



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.50400**      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                                1.50601  
Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                 > 138 °C ( COC )  
Brix Value (Per ICUMSA)                    85.8 at 20°C  
Density                                        0.900 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                                        33 cSt at 25 °C                                29 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 **1.50400** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.486890E+00 B 5.5207E+03 C 1.4631468E+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	1.540	88	27	0	0
365.0	1.537	98	84	17	0
406.0	1.5258	100	96	66	2
473.0	1.5145	100	99	95	60
532.0	1.5082	100	100	98	82
589.3	1.5040	100	100	99	89
632.8	1.5016	100	100	99	93
656.3	1.5005	100	100	100	95
790.0	1.4961	100	100	100	99
828.0	1.4953	100	100	100	97
981.0	1.493	100	100	96	64
1310.0	1.490	100	99	89	31
1550.0	1.489	100	98	83	15
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0124

Abbe  $v_D$  40.7

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