

SODIUM CHLORIDE NaCl

Crystallographic NaCl (Sodium Chloride)

Syngony	Cubic
Symmetry Class	m3m
Lattice Constants, Angstroms	a=5.640 c=a
Cleavability	(100), perfect

[Top](#)

Optical NaCl (Sodium Chloride)

Refractive Index at n_e	1.5467
Refractive Index at $n_F'-n_C'$	0.0132
Refractive Index at $n_{10.6}$	1.4906
Refractive Index, $n_{8.0}-n_{12.5}$	0.0308
Thermal Coefficient of Refractive Index at $l=3.39$ microns, $^{\circ}C^{-1}$ for $\pm 60^{\circ}C$	$(-3.31...-3.73) \cdot 10^{-5}$
Transmission Range, microns (thickness 10mm)	0.21, 17
Transmittance $t_i(l)$ vs. wavelength l	NaCl (Sodium Chloride)

Internal Transmittance $t_i(l)$ vs. wavelength l	
l, MKM	$t_i(l)$
0.2	0.16
0.5	0.97
1.0	0.97
3.0	0.98
5.0	0.98
6.0	0.98
7.0	0.98
8.0	0.98
9.0	0.98
10.0	0.98
12.0	0.98
15.0	0.87
20.0	0.05

Refractive Index n vs. wavelength l	
l, MKM	$n(l)$
0.2	1.7899
0.5	1.5516
1.0	1.5320
2.0	1.5254
3.0	1.5242
4.0	1.5217
5.0	1.5185
6.0	1.5153
7.0	1.5112
8.0	1.5066
9.0	1.5009
10.0	1.4947
11.0	1.4878
12.0	1.4800
12.5	1.4758
15.0	1.4403
20.0	1.3822
30.0	1.0912

Thermal NaCl (Sodium Chloride)

Thermal Linear Expansion $\alpha_t, ^{\circ}C^{-1}$ for $\pm 60^{\circ}C$	$(36.4, 40.8) \cdot 10^{-6}$
Thermal Conductivity, $W/(m \cdot ^{\circ}C)$ at $35^{\circ}C$	6.15
Specific Heat Capacity, $J/(kg \cdot ^{\circ}C)$ at $24^{\circ}C$	870.9
Melting Point, $^{\circ}C$	801

Mechanical NaCl (Sodium Chloride)

Density, g/cm^3 at $20^{\circ}C$	2.17	
Mohs Hardness	2	
Vickers Microhardness, Pa	$2 \cdot 10^8$	
Constants of Elastic Compliance, Pa^{-1}	S_{11}	$22.85 \cdot 10^{-12}$
	S_{12}	$-4.69 \cdot 10^{-12}$
	S_{44}	$78.34 \cdot 10^{-12}$
Poisson Ratio	0.203	
Young Modulus (E), Pa	$\langle 100 \rangle$	$4.37 \cdot 10^{10}$
	$\langle 100 \rangle$	$3.27 \cdot 10^{10}$
Shear Modulus (G), Pa	(100)	$1.59 \cdot 10^{10}$
	(100)	$1.28 \cdot 10^{10}$

Chemical NaCl (Sodium Chloride)

Solubility	
in water at $20^{\circ}C$ $g/100cm^3$	in acids
35.7	soluble

"Opto-Technological Laboratory" produces lenses, windows, prisms, wedges, windows for spectrophotometers and others optical components according to customers' specifications and drawings out of crystals sodium chloride (NaCl).