



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.33500** 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 1.33669
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) **2.6 at 20°C**
Density 1.926 g / cc at 25 °C
Density Temp Coef -0.0020 g / cc / °C
Coef of Thermal Expansion 0.0010 cc / cc / °C
Thermal Conductivity 0.00026 cal / sec / cm² / °C - 1 cm thickness

Viscosity 15 cSt at 25 °C 29 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



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Cauchy Coefficients
 A 1.327608E+00 B 2.8474E+03 C -9.7403869E+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	1.35	99	92	41	0
250.0	1.35	99	95	59	1
270.0	1.35	100	98	83	15
290.0	1.35	100	99	90	35
308.0	1.35	100	99	94	51
355.0	1.344	100	100	97	71
365.0	1.343	100	100	98	82
406.0	1.3413	100	100	99	86
473.0	1.3384	100	100	100	96
532.0	1.3365	100	100	100	96
589.3	1.3350	100	100	100	97
632.8	1.3341	100	100	100	98
656.3	1.3337	100	100	100	98
790.0	1.3319	100	100	100	98
828.0	1.3316	100	100	100	96
981.0	1.330	100	100	100	96
1310.0	1.329	100	100	100	96
1550.0	1.329	100	100	99	87
2500.0	1.33	100	99	90	35
3700.0	1.33	97	77	8	0

($n_F - n_C$) 0.0042

Abbe v_D 79.4

Temp. Coefficient -0.000338 dn_D/dt (15 - 35 °C)

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