



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.47000**        at    589.3 nm    and        25        ° C

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Compositition                            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

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Index at 20°C                            1.47196  
Pour Point                                < -7 °C  
Boiling Point                            > 262 °C ( 760 mm Hg )  
Flash Point                               > 138 °C ( COC )  
**Brix Value (Per ICUMSA)**             **72.6 at 20°C**  
Density                                    0.848 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                                 20 cSt at 25 °C                            17 cP at 25 °C  
Surface Tension                         29 dynes/cm at 25 °C

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

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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

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Refractive Index Liquid **Series A**  
 Refractive Index **1.47000** at 589.3 nm and 25 °C

Cauchy Coefficients  
 A 1.456781E+00 B 4.4023E+03 C 6.5427334E+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	1.496	97	70	3	0
365.0	1.494	100	95	62	1
406.0	1.4859	100	99	89	30
473.0	1.4778	100	100	98	83
532.0	1.4732	100	100	99	91
589.3	1.4700	100	100	99	94
632.8	1.4682	100	100	99	95
656.3	1.4674	100	100	100	95
790.0	1.4640	100	100	100	99
828.0	1.4633	100	100	100	96
981.0	1.461	100	99	95	59
1310.0	1.459	100	99	88	29
1550.0	1.459	100	98	81	13
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0092

Abbe  $v_D$  50.9

Temp. Coefficient -0.000392  $dn_D/dt$  (15 - 35 °C)

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