



# Globaltherm® DT is a high-boiling, heat transfer fluid with a low viscosity and excellent thermal stability for cooling and heating in liquid applications (under N<sub>2</sub> pressure).

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product name

Globaltherm® DT  
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](http://www.globaltherm.org)

## 2. PRODUCT DESCRIPTION

A high-boiling, organic heat transfer fluid with low viscosity and excellent thermal stability for cooling and heating in liquid applications (under N<sub>2</sub> pressure).

Globaltherm® DT is a mixture of isometric ditolyl ethers (dimethyl diphenyloxides). It boils in the temperature range of 284°C and 294°C at 1.013 bar. Under pressure it can be operated in the liquid phase up to a temperature of 330°C. It has a pour point of -54°C allowing operation at temperatures as low as -30°C.

Globaltherm® DT has a auto ignition temperature of 545°C and a flash point of 135°C

The inherent odour enables leaks to be identified quickly and the level of production level impurities is so low that corrosive damage caused by the heat transfer fluid is unlikely.

All organic heat transfer fluids undergo thermal degradation over time and conventional synthetic fluids or low-quality oils will form soft sludge that eventually coats all system surfaces and can harden into coke.



PRODUCT INFORMATION

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® DT Heat transfer fluid is recommended for use plastics manufacturing, textile applications and the manufacture of dyestuffs up to a temperature range of 330°C.

### 4. SERVICE CONSIDERATIONS

As with any heat transfer oil, certain precautions should be taken to ensure satisfactory performance of Globaltherm® DT 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) oil should not exceed 70°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 to ask about Thermocare® preventative maintenance programmes and heat transfer fluid testing and analysis.

## 5. COMPATIBILITY

While unused Globaltherm® DT Heat transfer fluid is compatible with most organic and synthetic heat transfer oils prior laboratory testing is recommended before topping-up the system with this product. Adding Globaltherm® DT Heat transfer fluid as a top-up to used fluids may help to increase fluid life (i.e., aromatic types). Please contact the technical team for more information and lab services and sample and analysis on +44 (0) 1785 760555.

## 6. HEALTH AND SAFETY

Globaltherm® DT 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 the technical team on +44 (0) 1785 760555 for more information.

## 7. PHYSICAL AND CHEMICAL PROPERTIES

Parameter	Unit	Code (ASTM/ISO)	Result
Appearance	N/A		Clear, pale yellow
Operating range	°C (°F)		-30 - 330 (-22 to 626)
Density @ 20°C	kg/m <sup>3</sup>	DIN 51757	1035
Kin. viscosity 20°C	mm <sup>2</sup> /s (cSt)	DN 51562-1	6.3
Pour point	°C	ISO 3016	-54
Neutralisation Nr (acid), TAN	mgKOH/g	DN 51558 part 1	0.01
Maximum film temperature	°C		340
Boiling Point at 1.013 mbar	°C		284-294
Flash point	°C	ISO 2719	135
Autoignition point	°C	DIN 51794	545
Lower explosion Limit (132°C )	volume-%		0.8
Upper explosion limit (206°C )	volume-%		14.5
Solubility in water (at 20°C )	mg/l	Quentin method	4.0
Surface tension (at 20°C)	mN/m	OECD ring method	37
Thermal conductivity	W/m K		0.134
Mean specific heat	kJ/kg K		1.58

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.

## 8. OTHER INFORMATION

PI Creation Date 1<sup>st</sup> January 2022 (#1) Revision date 14th September 2023 (#2)



**THERMOCARE® IS THE AWARD WINNING**  
24/7 REAL-TIME CONDITION MONITORING AND  
MANAGEMENT SYSTEM FOR HEAT TRANSFER FLUID



thermocare®

**PREVENTATIVE MAINTENANCE FOR COST,  
RISK AND PERFORMANCE OPTIMISATION**

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)

