



**Cargille Laboratories**  
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Catalog # 1809

Typical Characteristics

Refractive Index Liquid **Series A**  
Refractive Index **1.47600** 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 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 1.47797  
Pour Point < -7 °C  
Boiling Point > 262 °C ( 760 mm Hg )  
Flash Point > 138 °C ( COC )  
**Brix Value (Per ICUMSA) 75.0 at 20°C**  
Density 0.857 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 22 cSt at 25 °C 19 cP at 25 °C  
Surface Tension 30 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 1.462094E+00 B 4.5997E+03 C 7.9701571E+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           | 1.504            | 95            | 59   | 1    | 0     |
| 365.0           | 1.501            | 99            | 93   | 49   | 0     |
| 406.0           | 1.4929           | 100           | 98   | 84   | 18    |
| 473.0           | 1.4842           | 100           | 100  | 98   | 78    |
| 532.0           | 1.4793           | 100           | 100  | 99   | 90    |
| 589.3           | 1.4760           | 100           | 100  | 99   | 93    |
| 632.8           | 1.4741           | 100           | 100  | 99   | 94    |
| 656.3           | 1.4732           | 100           | 100  | 100  | 95    |
| 790.0           | 1.4697           | 100           | 100  | 100  | 99    |
| 828.0           | 1.4690           | 100           | 100  | 100  | 97    |
| 981.0           | 1.467            | 100           | 99   | 95   | 60    |
| 1310.0          | 1.465            | 100           | 99   | 88   | 29    |
| 1550.0          | 1.464            | 100           | 98   | 82   | 13    |
| 2500.0          | -                | -             | -    | -    | -     |
| 3700.0          | -                | -             | -    | -    | -     |

( $n_F - n_C$ ) 0.0098

Abbe  $v_D$  48.6

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