



**Cargille Laboratories**  
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Catalog # 1806

Typical Characteristics

Refractive Index Liquid                    **Series AA**  
Refractive Index                            **1.44000**      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                                1.44198  
Pour Point                                    < -7 °C  
Boiling Point                                > 200 °C ( 760 mm Hg )  
Flash Point                                  > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**                **60.0 at 20°C**  
Density                                        0.860 g / cc at 25 °C  
Density Temp Coef                        -0.0008 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                                12 cP at 25 °C  
Surface Tension                              21 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 **1.44000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.428102E+00 B 4.0994E+03 C 1.1328618E+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	1.51	95	59	1	0
240.0	1.50	99	89	31	0
250.0	1.50	99	93	48	0
270.0	1.49	99	91	39	0
290.0	1.48	100	98	82	14
308.0	1.47	100	98	86	22
355.0	1.461	100	100	98	84
365.0	1.460	100	100	99	90
406.0	1.4534	100	100	99	90
473.0	1.4467	100	100	99	95
532.0	1.4427	100	100	100	96
589.3	1.4400	100	100	100	96
632.8	1.4384	100	100	100	96
656.3	1.4377	100	100	100	96
790.0	1.4347	100	100	100	99
828.0	1.4341	100	100	99	94
981.0	1.432	100	100	96	64
1310.0	1.430	100	99	90	36
1550.0	1.430	100	97	75	6
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0080

Abbe  $v_D$  55.2

Temp. Coefficient -0.000395  $dn_D/dt$  (15 - 35 °C)

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