



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.50600**        at    589.3 nm    and        25        ° C

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Composition                    Aliphatic / Alicyclic Hydrocarbons and Hydrogenated Terphenyl  
Appearance                    Colorless to light yellow liquid  
Odor                                Slight  
Color Stability                    In Direct Sun: may slightly darken after 1 day, more after 4 months, dark after 6 years  
Index Change Rate                    Low : -0.00002 to +0.00005  
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                                1.50801  
Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                 > 138 °C ( COC )  
Brix Value (Per ICUMSA)                    86.5 at 20°C  
Density                                        0.903 g / cc at 25 °C  
Density Temp Coef                        -0.0007 g / cc / °C  
Coef of Thermal Expansion                    0.0008 cc / cc / °C  
Thermal Conductivity                        n/a cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                                        34 cSt at 25 °C                                30 cP at 25 °C  
Surface Tension                                31 dynes/cm at 25 °C

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Soluble                                        Carbon Tetrachloride, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene  
  
Partly Soluble                                Acetone, Ethanol  
  
Insoluble                                        Water

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Compatible                                    10 Month Immersion at 25 °C : Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyester, Polyethylene, Polypropylene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon, Silicone ( Sylgard 184 ) and Fluorosilicone ( 730 RTV ) Rubbers, Tygon F-4040-A, Tygothane; Aluminum, Brass, Copper, Steel  
  
Incompatible                                 Polystyrene, Latex, Neoprene, Silicone ( 3140 RTV ) Rubber, Tygon S-50-HL, R-3603, B-44-3

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Refractive Index Liquid **Series A**  
 Refractive Index **1.50600** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.488661E+00 B 5.5865E+03 C 1.5107276E+08

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	-	-	-	-	-
240.0	-	-	-	-	-
250.0	-	-	-	-	-
270.0	-	-	-	-	-
290.0	-	-	-	-	-
308.0	-	-	-	-	-
355.0	1.543	87	26	0	0
365.0	1.539	98	83	16	0
406.0	1.5281	100	96	65	1
473.0	1.5166	100	99	95	59
532.0	1.5103	100	100	98	82
589.3	1.5060	100	100	99	89
632.8	1.5036	100	100	99	93
656.3	1.5024	100	100	100	95
790.0	1.4980	100	100	100	99
828.0	1.4971	100	100	100	97
981.0	1.495	100	100	96	65
1310.0	1.492	100	99	89	31
1550.0	1.491	100	98	83	15
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0126

Abbe  $v_D$  40.3

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