

Crystal Data: Hexagonal. *Point Group:* $\bar{3}2/m$. Commonly granular, massive, and in concentric layers; may be reticulated, reniform, stalactitic; rarely columnar or acicular; also as rhombohedra, to 1 mm. *Twinning:* Rare on twin plane $\{10\bar{1}4\}$; pressure twinning on $\{01\bar{1}2\}$ develops delicate lamellae.

Physical Properties: *Cleavage:* Perfect on $\{0001\}$, fair on $\{10\bar{1}4\}$. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 3.5 VHN = 72–173 (100 g load). D(meas.) = 5.63–5.78 D(calc.) = 5.778

Optical Properties: Opaque. *Color:* Tin-white, tarnishes to dark gray. *Streak:* Tin-white. *Luster:* Nearly metallic. *Pleochroism:* Feeble. *Anisotropism:* Distinct, yellowish brown and light gray to yellowish gray.

R_1 – R_2 : (400) 56.0–57.5, (420) 55.1–56.8, (440) 54.2–56.2, (460) 53.3–55.8, (480) 52.7–55.7, (500) 52.4–55.7, (520) 52.0–55.7, (540) 51.7–55.7, (560) 51.5–55.6, (580) 51.2–55.4, (600) 51.0–55.2, (620) 50.8–55.0, (640) 50.6–54.9, (660) 50.5–54.8, (680) 50.4–54.7, (700) 50.4–54.6

Cell Data: *Space Group:* $R\bar{3}m$ (synthetic). $a = 3.7598(1)$ $c = 10.5475(2)$ $Z = 6$

X-ray Powder Pattern: Synthetic.

2.771 (100), 3.52 (30), 1.879 (30), 2.05 (20), 1.556 (10), 1.768 (10), 1.757 (7)

Chemistry:

	(1)	(2)
As	98.14	99.1
Sb	1.65	0.2
S	0.16	
insol.	0.15	
Total	100.10	99.3

(1) Mount Royal, near Montreal, Quebec, Canada. (2) Sainte-Marie-aux-Mines, France; by electron microprobe.

Polymorphism & Series: Dimorphous with arsenolamprite.

Mineral Group: Arsenic group.

Occurrence: In hydrothermal veins and deposits that contain other arsenic minerals; may be in Co–Ag sulfide veins.

Association: Arsenolite, cinnabar, realgar, orpiment, stibnite, galena, sphalerite, pyrite, barite.

Distribution: Numerous localities are known, most of only minor interest. In Germany, from Freiberg, Schneeberg, Johanngeorgenstadt, Marienberg, and Annaberg, Saxony; Wolfsberg and St. Andreasberg, Harz Mountains; and Wieden, Black Forest. In the Gabe-Gottes mine, Rauenthal, near Sainte-Marie-aux-Mines, Haut-Rhin, France. At Jáchymov (Jochimsthal), Příbram, and Cínovec (Zinnwald), Czech Republic. In Romania, from Săcărîmb (Nagyág), Hunyad, and Cavnic (Kapnikbánya). At Sterling Hill, Ogdensburg, Sussex Co., New Jersey and Washington Camp, Santa Cruz Co., Arizona, USA. In the Huallapón mine, Pasto Bueno, Ancash Province, Peru. At Bidi, Sarawak Province, Borneo. In the Akatani mine, Fukui Prefecture, Japan. From the Dajishan tungsten deposits, Jianxi Province, China.

Name: From the Latin *arsenicum*, earlier Greek *arrenikos*, or *arsenikos*, *masculine*, an allusion to its potent properties.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 128–130. (2) Schiferl, D. and C.S. Barrett (1969) The crystal structure of arsenic at 4.2, 788 and 299 °K. *J. Appl. Cryst.*, 2, 30–36. (3) (1954) NBS Circ. 539, 3, 6. (4) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 21.

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