



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.33000** 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 1.33169
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) NA
Density 1.928 g / cc at 25 °C
Density Temp Coef -0.0020 g / cc / °C
Coef of Thermal Expansion 0.0010 cc / cc / °C
Thermal Conductivity 0.00025 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 1.322743E+00 B 2.8145E+03 C -1.0224166E+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	1.34	99	92	43	0
250.0	1.34	99	95	60	1
270.0	1.34	100	98	84	17
290.0	1.34	100	99	91	38
308.0	1.34	100	99	94	55
355.0	1.339	100	100	97	74
365.0	1.338	100	100	98	84
406.0	1.3361	100	100	99	88
473.0	1.3333	100	100	100	96
532.0	1.3314	100	100	100	96
589.3	1.3300	100	100	100	97
632.8	1.3291	100	100	100	98
656.3	1.3287	100	100	100	98
790.0	1.3270	100	100	100	98
828.0	1.3266	100	100	100	96
981.0	1.326	100	100	100	96
1310.0	1.324	100	100	100	96
1550.0	1.324	100	100	99	86
2500.0	1.32	100	99	90	33
3700.0	1.32	97	76	7	0

($n_F - n_C$) 0.0041

Abbe v_D 80.6

Temp. Coefficient -0.000337 dn_D/dt (15 - 35 °C)

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