

Crystal Data: Hexagonal. *Point Group:* $6mm$. As prismatic to tabular hexagonal crystals, commonly hemimorphic, may have complex pyramid development, possibly with a cavity on $\{0001\}$, to 1.5 cm. Also lamellar or scaly $\parallel \{0001\}$; barrel-shaped to globular, in rosettes, massive. *Twinning:* On $\{30\bar{3}4\}$, may produce fourlings.

Physical Properties: *Cleavage:* $\{0001\}$, perfect. *Fracture:* Conchoidal. *Tenacity:* Sectile, flexible. Hardness = 1.5 D(meas.) = 5.69 D(calc.) = 5.709

Optical Properties: Transparent. *Color:* Colorless, becoming yellow on exposure to light; greenish yellow, brown, pearl-gray; colorless in transmitted light, with abnormal green interference colors. *Streak:* Yellow, shining. *Luster:* Resinous to adamantine, pearly on cleavage surfaces. *Optical Class:* Uniaxial (+); anomalously biaxial due to deformation. *Dispersion:* Very large. $\omega = 2.21$ $\epsilon = 2.22$ $2V(\text{meas.}) = \text{Small}$.

Cell Data: *Space Group:* $P6_3mc$ (synthetic). $a = 4.594(1)$ $c = 7.513(2)$ $Z = 2$

X-ray Powder Pattern: Synthetic. (ICDD 9-374).
3.75 (100), 2.296 (85), 3.98 (60), 1.959 (50), 3.51 (40), 2.119 (30), 2.731 (18)

Chemistry: Modern analyses are not available; early analyses confirm AgI.

Occurrence: A secondary mineral in the oxidized portions of silver-bearing deposits.

Association: Silver, acanthite, chlorargyrite, bromargyrite, cerussite, "limonite".

Distribution: Many localities; some for abundant or well-crystallized material include: in Mexico, at Abarradón, near Mazapil, Zacatecas. In the USA, at Tonopah, Nye Co., and Goldfield, Esmeralda Co., Nevada; from Lake Valley, Sierra Co., New Mexico; in the Commonwealth mine, Pearce, Cochise Co., and elsewhere in Arizona. In Chile, at Chañarcillo, south of Copiapó, Atacama; at Caracoles, Sierra Gorda district, Antofagasta; and at Algodones, near Coquimbo. Large amounts at Broken Hill, New South Wales, Australia. In Germany, from the Schöne Aussicht mine, Dernbach, Rhineland-Palatinate, and at Reichenbach, Odenwald, Hesse. From Hiendelaencina, Guadalajara Province, Spain. At Montmins, Allier, France. From Dzhezkazgan, Kazakhstan.

Name: From IODine and the Greek for *silver*, ARGYRos, in the composition.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 22–25 [iodyrite]. (2) Berthold, H.J. and P.M. Kaese (1989) Anharmonische Verfeinerung der thermischen Parameter des β -AgI bei 294 K und 400 K. Zeits. Krist., 186, 38–40 (in German). (3) (1959) NBS Circ. 539, 8, 51.