



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid                    **Series A**  
Refractive Index                            **1.55200**        at 589.3 nm and 25 °C

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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

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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                                        0.975 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                                      64 cSt at 25 °C                                62 cP at 25 °C  
Surface Tension                                34 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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Cauchy Coefficients  
 A 1.5293962 B 7099.56 C 2.605086E+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	1.612	77	7	0	0
365.0	1.597	96	70	3	0
480.0	1.56512	99	92	44	0
486.1	1.56411	100	99	91	38
546.1	1.55613	100	100	97	71
589.3	1.55200	100	100	98	84
643.8	1.54804	100	100	99	91
656.3	1.54728	100	100	100	95
700.0	1.54497	100	100	100	98
800.0	1.541	100	100	100	98
1300.0	1.534	100	100	97	73
1550.0	1.532	100	99	90	35
1750.0	1.532	100	98	84	18
2000.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0168

Abbe  $v_D$  32.8

Temp. Coefficient -0.000416  $dn_D/dt$  (15 - 35 °C)

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