



**Cargille Laboratories**  
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Catalog # 1812

Typical Characteristics

Refractive Index Liquid                    **Series B**  
Refractive Index                    **1.66200**            at    589.3 nm    and            25            ° C

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Composition                    1-Bromonaphthalene and 1-Iodonaphthalene  
Appearance                    Light yellow brown liquid  
Odor                                Slight: unpleasant  
Color Stability                    In Direct Sun: may become very dark after 1 day  
Index Change Rate                    Low : +0.00001 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                    1.66435  
Pour Point                                < 6 °C  
Boiling Point                                > 279 °C ( 760 mm Hg )  
Flash Point                                > 93 °C ( COC )  
Brix Value (Per ICUMSA)                    >100 at 20°C  
Density                                1.520 g / cc at 25 °C  
Density Temp Coef                    -0.0010 g / cc / °C  
Coef of Thermal Expansion                    0.0006 cc / cc / °C  
Thermal Conductivity                    n/a cal / sec / cm<sup>2</sup> / °C - 1 cm thickness  
Viscosity                                4 cSt at 25 °C    6 cP at 25 °C  
Surface Tension                                43 dynes/cm at 25 °C

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Soluble                                Acetone, Carbon Tetrachloride, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene

Partly Soluble                    Ethanol

Insoluble                                Water

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Compatible                                1 Month Immersion at 25 °C : Acrylic, Mylar, Nylon, Polyester, Polyethylene, Polypropylene, Polyurethane, Phenolic, Teflon, Silicone ( Sylgard 184, 3140 RTV ) and Fluorosilicone ( 730 RTV ) Rubbers, Aluminum

Incompatible                                Cellulose Acetate, Epoxy, Polycarbonate, Polystyrene, Polyvinyl Chloride, Latex, Neoprene, Tygon ( all types ), may corrode Brass and Steel, may tarnish Copper.

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Refractive Index Liquid **Series B**  
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Cauchy Coefficients  
 A 1.622352E+00 B 1.1024E+04 C 9.5322466E+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           | -                | -             | -    | -    | -     |
| 250.0           | -                | -             | -    | -    | -     |
| 270.0           | -                | -             | -    | -    | -     |
| 290.0           | -                | -             | -    | -    | -     |
| 308.0           | -                | -             | -    | -    | -     |
| 355.0           | -                | -             | -    | -    | -     |
| 365.0           | 1.759            | 98            | 82   | 13   | 0     |
| 406.0           | 1.7243           | 99            | 89   | 33   | 0     |
| 473.0           | 1.6907           | 100           | 97   | 75   | 6     |
| 532.0           | 1.6732           | 100           | 100  | 96   | 68    |
| 589.3           | 1.6620           | 100           | 100  | 97   | 77    |
| 632.8           | 1.6558           | 100           | 100  | 98   | 79    |
| 656.3           | 1.6531           | 100           | 100  | 98   | 81    |
| 790.0           | 1.6425           | 100           | 100  | 98   | 82    |
| 828.0           | 1.6405           | 100           | 100  | 99   | 87    |
| 981.0           | 1.635            | 100           | 100  | 99   | 90    |
| 1310.0          | 1.629            | 100           | 100  | 95   | 63    |
| 1550.0          | 1.627            | 100           | 99   | 93   | 49    |
| 2500.0          | -                | -             | -    | -    | -     |
| 3700.0          | -                | -             | -    | -    | -     |

( $n_F - n_C$ ) 0.0330

Abbe  $v_D$  20.1

Temp. Coefficient -0.000471  $dn_D/dt$  (15 - 35 °C)

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