



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.59800**        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                    1.60018  
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                                    1.154 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                                    33 cSt at 25 °C                                    38 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 1.568768E+00 B 8.7122E+03 C 4.9978641E+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	1.662	97	71	3	0
406.0	1.6400	99	92	43	0
473.0	1.6177	100	99	88	29
532.0	1.6058	100	100	96	69
589.3	1.5980	100	100	98	82
632.8	1.5936	100	100	99	88
656.3	1.5917	100	100	99	91
790.0	1.5840	100	100	99	93
828.0	1.5825	100	100	99	95
981.0	1.578	100	100	98	81
1310.0	1.574	100	99	92	43
1550.0	1.572	100	99	87	26
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0229

Abbe  $v_D$  26.1

Temp. Coefficient -0.000437  $dn_D/dt$  (15 - 35 °C)

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