



Physical and electrical properties of FC-77 and FC-770

(25°C unless specified)

* Estimated Value

	FC-77	FC-770
Appearance	Clear, Colorless	Clear, Colorless
Average Molecular Weight	416	399
Boiling Point (1 atm) °C	97	95
Pour Point °C	-110	-127
Calculated Critical Temp. °K	495	511
Calculated Critical Pressure pascals	1.58 x 10 ⁶	2.47 x 10 ⁶
Vapor Pressure pascals	5.62 x 10 ³	6.568 x 10 ³
Latent Heat of Vaporization (at normal boiling point) J/g	89	85.9
Liquid Density kg/m ³	1780	1793
Liquid Density (-54C) kg/m ³	1970	2004
Kinematic Viscosity, centistokes	0.72	0.79
Kinematic Viscosity (-54C), centistokes	6.9	6.5
Absolute Viscosity, centipoise	1.3	1.359
Liquid Specific Heat J kg ⁻¹ °C ⁻¹	1100	1038
Liquid Thermal Conductivity * W m ⁻¹ °C ⁻¹	0.063	0.063
Coefficient of Expansion °C ⁻¹	0.00138	0.00148
Surface Tension, dynes/cm	13	14.8
Refractive Index *	1.28	1.27
Water Solubility, ppmw	13	14
Solubility in Water, ppmw	< 5	1.3
Solubility of Air (ml/100 ml liquid)	41	TBD
Specific Heat (J kg ⁻¹ °C ⁻¹)	1014 + 1.554	1020+0.700 (25-35C)
Thermal Conductivity (W m ⁻¹ °C ⁻¹)	0.065 – 0.00008 (T, °C)	0.065 – 0.00008 (T, °C)
Density (kg/m ³)	1838 – 2.45 (T, °C)	1860 - 2.66*ToC
*Estimated value,		TBD = To Be Determined
Electrical Properties		
Dielectric Strength kV, 0.1" gap	> 40	49
Dielectric Constant	1.9	1.9
Electrical Resistivity (ASTM D-257) ohm cm	1.9x10 ¹⁵	>3x10 ¹⁴
Dissipation Factor (1kHz)	<0.0003	<0.0001