



# A superior high performance, energy efficient mineral based heat transfer fluid suitable for use in a wide variety of industrial process applications.

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product name

Globaltherm® M  
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

A superior high performance, energy efficient heat transfer

fluid suitable for use in all kinds of industrial processes.

Made from highly refined base stocks, Globaltherm® M Heat transfer fluid has excellent thermal and oxidation stability allowing operation at high temperatures for extended periods.

Good thermal conductivity and low viscosity at the relevant operating temperatures ensure high heat transfer rates, requiring limited pumping energy. It also has low vapour pressures at elevated temperatures, greatly reducing evaporation, vapour lock and cavitation, eliminating the need

for high pressure piping and equipment.

Used fluid may be disposed of through several environmentally acceptable methods, such as used oil recycling or heavy fuels burning. Talk to us about our used oil reprocessing services.

NOTE: When draining hot fluid after flushing, normal safety precautions should be taken to prevent burns and the risk of fire.

## 3. APPLICATIONS

Globaltherm® M Heat transfer fluid is recommended for use in a temperature range from -10°C up to a maximum bulk temperature of 320°C.



## PRODUCT INFORMATION

The maximum recommended film temperature is 340°C.

Globaltherm® M Heat transfer fluid is recommended for heat transfer systems operating under mild temperature conditions, where low temperature fluidity is required to ensure the correct flow rate during start-up.

Globaltherm® M Heat transfer fluid has low toxicity. For food and pharma applications refer to Globaltherm® FG HT1 certified food grade heat transfer fluid.

### 4. SERVICE CONSIDERATIONS

As with any heat transfer oil, certain precautions should be taken to ensure satisfactory performance of Globaltherm® M Heat transfer fluid in service:

- Before full temperature is imposed, all air and water should be completely vented;
- Hot oil is rapidly oxidised by air, causing thickening and deposit formation. At places where the oil is in contact with the atmosphere (e.g., the expansion vessel) the oil should not exceed 60 °C for prolonged times or the oil needs to be blanketed with inert gas. Copper and its alloys promote rapid oil degradation in the presence of air and need to be avoided at these places; and,
- Hot oil circulating pumps must be checked frequently to prevent air from entering.

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

While unused Globaltherm® M Heat transfer fluid is compatible with most organic heat transfer oils, prior laboratory testing is recommended before topping-up the system with this product. Adding Globaltherm® M Heat transfer fluid as a top-up to already severely used oil, especially aromatic types, may precipitate suspended sludge.

### 6. HEALTH AND SAFETY

Globaltherm® M Heat transfer fluid presents no hazard to health or safety under good standards of industrial and personal hygiene. Full details of health and medical procedures are contained in the Material Safety Data Sheet. Please contact our technical team on +44 (0) 1785 760555 for more information.

## 7. PHYSICAL AND CHEMICAL PROPERTIES

Parameter	Unit	Code (ASTM/ISO)	Result
Appearance	N/A	N/A	Viscous clear-yellow liquid with a mild odour.
Operating Range	°C (°F)	N/A	-10 to 320 (14 to 608)
Density @ 25°C	kg/m <sup>3</sup>	ASTM D4052	873
Kin. Viscosity 40°C	mm <sup>2</sup> /s (cSt)	ASTM D445	29.8
Kin. Viscosity 100°C	mm <sup>2</sup> /s (cSt)	ASTM D445	4.5
Flash Point PMC	°C	ASTM D93	210
Flash Point COC	°C	ASTM D92	230
Coefficient of thermal expansion	°C	NTR	0.00077/°C
Autoignition Point	°C	ASTM E659	360
Pour Point	°C	ISO 3016	-12
Neutralisation Nr (acid), TAN	mgKOH/g	ASTM D974	<0.05
Maximum Bulk Temperature	°C	NTR	320
Maximum Film Temperature	°C	NTR	340
Boiling Point at 1013 mbar	°C	NTR	365
Average Molecular Weight	NTR	NTR	400
Moisture Content	PPM	ASTM D6304	<100

**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 5<sup>th</sup> July 2013 (#4) Revision date 18<sup>th</sup> Dec 2015 (#5)



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24/7 REAL-TIME CONDITION MONITORING AND  
MANAGEMENT SYSTEM FOR HEAT TRANSFER FLUID



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**PREVENTATIVE MAINTENANCE FOR COST,  
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Thermocare® will also extend the life of your thermal fluid and reduce your environmental impact.

It's all you need to stay safe, reduce costs and improve productivity for a straightforward fixed cost.

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**

GLOBALTHERM®, Cold Meece Estate, Cold Meece, Stone, Stafford, ST15 OSP, UK

**Call** +44 (0) 1785 760555 **Freephone UK** 0800 298 0488

**Email** [enquiries@globaltherm.org](mailto:enquiries@globaltherm.org) **Find out more** [www.globaltherm.org](http://www.globaltherm.org)

