



**Cargille Laboratories**  
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Catalog # 1815

Typical Characteristics

Refractive Index Liquid                    **Series M**  
Refractive Index                            **1.73000**        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                    1.73357  
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                                    3.199 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                                    9 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 1.688075E+00 B 1.1187E+04 C 1.1711536E+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	1.7990	77	7	0	0
473.0	1.7615	100	100	96	69
532.0	1.7422	100	100	98	81
589.3	1.7300	100	100	98	84
632.8	1.7233	100	100	99	90
656.3	1.7204	100	100	99	91
790.0	1.7090	100	100	99	93
828.0	1.7069	100	100	99	93
981.0	1.701	100	100	96	67
1310.0	1.695	100	100	99	88
1550.0	1.693	100	99	94	54
2500.0	-	-	-	-	-
3700.0	-	-	-	-	-

( $n_F - n_C$ ) 0.0360

Abbe  $v_D$  20.3

Temp. Coefficient -0.000713  $dn_D/dt$  (15 - 35 °C)

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