

Technical Data Sheet

Therminol® SP Heat Transfer Fluid

Applications

- htf - production of bioalcohol
- htf - production of biodiesel
- Asphalt
- Asphalt storage
- Biomass - orc
- Cement - waste heat recovery + orc
- Desalination
- Gas to liquid (gtl)
- Hot mix asphalt
- Natural gas purification
- Oil or gas processing
- Oil recycling
- Polymer & plastic
- Waste heat recover + orc
- Wood panels

Key Attributes

- Excellent Low Temperature Pumpability
- Excellent resistance to fouling
- Long Life

Product Description

Therminol SP is a synthetic heat transfer fluid used in moderate-temperature applications. Therminol SP fluid is designed for use in nonpressurized/low-pressure, indirect heating systems. It delivers efficient, dependable, uniform process heat with no need for high pressures.

Performance Benefits

- **Long Life**—You will get years of reliable, cost-effective performance, even when operating your system continuously at 300°C (570°F). This means you do not have to overspecify your fluid.
- **Excellent resistance to fouling**— Because Therminol SP is a synthetic fluid, it resists the effects of oxidation 10 times better than mineral oils, meaning less oxidation and solids formation. For systems without nitrogen inerting, the performance advantages are significant.
- **Excellent Low Temperature Pumpability**—Therminol SP is still pumpable at -28°C (-18°F), compared to some mineral oils that will not pump at temperatures below -7°C (20°F). With Therminol SP, your heat transfer fluid system can start up quickly and easily.

For more information, visit www.Therminol.com.

Typical Properties

Property	Test Method	Typical Value, Units
General		
Appearance		Clear yellow liquid
Composition		Synthetic hydrocarbon mixture
Maximum bulk temperature		300 °C (570 °F)
Extended maximum use temperature		315 °C (600 °F)
Maximum film temperature		335 °C (635 °F)
Normal Boiling Point		351 °C (664 °F)
Pumpability		
@300 mm ² /s (cSt)		-8 °C (17 °F)
@ 2000 mm ² /s (cSt)		-28 °C (-18 °F)
Flash Point		

COC	ASTM D92	177 °C (350 °F)
Autoignition Temperature	ASTM E659	343 °C (650 °F)
	DIN 51794	366 °C (691 °F)
Pour Point	ISO 3016	-54 °C (-65 °F)
Minimum liquid temperatures for fully developed turbulent flow (NRe > 10000)		
10 ft/s, 1-in. tube (3.048 m/s, 2.54-cm tube)		67 °C (152 °F)
20 ft/s, 1-in. tube (6.096 m/s, 2.54-cm tube)		45 °C (114 °F)
Minimum liquid temperatures for transitional region flow, (NRe > 2000)		
10 ft/s, 1-in. tube (3.048 m/s, 2.54-cm tube)		24 °C (75 °F)
20 ft/s, 1-in. tube (6.096 m/s, 2.54-cm tube)		11 °C (52 °F)
Heat of Vaporization ^a		228 kJ/kg (98.1 Btu/lb)
Viscosity, Kinematic		
@ 100°C	ASTM D 445	3.52 cSt, mm ² /s
@ 40°C	ASTM D 445	19 cSt, mm ² /s
Liquid Density		
@ 25°C	ASTM D 4052	868 kg/m ³ (7.25 lb/gal)
Molecular Weight (Average)		320
Pseudocritical temperature		512 °C (953 °F)
Pseudocritical pressure		13.2 bar (191 psia)
Pseudocritical density		258 kg/m ³ (16.1 lb/ft ³)
Copper Corrosion	ASTM D 130	<<1a
Moisture Content, maximum	ASTM E-203	150 ppm
Dielectric Constant		
@ 23°C	ASTM D-924	2.23

^aat maximum use temperature

Comments

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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