PRODUCT INFORMATION

globaltherm®

D

SYNTHETIC ORGANIC THERMAL FLUID
For use in a variety of Industrial Process Applications

A synthetic organic heat transfer fluid designed for low-temperature use in the liquid phase, in unpressurized systems with forced circulation.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name
Globaltherm® D
Heat transfer fluid

Company Information
Globaltherm, Cold Meece Estate, Cold Meece, Stone, Stafford, ST15 0SP, UK

Emergency telephone
+44 (0) 1785 760555

Web
www.globaltherm.org

2. PRODUCT DESCRIPTION

Globaltherm® D Heat transfer fluid is a synthetic organic heat transfer fluid designed for relatively low-temperature use in the liquid phase in closed unpressurized heat transfer systems with forced circulation. The recommended upper temperature limit is 200°C.

Globaltherm® D Heat transfer fluid meets the FOA Regulation CFR 21 Part 178.3530 and 178.3650.

In heat exchangers with a slightly increased heat exchange surface, Globaltherm® D Heat transfer fluid will provide adequate heat transfer down to -50°C. The product is most suitable for indirect cooling in refrigeration plants and in processes in which, for example, aqueous systems are excluded because of possible material contamination or safety considerations.

At operating temperatures above 70°C, Globaltherm® D Heat transfer fluid systems are best operated with an inert gas back-pressure of about 50-200 mbar. Nitrogen has proved itself suitable as the inert gas.

Globaltherm® D Heat transfer fluid is thermally stable over the recommended

usage range and provides good performance. At operating temperatures below 0°C the heat transfer or refrigeration system should be protected from the effects of moisture.

The maintenance program should include fluid use life testing with representative samples taken from the main stream of the heat transfer circuit.

Globaltherm® D Heat transfer fluid can be readily circulated by single-stage centrifugal pumps at temperatures down to -80°C. Canned motor pumps and centrifugal pumps with permanent magnet drive can likewise be incorporated in the heat transfer or refrigeration system. The power consumption of the circulation pumps of the system is lower with Globaltherm® D Heat transfer fluid than with other heat transfer
and refrigeration media, used in this application range.

At operating temperatures, up to 70°C, inert gas blanketing such as nitrogen, is usually unnecessary. Safety considerations, however, may require the use of a protective inert gas blanket in the expansion vessel.

3. APPLICATIONS

Globaltherm® D Heat transfer fluid is intended for use as heat-transfer medium in a closed plant.

4. SERVICE CONSIDERATIONS

Globaltherm® D Heat transfer fluid is just one of the comprehensive range of high performance heat transfer fluids offered by Global Heat Transfer for the temperature range from -90 to 600°C: Detailed information is available on request. Global Heat Transfer has more than 25 years' experience in the field of heat transfer technology. This knowledge is available to you, should you have any questions or problems. Whether you have questions about the choice of Globaltherm® Heat transfer fluid for a certain application, about system design, troubleshooting, safety issues or specification problems, our technical experts are here to help you. Call our technical team on +44 (0) 1785 760555.

An analytical routine check of the heat transfer medium, while it is hot and circulating, should be part of the routine maintenance plan. This check should be carried out at least once a year, preferably three to four times a year. Testing can be carried out by Global Heat Transfer - via the Thermocare® lifecycle management programme - to all users of Globaltherm® Heat transfer fluids. The thermal fluid parameters which are measured will allow our experts an accurate assessment of the condition of the fluid. This way, Thermocare® testing and analysis programmes ensure prolonged and trouble-free operation of the fluid. Changes to the condition of the fluid are quickly detected and managed with Thermocare® and can be avoided in time before more extensive damage (to both system and fluid) and further costs are incurred.

Phone: +44 (0) 1785 760555; fax: +44 (0) 1785 760444 to ask about Thermocare® preventative maintenance programmes and heat transfer fluid testing and analysis.

5. COMPATIBILITY

Globaltherm® D Heat transfer fluid does not corrode metallic materials used in the construction of heat transfer systems.

It is compatible with bonded asbestos substitute fiber gaskets and gaskets based on other materials customary in heat transfer systems e.g. fluoroelostomers or PTFE. The gasket manufacturers' recommendations regarding heat resistance and mechanical strength of the sealing material should be observed. Gaskets should ensure good sealing even during temporary operation of the system at its stress limits.

For frequent high-to-low temperature cycling's in the heat transfer system gaskets of pure graphite, preferably with metal reinforcements, should be used.

Adding Globaltherm® D Heat transfer fluid as a top-up to used fluids may help to increase fluid life (i.e., aromatic types). Laboratory testing is recommended before topping-up the system with this product. Please contact the technical team for more information about lab services and sample and analysis on +44 (0) 1785 760555.

6. HEALTH AND SAFETY

Globaltherm® D Heat transfer fluid is determined for use in closed plant-constructions. Any leakage of the heat transfer medium should be prevented by suitable measures in design and construction or limited to a minimum level. For information on toxicity and safety, consult the latest material Safety Data Sheet. Please contact the technical team on +44 (0) 1785 760555 for more information.

7. PHYSICAL AND CHEMICAL PROPERTIES

Parameter	Unit	Code (ASTM/ISO)	Result
Appearance at 20 °C	N/A	Visual	Liquid, clear
Chlorine	ppm	NTR	NTR
Acid number	mg KOH/g	DIN EN ISO 2114	max. 0.015
Density at 20°C	g/ml	ASTM D 941	0.75 - 0.77
Viscosity at 20°C	mm^2/s	DIN 51562	1.3 - 1.9
General product description	**Unit**	**Code (ASTM/ISO/DIN)**	**Result**
Boiling range at 1013 mbar	°C	ASTM D 1078	190 - 200
Pour point	°C	DIN ISO 3016	< -60
Flash point	°C	DIN 51755	about 73
Ignition temperature	°C	DIN 51794	about 220
Permissible heater outlet temperature	°C	NTR	NTR
Permissible heater film temperature	°C	NTR	NTR
Pumpability limit	°C	NTR	NTR

Note: The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This edition supersedes all previous editions and information contained within them. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product. Abbreviations: OC, open cup test; COC, Cleveland open cup test; and, NTR, no test reported.

8. OTHER INFORMATION

PI Creation Date 18th May 2012 (#3) Revision date 5th July 2013 (#4)

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And, what's more we have over 25 years' experience in thermal fluid management so you couldn't be in better hands.

GET IN TOUCH
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Email enquiries@globaltherm.org **Find out more** www.globaltherm.org

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