



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid **Series A**  
 Refractive Index **1.53800** at 589.3 nm and 25 ° C

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

Index at 20°C 1.54006  
 Pour Point < -7 ° C  
 Boiling Point > 262 ° C ( 760 mm Hg )  
 Flash Point > 138 ° C ( COC )  
 Brix Value (Per ICUMSA) 97.9 at 20°C  
 Density 0.953 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 52 cSt at 25 ° C 50 cP at 25 ° C  
 Surface Tension 33 dynes/cm at 25 ° C

Soluble Carbon Tetrachloride, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene  
 Partly Soluble Acetone, Ethanol  
 Insoluble Water

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 1.516998E+00 B 6.6391E+03 C 2.2720202E+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	1.584	80	10	0	0
365.0	1.580	97	74	5	0
406.0	1.5656	99	93	50	0
473.0	1.5512	100	99	92	43
532.0	1.5433	100	100	97	74
589.3	1.5380	100	100	98	85
632.8	1.5350	100	100	99	92
656.3	1.5336	100	100	100	95
790.0	1.5282	100	100	100	98
828.0	1.5272	100	100	100	98
981.0	1.524	100	100	97	71
1310.0	1.521	100	99	90	34
1550.0	1.520	100	98	84	17
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0155

Abbe  $v_D$  34.6

Temp. Coefficient -0.000412  $dn_D/dt$  (15 - 35 °C)

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