



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid      **Series A**  
Refractive Index              **1.54800**      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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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                         0.969 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                       60 cSt at 25 °C                      58 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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Cauchy Coefficients                    A                    B                    C  
    1.5258540                    6967.99                    2.509924E+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	-	-	-	-	-
248.0	-	-	-	-	-
270.0	-	-	-	-	-
290.0	-	-	-	-	-
308.0	-	-	-	-	-
337.0	1.607	78	8	0	0
365.0	1.592	97	71	3	0
480.0	1.56083	99	92	45	0
486.1	1.55984	100	99	91	39
546.1	1.55204	100	100	97	72
589.3	1.54800	100	100	98	84
643.8	1.54413	100	100	99	91
656.3	1.54338	100	100	100	95
700.0	1.54112	100	100	100	98
800.0	1.537	100	100	100	98
1300.0	1.530	100	100	97	73
1550.0	1.529	100	99	90	35
1750.0	1.528	100	98	84	18
2000.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ )                    0.0165

Abbe  $v_D$                     33.3

Temp. Coefficient                    -0.000415  $dn_D/dt$  ( 15 - 35 °C )

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