



## TECHNICAL DATA SHEET

### Engineered Fluid PFE-50

#### Description and Applications

PFE-50 Engineered Fluid, 3-ethoxyperfluoro(2-methylhexane), is a clear, colorless, and nonflammable fluid. PFE-50 Engineered Fluid is chemically inert and thermally stable. It is a viable option for replacing perfluorocarbons and perfluoropolyethers in many industrial applications. PFE-50 is intended to replace ozone-depleting and high global warming potential chemicals for the following suggested industrial, electronics and semiconductor applications:

- Cooling fluid for semiconductor and electronic device manufacture process, testing equipment and facilities
- Heat transfer fluid
- Direct contact cooling fluid for supercomputers, high voltage transformers and power electronics
- Cooling fluid, special solvent, and process aid for chemical manufacture process
- Pharmaceutical manufacture process cooling liquid and freezing dry fluid

#### Physical Properties

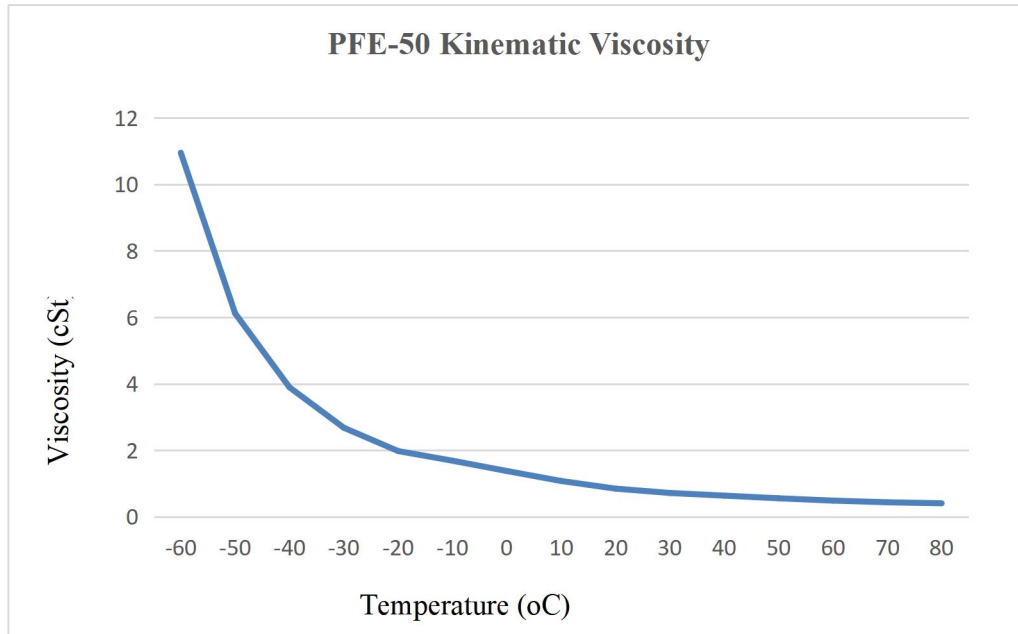
Properties	PFE-50 Value
Average Molecular Weight	414
Pour Point (°C)	-100
Boiling Point @ 1 atm (°C)	128
Liquid Density (kg/m <sup>3</sup> )	1620
Surface Tension (dynes/cm)	16.2
Kinematic Viscosity	0.77cSt
Absolute Viscosity	1.2cP
Critical Temperature (°C)	261
Solubility of Fluid in Water	< 3 ppm
Dielectric Strength	>35 kV, 0.1" gap
Volume Resistivity	10 <sup>8</sup> ohm-cm
Dielectric Constant	5.8
Flammability	Nonflammable
Ozone Depletion Potential	0
Global Warming Potential	90

Not for specification purposes. All values @ 25°C unless otherwise specified.



### Compatibility

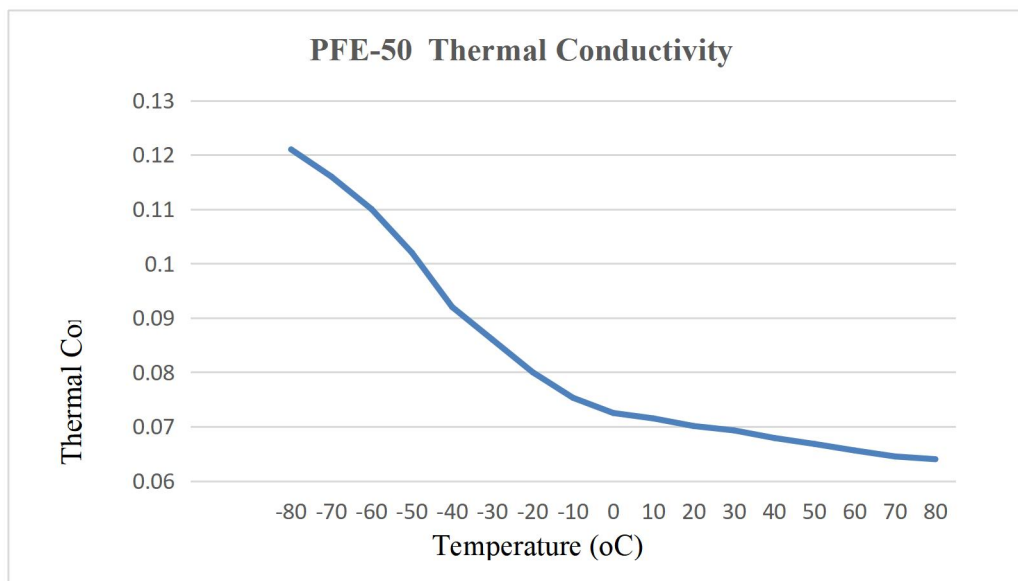
PFE-50 is compatible with most metals and hard polymers. Soft and elastomeric materials should be limited to compounds that contain the least amount of extractable plasticizer. As with most fluorinated fluids, PFE-50 fluid will absorb into fluorinated plastics and elastomers over longer exposures. Please contact Zhangzhou Xipu Material for additional information.



To determine the viscosity at a given temperature T in Kelvin, calculate

$$Z = 10^{(10^{(11.843 - 5.0874 \cdot \log(T[K]))})}$$

$$\text{Then, Viscosity [cSt]} = (Z - 0.7) - \exp(-0.7487 - 3.295(Z - 0.7) + 0.6119(Z - 0.7)^2 - 0.3193(Z - 0.7)^3)$$





### Packing

5kgs/Can	(Drum capacity: 4L)
20kgs/Pail	(Drum capacity: 15L)
250kgs/Drum	(Drum capacity: 200L)

### Storage

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.