

**Crystal Data:** Cubic. *Point Group:*  $4/m\bar{3}2/m$ . Crystals cubic, modified by {111} and {011}, to 1 cm; in parallel or subparallel groups; rarely as stalactites or columnar to coralloidal aggregates; fibrous; commonly massive, forming crusts and films. *Twinning:* On {111}.

**Physical Properties:** *Fracture:* Uneven to subconchoidal. *Tenacity:* Sectile and ductile; very plastic. Hardness = 2.5 D(meas.) = 5.556 D(calc.) = 5.57

**Optical Properties:** Transparent to translucent. *Color:* Colorless, pale yellow, gray; turns violet-brown to purple on exposure to light; colorless to yellow or green in transmitted light. *Streak:* White. *Luster:* Resinous to adamantine, waxy. *Optical Class:* Isotropic.  $n = 2.071$

**Cell Data:** *Space Group:*  $Fm\bar{3}m$ .  $a = 5.554$   $Z = 4$

**X-ray Powder Pattern:** Cornwall, England.  
2.77 (100), 1.961 (60), 1.240 (40), 3.22 (30), 1.134 (30), 0.926 (30), 1.672 (20)

Chemistry:	(1)	(2)	(3)
Ag	75.27	67.28	65.16
Cl	24.73	14.36	10.71
Br		15.85	24.13
I		2.35	
Total	100.00	99.84	100.00

(1) Chañarcillo, Chile. (2) Broken Hill, Australia. (3) Ag(Br, Cl) with Br:Cl = 1:1.

**Polymorphism & Series:** Dimorphous with bromargyrite.

**Occurrence:** May be a rich ore in the oxidized zone above silver deposits; commonly preserved in arid climates.

**Association:** Silver, cerussite, iodargyrite, atacamite, malachite, jarosite, Fe–Mn oxides.

**Distribution:** Only a few localities are given for fine crystals or exceptionally large or pure masses. In Germany, in Saxony, from Marienberg, Freiberg, Johanngeorgenstadt, Schneeberg, and others; at St. Andreasberg, Harz Mountains. From Joachimsthal, Czech Republic. In England, from the Calstock, Cambourne, and St. Just districts, and elsewhere in Cornwall. In Russia, at Schlangenberg, Altai Mountains. In the USA, from the Poorman mine, Silver City, Owyhee Co., Idaho; extraordinary masses in the Lake Valley district, near Hillsboro, Sierra Co., New Mexico; from Tombstone, Cochise Co., and Richmond Basin, near Globe, Gila Co., Arizona; in Nevada, from Bullfrog, Nye Co. and Rochester, Humboldt Co. From Santa Eulalia, Chihuahua; Catorce, San Luis Potosi; and elsewhere in Mexico. In Chile, from Chañarcillo, south of Copiapó, Atacama; at Caracoles, east of Sierra Gorda, Antofagasta; and Huantajaya, Tarapacá. At Broken Hill, New South Wales, Australia, in exceptional masses.

**Name:** For CHLORine, and the Greek for silver, *argyros*, in its composition.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 11–15 [cerargyrite]. (2) Berry, L.G. and R.M. Thompson (1962) X-ray powder data for the ore minerals. Geol. Soc. Amer. Mem. 85, 215.