



**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                            **1.54000**        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                        Low : -0.00002 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                                1.54206  
Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                  > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**                **98.6 at 20°C**  
Density                                        0.956 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                                      54 cSt at 25 °C                                52 cP at 25 °C  
Surface Tension                              33 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 **1.54000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.518770E+00 B 6.7048E+03 C 2.3196010E+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	1.587	79	10	0	0
365.0	1.582	97	73	4	0
406.0	1.5680	99	93	49	0
473.0	1.5534	100	99	92	42
532.0	1.5454	100	100	97	74
589.3	1.5400	100	100	98	85
632.8	1.5370	100	100	99	92
656.3	1.5356	100	100	100	95
790.0	1.5301	100	100	100	98
828.0	1.5290	100	100	100	98
981.0	1.526	100	100	97	71
1310.0	1.523	100	99	90	34
1550.0	1.522	100	98	84	17
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0157

Abbe  $v_D$  34.4

Temp. Coefficient -0.000412  $dn_D/dt$  (15 - 35 °C)

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