



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.35000** 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 1.35170
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) **12.5 at 20°C**
Density 1.920 g / cc at 25 °C
Density Temp Coef -0.0019 g / cc / °C
Coef of Thermal Expansion 0.0010 cc / cc / °C
Thermal Conductivity 0.00029 cal / sec / cm² / °C - 1 cm thickness

Viscosity 16 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 1.342204E+00 B 2.9461E+03 C -8.2890503E+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	1.37	99	91	37	0
250.0	1.37	99	95	57	0
270.0	1.37	100	98	80	11
290.0	1.37	100	99	88	27
308.0	1.36	100	99	92	43
355.0	1.360	100	100	96	64
365.0	1.360	100	100	97	78
406.0	1.3570	100	100	98	82
473.0	1.3537	100	100	99	95
532.0	1.3516	100	100	99	95
589.3	1.3500	100	100	100	96
632.8	1.3490	100	100	100	97
656.3	1.3486	100	100	100	97
790.0	1.3467	100	100	100	98
828.0	1.3463	100	100	100	96
981.0	1.345	100	100	100	96
1310.0	1.344	100	100	100	96
1550.0	1.343	100	100	99	89
2500.0	1.34	100	99	91	40
3700.0	1.34	98	81	12	0

($n_F - n_C$) 0.0046

Abbe v_D 76.2

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