



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.34500** 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 1.34669
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) **9.3 at 20°C**
Density 1.922 g / cc at 25 °C
Density Temp Coef -0.0019 g / cc / °C
Coef of Thermal Expansion 0.0010 cc / cc / °C
Thermal Conductivity 0.00028 cal / sec / cm² / °C - 1 cm thickness

Viscosity 15 cSt at 25 °C 30 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 1.337339E+00 B 2.9132E+03 C -8.7728291E+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	1.36	99	91	38	0
250.0	1.36	99	95	58	0
270.0	1.36	100	98	81	12
290.0	1.36	100	99	88	29
308.0	1.36	100	99	92	45
355.0	1.355	100	100	96	66
365.0	1.354	100	100	98	79
406.0	1.3518	100	100	98	84
473.0	1.3486	100	100	99	95
532.0	1.3465	100	100	99	95
589.3	1.3450	100	100	100	96
632.8	1.3441	100	100	100	97
656.3	1.3436	100	100	100	97
790.0	1.3418	100	100	100	98
828.0	1.3414	100	100	100	96
981.0	1.340	100	100	100	96
1310.0	1.339	100	100	100	96
1550.0	1.339	100	100	99	88
2500.0	1.34	100	99	91	38
3700.0	1.34	98	80	10	0

($n_F - n_C$) 0.0045

Abbe v_D 77.2

Temp. Coefficient -0.000339 dn_D/dt (15 - 35 °C)

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