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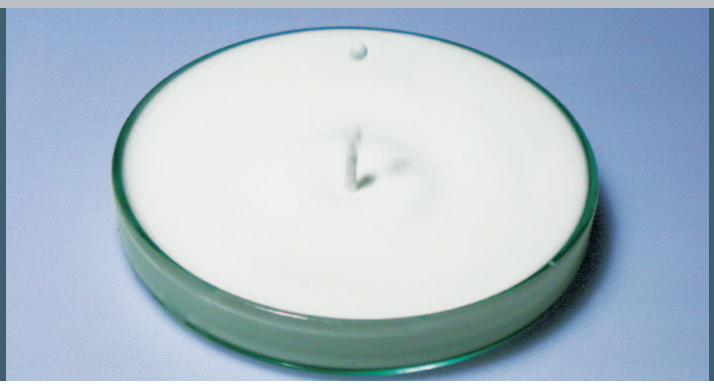
FRAUNHOFER INSTITUTE FOR ENVIRONMENTAL, SAFETY, AND ENERGY TECHNOLOGY UMSICHT



1 *Cold storage medium CryoSol®plus.*

CRYOSOL®PLUS

HIGH-CAPACITY COLD SUPPLY FLUID AND COLD STORAGE MEDIUM [+5 TO +45°C]

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Existing cooling systems are reaching their storage- and transport capacity fast. The application of CryoSol®plus – with a 2 to 3 times higher storage capacity than water – increases the performance of existing cold storage and cold supply networks by enhancing the storage and transport capacity.

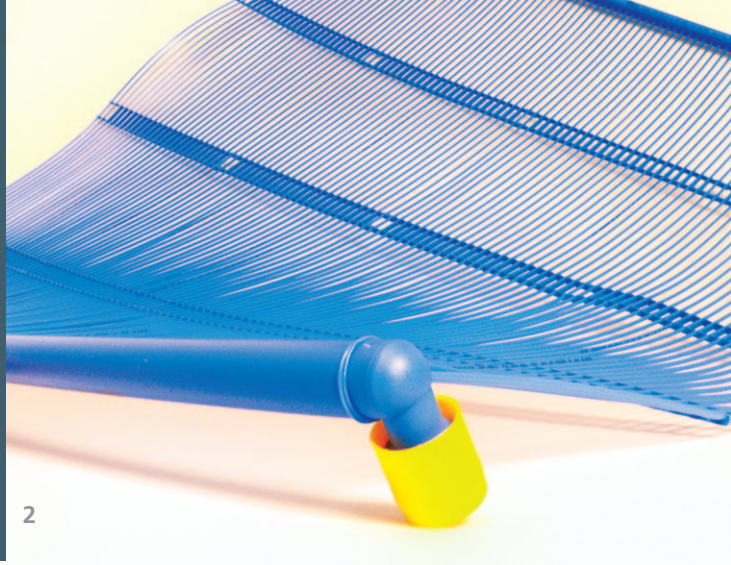
CryoSol®plus is used in the temperature range between 5 and 20 °C as an alternative to cold water and between 25 and 45 °C as a heat transfer medium and storage medium, respectively.

Keywords

- Heat transfer fluid with high energy density and capacity
- Thermal storage
- Process cooling
- Air-conditioning
- Mobile cooling

Industrial sectors

- Producing industry
- Air-conditioning/building cooling
- Chemical industry
- Cooling appliances, cold storage depots
- Food industry
- Automobile manufacturers



1 *Cooling medium emulsion CryoSol®plus.*

2 *Capillary tube mats.*

Technological specifications

- CryoSol®plus is a hybrid energy storage medium based on dispersed phase change materials (PCM)
- Apart from the sensitive heat, CryoSol®plus also uses the latent heat of a phase changing process, of paraffin in a paraffin/water emulsion.
- CryoSol®plus remains liquid in a phase changing process, because of the dispersion of PCM in water
- CryoSol®plus is neither flammable nor toxic
- Energy density of CryoSol®plus with 25 weight-% paraffin is approx. 50 kJ/kg for comparison:
  cold water (6 to 12 °C) has an energy density of 25 kJ/kg, i.e. CryoSol®plus is twice as good

Our service

- CryoSol®plus tailor-made - Cold or low-temperature heat storage tailor-made for your application
- CryoSol®plus as a retrofit for cold water storage systems
- Engineering and installation of cold supply systems based on CryoSol®plus

Your benefit

Improved performance of existing plants

- Higher storage capacity with existing cold storage tanks and low temperature heat storage tanks
- Increase of transport capacity of existing cold supply networks
- More flexibility in view of operating availability due to the increased storage capacity
- Precise tempering of sensitive processes accurate to the degree