

Method for rapid cooling and temperature holding, packaging, and transport of whole blood

Application: **Rapid cooling and temperature holding of whole blood at $22\pm 2^{\circ}\text{C}$** , and blood bag packaging method for transport to a blood component preparation facility.

Commercial interest: Blood component suppliers collecting blood from donors on mobile collection sites, biopharmaceutical companies commercializing products requiring ambient temperature transport.

Summary: This technology refers to a polyethylene pouch comprising two distinct compartments filled with a eutectic gel that has a melting temperature of 23°C . The saddle-shaped design of the pouch allows to wrap a whole blood bag so that each of the two major surfaces of the blood bag is juxtaposed to one of the two eutectic gel compartments. This packaging method allows to rapidly chill whole blood, whose temperature at phlebotomy is about 37°C , down to $22\pm 2^{\circ}\text{C}$. When used in combination with an insulated box, the packaging method allows **to maintain blood temperature at $22\pm 2^{\circ}\text{C}$ during transport, even in extreme outdoor temperature conditions (-35°C to 39°C)**, without the need for temperature-controlled vehicles, for up to 15 hours. Gel pouch conditioning is simple and inexpensive. Rapid cooling and temperature holding of whole blood before processing enables a more uniform and standardized quality of blood components prepared from blood donations. This technology could also be used with pharmaceutical and cellular formulations requiring room temperature transport.

Intellectual Property: This invention is protected by the following patents: US 8,192,924, and US 8,349,552. Equivalent applications have been filed in Canada and Europe, and an application for a continuation patent is pending in the United States.

Owned by: TCP Reliable Inc., Raritan, NJ, UNITED STATES.

Information about this technology for licensing purposes can be obtained from:

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