



**Cargille Laboratories**  
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Catalog # 1806

Typical Characteristics

Refractive Index Liquid                    **Series AA**  
Refractive Index                            **1.44400**      at    589.3 nm    and            25            ° C

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Composition                                Siloxane and Aliphatic / Alicyclic Hydrocarbons  
Appearance                                Colorless Liquid  
Odor    None  
Color Stability                                In Direct Sun: no visible change after 10 years  
Index Change Rate                        Very Low : 0.00000 to +0.00001  
by Evaporation                            expected after 32 days with exposed surface area to volume ratio of 0.2 cm<sup>2</sup>/cc @ 25 °C

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Index at 20°C                                1.44597  
Pour Point                                    < -7 °C  
Boiling Point                                > 200 °C ( 760 mm Hg )  
Flash Point                                    > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**                **61.8 at 20°C**  
Density                                        0.852 g / cc at 25 °C  
Density Temp Coef                        -0.0007 g / cc / °C  
Coef of Thermal Expansion                0.0009 cc / cc / °C  
Thermal Conductivity                        0.0003 cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                                        15 cSt at 25 °C                                13 cP at 25 °C  
Surface Tension                                22 dynes/cm at 25 °C

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Soluble                                        Carbon Tetrachloride, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene  
  
Partly Soluble                                Acetone  
  
Insoluble                                        Ethanol, Water

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Compatible                                    1 Month Immersion at 25 °C : Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyester, Polyethylene, Polypropylene, Polystyrene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon, Neoprene and Fluorosilicone ( Silastic 730 RTV ) Rubbers ; Tygon F-4040-A, Tygothane, Aluminum, Brass, Copper, Steel  
  
Incompatible                                    Latex, Silicone ( Sylgard 184 and 3140 RTV ) Rubber, Tygon S-50-HL, R-3603, B-44-3

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Refractive Index Liquid **Series AA**  
 Refractive Index **1.44400** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.432125E+00 B 4.0752E+03 C 1.6911677E+07

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

Wavelength (nm)	Refractive Index	Transmittance			
		0.1 mm	1 mm	1 cm	10 cm
225.0	1.52	95	57	0	0
240.0	1.51	99	89	30	0
250.0	1.50	99	93	49	0
270.0	1.49	99	91	38	0
290.0	1.48	100	98	82	14
308.0	1.48	100	98	85	21
355.0	1.466	100	100	98	84
365.0	1.464	100	100	99	89
406.0	1.4575	100	100	99	89
473.0	1.4507	100	100	99	95
532.0	1.4467	100	100	100	96
589.3	1.4440	100	100	100	96
632.8	1.4424	100	100	100	96
656.3	1.4417	100	100	100	96
790.0	1.4387	100	100	100	99
828.0	1.4381	100	100	99	95
981.0	1.436	100	100	95	62
1310.0	1.435	100	99	90	34
1550.0	1.434	100	97	76	7
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0080

Abbe  $v_D$  55.5

Temp. Coefficient -0.000394  $dn_D/dt$  (15 - 35 °C)

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