

CARGILLE
BK-7 MATCHING LIQUID CODE 11510

$$n(5893 \text{ \AA})_{25^\circ\text{C}} = 1.5167$$

TYPICAL CHARACTERISTICS

<u>COMPOSITION</u>	Phthalate Esters and Chlorinated Aliphatic Hydrocarbons
<u>APPEARANCE</u>	Colorless to Slightly Yellow Liquid
<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>	Very Slight
<u>COLOR STABILITY</u>	In Sun: may slightly darken after 1 year; very slightly more after 6 years
<u>POUR POINT</u> °C.....	- 10
<u>BOILING POINT</u> °C @ 760mm Hg.....	Decomposes
<u>FLASH POINT</u> °C COC.....	Decomposes at 160 °C
<u>DENSITY</u> g/cc @ 25 °C.....	1.334
<u>DENSITY TEMP. COEFFICIENT</u> g/cc / °C.....	-0.0010
<u>COEF. OF THERM. EXP.</u> cc/cc / °C.....	0.0007
<u>VISCOSITY</u> centistokes @ 25 °C.....	1,250 , (ca. 2,910 @ 15 °C, 650 @ 35 °C)
<u>SOLUBLE</u> : Acetone, Carbon Tetrachloride, Ethanol, Ethyl Ether, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene	
<u>INSOLUBLE</u> : Water	
<u>COMPATIBLE</u> 10 month immersion @ 25 °C : Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polyester, Polyethylene, Polypropylene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon, Silicone and Fluorosilicone Rubber, Latex Rubber; Aluminum, Copper, Brass, Steel; (tests done on one example of each).	
<u>INCOMPATIBLE</u> : Polycarbonate, Polystyrene, Neoprene Rubber and Tygon	
<u>TOXICITY</u>	Low (request MSDS)

CAUCHY EQUATION: refractive index as a function of wavelength at 25 °C

$$W = \text{wavelength in angstroms (\AA)}$$

$$n(W) = 1.502787 + (455872.4) / W^2 + (9.844856E+11) / W^4$$

SOURCE OR SPECTRAL LINE	WAVELENGTH (angstroms)	REFRACTIVE INDEX @ 25 °C		% TRANSMITTANCE		
		Liquid	BK-7	0.1 mm	1 mm	1 cm
near UV cut off	3100	1.561	1.549	97	75	6
i (Hg)	3650	1.543	1.536	100	96	70
h (Hg)	4047	1.5343	1.5302	100	99	91
F' (Cd)	4800	1.5244	1.5228	100	100	98
F (H)	4861	1.5238	1.5224	100	100	99
e (Hg)	5461	1.5192	1.5187	100	100	100
D (Na: D1, D2 mean)	5893	1.5167	1.5167	100	100	100
HeNe laser	6328	1.5148	1.5151	100	100	100
C' (Cd)	6439	1.5144	1.5147	100	100	100
C (H)	6563	1.5139	1.5143	100	100	100
Ruby laser	6943	1.5127	1.5132	100	100	100
GaAs laser	8400	1.5094	1.5100	100	100	99
Nd: YAG laser	10648	1.507	1.507	100	100	98
Diode	13000	1.506	1.504	100	100	96
Diode	15500	1.505	1.501	100	99	90

$n_F - n_C$	=	0.0099
Abbe $v_D : (n_D - 1) / (n_F - n_C)$	=	52.0
Temp. Coef.: dn_D / dt 15-35 °C	=	-0.000393

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