

MinIdent-Win - barite

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Formula: BaSO₄

Status: Mineral name is IMA approved or traditional

Level: Species

Parents: sulphates and barite-group

Symmetry: Orthorhombic

Mean Atomic Number: 37.0

Diffraction Values: 3.450, 3.100, 2.120, 2.110, 3.320

Kretz abbreviation: Brt

First Described in 1800

Space Group: Pnma

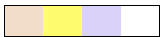
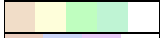

Z number: 4

ICDD (TM) Number: 24-1035

	Minimum	Maximum	Average	Std. Dev.
a (A)	8.850	8.884	8.867	
b (A)	5.430	5.457	5.444	
c (A)	7.130	7.157	7.144	
Alpha	90.000	90.000	90.000	
Beta	90.000	90.000	90.000	
Gamma	90.000	90.000	90.000	
Volume	342.636	346.971	344.801	

	Minimum	Maximum	Average	Std. Dev.
n(Alpha)	1.636	1.693	1.636	
n(Beta)	1.637	1.697	1.638	
n(Gamma)	1.647	1.718	1.648	
Max. birefrin	0.012	0.025	0.012	
2V Gamma	36	50	37	

Optical Sign: +ve

C(Alpha)		Pale Yellowish Brown, Yellow, Pale Bluish Violet, Colourless
C(Beta)		Pale Yellowish Brown, Pale Yellow, Pale Green, Pale Bluish Green, Colourless
C(Gamma)		Pale Brown, Pale Purpleish Blue, Pale Violet, Colourless
Dispersion	V>R	

	Minimum	Maximum	Average	Std. Dev.
Mohs	2.5	3.5	3.0	
Vickers	65	182	116	
Density	3.90	4.62	4.34	0.21

	Total Min Wt (%)	Anal. Min Wt (%)	Average Wt (%)	Anal. Max Wt (%)	Total Max Wt (%)	Average Atomic	Coordination
H	0.0000	0.0000	0.0382	0.0671	0.0671	0.0867	
O	26.2431	26.2431	27.9224	29.0430	29.0430	4.0000	
Mg	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Al	0.0000	0.0000	0.0491	0.1852	0.1852	0.0042	
Si	0.0000	0.0000	0.1943	0.9396	0.9396	0.0159	
S	12.9117	12.9117	13.6767	14.4977	14.4977	0.9778	4
Ca	0.0000	0.0000	0.1205	0.2716	0.2716	0.0069	12
Fe	0.0000	0.0000	0.1219	0.4127	0.4127	0.0050	
Sr	0.0000	0.0000	2.4124	12.4302	12.4302	0.0631	12
Ba	43.5290	43.5290	52.8580	57.6805	59.4316	0.8821	12
Pb	0.0000	0.0000	2.3579	16.5054	16.5054	0.0261	12
Total			99.7514			6.0677	

Atomic proportions calculated for O = 4.0

Compilation based on 3 general and 8 sample records

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

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general records.

Lustre	Adamantine, Subadamantine, Vitreous, Pearly, Resinous
Aggregation	Massive, Lamellar, Stalactitic, Concretionary, Columnar, Granular, Rosettes, Globular
Habit	Prismatic, Tabular, Platy, Bladed
Tenacity	Brittle
Fracture	Uneven
Cleavage	{001} Perfect, {210} Excellent, {010} Good
Surface Colour	 Colourless, White, Pale Yellow, Yellow, Yellowish Brown, Pale Brown, Brown, Pale Blue, Blue, Greyish Blue, Pale Greyish Blue, Pale Pink, Pink, Pale Red, Red, Pale Green, Green, Pale Brownish Green, Grey, Orange
Streak	 Colourless, White
Fluor. Short	 White, Greyish White, Creamy White, Greenish White, Bluish Green, Grey, Phosphorescence: Greenish White
Fluor. Unspec	 Yellowish Cream, White, Cream, Yellowish White
Fluor. Long	 Yellowish Cream, White, Cream, Yellowish White, Yellowish Green, Greenish White, Golden Orange, Pinkish White, Cream, Phosphorescence: Cream
Other lumin.	 Cathodoluminescent: Red, Brown, Blue, Green, Thermoluminescence:

Comp. Plan.	Comp. Surf.	Twin Plane	Twin Axis	Notes
		{110}		Glide

Synonyms: baryte, barytes, hokutolite

Remarks: Colourless or shades of grey, yellow, brown, green, blue or red with a vitreous to resinous lustre. Commonly massive and compact, but it also occurs in stalactitic masses as well as granular to earthy aggregates. Individual crystals are usually transparent or translucent, tend to be tabular or platy and may aggregate in cockscomb or rosette arrangements. The relatively high density of barite is easily noticeable from the heft. It is the principal ore of Ba.

Occurrences: A widely distributed and common mineral, occurring particularly as a gangue mineral in medium to low temperature hydrothermal veins. It may also be found in limestones and in residual clays formed from their weathering. Sometimes in sandstones where it may form a cement.

Localities of samples used in compilation: Kominato town, Aomori Prefecture; Akita Prefecture; Japan. Trepca mines, Kosovska, Mitrovica, Serbia; Dobrevno mine, Zletovo, Macedonia; Yugoslavia. Clifton, England. Clara mine, West Germany. Badajoz, Zafra-Monesterio sector, Iberian massif, Spain.

References: Deer et al. (1962) v.5, p.186. Boletín de Mineralogía v.11, p.173-178. Park et al. (1985) eds. Appl. Min. Roberts et al. (1974) Encycl. Mins. Dana (7th) v.2, p.407-415.

MinIdent-Win

Barite



Barite. Copyright © 2000, Micronex Ltd.

10.0 cm

Dorian G.W. Smith

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Caption: This image shows large, tabular crystals of pale bluish grey barite which are simple combinations of {001} and {110}. Incipient cleavages parallel to {001}, {210} and {010} are visible in some places. Much smaller barite crystals of a later generation, are scattered over the specimen, and a little limonitic iron staining is also present. Locality: Rock River, Yukon Territory, Canada.

Keywords: barite; sulphates; thick tabular habit; Rock River; Yukon Territories; Canada; Barium ore

Acknowledgements: From specimen no. G83.12.37, kindly made available by the Provincial Museum of Alberta, Courtesy Ron Mussieux, Curator. Photography by Frank Dimitrov and Dorian Smith.