



**Cargille Laboratories**  
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Catalog # 1806

Typical Characteristics

Refractive Index Liquid      **Series AA**  
Refractive Index              **1.41000**      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                      1.41204  
Pour Point                              < -7 °C  
Boiling Point                        > 200 °C ( 760 mm Hg )  
Flash Point                            > 138 °C ( COC )  
Brix Value (Per ICUMSA)            46.1 at 20°C  
Density                                0.913 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                              11 cSt at 25 °C                              10 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 **1.41000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.397927E+00 B 4.2805E+03 C -3.0544326E+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	1.47	97	73	4	0
240.0	1.46	99	91	37	0
250.0	1.46	99	92	43	0
270.0	1.45	99	94	54	0
290.0	1.44	100	98	79	9
308.0	1.44	100	99	90	33
355.0	1.430	100	100	99	89
365.0	1.428	100	100	100	96
406.0	1.4228	100	100	100	96
473.0	1.4164	100	100	100	98
532.0	1.4127	100	100	100	98
589.3	1.4100	100	100	100	98
632.8	1.4084	100	100	100	98
656.3	1.4077	100	100	100	98
790.0	1.4047	100	100	100	99
828.0	1.4041	100	100	99	91
981.0	1.402	100	100	98	78
1310.0	1.400	100	99	94	57
1550.0	1.400	100	96	66	2
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0078

Abbe  $v_D$  52.6

Temp. Coefficient -0.000408  $dn_D/dt$  (15 - 35 °C)

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