Cargille Laboratories
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Catalog # 1803

Typical Characteristics

Refractive Index Liquid	**Series AAA**					
Refractive Index	**1.39000**	at	589.3 nm	and	25	° C

Compostition	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 by Evaporation	Moderate : -0.00030 to +0.00009 expected after 32 days with exposed surface area to volume ratio of 0.2 cm^2/cc @ 25 °C

Index at 20°C	1.39172	
Pour Point	< -20	°C
Boiling Point	> 215	°C (760 mm Hg)
Flash Point	None	°C (COC)
Brix Value (Per ICUMSA)	35.7	at 20°C
Density	1.905	g / cc at 25 °C
Density Temp Coef	-0.0017	g / cc / °C
Coef of Thermal Expansion	0.0009	cc / cc / °C
Thermal Conductivity	0.00039	cal / sec / cm^2 / °C - 1 cm thickness
Viscosity	17	cSt at 25 °C — 32 cP at 25 °C
Surface Tension	20	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

The above values are typical for this liquid and are calculated from values typical of its components

9/12/2018

Refractive Index Liquid **Series AAA**
Refractive Index **1.39000** at 589.3 nm and 25 ° C

Cauchy Coefficients

A	B	C
1.381125E+00	3.2092E+03	-4.4188192E+07

Cauchy Equation at 25°C $A + B / \lambda^2 + C / \lambda^4$ (λ = Wavelength in nm)

		Transmittance			
Wavelength (nm)	Refractive Index	0.1 mm	1 mm	1 cm	10 cm
225.0	-	-	-	-	-
240.0	1.42	99	88	28	0
250.0	1.42	99	93	51	0
270.0	1.42	100	97	72	4
290.0	1.41	100	98	82	13
308.0	1.41	100	99	87	26
355.0	1.404	100	99	93	47
365.0	1.403	100	100	96	66
406.0	1.3990	100	100	97	73
473.0	1.3946	100	100	99	91
532.0	1.3919	100	100	99	91
589.3	1.3900	100	100	99	94
632.8	1.3889	100	100	100	96
656.3	1.3883	100	100	100	96
790.0	1.3862	100	100	100	97
828.0	1.3857	100	100	100	97
981.0	1.384	100	100	100	97
1310.0	1.383	100	100	100	97
1550.0	1.382	100	100	100	95
2500.0	1.38	100	99	94	57
3700.0	1.38	99	90	35	0

($n_F - n_C$) 0.0056
Abbe v_D 69.9
Temp. Coefficient -0.000344 dn_D/dt (15 - 35 °C)

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

The above values are typical for this liquid and are calculated from values typical of its components

9/12/2018