



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                      **Series A**  
Refractive Index                              **1.46400**      at    589.3 nm    and            25            ° C

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Compositition                      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                              1.46595  
Pour Point                                      < -7 °C  
Boiling Point                                      > 262 °C ( 760 mm Hg )  
Flash Point                                      > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**                      **70.2 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                              n/a cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                                      19 cSt at 25 °C                                      16 cP at 25 °C  
Surface Tension                                      29 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 **1.46400** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.451467E+00 B 4.2049E+03 C 5.1153097E+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	-	-	-	-	-
240.0	-	-	-	-	-
250.0	-	-	-	-	-
270.0	-	-	-	-	-
290.0	-	-	-	-	-
308.0	-	-	-	-	-
355.0	1.488	98	83	16	0
365.0	1.486	100	97	77	8
406.0	1.4789	100	99	93	50
473.0	1.4713	100	100	99	88
532.0	1.4670	100	100	99	93
589.3	1.4640	100	100	99	94
632.8	1.4623	100	100	99	95
656.3	1.4615	100	100	100	95
790.0	1.4583	100	100	100	99
828.0	1.4577	100	100	100	96
981.0	1.456	100	99	95	58
1310.0	1.454	100	99	88	28
1550.0	1.453	100	98	81	12
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0087

Abbe  $v_D$  53.5

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