

CARGILLE
FUSED SILICA MATCHING LIQUID CODE 06350

JAN. 15, 2002

n (5893 Å) 25 °C = 1.4587
 TYPICAL CHARACTERISTICS

<u>COMPOSITION</u>	Aliphatic and Alicyclic Hydrocarbons
<u>APPEARANCE</u>	Colorless liquid
<u>ODOR</u>	None
<u>COLOR STABILITY</u> in sun 10 years.....	No visible change
<u>INDEX CHANGE RATE BY EVAPORATION</u>	Very low: 0.00002 expected:
exposed surface area to volume ratio of 0.2 cm ² / cc 25 °C for 35 days	
<u>POUR POINT</u> °C.....	< - 18
<u>BOILING POINT</u> °C @ 760mm Hg.....	> 343
<u>FLASH POINT</u> °C COC.....	> 216
<u>DENSITY</u> g/cc @ 25 °C.....	0.824
<u>DENSITY TEMP. COEF.</u> g/cc/°C.....	-0.0006
<u>COEF. OF THERM. EXP.</u> cc/cc/°C.....	0.0008
<u>VISCOSITY</u> centistokes @ 25 °C.....	80 (ca. 133 @ 15 °C, 52 @ 35 °C)
<u>SURFACE TENSION</u> dynes / cm @ 25 °C.....	29
<u>SOLUBLE</u> : Carbon Tetrachloride, Ethyl Ether, Freon TF, Heptane, Methylene Chloride, Naphtha, Toluene, Turpentine, Xylene	
<u>PARTLY SOLUBLE</u> : Acetone <u>INSOLUBLE</u> : Water, Ethanol	
<u>COMPATIBLE</u> 6 month immersion @ 25 °C: Acrylic, Cellulose Acetate, Epoxy, Mylar, Nylon, Polycarbonate, Polyester, Polyethylene, Polypropylene, Polystyrene, Polyurethane, Polyvinyl Chloride, Phenolic, Teflon; Neoprene, Silicone, and Fluorosilicone Rubbers; Tygon F-4040-A, Tygothane; Aluminum, Copper, Brass, Steel; (tests done on one example of each)	
<u>INCOMPATIBLE</u> : Latex Rubber, Tygon S-50-HL, R-3603, B-44-3	
<u>TOXICITY</u>	Low (request MSDS)

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

W = wavelength in angstroms (Å)

$$n (W) = 1.447193 + (383343.3) / W^2 + (5.661342E+11) / W^4$$

SOURCE OR SPECTRAL LINE	WAVELENGTH (angstroms)	REFRACTIVE INDEX 25 °C	% TRANSMITTANCE 25 °C		
			1mm	1 cm	10cm
near UV cut off	2250	1.55	1	0	0
excimer	2480	1.52	1	0	0
local dip	2700	1.51	84	18	0
excimer	3080	1.494	99	92	42
N laser	3370	1.485	99	95	60
i (Hg)	3650	1.4792	100	98	78
F (H)	4861	1.4644	100	100	95
e (Hg)	5461	1.4607	100	100	99
D (Na: D1, D2 mean)	5893	1.4587	100	100	99
HeNe laser	6328	1.4571	100	100	99
C (H)	6563	1.4564	100	100	100
GaAs laser	8400	1.4527	100	99	91
Nd: YAG laser	10648	1.451	99	95	60
Diode	13000	1.449	99	88	27
Diode	15500	1.449	98	79	9
$n_F - n_C$	=	0.0080			
Abbe $v_D : (n_D - 1) / (n_F - n_C)$	=	57.1			
Temp. Coef : dn_D / dt 15-35 °C	=	-0.000365			

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