## **Data Sheet**



## N-SF6 8

N-SF6	n <sub>d</sub> = 1.80518	$v_{\rm d} = 25.36$	$n_F - n_C = 0.031750$	
805254.337	n <sub>e</sub> = 1.81266	$v_{\rm e} = 25.16$	$n_{F'} - n_{C'} = 0.032304$	

Refractive Indices						
	λ [nm]	λ [nm]				
<b>n</b> <sub>2325.4</sub>	2325.4	1.74895				
n <sub>1970.1</sub>	1970.1	1.75541				
n <sub>1529.6</sub>	1529.6	1.76307				
<b>n</b> <sub>1060.0</sub>	1060.0	1.77341				
n <sub>t</sub>	1014.0	1.77486				
n <sub>s</sub>	852.1	1.78144				
n <sub>r</sub>	706.5	1.79114				
n <sub>C</sub>	656.3	1.79608				
n <sub>C'</sub>	643.8	1.79749				
<b>n</b> <sub>632.8</sub>	632.8	1.79883				
<b>n</b> <sub>D</sub>	589.3	1.80491				
n <sub>d</sub>	587.6	1.80518				
n <sub>e</sub>	546.1	1.81266				
n <sub>F</sub>	486.1	1.82783				
n <sub>F'</sub>	480.0	1.82980				
n <sub>g</sub>	435.8	1.84738				
<b>n</b> <sub>h</sub>	404.7	1.86506				
n <sub>i</sub>	365.0					
<b>n</b> <sub>334.1</sub>	334.1					
<b>n</b> <sub>312.6</sub>	312.6					
<b>n</b> <sub>296.7</sub>	296.7					
<b>n</b> <sub>280.4</sub>	280.4					
<b>n</b> <sub>248.3</sub>	248.3					

Constants of Dispersion Formula		
<b>B</b> <sub>1</sub>	1.77931763	
<b>B</b> <sub>2</sub>	0.338149866	
<b>B</b> <sub>3</sub>	2.087344740	
<b>C</b> <sub>1</sub>	0.01337141820	
<b>C</b> <sub>2</sub>	0.0617533621	
<b>C</b> <sub>3</sub>	174.0175900	

Constants of Formula for dn/dT		
<b>D</b> <sub>0</sub>	-4.93E-06	
D <sub>1</sub>	7.02E-09	
$\mathbf{D}_2$	-2.40E-11	
<b>E</b> <sub>0</sub>	9.84E-07	
E <sub>1</sub>	1.54E-09	
λ <sub>TK</sub> [μm]	0.290	

$\lambda_{80}$ / $\lambda_{5}$	45/37
$(*=\lambda_{70}/\lambda_5)$	
Remarks	

**Color Code** 

400

390

380

370

365

0.820

0.700

0.480

0.160

0.000

0.610 0.410

0.160

0.010

Temperature Coefficients of the Refractive Index						
	Δn <sub>rel</sub> /ΔT [10 <sup>-6</sup> /K]			$\Delta n_{abs}/\Delta T [10^{-6}/K]$		
[°C]	1060.0	е	g	1060.0	е	g
-40/-20	-0.7	1.2	3.9	-3.0	-1.2	1.3
+20/+40	-0.8	1.5	4.8	-2.3	0.0	3.1
+60/+80	-0.8	1.8	5.4	-2.0	0.6	4.1

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Interna	l Transmi	ttance τ <sub>i</sub>		Relative Partial D	ispersion
λ [nm]	τ <sub>i</sub> [10mm]	τ <sub>i</sub> [25mm]		$\mathbf{P}_{s,t}$	0.2074
2500	0.780	0.530		$\mathbf{P}_{C,s}$	0.4610
2325	0.810	0.590		$\mathbf{P}_{d,C}$	0.2867
1970	0.940	0.860		$\mathbf{P}_{e,d}$	0.2356
1530	0.991	0.978		$\mathbf{P}_{g,F}$	0.6158
1060	0.998	0.996		P <sub>i,h</sub>	
700	0.993	0.983			
660	0.990	0.976		P' <sub>s,t</sub>	0.2039
620	0.991	0.978		P' <sub>C',s</sub>	0.4969
580	0.992	0.980		P' <sub>d,C'</sub>	0.2380
546	0.989	0.972		P' <sub>e,d</sub>	0.2315
500	0.977	0.940		P' <sub>g,F'</sub>	0.5443
460	0.961	0.910		P' <sub>i,h</sub>	
436	0.950	0.870			
420	0.920	0.810		Deviation of Rela	tive Partial Dispersion
405	0.860	0.680		ΔP from the norm	nal line

Deviation of Relative Partial Dispersion		
ΔP from the normal line		
<b>ΔP</b> <sub>C,t</sub> 0.0031		
ΔP <sub>C,s</sub>	-0.0010	
$\Delta P_{F,e}$	0.0027	
$\Delta P_{g,F}$	0.0146	
ΔP <sub>i,g</sub>		

Other Properties			
α <sub>-30/+70°C</sub> [10 <sup>-6</sup> /K]	9.0		
α <sub>+20/+300°C</sub> [10 <sup>-6</sup> /K]	10.3		
<b>T</b> <sub>g</sub> [°C]	589		
<b>T</b> <sub>10</sub> <sup>13</sup> [°C]	593		
T <sub>10</sub> <sup>7.6</sup> [°C]	669		
<b>c</b> <sub>p</sub> [J/(g*K)]	0.690		
λ [W/(m•K)]	0.960		
ρ [g/cm <sup>3</sup> ]	3.37		
<b>E</b> [10 <sup>3</sup> N/mm <sup>2</sup> ]	93		
μ	0.262		
<b>K</b> [10 <sup>-6</sup> mm <sup>2</sup> /N]	2.82		
HK <sub>0.1/20</sub>	550		
HG	4		
CR	1		
FR	0		
SR	2		
AR	1		
PR	1		