



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.48600**        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                                1.48798  
Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                  > 138 °C ( COC )  
Brix Value (Per ICUMSA)                79.0 at 20°C  
Density                                        0.873 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                                      25 cSt at 25 °C                                22 cP at 25 °C  
Surface Tension                              30 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 **1.48600** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.470950E+00 B 4.9286E+03 C 1.0349197E+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	1.517	92	45	0	0
365.0	1.514	99	90	34	0
406.0	1.5047	100	97	77	8
473.0	1.4950	100	100	97	71
532.0	1.4897	100	100	99	87
589.3	1.4860	100	100	99	92
632.8	1.4839	100	100	99	94
656.3	1.4829	100	100	100	95
790.0	1.4791	100	100	100	99
828.0	1.4784	100	100	100	97
981.0	1.476	100	100	95	61
1310.0	1.474	100	99	89	30
1550.0	1.473	100	98	82	14
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0107

Abbe  $v_D$  45.4

Temp. Coefficient -0.000396  $dn_D/dt$  (15 - 35 °C)

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