



**THERMAL
FLUID
SOLUTIONS**

www.thermalfluidsolutions.com

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PRODUCT
INFORMATION

THERMINOL D-12 HEAT TRANSFER FLUID

Therminol D-12 is a synthetic liquid phase heat transfer fluid with high performance heat transfer properties over a wide temperature range. This fluid is ideally suited for applications requiring efficient cooling and heating, along with food manufacturing environments.

PERFORMANCE BENEFITS

- **Heating or Cooling Operation** – Therminol D-12 is ideally suited for combination heating and cooling applications, delivering excellent heat transfer rates even at -45°C (-50°F). Batch processes will benefit from the excellent cooling performance Therminol D-12 delivers. Therminol D-12 also may be used as a secondary coolant or “brine” in refrigeration loops where a broad range of properties is desired.
- **Easy Operation** – Using Therminol D-12 avoids problems of using multiple fluids in the same piece of equipment.
- **Low Cost** – Therminol D-12 delivers better thermal performance at lower cost than competing fluids.



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- Low Odour and Excellent Toxicity Profile – Therminol D-12 is NSF-registered with HT1 status, surpassing requirements for use where there is the possibility of incidental food contact.

PRODUCT SPECIFICATION

Appearance	Clear, water-white liquid
Composition	Synthetic hydrocarbons
Maximum bulk temperature	230°C (450°F)
Maximum film temperature	245°C (475°F)
Normal boiling point	192°C (378°F)
Pumpability, at 300 mm ² /s (cSt)	-1°C (30°F)
Pumpability, at 2000 mm ² /s (cSt)	-94°C (-137°F)
Autoignition temperature (ASTM E-659)	247°C (477°F)
Autoignition temperature (DIN 51794)	277°C (531°F)
Minimum liquid temperatures for fully developed turbulent flow ($N_{Re} > 10000$)	
10 ft/sec, 1 in tube (3.048 m/s, 2.54 cm tube)	-37°C (-35°F)
20 ft/sec, 1 in tube (6.096 m/s, 2.54 cm tube)	-51°C (-59°F)
Minimum vapor temperatures for fully developed turbulent flow ($N_{Re} > 2000$)	
10 ft/sec, 1 in tube (3.048 m/s, 2.54 cm tube)	-64°C (-82°F)
20 ft/sec, 1 in tube (6.096 m/s, 2.54 cm tube)	-71°C (-96°F)
Coefficient of thermal expansion at 100°C	0.001116/°C (0.000620/°F)
Kinematic viscosity at 100°C (ASTM D-445)	0.65 mm ² /s (cSt)
Kinematic viscosity at 40°C (ASTM D-445)	1.23 mm ² /s (cSt)
Average molecular weight	162
Pseudocritical temperature	360°C (680°F)
Pseudocritical pressure	16.2 bar (235 psia)
Pseudocritical density	229 kg/m ³ (14.1 lb/ft ³)
Moisture content, maximum (ASTM E-203)	80 ppm
Dielectric constant @ 23°C (ASTM D-924)	2.02

Email the **TFS Team**, office@thermalfluidsolutions.com
or visit www.thermalfluidsolutions.com