



**Cargille Laboratories**  
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Catalog # 1815

Typical Characteristics

Refractive Index Liquid                    **Series M**  
Refractive Index                            **1.73500**        at    589.3 nm    and        25        ° C

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Composition                    Hydrogenated Terphenyl and Diiodomethane  
Appearance                    Light Yellow Liquid  
Odor                                Slight: unpleasant  
Color Stability                    In Direct Sun: may slightly darken after 1 day, quite dark after 1 month  
Index Change Rate                    High : -0.00028 to -0.00043  
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                    1.73861  
Pour Point                                < 6 °C  
Boiling Point                            > 180 °C ( 760 mm Hg )  
Flash Point                                > 110 °C ( COC )  
Brix Value (Per ICUMSA)                    >100 at 20°C  
Density                                    3.268 g / cc at 25 °C  
Density Temp Coef                    -0.0027 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                                    3 cSt at 25 °C                                    8 cP at 25 °C  
Surface Tension                            37 dynes/cm at 25 °C

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Soluble                                    Acetone, Carbon Tetrachloride, Ethyl Ether, Methylene Chloride, Toluene, Xylene

Partly Soluble                            Ethanol, Heptane, Naphtha, Turpentine

Insoluble                                    Water

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Compatible                                9 Month Immersion at 25 °C : Mylar, Nylon, Polyester, Polyethylene, Polypropylene, Phenolic, Teflon, Neoprene, Silicone and Fluorosilicone Rubbers, Tygon F-4040-A

Incompatible                                Acrylic, Cellulose Acetate, Epoxy, Polycarbonate, Polystyrene, Polyurethane, Polyvinyl Chloride, Latex; Tygon except F-4040-A; Aluminum ( scratched in liquid ), Steel, Copper and Brass

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Refractive Index Liquid **Series M**  
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Cauchy Coefficients  
 A 1.692536E+00 B 1.1296E+04 C 1.1984851E+09

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	-	-	-	-	-
365.0	-	-	-	-	-
406.0	1.8052	76	7	0	0
473.0	1.7670	100	100	97	71
532.0	1.7474	100	100	98	81
589.3	1.7350	100	100	98	84
632.8	1.7282	100	100	99	90
656.3	1.7252	100	100	99	91
790.0	1.7137	100	100	99	92
828.0	1.7116	100	100	99	92
981.0	1.706	100	100	96	67
1310.0	1.700	100	100	99	91
1550.0	1.697	100	99	94	56
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0366

Abbe  $v_D$  20.1

Temp. Coefficient -0.000722  $dn_D/dt$  (15 - 35 °C)

Shelf Life: 18 Months from Date of Manufacture for Unopened Bottles; Half the Remaining Time after Opening