

CARGILLE LABORATORIES

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OPTICAL GEL CODE 081160

30-NOV-17

n (589.3nm) 25°C = 1.517

TYPICAL CHARACTERISTICS

<u>COMPOSITION</u>	Phthalate Esters and Gelling Agents
<u>APPEARANCE</u>	Colorless Translucent
<u>COLOR STABILITY IN DIRECT SUN</u>	May slightly discolor in 1 to 8 years
<u>INDEX CHANGE RATE BY EVAPORATION</u>	Very Low: -0.00001 expected
exposed surface area to volume ratio of 0.2 cm ² /cc @ 25°C for 32 days	
<u>ODOR</u>	Slightly Characteristic
<u>FREEZING POINT</u> °C	< -45
<u>BOILING POINT</u> °C @ 760mm Hg	>370
<u>FLASH POINT</u> °C C.O.C.	>199
<u>DENSITY</u> g/cc @ 25°C	1.110
<u>DENSITY TEMP. COEFFICIENT</u> g/cc/°C	-0.0008
<u>COEF. OF THERM. EXP.</u> cc/cc/°C	0.0007
<u>VISCOSITY</u> @ 25°C	Soft Gel
<u>PARTLY SOLUBLE</u> : Most Organic Solvents (to remove from glass use Kimwipe & Glass Cleaner)	
<u>INSOLUBLE</u> : Acetone, Ethanol, Water	
<u>COMPATIBLE</u> 10-month immersion at 25°C: Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyethylene, Polypropylene, Phenolic, Teflon, Fluorosilicone (Silastic 730 RTV), Silicone (Sylgard 184, 3140 RTV) Rubber, Aluminum, Copper, Brass, Steel; (tests done on one example of each).	
<u>INCOMPATIBLE</u> : Polystyrene, Polyurethane, Polyvinyl Chloride, Latex Rubber, Neoprene Rubber, Tygon, (Acrylic and Polycarbonate at 55°C)	

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

W = wavelength (nm)

$$n(W) = 1.49614 + (6.92199E+03) / W^2 + (8.07052E+07) / W^4$$

SOURCE OR SPECTRAL LINE	WAVELENGTH (nm)	REFRACTIVE INDEX 25°C	% TRANSMITTANCE 25°C		
			0.01 mm	0.1mm	1 mm
near UV cut off	320	1.571	97	72	04
i (Hg)	365	1.553	98	82	13
h (Hg)	404.7	1.541	99	87	26
F' (Cd)	480	1.528	99	93	48
F (H)	486.1	1.527	99	93	49
e (Hg)	546.1	1.520	99	95	60
D (Na D1, D2 mean)	589.3	1.517	100	96	68
HeNe laser	632.8	1.514	100	97	71
C' (Cd)	643.9	1.513	100	97	73
C (H)	656.3	1.513	100	97	74
Ruby Laser	694.3	1.511	100	98	76
GaAs laser	840	1.506	100	98	83
Nd: YAG laser	1064.8	1.502	100	99	86
Diode	1300	1.500	100	99	89
Diode	1550	1.499	100	99	90

n _F – n _C	=	0.014
Abbe v _D : (n _D – 1)/(n _F – n _C)	=	36
Temp. Coef: dn _D /dt 15 - 35°C	=	-0.00038