



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
 Refractive Index **1.38000** 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 1.38172
 Pour Point < -20 °C
 Boiling Point > 215 °C (760 mm Hg)
 Flash Point None °C (COC)
Brix Value (Per ICUMSA) 30.3 at 20°C
 Density 1.909 g / cc at 25 °C
 Density Temp Coef -0.0017 g / cc / °C
 Coef of Thermal Expansion 0.0009 cc / cc / °C
 Thermal Conductivity 0.00037 cal / sec / cm² / °C - 1 cm thickness
 Viscosity 17 cSt at 25 °C 32 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 1.371395E+00 B 3.1434E+03 C -5.3863769E+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	1.41	99	89	30	0
250.0	1.41	99	94	52	0
270.0	1.40	100	97	74	5
290.0	1.40	100	98	83	16
308.0	1.40	100	99	88	29
355.0	1.393	100	99	94	51
365.0	1.392	100	100	96	69
406.0	1.3885	100	100	97	75
473.0	1.3844	100	100	99	92
532.0	1.3818	100	100	99	92
589.3	1.3800	100	100	99	94
632.8	1.3789	100	100	100	96
656.3	1.3784	100	100	100	96
790.0	1.3763	100	100	100	97
828.0	1.3759	100	100	100	97
981.0	1.375	100	100	100	97
1310.0	1.373	100	100	100	97
1550.0	1.373	100	100	99	94
2500.0	1.37	100	99	94	52
3700.0	1.37	99	88	26	0

($n_F - n_C$) 0.0053

Abbe v_D 71.3

Temp. Coefficient -0.000343 dn_D/dt (15 - 35 °C)

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