EASTMAN

Technical Data Sheet

Therminol® 54 Heat Transfer Fluid

Applications

- Htf - bakery
- Htf - edible oil
- Htf - fertilizer
- Htf - fine chemicals
- Htf - food production
- Htf - food/feed/beverage processing
- Htf - frying oil
- Laminate flooring
- Laundries
- Oil recycling
- Polyamide
- Polymer processing
- Road asphalt
- Specialty chemicals
- Wood panels

Key Attributes

- Excellent pumpability
- Excellent resistance to fouling
- Non-sludge-producing chemistry

Product Description

Therminol 54 is a synthetic fluid designed to provide reliable, consistent heat transfer performance over a long service life at maximum bulk temperatures up to 280°C (540°F). Therminol 54 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

- **Excellent pumpability**—Therminol 54 supports operations with temperatures lower than possible with many other mineral oils.
- **Non-sludge-producing chemistry**—The use of Therminol 54 enables life-cycle operational cost efficiencies, including optimal pump seal life, fewer system cleanings between refills, and superior fluid life.
- **Excellent resistance to fouling**—Because Therminol 54 is a synthetic fluid, it resists the effects of oxidation 10 times better than mineral oils.

Typical Properties

Property	Test Method	Typical Value, Units
General		
Appearance		Clear, yellow liquid
Composition		Synthetic hydrocarbon mixture
Maximum bulk temperature		280 °C (540 °F)
Maximum film temperature		310 °C (590 °F)
Normal Boiling Point		351 °C (664 °F)
Pumpability		
@300 mm2/s (cSt)		-8 °C (17 °F)
@ 2000 mm2/s (cSt)		-28 °C (-18 °F)
Flash Point		
COC	ASTM D92	170 °C (340 °F)
Autoignition Temperature	ASTM E659	330 °C (625 °F)

Pour Point	ISO 3016	-45 °C (-50 °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)
Coefficient of thermal expansion		
@ 200°C (392°F)		0.000961 /°C (0.000534 /°F)
Heat of Vaporization[a]		234 kJ/kg (100 Btu/lb)
Molecular Weight (Average)		310
Pseudocritical temperature		512 °C (953 °F)
Pseudocritical pressure		13.2 bar (191 psia)
Pseudocritical density		258 kg/m^3 (16.1 lb/ft^3)
Moisture Content, maximum	ASTM E-203	150 ppm
Dielectric Constant		
@ 23°C	ASTM D-924	2.23

[a]*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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