



**Cargille Laboratories**  
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Catalog # 1806

Typical Characteristics

Refractive Index Liquid      **Series AA**  
Refractive Index              **1.45200**      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                      1.45395  
Pour Point                          < -7 °C  
Boiling Point                        > 200 °C ( 760 mm Hg )  
Flash Point                          > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**              **65.2 at 20°C**  
Density                                0.838 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                              14 cP at 25 °C  
Surface Tension                      24 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 **1.45200** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.440171E+00 B 4.0269E+03 C 2.8077796E+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	54	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	1.49	100	98	84	18
355.0	1.474	100	100	98	83
365.0	1.472	100	100	99	87
406.0	1.4656	100	100	99	87
473.0	1.4587	100	100	99	94
532.0	1.4548	100	100	100	95
589.3	1.4520	100	100	100	95
632.8	1.4504	100	100	100	95
656.3	1.4497	100	100	100	95
790.0	1.4467	100	100	100	99
828.0	1.4461	100	100	100	96
981.0	1.444	100	99	95	59
1310.0	1.443	100	99	89	30
1550.0	1.442	100	98	79	10
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0080

Abbe  $v_D$  56.2

Temp. Coefficient -0.000390  $dn_D/dt$  (15 - 35 °C)

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