



Dowtherm RP

Synthetic Organic Heat Transfer Fluid-Liquid Phase Data

DOWTHERM* RP heat transfer fluid is a diaryl alkyl intended for use in applications that require liquid phase heat transfer. DOWTHERM RP fluid can be used in non-pressurized systems and is pumpable to 32 °F (0 °C).

Unlike other low pressure fluids - including partially hydrogenated terphenyls and dibenzyl toluene fluids -- DOWTHERM RP fluid degrades primarily to low molecular weight products. This reduces the need to remove high molecular weight material from the system, resulting in longer fluid life, reduced fluid makeup requirements, less system downtime, and lower fluid and maintenance expense over the life of the heat transfer system.

Recommended use temperature range: DOWTHERM RP fluid can be used to a maximum bulk temperature of 660 °F (350 °C) and a maximum film temperature of 710 °F (375 °C).

Suitable applications: Non-pressurized or low pressure liquid phase systems including polyester, nylon, and other synthetic fiber processing facilities.

Typical Properties of Dowtherm RP Fluid***

DOWTHERM RP Fluid
Composition: Diaryl Alkyl
Color: Clear, Colorless liquid

Property	English Units	SI Units
Boiling Point	667°F	353°C
Flash Point (1)	381°F	194°C
Fire Point (2)	403°F	206°C
Autoignition Temperature(3)	725°F	385°C
Density @77°F (25°C)	8.55 lb/gal	1025.8 kg/m ³
Estimated Critical Temperature	1066°F	575°C
Estimated Critical Pressure	20.7 atm	20.4 bar
Estimated Critical Volume	0.0552 ft ³ /lb	3.446 l/kg
Average Molecular Weight	236.4	236.4
Heat of Combustion	17251 Btu/lb	40194 kJ/kg

*** Not to be construed as specifications

- (1) ASTM D92
- (2) ASTM D93
- (3) ASTM E659

