



**Cargille Laboratories**  
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Catalog # 1806

Typical Characteristics

Refractive Index Liquid      **Series AA**  
Refractive Index              **1.41800**      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                      1.42002  
Pour Point                          < -7 °C  
Boiling Point                      > 200 °C ( 760 mm Hg )  
Flash Point                        > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**              **50.0 at 20°C**  
Density                              0.898 g / cc at 25 °C  
Density Temp Coef                -0.0009 g / cc / °C  
Coef of Thermal Expansion      0.0010 cc / cc / °C  
Thermal Conductivity              0.0003 cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                            12 cSt at 25 °C                                      11 cP at 25 °C  
Surface Tension                    20 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 **1.41800** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.405974E+00 B 4.2322E+03 C -1.9378208E+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	1.48	96	69	2	0
240.0	1.47	99	90	36	0
250.0	1.47	99	92	44	0
270.0	1.46	99	93	49	0
290.0	1.45	100	98	80	10
308.0	1.45	100	99	89	30
355.0	1.438	100	100	99	88
365.0	1.437	100	100	99	95
406.0	1.4309	100	100	99	95
473.0	1.4245	100	100	100	97
532.0	1.4207	100	100	100	98
589.3	1.4180	100	100	100	98
632.8	1.4164	100	100	100	98
656.3	1.4157	100	100	100	98
790.0	1.4127	100	100	100	99
828.0	1.4121	100	100	99	92
981.0	1.410	100	100	97	74
1310.0	1.408	100	99	93	50
1550.0	1.408	100	96	68	2
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0078

Abbe  $v_D$  53.3

Temp. Coefficient -0.000404  $dn_D/dt$  (15 - 35 °C)

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