

# MinIdent-Win - stibnite

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**Formula:** Sb<sub>2</sub>S<sub>3</sub>

**Status:** Mineral name is IMA approved or traditional

**Level:** Species

**Parents:** sulphides

**Symmetry:** Orthorhombic

**Mean Atomic Number:** 41.3

**Diffraction Values:** 2.760, 3.050, 3.560, 3.570, 5.050

**Kretz abbreviation:** Spd  
**First Described** in 1832

**Space Group:** Pnma

**ICDD (TM) Number:** 6-474

	Minimum	Maximum	Average	Std. Dev.
a (A)	11.200	11.200	11.200	
b (A)	11.280	11.280	11.280	
c (A)	3.830	3.830	3.830	
Alpha	90.000	90.000	90.000	
Beta	90.000	90.000	90.000	
Gamma	90.000	90.000	90.000	
Volume	483.867	483.867	483.869	

	Minimum	Maximum	Average	Std. Dev.
n(Alpha)	3.194	3.194	3.194	
n(Beta)	4.046	4.046	4.046	
n(Gamma)	4.303	4.303	4.303	
Max. birefringence	1.109	1.109	1.109	
2V Gamma	154	154	154	
Optical Sign:	-ve			

C(Alpha)		Opaque
C(Beta)		Opaque
C(Gamma)		Opaque

Reflectivity	Minimum	Maximum	Average	Std. Dev.
470 nm	30.80	52.60	41.70	
546 nm	31.10	48.10	39.60	
589 nm	30.00	45.25	37.63	
650 nm	29.30	42.20	35.75	

	Minimum	Maximum	Average	Std. Dev.
Mohs	2.0	2.0	2.0	
Vickers	42	153	98	
Density	4.51	4.66	4.59	

	Total Min Wt (%)	Anal. Min Wt (%)	Average Wt (%)	Anal. Max Wt (%)	Total Max Wt (%)	Average Atomic	Coordination
Al	0.0000	0.0000	0.0025	0.0300	0.0300	0.0003	
S	26.9000	26.9000	27.5843	28.9600	28.9600	3.0000	
Fe	0.0000	0.0000	0.0275	0.1200	0.1200	0.0017	
Cu	0.0000	0.0000	0.0600	0.2200	0.2200	0.0033	
Zn	0.0000	0.0000	0.0433	0.3400	0.3400	0.0023	
As	0.0000	0.0000	1.1475	5.5700	5.5700	0.0534	
Se	0.0000	0.0000	0.0383	0.2800	0.2800	0.0017	
Sb	64.7200	64.7200	71.2221	72.4200	72.4200	2.0397	7
Au	0.0000	0.0000	0.0300	0.2700	0.2700	0.0005	
Pb	0.0000	0.0000	0.1231	0.7800	0.7800	0.0021	
<b>Total</b>			100.2786			5.1051	

Atomic proportions calculated for S = 3.0

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Compilation based on 7 general and 14 sample records

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

**Polymorphs:** metastibnite

**Synonyms:** antimonite

**Remarks:** Opaque and lead-grey to black and with a bright to dull metallic lustre. The streak is also lead-grey to black. A perfect {010} cleavage gives flexible but inelastic laminae. Stibnite is sectile with a subconchoidal fracture. It forms slender prismatic to bladed crystals which are often aggregated in radiating groups. Acicular crystals may occur as chaotic, felted masses. Coarse- to fine-grained granular masses are also common. It is the principal ore of Sb. In reflected light, stibnite is white to greyish white with strong bireflectance and very strong anisotropy.

**Occurrences:** In low temperature hydrothermal veins or replacement deposits, associated with minerals such as realgar, orpiment, galena, barite, cinnabar, pyrite, sphalerite and lead sulfantimonides. Also reported Pliocene siliceous sinter, associated with pyrite, cinnabar and livingstonite.

**Localities of samples used in compilation:** Wolfsburg, Germany. Koman area, northern Albania. Felsobanya, Romania. Calston, England. Bwlch mine, Deganwy, Wales. Ichinokawa, Island Of Shikoku, Japan. Whenuaroa, Puhipuhi geothermal field, Northland, New Zealand.

**References:** Can. Min. v.41, p.413-427. Min. Mag. v.52, p.391-394; v.68, p.191-198. QDF for Ore Minerals, B.M. (Nat. Hist.), 1986. Dana (7th) v.1, p.269-270. Anthony et al. (1990). Uytendogaardt & Burke (1971).

# MinIdent-Win

## Stibnite



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**Caption:** A fine single crystal of stibnite made up of the forms {010}, {110} and {210} with termination by faces of the forms {501} and {111}. The mineral is lead grey in colour and characteristically shows a blue-black, sometimes iridescent, tarnish. It can be readily distinguished from galena by its habit, its single perfect {010} cleavage and by its much lower density. Locality: Ichinokawa, Japan.

**Keywords:** stibnite; Ichinokawa; Japan; antimonite; antimony glance; grey antimony; tarnish; sulphides

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