



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.54600**        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                                1.54807  
Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                    > 138 °C ( COC )  
Brix Value (Per ICUMSA)                    >100 at 20°C  
Density                                        0.965 g / cc at 25 °C  
Density Temp Coef                            -0.0007 g / cc / °C  
Coef of Thermal Expansion                    0.0007 cc / cc / °C  
Thermal Conductivity                            n/a cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                                        59 cSt at 25 °C                                57 cP at 25 °C  
Surface Tension                                34 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 **1.54600** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A: 1.524083E+00  
 B: 6.9022E+03  
 C: 2.4623434E+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	1.594	78	8	0	0
365.0	1.590	97	72	3	0
406.0	1.5750	99	93	46	0
473.0	1.5599	100	99	91	40
532.0	1.5515	100	100	97	72
589.3	1.5460	100	100	98	85
632.8	1.5429	100	100	99	91
656.3	1.5414	100	100	100	95
790.0	1.5358	100	100	100	98
828.0	1.5347	100	100	100	98
981.0	1.532	100	100	97	72
1310.0	1.528	100	99	90	35
1550.0	1.527	100	98	84	18
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0163

Abbe  $v_D$  33.6

Temp. Coefficient -0.000414  $dn_D/dt$  (15 - 35 °C)

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