



Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid **Series AAA**
Refractive Index **1.31000** 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 1.31167
Pour Point < -20 °C
Boiling Point > 215 °C (760 mm Hg)
Flash Point None °C (COC)
Brix Value (Per ICUMSA) NA
Density 1.936 g / cc at 25 °C
Density Temp Coef -0.0022 g / cc / °C
Coef of Thermal Expansion 0.0011 cc / cc / °C
Thermal Conductivity 0.00020 cal / sec / cm² / °C - 1 cm thickness

Viscosity 14 cSt at 25 °C 28 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 1.303283E+00 B 2.6829E+03 C -1.2159281E+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	1.31	99	93	49	0
250.0	1.32	100	96	64	1
270.0	1.32	100	99	88	29
290.0	1.32	100	99	94	54
308.0	1.32	100	100	97	70
355.0	1.317	100	100	98	85
365.0	1.317	100	100	99	91
406.0	1.3151	100	100	99	94
473.0	1.3128	100	100	100	98
532.0	1.3112	100	100	100	98
589.3	1.3100	100	100	100	98
632.8	1.3092	100	100	100	99
656.3	1.3089	100	100	100	99
790.0	1.3073	100	100	100	99
828.0	1.3069	100	100	100	95
981.0	1.306	100	100	100	95
1310.0	1.305	100	100	100	95
1550.0	1.304	100	100	98	83
2500.0	1.30	100	99	88	28
3700.0	1.30	97	72	4	0

($n_F - n_C$) 0.0036

Abbe v_D 86.0

Temp. Coefficient -0.000335 dn_D/dt (15 - 35 °C)

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