperature solutions in three sizes



COMBINATION TEMPERATURE SOLUTION

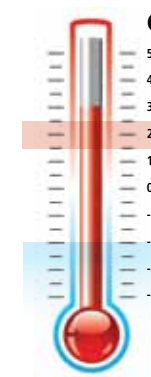
COMBINATION: FROZEN AND AMBIENT

The Combination temperature solution is an addition to the DHL Thermo Packaging range that can accommodate the shipping of frozen and ambient samples within a single box.

Combination solution in one size			
Content	External Dimensions	Product Space	Temperature and Duration
1 x Outer Carton 2 x EPS Cooler 2 x Coolant Wraps	29.5 x 24.4 x 44.2 cm	6 x 10 ml vials Ambient and 6 x 10 ml vials Frozen	< -20° C for 72 hours (for the Frozen element)



Combination temperature solution



PACKAGING ACCESSORIES

All DHL Thermo Packaging items are delivered as box solutions containing all accessories that are needed to prepare and ship your temperature sensitive contents. Should you require additional accessories these can be ordered separately as well.

Accessories		
	External Dimensions	Internal Dimensions
Pressure Bag 95kPa Small	27.5 x 17.5 cm	6 x 10 ml vials
Pressure Bag 95kPa Medium	36.0 x 28.5 cm	36 x 10 ml vials
Pressure Bag 95kPa Large	45.7 x 33.0 cm	48 x 10 ml vials
Absorbent Sleeve	N/A	N/A
Coolant Wrap	N/A	N/A



MORE OPTIONS FOR DHL MEDICAL EXPRESS

Take advantage of optional services.

Because every situation is different, DHL Express offers a variety of optional services and handling options to suit your needs

- **Smart Sensor technology:** Monitor and track the temperature of your shipment contents during their transit from origin through to destination.
- **Billing Services:** Flexible options for the billing of transport charges, duties and taxes.
- **Shipment Insurance:** opt for additional financial protection based on the content for more peace of mind.

DHL also provides you with in-house customs clearance expertise to ensure all your time and temperature sensitive shipments are processed as quickly and safely as possible.

