



**Cargille Laboratories**  
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Catalog # 1806

Typical Characteristics

Refractive Index Liquid                    **Series AA**  
Refractive Index                            **1.42400**      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                                1.42601  
Pour Point                                    < -7 °C  
Boiling Point                                > 200 °C ( 760 mm Hg )  
Flash Point                                    > 138 °C ( COC )  
Brix Value (Per ICUMSA)                52.8 at 20°C  
Density                                        0.888 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                                      13 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 **1.42400** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.412009E+00 B 4.1960E+03 C -1.1003619E+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	1.49	96	66	2	0
240.0	1.48	99	90	34	0
250.0	1.48	99	92	45	0
270.0	1.47	99	93	46	0
290.0	1.46	100	98	80	11
308.0	1.46	100	99	88	27
355.0	1.445	100	100	99	87
365.0	1.443	100	100	99	93
406.0	1.4371	100	100	99	93
473.0	1.4305	100	100	100	96
532.0	1.4267	100	100	100	97
589.3	1.4240	100	100	100	97
632.8	1.4224	100	100	100	97
656.3	1.4217	100	100	100	97
790.0	1.4187	100	100	100	99
828.0	1.4181	100	100	99	93
981.0	1.416	100	100	97	71
1310.0	1.414	100	99	93	46
1550.0	1.414	100	97	70	3
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0079

Abbe  $v_D$  53.8

Temp. Coefficient -0.000402  $dn_D/dt$  (15 - 35 °C)

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