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

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	1.34669			
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 / cm^2 / °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

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 **1.34500** at 589.3 nm and 25 ° C

Cauchy Coefficients	A	B	C
	1.337339E+00	2.9132E+03	-8.7728291E+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	1.36	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

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