



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.37000** at 589.3 nm and 25 ° C

Composition Perfluorocarbon and Chlorofluorocarbon (not the types thought to affect the ozone)
Appearance Colorless Liquid
Odor None
Color Stability In Direct Sun: no visible change after 10 years
Index Change Rate Moderate : -0.00030 to +0.00009
by Evaporation expected after 32 days with exposed surface area to volume ratio of 0.2 cm²/cc @ 25 °C

Index at 20°C 1.37171
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) 24.6 at 20°C
Density 1.913 g / cc at 25 °C
Density Temp Coef -0.0018 g / cc / °C
Coef of Thermal Expansion 0.0009 cc / cc / °C
Thermal Conductivity 0.00034 cal / sec / cm² / °C - 1 cm thickness

Viscosity 16 cSt at 25 °C 31 cP at 25 °C
Surface Tension 19 dynes/cm at 25 °C

Soluble Other Chlorofluorocarbons, Galden PFS2, Fluoroclean HE

Partly Soluble Most organic solvents

Insoluble Water

Compatible 10 Month Immersion at 25 °C: Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyester, Polyethylene, Polypropylene, Polystyrene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon, Latex, Neoprene, Silicone (Sylgard 184, 3140 RTV), and Fluorosilicone (Silastic 730 RTV) Rubbers ; Tygon F-4040-A, Tygothane, Brass, Copper, Steel

Incompatible Burna-S, Natural, and some Silicone Rubbers; Tygon S-50-HL, R-3603, B-44-3; Chlorotrifluoro Ethylene Polymers, Aluminum



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Cauchy Coefficients
 A 1.361665E+00 B 3.0776E+03 C -6.3539347E+07

Cauchy Equation at 25°C $A + B / \lambda^2 + C / \lambda^4$ (λ = Wavelength in nm)

Wavelength (nm)	Refractive Index	Transmittance			
		0.1 mm	1 mm	1 cm	10 cm
225.0	-	-	-	-	-
240.0	1.40	99	89	32	0
250.0	1.39	99	94	54	0
270.0	1.39	100	97	76	6
290.0	1.39	100	98	85	19
308.0	1.39	100	99	90	33
355.0	1.382	100	99	94	55
365.0	1.381	100	100	97	72
406.0	1.3780	100	100	97	77
473.0	1.3742	100	100	99	93
532.0	1.3717	100	100	99	93
589.3	1.3700	100	100	99	95
632.8	1.3690	100	100	100	96
656.3	1.3685	100	100	100	96
790.0	1.3664	100	100	100	98
828.0	1.3660	100	100	100	96
981.0	1.365	100	100	100	96
1310.0	1.363	100	100	100	96
1550.0	1.363	100	100	99	92
2500.0	1.36	100	99	93	47
3700.0	1.36	98	85	20	0

($n_F - n_C$) 0.0051

Abbe v_D 72.8

Temp. Coefficient -0.000342 dn_D/dt (15 - 35 °C)

Shelf Life: 5 Years from Date of Manufacture for Unopened Bottles, Half the Remaining Time after Opening