



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.59400**        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                                1.59617  
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                                        1.131 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                                      38 cSt at 25 °C                                43 cP at 25 °C  
Surface Tension                                38 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**  
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Cauchy Coefficients  
 A 1.565438E+00 B 8.5652E+03 C 4.7014098E+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	1.656	97	70	3	0
406.0	1.6347	99	92	42	0
473.0	1.6131	100	99	88	29
532.0	1.6016	100	100	96	68
589.3	1.5940	100	100	98	82
632.8	1.5898	100	100	99	88
656.3	1.5879	100	100	99	91
790.0	1.5804	100	100	99	93
828.0	1.5789	100	100	100	95
981.0	1.575	100	100	98	81
1310.0	1.571	100	99	92	42
1550.0	1.569	100	99	87	25
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0222

Abbe  $v_D$  26.7

Temp. Coefficient -0.000434  $dn_D/dt$  (15 - 35 °C)

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