

MinIdent-Win - albite

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Formula: NaAlSi₃O₈

Status: Mineral name is IMA approved or traditional

Level: Species

Parents: plagioclase-series and alkali-feldspars

Symmetry: Triclinic

Mean Atomic Number: 10.8

Diffraction Values: 4.030, 3.220, 3.660, 3.200, 3.190

Kretz abbreviation: Ab

First Described in 1815

Space Group: P1

Z number: 4

ICDD (TM) Number: 19-1184

	Minimum	Maximum	Average	Std. Dev.
a (A)	8.140	8.150	8.144	
b (A)	12.787	12.880	12.787	
c (A)	7.110	7.160	7.160	
Alpha	93.367	94.333	94.260	
Beta	116.300	117.000	116.580	
Gamma	87.650	90.283	87.670	
Volume	662.365	667.114	665.096	

	Minimum	Maximum	Average	Std. Dev.
n(Alpha)	1.526	1.533	1.529	
n(Beta)	1.530	1.540	1.533	
n(Gamma)	1.534	1.548	1.539	
Max. birefringence	0.010	0.016	0.010	
2V Gamma	77	135	80	

Optical Sign: +ve or -ve

C(Alpha)	<input type="text"/>	Colourless
C(Beta)	<input type="text"/>	Colourless
C(Gamma)	<input type="text"/>	Colourless
Dispersion	V>R	

	Minimum	Maximum	Average	Std. Dev.
Mohs	6.0	6.5	6.0	
Vickers	771	943	771	
Density	2.58	2.63	2.62	

	Total Min Wt (%)	Anal. Min Wt (%)	Average Wt (%)	Anal. Max Wt (%)	Total Max Wt (%)	Average Atomic	Coordination
H	0.0000	0.0000	0.0317	0.1701	0.1701	0.0822	
O	48.3222	48.3290	48.8871	49.2374	49.2984	8.0000	
Na	7.0699	7.0699	8.3969	8.6946	8.8544	0.9563	6 7
Mg	0.0000	0.0000	0.0261	0.4222	0.4222	0.0028	6 7
Al	10.0399	10.0399	10.4928	11.4895	11.4895	1.0183	4
Si	30.7686	30.7686	31.7908	32.3000	32.4560	2.9632	4
P	0.0000	0.0000	0.0099	0.2575	0.2575	0.0008	4
K	0.0000	0.0249	0.2647	1.7765	1.7765	0.0177	6 7
Ca	0.0000	0.0000	0.1588	1.4151	1.4151	0.0104	6 7
Ti	0.0000	0.0000	0.0007	0.0060	0.0060	0.0000	6 7
Mn	0.0000	0.0000	0.0049	0.1084	0.1084	0.0002	6 7
Fe	0.0000	0.0000	0.0670	0.9093	0.9093	0.0031	6 7
Ga	0.0000	0.0000	0.0086	0.1900	0.1900	0.0003	4
Ba	0.0000	0.0179	0.0179	0.0179	0.0179	0.0003	
Total			100.1579			13.0558	

Atomic proportions calculated for O = 8.0

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Compilation based on 4 general and 23 sample records

Values in *italics* are calculated from the minimum and maximum values. Other data are from the sample and general records.

Lustre	Pearly, Vitreous
Aggregation	Massive, Granular, Lamellar, Radiating
Habit	Prismatic, Bladed, Platy, Tabular
Tenacity	Brittle
Fracture	Subconchoidal, Uneven
Cleavage	{001} Excellent, {010} Good
Surface Colour	 Colourless, White, Pale Grey, Grey, Greenish Grey, Pale Yellowish Brown, Pale Brown, Pale Pink, Pink, Pale Pinkish Brown, Pale Reddish Brown
Streak	 Colourless, White
Fluor. Short	 White, Green, Phosphorescence: Golden Brown, Green
Fluor. Long	 Green
Other lumin.	 Cathodoluminescent: Red, Pinkish Red, Blue, Green, Violet

Comp. Plan.	Comp. Surf.	Twin Plane	Twin Axis	Notes
{010}			[001]	Penetration, Contact
{021}		{021}		Contact
{0-21}		{0-21}		Contact
{001}		{001}		Contact
{010}		{010}		Polysynthetic
			[010]	Parallel, Polysynthetic
			[100]	Parallel, Polysynthetic

Notes on hand specimen data: An end member of the plagioclase-series

Polymorphs: um2000-03-SiO:AlNa

Synonyms: soda-feldspar, sodium-feldspar

Remarks: Usually white but also colourless or pale shades of grey, green, blue or red. The streak is white and the lustre vitreous to somewhat pearly. Well-formed crystals usually have a tabular, platy or lamellar habit, but massive or granular aggregates are more common. Albite is brittle with an uneven to conchoidal fracture, perfect {001} and excellent {010} cleavages. Simple, and polysynthetic twinning on the albite law, are ubiquitous, the latter producing fine striations on {001} surfaces.

Occurrences: Found widely in greenschist facies metamorphics. In igneous rocks it occurs principally in pegmatites and in alkali-rich rocks such as nepheline syenites and other feldspathoidal types. Common in spilites and keratophyres.

Localities of samples used in compilation: Kodarma, Bihar; Raipura, Gangpur State, Bengal, India. Alp Rischuna, Switzerland. Forno glacier, Val Devero, Ossola, and Val Sabiola, Piedmont, Italy. Seiland, Finmarken, Norway. Varuträsk, Sweden. Kit Hill, St Minver, Cornwall, England. Little Three mine, Ramona, California; Rutherford mine, Amelia Court House, Virginia, U.S.A. Thor Lake, Northwest Territories; Monteagle, Ontario, Canada. Larsemann Hills, Prydz Bay, eastern Antarctica.

References: Eur. J. Mineral. v.19, p.229-245. Deer et al. (1963) v.4, p.108. Deer et al. (1963) v.4, p.94-165. Rev. in Mineralogy v.2 (1983). Roberts et al. (1974) Encycl. Mins. Phillips & Griffen (1981) Opt. Min.

MinIdent-Win

Albite (var. cleavelandite) with tourmaline



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Albite (Var. cleavelandite) with tourmaline

3.0 cm

Dorian G.W. Smith

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Caption: White, radiating plates of the cleavelandite variety of albite. A few small acicular crystals of tourmaline, are seen growing in cavities. The varietal name cleavelandite is given on the basis of the distinctive platy habit. The plates are crystals that are flattened parallel to (010). Locality: Minas Gerais, Brazil.

Keywords: albite; cleavelandite; platy habit; tourmaline-group; Minas Gerais; Brazil; acicular habit; vitreous; alkali-feldspars; feldspars; tectosilicates

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