



**Cargille Laboratories**  
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Catalog # 1806

Typical Characteristics

Refractive Index Liquid      **Series AA**  
Refractive Index              **1.45000**      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                      1.45196  
Pour Point                              < -7 °C  
Boiling Point                        > 200 °C ( 760 mm Hg )  
Flash Point                            > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**              **64.4 at 20°C**  
Density                                0.842 g / cc at 25 °C  
Density Temp Coef                 -0.0007 g / cc / °C  
Coef of Thermal Expansion      0.0008 cc / cc / °C  
Thermal Conductivity              0.0003 cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                              16 cSt at 25 °C                              13 cP at 25 °C  
Surface Tension                      23 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 **1.45000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.438160E+00 B 4.0390E+03 C 2.5286266E+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	1.53	94	55	0	0
240.0	1.52	99	88	29	0
250.0	1.51	99	93	50	0
270.0	1.50	99	90	35	0
290.0	1.49	100	98	83	16
308.0	1.48	100	98	85	19
355.0	1.472	100	100	98	83
365.0	1.470	100	100	99	88
406.0	1.4636	100	100	99	88
473.0	1.4567	100	100	99	94
532.0	1.4527	100	100	100	96
589.3	1.4500	100	100	100	96
632.8	1.4484	100	100	100	96
656.3	1.4477	100	100	100	96
790.0	1.4447	100	100	100	99
828.0	1.4441	100	100	100	95
981.0	1.442	100	99	95	60
1310.0	1.441	100	99	89	31
1550.0	1.440	100	98	78	9
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0080

Abbe  $v_D$  56.0

Temp. Coefficient -0.000391  $dn_D/dt$  (15 - 35 °C)

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