



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.58000**        at    589.3 nm    and        25        ° C

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Composition                    Hydrogenated Terphenyl and 1-Bromonaphthalene  
Appearance                    Light Yellow Liquid  
Odor                                Slight: unpleasant  
Color Stability                    In Direct Sun: may slightly darken after 1 day, very dark after 4 months, dark with precipitate after 6 yrs  
Index Change Rate                    Low : -0.00003 to +0.00003  
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                    1.58213  
Pour Point                                < 6 °C  
Boiling Point                            > 279 °C ( 760 mm Hg )  
Flash Point                              > 113 °C ( COC )  
Brix Value (Per ICUMSA)                    >100 at 20°C  
Density                                  1.051 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                                64 cSt at 25 °C                                67 cP at 25 °C  
Surface Tension                        37 dynes/cm at 25 °C

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Soluble                                Acetone, Carbon Tetrachloride, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene

Partly Soluble                        Ethanol

Insoluble                                Water

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Compatible                            9 Month Immersion at 25 °C : Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polyester, Polyethylene, Polypropylene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon, Silicone ( Sylgard 184, 3140 RTV ) and Fluorosilicone ( Siliastic 730 RTV ) Rubbers ; Tygothane, Aluminum, Steel

Incompatible                        Polycarbonate, Polystyrene, Latex, Neoprene, Tygon ( all types except Tygothane ), ( Acrylic at 55 °C ), may tarnish Brass and Copper.

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Refractive Index Liquid **Series A**  
 Refractive Index **1.58000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.553780E+00 B 8.0507E+03 C 3.6638196E+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	-	-	-	-	-
365.0	1.635	96	67	2	0
406.0	1.6161	99	91	39	0
473.0	1.5971	100	99	89	31
532.0	1.5868	100	100	96	67
589.3	1.5800	100	100	98	82
632.8	1.5762	100	100	99	90
656.3	1.5744	100	100	99	94
790.0	1.5676	100	100	100	96
828.0	1.5663	100	100	100	98
981.0	1.563	100	100	98	79
1310.0	1.559	100	99	91	39
1550.0	1.557	100	98	86	21
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0200

Abbe  $v_D$  29.0

Temp. Coefficient -0.000426  $dn_D/dt$  (15 - 35 °C)

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