



**Cargille Laboratories**  
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Catalog # 1812

Typical Characteristics

Refractive Index Liquid                    **Series B**  
Refractive Index                            **1.65200**        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                                1.65433  
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                                        1.464 g / cc at 25 °C  
Density Temp Coef                        -0.0009 g / cc / °C  
Coef of Thermal Expansion              0.0006 cc / cc / °C  
Thermal Conductivity                      n/a cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                                        5 cSt at 25 °C                                7 cP at 25 °C  
Surface Tension                              42 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 B**  
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Cauchy Coefficients  
 A 1.613735E+00 B 1.0697E+04 C 8.9999974E+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	1.745	99	87	24	0
406.0	1.7118	99	95	57	0
473.0	1.6795	100	99	87	25
532.0	1.6628	100	100	97	73
589.3	1.6520	100	100	98	82
632.8	1.6461	100	100	98	82
656.3	1.6434	100	100	98	82
790.0	1.6332	100	100	98	82
828.0	1.6313	100	100	99	87
981.0	1.626	100	100	99	90
1310.0	1.620	100	99	95	59
1550.0	1.618	100	99	93	47
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0317

Abbe  $v_D$  20.6

Temp. Coefficient -0.000467  $dn_D/dt$  (15 - 35 °C)

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