



**Cargille Laboratories**  
**55 Commerce Rd - Cedar Grove, NJ 07009-1289**  
**Phone : 973-239-6633 - Fax : 973-239-6096 - Web : www.cargille.com**

Catalog # 1809

Typical Characteristics

|                         |                 |    |          |     |    |     |
|-------------------------|-----------------|----|----------|-----|----|-----|
| Refractive Index Liquid | <b>Series A</b> |    |          |     |    |     |
| Refractive Index        | <b>1.50400</b>  | at | 589.3 nm | and | 25 | ° C |

---

|                                     |                                                                                                                                   |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 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<br>by Evaporation | Low : -0.00002 to +0.00005<br>expected after 32 days with exposed surface area to volume ratio of 0.2 cm <sup>2</sup> /cc @ 25 °C |

---

|                                |                                                       |                |
|--------------------------------|-------------------------------------------------------|----------------|
| Index at 20°C                  | 1.50601                                               |                |
| Pour Point                     | < -7 °C                                               |                |
| Boiling Point                  | > 262 °C ( 760 mm Hg )                                |                |
| Flash Point                    | > 138 °C ( COC )                                      |                |
| <b>Brix Value (Per ICUMSA)</b> | <b>85.8 at 20°C</b>                                   |                |
| Density                        | 0.900 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                      | 33 cSt at 25 °C                                       | 29 cP at 25 °C |
| Surface Tension                | 31 dynes/cm at 25 °C                                  |                |

---

|                |                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------|
| Soluble        | Carbon Tetrachloride, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene |
| Partly Soluble | Acetone, Ethanol                                                                                     |
| Insoluble      | Water                                                                                                |

---

|              |                                                                                                                                                                                                                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                                                                                            |

---



Refractive Index Liquid      **Series A**  
 Refractive Index      **1.50400**      at    589.3 nm    and    25      ° C

Cauchy Coefficients      A      B      C  
                                  1.486890E+00      5.5207E+03      1.4631468E+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           | 1.540            | 88            | 27   | 0    | 0     |
| 365.0           | 1.537            | 98            | 84   | 17   | 0     |
| 406.0           | 1.5258           | 100           | 96   | 66   | 2     |
| 473.0           | 1.5145           | 100           | 99   | 95   | 60    |
| 532.0           | 1.5082           | 100           | 100  | 98   | 82    |
| 589.3           | 1.5040           | 100           | 100  | 99   | 89    |
| 632.8           | 1.5016           | 100           | 100  | 99   | 93    |
| 656.3           | 1.5005           | 100           | 100  | 100  | 95    |
| 790.0           | 1.4961           | 100           | 100  | 100  | 99    |
| 828.0           | 1.4953           | 100           | 100  | 100  | 97    |
| 981.0           | 1.493            | 100           | 100  | 96   | 64    |
| 1310.0          | 1.490            | 100           | 99   | 89   | 31    |
| 1550.0          | 1.489            | 100           | 98   | 83   | 15    |
| 2500.0          | -                | -             | -    | -    | -     |
| 3700.0          | -                | -             | -    | -    | -     |

(  $n_F - n_C$  )      0.0124

Abbe  $v_D$       40.7

Temp. Coefficient      -0.000402  $dn_D/dt$  ( 15 - 35 °C )

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