



A dual action power system cleaner and flushing fluid that works to rid your system of carbon deposits, debris, volatile light ends and other system contaminants.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

Globaltherm® C1
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 unique thermal fluid system cleaner and flushing fluid in one.

The dual action power of Globaltherm® C1 system cleaner and flushing fluid works to rid your heat transfer system of potentially harmful system contaminants such as old, oxidised residual fluids, carbon deposits, loose debris, water, and volatile light ends.

Globaltherm® C1 system cleaner and flushing fluid is specially formulated to scour away harsh by-products of synthetic and mineral-based fluids. It effectively displaces and flushes out waste, leaving behind a clean and safe operating system ready to accept a new charge of heat transfer fluid.

Use it prior to recharging a system to ensure best performance and optimum efficiency. We also recommend cleaning and flushing brand-new systems before the preliminary fill, to purge the pipes of any residual metals, minerals or lacquers that have settled post-construction.

Starting with a clean system means:

- A safer system environment;
- Maximum performance and service life from the new fluid;
- Lower maintenance and operating costs; and,
- Reduced downtime.

PRODUCT INFORMATION

On completion of the system cleanse and flush, Globaltherm® C1 system cleaner and flushing 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.

For best results refill the system with one of the Globaltherm® high performance heat transfer fluids suitable for your application. Please seek advice from one of our technical consultants.

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

3. APPLICATIONS

Globaltherm® C1 system cleaner and flushing fluid is recommended for the cleaning and flushing of heat transfer systems using heat transfer fluids in a temperature range from -10°C up to a maximum bulk temperature of 320°C. The maximum recommended film temperature is 330°C.

Globaltherm® C1 system cleaner and flushing 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.

4. SERVICE CONSIDERATIONS

As with any heat transfer product, certain precautions should be taken to ensure satisfactory performance of Globaltherm® C1 system cleaner and flushing fluid in service, which include the following:

- 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 80°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® C1 system cleaner and flushing fluid is compatible with most organic heat transfer oils, prior laboratory testing is recommended before using this product. Global Heat Transfer can assist with lab testing. Please contact our technical team on +44 (0) 1785 760555 for more information.

6. HEALTH AND SAFETY

Globaltherm® C1 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	Colourless transparent liquid with no odour
Operating Range	°C (°F)	N/A	-10 to 320 (14 to 608)
Density @ 25°C	kg/m ³	ASTM D4052	873
Kin. Viscosity 40°C	mm ² /s (cSt)	ASTM D445	29.8
Kin. Viscosity 100°C	mm ² /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	320
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	330
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

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



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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.

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GET IN TOUCH

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Email enquiries@globaltherm.org **Find out more** www.globaltherm.org

