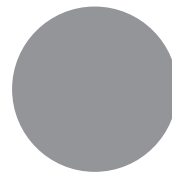


FM HEAT TRANSFER FLUID 32

Product Information

Heat transfer fluid for use in food manufacturing industry



FM HEAT TRANSFER FLUID is designed for closed circuit and pressureless heat transfer systems.

It is based on a careful blend of highly refined oils and additives chosen for their ability to meet the stringent requirements of the food industry.

Certified by NSF for ISO 21469 and registered by NSF for use in both direct contact applications (Class HT1) and where there is potential for incidental food contact. Produced according to FLT Quality Standards, in facilities where HACCP audit and Good Manufacturing Practice have been implemented and form part of the quality and hygiene management systems ISO 9001 and ISO 21469.

CERTIFICATIONS AND SPECIFICATIONS

- NSF HT1
- NSF ISO 21469
- Kosher
- Halal
- DIN 51522 Q
- ISO 6743-12 QC/QE



PERFORMANCE FEATURES

- Wide temperature range for application
- High temperature and oxidation stability
- Neutral odour and taste

OPERATING GUIDELINES

Care should be taken to ensure sufficient flow rate to avoid even a temporary overheating of the FM HEAT TRANSFER FLUID 32. Reynolds-Number should be >10,000 (ten thousand). This is most important during start up and shut down of the heating system. The surface temperature of the heating elements (film temperature) should not exceed +340 °C. For physical parameters of the oil necessary for the calculation of the heat transfer coefficient in the system, such as density, specific heat and coefficient of thermal conductivity please contact your local partner. To ensure maximum lifetime it is recommended to monitor the oil periodically.

APPLICATIONS

- Heat transfer systems with a bulk oil temperature range of approximately -10 °C to max. +325 °C where the surface temperature of the heating elements (oil film temperature) should not exceed +340 °C.

$$Re = \frac{V \times D}{kin.Visc.}$$

Re = Reynolds-Number
V = Speed of heat transfer fluid in the pipe (m/s)
D = Pipe diameter (m)
kin.Visc. = kinem. viscosity (m²/s) [at temperature of system]

SEAL AND PAINT COMPATIBILITY

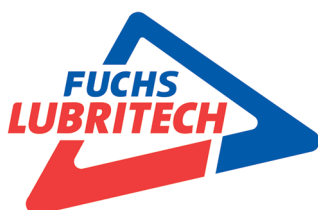
Compatible with the elastomers, gaskets, seals and paints normally used in food machinery lubrication systems.

HANDLING AND STORAGE

All food grade lubricants should be stored separately from other lubricants, chemical substances and foodstuffs and out of direct sunlight or other heat sources. Store between 0 °C and +40 °C. Provided that the product has been stored under these conditions we recommend to use the product within 5 years from the date of manufacture. Upon opening a pack, the product must be used within 2 years (or within 5 years of date of manufacture, whichever is the sooner).

TYPICAL CHARACTERISTICS (Typical for current production. Variations in these characteristics may occur.)			
Property		Test Method	FM HEAT TRANSFER FLUID 32
NSF Reg. No.			144719
Colour			Colourless
Density at +15 °C	kg/m³	ISO 12185	869
+20 °C	kg/m³		865
+60 °C	kg/m³		840
Specific Heat at +40 °C	kJ/kg.K	ASTM-E-1269-01	1,76
+100 °C	kJ/kg.K		2,03
+200 °C	kJ/kg.K		2,37
Coefficient of thermal expansion per °C			0,000760
Flashpoint	°C	ISO 2592	218
Fire Point	°C	ISO 2592	256
Pourpoint	°C	ISO 3016	-18
Kin. Visc. at +40 °C	mm²/s	ISO 3104	35
Kin. Visc. at +100 °C	mm²/s	ISO 3104	5,8
Max. oil film temperature*	°C		340
Max. bulk oil temperature	°C		325

* Oil film temperature is the surface temperature of the heating elements.



FUCHS LUBRITECH GMBH
Werner-Heisenberg-Straße 1
67661 Kaiserslautern / Germany
T: +49 (0) 6301 3206-0 / F: +49 (0) 6301 3206-940
www.fuchs-lubritech.com

A Member of the
FUCHS PETROLUB Group

As far as we know these information reflect the current state of knowledge and our research. They cannot, however, be taken as an assurance about the properties nor as a guarantee of the suitability of the product for the individual case in point. Before using our products the purchaser must, therefore, check the suitability and be satisfied that the output will be satisfactory. Our products are continually being up-dated. We reserve the right, therefore, to alter the information of this product information at any time and without prior announcement. We are specialized in developing products for extreme tribological problems in cooperation with end users. FUCHS LUBRITECH provides service and individual advice. Please contact us! E-Mail: cassida.lubricants@fuchs-lubritech.de