

Antimonpearceite

(Ag, Cu)₁₆(Sb, As)₂S₁₁

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Crystal Data: Monoclinic. *Point Group:* 2/*m*. Crystals are thin, tabular, pseudo-hexagonal, to 2 cm across, in subparallel and rosettelike groups. *Twinning:* On {110}.

Physical Properties: *Fracture:* Irregular to conchoidal. *Tenacity:* Brittle. Hardness = 3 VHN = n.d. D(meas.) = 6.33–6.35 D(calc.) = 6.40

Optical Properties: Opaque. *Color:* Black. *Streak:* Black. *Luster:* Submetallic. R₁–R₂: n.d.

Cell Data: *Space Group:* C2/*m*. *a* = 12.81 *b* = 7.41 *c* = 11.91 β = 90° *Z* =

X-ray Powder Pattern: Synthetic.

2.83 (100), 2.96 (90), 3.11 (70), 2.49 (60), 2.38 (50), 1.86 (50), 2.31 (40)

Chemistry:

	(1)	(2)
Ag	68.39	62.54
Cu	5.13	8.90
Fe		0.05
As	0.50	1.43
Sb	10.64	9.65
S	15.43	17.62
Total	100.09	100.19

(1) Guanajuato, Mexico; corresponds to (Ag_{14.49}Cu_{1.84})_{Σ=16.33}(Sb_{2.00}As_{0.15})_{Σ=2.15}S_{11.00}.

(2) Sonora, Mexico; corresponds to (Ag_{11.60}Cu_{2.80})_{Σ=14.41}(Sb_{1.59}As_{0.38})_{Σ=1.97}S_{11.00}.

Occurrence: Uncommon in epithermal precious metal veins.

Association: Acanthite, amethyst.

Distribution: In Mexico, from Guanajuato [TL] and an unknown locality in Sonora [TL]. In the USA, at the North Lily mine, Tintic district, Juab Co., Utah. From the Clara mine, near Oberwolfach, Black Forest, Germany. At Serra S'Iixi, Sarrabus, Sardinia, Italy. In the Barquilla deposit, Salamanca Province, Spain. From the Zlata Bana deposit, Slanske vrchy Mountains, Slovakia. In the Pentire vein system, St. Minver, Cornwall, England. From the Seikoshi mine, Shizuoka Prefecture, Japan. Several additional poorly located occurrences are known.

Name: For its compositional relation to pearceite.

Type Material: Harvard University, Cambridge, Massachusetts, USA, 90546, 93159.

References: (1) Frondel, C. (1963) Isodimorphism of the polybasite and pearceite series. *Amer. Mineral.*, 48, 565–572. (2) Harris, D.C., E.W. Nuffield, and M.H. Froberg (1965) Studies of polybasite, pearceite, antimonpearceite, and arsenopolybasite. *Can. Mineral.*, 8, 172–184. (3) Sugaki, A., A. Kitakaze, and T. Yoshimoto (1983) Synthesized minerals of polybasite and pearceite series. *Synthetic sulfide minerals (XII)*. *Sci. Rep. Tohoku Imperial Univ.*, 3rd series, 15(3), 461–469.