

CARGILLE LABORATORIES

55 Commerce Road • Cedar Grove • New Jersey • 07009 – 1289 USA
 Ph: 973-239-6633 • Fax: 973-239-6096 • CargilleLabs@cargille.com • www.cargille.com

ACRYLIC MATCHING LIQUID CODE 5032

30-NOV-17

n (589.3nm) 25°C = 1.4917

TYPICAL CHARACTERISTICS

<u>COMPOSITION</u>	Polybutene and natural hydrocarbons
<u>APPEARANCE</u>	Colorless Liquid
<u>COLOR STABILITY IN DIRECT SUN</u>	No visible change after 10 years
<u>INDEX CHANGE RATE BY EVAPORATION</u>	Very Low: 0.00000 expected
exposed surface area to volume ratio of 0.2 cm ² /cc @ 25°C for 37 days	
<u>ODOR</u>	Slight, characteristic
<u>FREEZING POINT</u> °C	< 4
<u>BOILING POINT</u> °C @ 760mm Hg	> 174
<u>FLASH POINT</u> °C C.O.C.	174
<u>DENSITY</u> g/cc @ 25°C	0.888
<u>DENSITY TEMP. COEFFICIENT</u> g/cc/°C	-0.0006
<u>COEF. OF THERM. EXP.</u> cc/cc/°C	0.0007
<u>VISCOSITY</u> @ 25°C	10,000 cSt, similar to honey

SOLUBLE: Carbon Tetrachloride, Diethyl Ether, Freon, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene

INSOLUBLE: Acetone, Ethanol, Water

COMPATIBLE 10-month immersion at 25°C: Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyester, Polyethylene, Polypropylene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon, Neoprene, Fluorosilicone (Silastic 730 RTV), Silicone (Sylgard 184) Rubbers, Tygon F-4040-A, Tygothane, Aluminum, Copper, Brass, Steel; (tests done on one example of each).

INCOMPATIBLE: Polystyrene and Tygon types: S-50-HL, R-3603, B-44-3

CAUCHY EQUATION: Refractive index as a function of wavelength at 25.0°C

W = wavelength (nm)

$$n(W) = 1.47842E+00 + (4.63182E+03) / W^2 + (-8.63733E+06) / W^4$$

SOURCE OR SPECTRAL LINE	WAVELENGTH (nm)	REFRACTIVE INDEX 25°C		% TRANSMITTANCE 25°C		
		Liquid	Acrylic	0.1 mm	1 mm	1 cm
near UV cut off	310	1.526	1.526	98	86	21
i (Hg)	365	1.513	1.513	100	98	81
h (Hg)	404.7	1.5064	1.5063	100	99	93
F' (Cd)	480	1.4984	1.4983	100	100	99
F (H)	486.1	1.4979	1.4978	100	100	99
e (Hg)	546.1	1.4939	1.4938	100	100	100
D (Na D1, D2 mean)	589.3	1.4917	1.4917	100	100	100
HeNe laser	632.8	1.4899	1.4900	100	100	100
C' (Cd)	643.9	1.4895	1.4896	100	100	100
C (H)	656.3	1.4891	1.4892	100	100	100
Ruby Laser	694.3	1.4880	1.4881	100	100	100
GaAs laser	840	1.4850	1.4851	100	100	99
Nd: YAG laser	1064.8	1.482	1.483	100	100	96
Diode	1300	1.481	1.481	100	99	90
Diode	1550	1.480	1.481	100	98	80

n _F – n _C	=	0.0087
Abbe v _D : (n _D – 1)/(n _F – n _C)	=	56.3
Temp. coef: dn _D /dt 15 - 35°C	=	-0.000338