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Whitepaper Medical

## **How to ensure that temperature-sensitive medical aids arrive at their destination in optimum condition**

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**Medical aids are of vital importance. They are used by doctors during the diagnosis, treatment and support of an illness or disability, as explained by the RIVM. So the term 'medical aids' covers a lot. Some medical aids, such as human tissues and blood, have to be kept and transported cool or frozen. This way harmful bacteria don't get a chance and the aids remain usable as long as possible. The essential quality then remains guaranteed. What do you need to take into account when transporting these resources? You can read more about this in this white paper.**

### **Optimal condition of blood products**

To ensure that blood products are administered to a patient in optimal condition, the blood must be handled according to precise instructions in the period preceding the administration. During processing and storage at the blood bank, during transport between locations and during storage in the hospital.

The best storage temperature for blood products is between 2 and 6 degrees Celsius. This is partly because the risk of bacterial growth is particularly low at this temperature. That is why blood is stored in special refrigerators. These refrigerators are equipped with a temperature gauge and an alarm. Once at the temperature for administration, blood products may only be administered within 6 hours, in order to guarantee that the blood is in optimal condition.



### **Transport from A to B**

On-site cooling of blood products and other medical supplies is not so much the challenge. With the right equipment, it should be a breeze. However, transporting them raises new barriers. Fortunately, there are various possibilities for this.

#### **1. The refrigerated van**

The refrigerated van is actually a refrigerator on wheels. This can be a very good means of transport for the planned transportation of large quantities of blood and medical supplies. The capacity of the van is fully utilised and external conditions are well controlled. However, for small or ad hoc transports of blood and medical supplies, the refrigerated van is not the most sustainable and quickest solution. For example, using a whole van for transporting a small quantity of blood samples is not very efficient or environmentally friendly. Moreover, the costs are also quite high and you are dependent on the availability of a refrigerated van.

#### **2. Refrigerated packaging**

For transport of smaller quantities or ad hoc deliveries of blood products or other medical supplies, refrigerated packaging can be a



solution. Cooling elements, such as gel packs, can be used in combination with absorption materials and well-insulated packaging boxes. With these, transports of 24 hours can be bridged. Depending on external conditions, they can even be used for shipments of up to 48 hours. So you create a kind of mobile refrigerator, which does not require any electricity during transport. The big advantage for you? The blood products and medical supplies can also be transported in regular means of transport, such as by car or by post. In addition, the products can be used several times.

### Cooling with gel packs

Transporting blood products under the right conditions is extremely important, but fortunately this does not mean that it is difficult. As described above, you can choose to transport the medical products in a refrigerated way by using gel packs, among other things.

Gel packs are leak-proof polypropylene bags filled with cooling gel. The regular gel packs are suitable for transports in which the goods must remain chilled at 2 to 8 degrees Celsius. They are usually used for transports of up to 24 hours, but depending on external conditions they can also be used for transports of up to 48 hours.

Gel packs are available in all shapes and sizes. This enables you to come up with a customised solution for your application. For example, segmented gel packs are ideal for blood tubes. These are linked gel packs: gel packs that consist of multiple compartments. In this way



you can create a kind of roll containing the blood tubes, so that they are cooled all around. Moreover, there is no space left for air currents, which promotes stability of the temperature.

### Well-insulated packaging

For maximum cooling, pack the blood tubes together with the segmented gel packs in a well-insulated EPS box. EPS boxes are polystyrene boxes with a high insulation capacity. The thicker the wall, the higher the insulation capacity.

In the medical sector, absorption materials such as absorption mats are also often used. The function of absorption mats is to catch and retain moisture that arises on the way. In this way, the aids, even with slight condensation, remain dry and tidy. It is therefore advisable in some cases to add absorption mats to the EPS boxes.





Another way to prevent surface condensation from coming into contact with the medical supplies is to use the so-called No sweat gel packs. The gel pack consists of several layers, with a sheath of non-woven material. This outer layer absorbs the condensation created during shipping.

### Custom solutions

Are you curious about the possibilities for your specific problem? At De Ridder Packaging, we have over 25 years of experience in supplying the best cooling materials. Our product range varies from standard to customised refrigerated packaging, gel packs, ice packs, absorption mats and EPS boxes to total solutions for refrigerated and conditioned transport. Everything to ensure that your medical devices and other goods arrive at their destination in optimum condition. Our experts will be happy to provide you with specialised advice. Thanks to our own on-site production facilities, we can deliver custom solutions, designed specifically for your application.

The products of De Ridder Packaging are of excellent quality, and meet all the requirements of the law.

Do you have any questions, would you like to order or would you like some advice? Feel free to contact us. Our experts will be happy to help you.





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