



**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                            **1.47400**        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                                1.47596  
Pour Point                                    < -7 °C  
Boiling Point                                > 262 °C ( 760 mm Hg )  
Flash Point                                 > 138 °C ( COC )  
Brix Value (Per ICUMSA)                    74.2 at 20°C  
Density                                        0.854 g / cc at 25 °C  
Density Temp Coef                            -0.0007 g / cc / °C  
Coef of Thermal Expansion                0.0008 cc / cc / °C  
Thermal Conductivity                        n/a cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
  
Viscosity                                      21 cSt at 25 °C                                18 cP at 25 °C  
Surface Tension                                30 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 **1.47400** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.460323E+00 B 4.5339E+03 C 7.4943492E+07

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	1.501	95	63	1	0
365.0	1.499	99	94	53	0
406.0	1.4906	100	98	86	21
473.0	1.4821	100	100	98	80
532.0	1.4773	100	100	99	90
589.3	1.4740	100	100	99	93
632.8	1.4721	100	100	99	94
656.3	1.4713	100	100	100	95
790.0	1.4678	100	100	100	99
828.0	1.4671	100	100	100	96
981.0	1.465	100	99	95	59
1310.0	1.463	100	99	88	29
1550.0	1.462	100	98	82	13
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0096

Abbe  $v_D$  49.4

Temp. Coefficient -0.000393  $dn_D/dt$  (15 - 35 °C)

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