



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.60800**        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                    1.61021  
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                                    1.211 g / cc at 25 °C  
Density Temp Coef                    -0.0008 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                                    23 cSt at 25 °C                                    28 cP at 25 °C  
Surface Tension                            39 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 **1.60800** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.577096E+00 B 9.0798E+03 C 5.7389999E+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	1.678	97	74	5	0
406.0	1.6533	99	92	45	0
473.0	1.6291	100	99	88	28
532.0	1.6163	100	100	96	70
589.3	1.6080	100	100	98	82
632.8	1.6033	100	100	99	87
656.3	1.6013	100	100	99	89
790.0	1.5931	100	100	99	91
828.0	1.5916	100	100	99	93
981.0	1.587	100	100	98	83
1310.0	1.583	100	99	92	45
1550.0	1.581	100	99	88	29
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0245

Abbe  $v_D$  24.8

Temp. Coefficient -0.000442  $dn_D/dt$  (15 - 35 °C)

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