



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

Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.63000**        at    589.3 nm    and        25        ° C

---

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

---

Index at 20°C                                1.63227  
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                                        1.338 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                                        10 cSt at 25 °C                                14 cP at 25 °C  
Surface Tension                                40 dynes/cm at 25 °C

---

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

Partly Soluble                                Ethanol

Insoluble                                        Water

---

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.

---



Refractive Index Liquid **Series A**  
 Refractive Index **1.63000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.595415E+00 B 9.8883E+03 C 7.3694986E+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	1.711	98	80	11	0
406.0	1.6825	99	93	51	0
473.0	1.6543	100	99	88	27
532.0	1.6396	100	100	97	71
589.3	1.6300	100	100	98	82
632.8	1.6247	100	100	98	84
656.3	1.6223	100	100	98	86
790.0	1.6132	100	100	99	86
828.0	1.6114	100	100	99	90
981.0	1.606	100	100	99	86
1310.0	1.601	100	99	94	52
1550.0	1.600	100	99	90	37
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0281

Abbe  $v_D$  22.4

Temp. Coefficient -0.000455  $dn_D/dt$  (15 - 35 °C)

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