



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.35500** 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 1.35670
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) **15.6 at 20°C**
Density 1.919 g / cc at 25 °C
Density Temp Coef -0.0019 g / cc / °C
Coef of Thermal Expansion 0.0010 cc / cc / °C
Thermal Conductivity 0.00031 cal / sec / cm² / °C - 1 cm thickness

Viscosity 16 cSt at 25 °C 30 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 1.347069E+00 B 2.9789E+03 C -7.8052714E+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	1.38	99	90	36	0
250.0	1.37	99	94	56	0
270.0	1.37	100	98	79	9
290.0	1.37	100	99	87	25
308.0	1.37	100	99	91	40
355.0	1.366	100	100	95	61
365.0	1.365	100	100	97	76
406.0	1.3623	100	100	98	81
473.0	1.3588	100	100	99	94
532.0	1.3566	100	100	99	94
589.3	1.3550	100	100	100	96
632.8	1.3540	100	100	100	97
656.3	1.3536	100	100	100	97
790.0	1.3516	100	100	100	98
828.0	1.3512	100	100	100	96
981.0	1.350	100	100	100	96
1310.0	1.349	100	100	100	96
1550.0	1.348	100	100	99	90
2500.0	1.35	100	99	92	41
3700.0	1.35	98	82	13	0

($n_F - n_C$) 0.0047

Abbe v_D 75.3

Temp. Coefficient -0.000340 dn_D/dt (15 - 35 °C)

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