



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.50800**        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                                1.51001  
Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                 > 138 °C ( COC )  
Brix Value (Per ICUMSA)                    87.2 at 20°C  
Density                                        0.907 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                                31 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 **1.50800** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.490432E+00 B 5.6523E+03 C 1.5583084E+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	1.545	87	24	0	0
365.0	1.542	98	83	15	0
406.0	1.5305	100	96	64	1
473.0	1.5188	100	99	95	58
532.0	1.5123	100	100	98	81
589.3	1.5080	100	100	99	89
632.8	1.5055	100	100	99	93
656.3	1.5044	100	100	100	95
790.0	1.4999	100	100	100	99
828.0	1.4990	100	100	100	97
981.0	1.496	100	100	96	65
1310.0	1.494	100	99	89	32
1550.0	1.493	100	98	83	15
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0127

Abbe  $v_D$  39.8

Temp. Coefficient -0.000403  $dn_D/dt$  (15 - 35 °C)

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