Permafrost VacSafe

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Portable cold storage box for Covid-19 vaccine addresses logistics issues for care homes and GP surgeries

Annual vaccine wastage is reported by the WHO to be as high as 50% per year globally. Having discovered this issue in the context of the global Covid-19 pandemic, thermal storage specialists Sunamp Ltd and their R&D Partner the University of Edinburgh have rapidly developed a manufacture-ready solution to the problem of safe vaccine transport and storage at -70C in the smaller quantities required by care homes and doctors' surgeries.

The Permafrost™ VacSafe™ is a compact and portable cold box, designed to safely store lower number of vaccine vials at -70C for twenty-four days or more, vastly outperforming most solutions currently available on the market.

Data Sheet	Permafrost™ VacSafe™
Availability	Now
Vaccine holding time	24+ days*
Vaccine Vial Mid-Point Temperature (typical in-use)	-76°C
Temperature Range	-70 to -78°C
Cold Energy Storage Material	-78°C Dry Ice (frozen CO2) Recharge by adding Dry Ice – widely supplied
Dry ice use-rate	90 g/h (±10) (at ~20°C ambient)
External Dimensions (H x W x L)	606 x 365 x 575 mm
Payload Dimensions (H x W x L)	50 x 302 x 511 mm (~7.7 L)**
Weight	~21 kg (empty) ~73 kg (filled for 24 days) ~101 kg (filled to maximum)
Temperature Monitoring	Different options of approved cooling supply chain monitoring solutions available.
Alternative Cold Material	-74°C Eutectic Cold Packs Recharge in -80°C to -86°C Freezer

* With 52 kg of dry ice filling. 1-2 days for initial delivery, 21 days between dose 1 and dose 2, with 1-2 days in hand. The storage duration may be extended to up to 37 days by loading the VacSafe with its maximum capacity of ~80kg high density dry ice slabs.

** Equivalent to a maximum capacity of ~390 vials (size 2mL), equal to two Pfizer/BioNTech "pizza trays".

-70°C

Keeps vaccines at -70°C, right up to the point of use. Other temperatures are available.

24+ days

Maintains ultra-low temperatures for 24 days and more without the need for a direct power supply.

Compact

Small enough to be stored onsite in care homes and surgeries which means both required doses can be delivered in one journey.

Robust

Portable and robust for safe transportation by car, ideal for GPs and nurses visiting patients who cannot travel.

Less CO_2

Releases less CO2 gas for safer storage, especially in confined spaces such as a storage cupboard, a car or on aircraft.

Economic

Uses up to ten times less dry ice and a eutectic version at -74C is also available should dry ice supply become an issue.

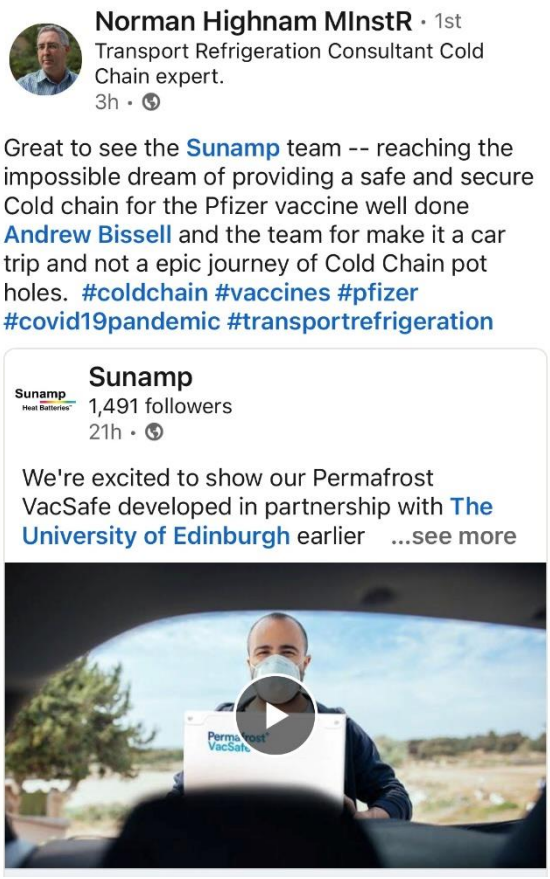
Reusable

Refillable, rechargeable, recyclable, reusable. We guarantee to take the product back at the end of your use life and repurpose it.

Flexible

The same VacSafe can be used with water ice for +2 to +8°C and other eutectic material cold packs to match any other vaccine.

The Permafrost™ VacSafe™ can be lifted by a single person when returning to base empty. 2-4 people will be able to lift it securely when fully charged with dry ice for 24+ days of storage.



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