



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid      **Series A**  
Refractive Index              **1.49000**      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                      1.49199  
Pour Point                          < -7 °C  
Boiling Point                       > 262 °C ( 760 mm Hg )  
Flash Point                         > 138 °C ( COC )  
Brix Value (Per ICUMSA)                      80.5 at 20°C  
Density                               0.879 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                              27 cSt at 25 °C                                      24 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 **1.49000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.474492E+00 B 5.0602E+03 C 1.1300812E+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	1.522	91	40	0	0
365.0	1.519	99	88	29	0
406.0	1.5093	100	97	75	5
473.0	1.4994	100	100	96	68
532.0	1.4938	100	100	98	86
589.3	1.4900	100	100	99	91
632.8	1.4878	100	100	99	94
656.3	1.4868	100	100	100	95
790.0	1.4829	100	100	100	99
828.0	1.4821	100	100	100	97
981.0	1.480	100	100	95	62
1310.0	1.477	100	99	89	30
1550.0	1.477	100	98	82	14
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0111

Abbe  $v_D$  44.2

Temp. Coefficient -0.000398  $dn_D/dt$  (15 - 35 °C)

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