Texatherm®
Industrial Heat Transfer Oil

Product Data Sheet

Customer benefits

Maximum energy efficiency
Excellent heat transfer properties enable efficient transfer of heat.

Resists deposit formation
Excellent thermal stability and good oxidation resistance help to avoid formation of sludges and coke deposits, providing long oil service life.

Rapid response at start-up
Low temperature flow characteristics allow prompt circulation.

Economical low pressure operation
Low vapor pressure at elevated temperatures minimizes evaporation, vapor lock and pump cavitation, allowing efficient operation at lower system pressures, avoiding the need for expensive high pressure piping and heat exchangers.

Applications

Recommended for use in heat transfer systems where fuel oil, gas, or electricity is used to heat a fluid, which then transfers the heat to the point of application.

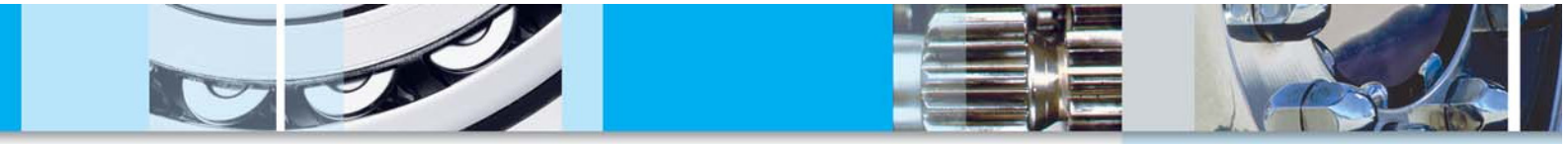
Suitable for open or closed heat transfer systems with forced circulation operating under the following conditions:

- o Maximum bulk oil temperature - 288°C
- o Maximum film temperature on heater surfaces - 316°C
- o Maximum temperature of oil surface in contact with air in open systems - 107°C

Systems must have forced circulation of the heat transfer fluid.

Product features:

• **Texatherm®** is a highly refined, thermally stable mineral oil-type transfer fluid formulated with premium base oil technology. For use as a heat transfer fluid in both closed and open heat transfer systems with forced circulation.



Product specifications

TEXATHERM® KEY PROPERTIES						
ISO Grade Product Code	32 540510			46 540421		
Autoignition Temperature, °C	350			360		
Flash Point, COC, °C	229			246		
Pour Point, °C	-15			-15		
Viscosity,						
- mm²/s @ 40°C	32.0			46.6		
- mm²/s @ 100°C	5.5			7.1		
Viscosity Index	108			112		
Physical & Thermal Properties						
versus Temperature	100°C	200°C	300°C	100°C	200°C	300°C
Density, kg/L	0.80	0.73	0.65	0.80	0.73	0.66
Dynamic Viscosity, mPa.s	4.41	1.04	0.46	5.74	1.26	0.54
Specific Heat, kJ/kg. °C	2.33	2.74	3.09	2.33	2.74	3.09
Thermal Conductivity, W/m.°C	0.117	0.103	0.089	0.117	0.103	0.089
Vapor Pressure, mmHg	0.0005	0.51	17.4	0.0011	0.75	19
Coefficient of Thermal Expansion x10^{-4} °C	8.4	10.1	12.7	8.3	10.0	12.5

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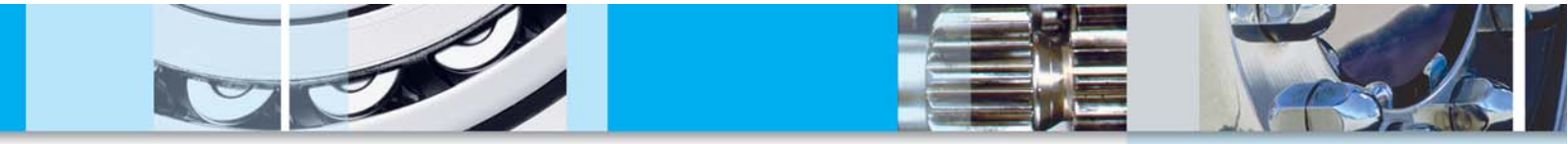
ENVIRONMENT, HEALTH and SAFETY

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal.

To obtain a MSDS for this product, visit: www.chevronlubricants.com.



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Service considerations

Certain precautions should be taken to ensure satisfactory performance of heat transfer fluids in service:

System Cleanliness

The heat transfer system, whether new or used, should be thoroughly cleaned and flushed with Texatherm before being placed in service. Sometimes this cleaning will require the use of chemical cleaners, usually in the form of an alkaline cleaning agent. These products are supplied, and are usually applied, by specialist industrial cleaning companies. In use they are often mixed with very hot water and pumped continuously through the system to remove deposits. If such chemical cleaners mixed with water are used, all traces of water and the cleaner must be removed from the system prior to it being brought back into service. Hot air blowing will usually successfully remove residual water.

Heat Transfer System Materials

Iron and steel are the preferred materials for heating system construction. Copper and copper alloys should not be used in heat transfer systems with a hydrocarbon fluid unless air (oxygen) is excluded from contact with the fluid by hermetic sealing and/or an inert gas “blanket”.

The heater should be constructed with a minimum of refractory to improve thermal response, and to reduce heat-soak into the fluid in case of pump failure.

System Seal

Hot heat transfer fluid must be prevented from contacting the air in the expansion tank since air will cause rapid oxidation. To accomplish this, the expansion tank should be located and piped so that fluid in it remains cool (below 55°C).

Hot Spots

The system should be free of hot spots which will degrade the fluid and cause the formation of hard carbon deposits on the system surfaces. The fluid should be circulated through the heater with a fully turbulent flow, with a surface speed between 2 and 3 metres per second, depending on surface geometry and operating temperature. The system should be designed so that:

1. The circulating pump is started before heat is applied to the heater
2. The circulating pump runs for some time after the heater is turned off
3. The heater will shut off in the event of circulating pump failure or the development of excessive temperatures.

Full fluid flow must always be maintained through the heater, regardless of the conditions at the heat exchanger. The system should be designed for the bypass of fluid at the heat exchanger if the full fluid flow is not required there. This will ensure that full fluid flow is retained at the heater.

Produced by:
Chevron Lubricants
- Asia Pacific

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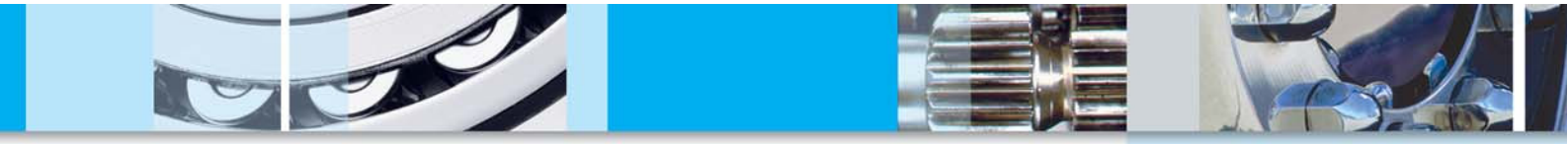

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Service considerations

In-Service Oil Testing

The viscosity, acid number, flash point and insolubles content of the in-service fluid should be monitored regularly. Samples should be taken within a few days of start-up, and every six months afterward. Generally, it is the rate of change of in-service fluid properties which indicates the suitability of the fluid for further service.

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