



Cargille Laboratories
55 Commerce Rd - Cedar Grove, NJ 07009-1289
Phone : 973-239-6633 - Fax : 973-239-6096 - Web : www.cargille.com

Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.32000** 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 1.32168
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) NA
Density 1.932 g / cc at 25 °C
Density Temp Coef -0.0021 g / cc / °C
Coef of Thermal Expansion 0.0011 cc / cc / °C
Thermal Conductivity 0.00022 cal / sec / cm² / °C - 1 cm thickness

Viscosity 15 cSt at 25 °C 28 cP at 25 °C
Surface Tension 18 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



Refractive Index Liquid **Series AAA**
 Refractive Index **1.32000** at 589.3 nm and 25 °C

Cauchy Coefficients
 A 1.313013E+00 B 2.7487E+03 C -1.1191724E+08

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	1.33	99	92	46	0
250.0	1.33	100	95	62	1
270.0	1.33	100	99	86	22
290.0	1.33	100	99	92	45
308.0	1.33	100	100	95	62
355.0	1.328	100	100	98	79
365.0	1.327	100	100	99	87
406.0	1.3256	100	100	99	91
473.0	1.3231	100	100	100	97
532.0	1.3213	100	100	100	97
589.3	1.3200	100	100	100	98
632.8	1.3192	100	100	100	99
656.3	1.3188	100	100	100	99
790.0	1.3171	100	100	100	99
828.0	1.3168	100	100	100	96
981.0	1.316	100	100	100	96
1310.0	1.315	100	100	100	96
1550.0	1.314	100	100	98	85
2500.0	1.31	100	99	89	30
3700.0	1.31	97	74	5	0

($n_F - n_C$) 0.0038

Abbe v_D 83.1

Temp. Coefficient -0.000336 dn_D/dt (15 - 35 °C)

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