



**Cargille Laboratories**  
**55 Commerce Rd - Cedar Grove, NJ 07009-1289**  
**Phone : 973-239-6633 - Fax : 973-239-6096 - Web : www.cargille.com**

Catalog # 1812

Typical Characteristics

Refractive Index Liquid                    **Series B**  
Refractive Index                            **1.67000**        at    589.3 nm    and        25        ° C

---

Composition                    1-Bromonaphthalene and 1-Iodonaphthalene  
Appearance                    Light yellow brown liquid  
Odor                                Slight: unpleasant  
Color Stability                    In Direct Sun: may become very dark after 1 day  
Index Change Rate                    Low : +0.00001 to +0.00005  
by Evaporation                    expected after 32 days with exposed surface area to volume ratio of 0.2 cm<sup>2</sup>/cc @ 25 °C

---

Index at 20°C                    1.67236  
Pour Point                                < 6 °C  
Boiling Point                            > 279 °C ( 760 mm Hg )  
Flash Point                                > 93 °C ( COC )  
Brix Value (Per ICUMSA)                    >100 at 20°C  
Density                                    1.564 g / cc at 25 °C  
Density Temp Coef                    -0.0010 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                                    4 cSt at 25 °C                                    6 cP at 25 °C  
Surface Tension                            42 dynes/cm at 25 °C

---

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

Partly Soluble                            Ethanol

Insoluble                                    Water

---

Compatible                                1 Month Immersion at 25 °C : Acrylic, Mylar, Nylon, Polyester, Polyethylene, Polypropylene, Polyurethane, Phenolic, Teflon, Silicone ( Sylgard 184, 3140 RTV ) and Fluorosilicone ( 730 RTV ) Rubbers, Aluminum

Incompatible                                Cellulose Acetate, Epoxy, Polycarbonate, Polystyrene, Polyvinyl Chloride, Latex, Neoprene, Tygon ( all types ), may corrode Brass and Steel, may tarnish Copper.

---



Refractive Index Liquid **Series B**  
 Refractive Index **1.67000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.629382E+00 B 1.1266E+04 C 9.8596339E+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	1.769	97	75	6	0
406.0	1.7340	98	83	16	0
473.0	1.6994	100	95	62	1
532.0	1.6815	100	100	95	61
589.3	1.6700	100	100	97	71
632.8	1.6637	100	100	97	76
656.3	1.6609	100	100	98	79
790.0	1.6500	100	100	98	83
828.0	1.6479	100	100	99	87
981.0	1.642	100	100	99	90
1310.0	1.636	100	100	96	66
1550.0	1.634	100	99	93	49
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0339

Abbe  $v_D$  19.8

Temp. Coefficient -0.000473  $dn_D/dt$  (15 - 35 °C)

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