

Technical Data Sheet Therminol® LT Heat Transfer Fluid

Applications

- Environmental test chambers
- Fibers
- Formaldehyde
- Htf active pharmaceutical ingredients
- Htf fine chemicals
- Htf pharmaceutical processing
- Specialty and batch chemical production
- Specialty chemicals

Key Attributes

- Excellent Low Temperature Performance
- Low Viscosity
- Vapor Phase Operation

Product Description

Therminol LT is a synthetic aromatic heat transfer fluid. It can be used in both liquid phase and vapor phase, and has excellent heat transfer and fluid properties for low temperature applications.

Performance Benefits

- Low Viscosity—Low viscosity at exceptionally low temperatures makes Therminol LT is excellent for pumping extreme cooling applications.
- Excellent Low Temperature Performance—Therminol LT has the best low temperature heat transfer coefficient of all coolant fluids. Therminol LT has excellent heat transfer properties to -75°C (-100°F).
- Vapor Phase Operation—Therminol LT can be used in the liquid phase between -75°C (-100°F) and 315°C (600°F). With a boiling point of 181°C (358°F) at ambient pressure, Therminol LT can be used in the vapor-phase above 181°C (358°F).

Typical Properties

Property	Test Method	Typical Value, Units
General		
Appearance		Clear, light yellow liquid
Composition		Alkyl substituted aromatic
Maximum bulk temperature		315 °C (600 °F)
Maximum film temperature		345 °C (650 °F)
Normal Boiling Point		181 °C (358 °F)
Pumpability		
@300 mm2/s (cSt)		-75 °C (-103 °F)
Crystallization Point		-75 °C (-103 °F)
Autoignition Temperature	ASTM E659	412 °C (774 °F)
	DIN 51794	429 °C (804 °F)
Minimum liquid temperatures fo	r fully developed turbulent flow (NF	Re >
10000)		
10 ft/s, 1-in. tube (3.048 m/s,		-66 °C (-87 °F)
2.54-cm tube) 20 ft/s, 1-in. tube (6.096 m/s,		<-73 °C (-100 °F)
2.54-cm tube)		
Minimum vapor temperatures for	r fully developed turbulent flow (NI	Re >

10000)



2.54-cm tube) 20 ft/s, 1-in. tube (6.096 m/s,116 °C (241 °F)2.54-cm tube)116 °C (241 °F)Coefficient of thermal expansion $@ 100°C$ 0.001080 /°C (0.000600 /°F)Heat of Vaporization ^a 223 kJ/kg (95.7 Btu/lb)Viscosity, Kinematic $@ 100°C$ ASTM D 4450.48 cSt, mm ² /s0.48 cSt, mm ² /s@ 40°CASTM D 4450.81 cSt, mm ² /sMolecular Weight (Average)134Pseudocritical temperature377 °C (710 °F)Pseudocritical pressure34.5 bar (500 psia)Pseudocritical density298 kg/m ³ (2.49 lb/ft ³)Moisture Content, maximumASTM E-20380 ppmSurface Tension ^b @ 25°C28.0 dynes/cmDielectric Constant $@ 23°C$ ASTM D-9242.3	10 ft/s, 1-in. tube (3.048 m/s,		139 °C (283 °F)
2.54-cm tube) Coefficient of thermal expansion @ 100°C 0.001080 /°C (0.000600 /°F) Heat of Vaporization ^a 223 kJ/kg (95.7 Btu/lb) Viscosity, Kinematic 223 kJ/kg (95.7 Btu/lb) @ 100°C ASTM D 445 0.48 cSt, mm²/s @ 40°C ASTM D 445 0.81 cSt, mm²/s Molecular Weight (Average) 134 Pseudocritical temperature 377 °C (710 °F) Pseudocritical pressure 34.5 bar (500 psia) Pseudocritical density 298 kg/m³ (2.49 lb/ft³) Moisture Content, maximum ASTM E-203 80 ppm Surface Tension ^b 28.0 dynes/cm @ 25°C 28.0 dynes/cm			
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Note of VaporizationViscosity, Kinematic@ 100°CASTM D 445@ 40°CASTM D 4450.81 cSt, mm²/sMolecular Weight (Average)134Pseudocritical temperature377 °C (710 °F)Pseudocritical pressure34.5 bar (500 psia)Pseudocritical density298 kg/m³ (2.49 lb/ft³)Moisture Content, maximumASTM E-20380 ppmSurface Tension ^b @ 25°CDielectric Constant	@ 100°C		0.001080 /°C (0.000600 /°F)
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Molecular Weight (Average)134Pseudocritical temperature377 °C (710 °F)Pseudocritical pressure34.5 bar (500 psia)Pseudocritical density298 kg/m³ (2.49 lb/ft³)Moisture Content, maximumASTM E-20380 ppmSurface Tension ^b 28.0 dynes/cm@ 25°C28.0 dynes/cm	@ 100°C	ASTM D 445	0.48 cSt, mm ² /s
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Pseudocritical pressure 34.5 bar (500 psia) Pseudocritical density 298 kg/m ³ (2.49 lb/ft ³) Moisture Content, maximum ASTM E-203 Surface Tension ^b 28.0 dynes/cm Dielectric Constant 2.2	Molecular Weight (Average)		134
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Surface Tension ^b 28.0 dynes/cm Dielectric Constant 2.2	Pseudocritical density		298 kg/m ³ (2.49 lb/ft ³)
@ 25°C 28.0 dynes/cm Dielectric Constant 2.2	Moisture Content, maximum	ASTM E-203	80 ppm
Dielectric Constant	Surface Tension ^b		
	@ 25°C		28.0 dynes/cm
@ 23°C ASTM D-924 2.3	Dielectric Constant		
	@ 23°C	ASTM D-924	2.3

^aat maximum use temperature ^bin air

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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