Iodargyrite

Crystal Data: Hexagonal. Point Group: 6/m. 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 \|\ \{0001\}; barrel-shaped to globular, in rosettes, massive. Twinning: On \{3034\}, 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. \(\omega = 2.21\)  \(\epsilon = 2.22\)  \(2V(meas.) = Small\).

Cell Data: Space Group: \(P6_3/mc\) (synthetic). \(a = 4.594(1)\)  \(c = 7.513(2)\)  \(Z = 2\)

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.