



**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                            **1.55800**      at 589.3 nm and 25 °C

---

Composition                                Aliphatic / Alicyclic Hydrocarbons and Hydrogenated Terphenyl  
Appearance                                Colorless to light yellow liquid  
Odor    Slight  
Color Stability                              In Direct Sun: may slightly darken after 1 day, more after 4 months, dark after 6 years  
Index Change Rate  
by Evaporation                              Low : -0.00002 to +0.00005  
    expected after 32 days with exposed surface area to volume ratio of 0.2 cm<sup>2</sup>/cc @ 25 °C

---

Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                  > 138 °C ( COC )  
Brix Value (Per ICUMSA)                    >100 at 20°C  
Density                                        0.984 g / cc at 25 °C  
Density Temp Coef                            -0.0007 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                                      69 cSt at 25 °C                                68 cP at 25 °C  
Surface Tension                                35 dynes/cm at 25 °C

---

Soluble                                        Carbon Tetrachloride, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene  
Partly Soluble                                Acetone, Ethanol  
Insoluble                                        Water

---

Compatible                                    10 Month Immersion at 25 °C : Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyester, Polyethylene, Polypropylene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon, Silicone ( Sylgard 184 ) and Fluorosilicone ( 730 RTV ) Rubbers, Tygon F-4040-A, Tygothane; Aluminum, Brass, Copper, Steel  
Incompatible                                    Polystyrene, Latex, Neoprene, Silicone ( 3140 RTV ) Rubber, Tygon S-50-HL, R-3603, B-44-3

---



Refractive Index Liquid **Series A**  
 Refractive Index **1.55800** at 589.3 nm and 25 °C

Cauchy Coefficients                    A                    B                    C  
    1.5347096                    7296.92                    2.747828E+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	-	-	-	-	-
248.0	-	-	-	-	-
270.0	-	-	-	-	-
290.0	-	-	-	-	-
308.0	-	-	-	-	-
337.0	1.620	75	6	0	0
365.0	1.605	96	68	2	0
480.0	1.57156	99	92	42	0
486.1	1.57051	100	99	90	36
546.1	1.56227	100	100	96	69
589.3	1.55800	100	100	98	83
643.8	1.55391	100	100	99	91
656.3	1.55313	100	100	100	95
700.0	1.55075	100	100	100	98
800.0	1.547	100	100	100	99
1300.0	1.539	100	100	97	75
1550.0	1.538	100	99	90	36
1750.0	1.537	100	98	84	19
2000.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ )                    0.0174

Abbe  $v_D$                     32.1

Temp. Coefficient                    -0.000418  $dn_D/dt$  ( 15 - 35 °C )

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