

# Technical Data Sheet

## Therminol® 55 Heat Transfer Fluid

### Applications

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

### Key Attributes

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

### Product Description

Therminol 55 is a synthetic heat transfer fluid used in moderate temperature applications. Therminol 55 fluid is designed for use in non-pressurized /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 290°C (550°F). This means you do not have to over specify your fluid.
- **Excellent resistance to fouling**— Because Therminol 55 is a synthetic fluid, it resists the effects of oxidation 10 times better than mineral oils making less oxidation and solids formation. For systems without nitrogen inerting, the performance advantages are significant.
- **Excellent Low-Temperature Pumpability**—Therminol 55 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 55, your heat transfer fluid system can start up quickly and easily.

### Typical Properties

Property	Test Method	Typical Value, Units
<b>General</b>		
Appearance		Clear, yellow liquid
Composition		Synthetic hydrocarbon mixture
Maximum bulk temperature		290 °C (550 °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 <sup>2</sup> /s (cSt)		-8 °C (17 °F)
@ 2000 mm <sup>2</sup> /s (cSt)		-28 °C (-18 °F)
Flash Point		
COC	ASTM D92	177 °C (350 °F)

Autoignition Temperature	ASTM E659 DIN 51794	343 °C (650 °F) 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 <sup>a</sup>		228 kJ/kg (98.1 Btu/lb)
Viscosity, Kinematic		
@ 100°C	ASTM D 445	3.52 cSt, mm <sup>2</sup> /s
@ 40°C	ASTM D 445	19 cSt, mm <sup>2</sup> /s
Liquid Density		
@ 25°C	ASTM D 4052	868 kg/m <sup>3</sup> (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 <sup>3</sup> (16.1 lb/ft <sup>3</sup> )
Copper Corrosion	ASTM D 130	<<1a
Moisture Content, maximum	ASTM E-203	150 ppm
Dielectric Constant		
@ 23°C	ASTM D-924	2.23

<sup>a</sup>at 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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