

Crystal Data: Hexagonal. *Point Group:* $6mm$. Crystals to 1.5 cm, commonly hemimorphic pyramidal $\{50\bar{5}2\}$ and $\{10\bar{1}1\}$; also short prismatic to tabular $\{0001\}$; typically striated horizontally on $\{10\bar{1}0\}$ and $\{10\bar{1}1\}$. The polytypes show steepening of the pyramid as the repeat distance increases along $\{0001\}$. As concentrically banded crusts, fibrous or columnar.

Physical Properties: *Cleavage:* Easy on $\{11\bar{2}0\}$; difficult on $\{0001\}$. *Tenacity:* Brittle. Hardness = 3.5–4 VHN = n.d. D(meas.) = 4.09 D(calc.) = 4.10

Optical Properties: Translucent. *Color:* Deep reddish brown to dark brown to brown-black; yellow to dark brown internal reflections common in reflected light. *Streak:* Brown.

Luster: Resinous, brilliant submetallic on crystal faces.

Optical Class: Uniaxial (+). $\epsilon = 2.378$ $\omega = 2.356$

R: (400) 19.2, (420) 18.7, (440) 18.2, (460) 17.8, (480) 17.4, (500) 17.1, (520) 16.9, (540) 16.6, (560) 16.4, (580) 16.3, (600) 16.2, (620) 16.1, (640) 16.1, (660) 16.1, (680) 16.0, (700) 15.8.

Cell Data: *Space Group:* $P6_3mc$ (synthetic, 2H). $a = 3.820$ $c = 6.260$ $Z = 2$

X-ray Powder Pattern: Synthetic (2H).

3.309 (100), 3.128 (86), 2.925 (84), 1.911 (74), 1.764 (52), 1.630 (45), 2.273 (29)

Chemistry:

	(1)	(2)
Zn	62.64	67.10
Fe	2.43	
Cd	1.84	
Pb	0.41	
S	32.10	32.90
Total	99.42	100.00

(1) Příbram, Czech Republic. (2) ZnS.

Polymorphism & Series: Trimorphous with matraite and sphalerite. Polytypes 2H, 4H, 6H, 8H, 10H, 15R, 18R, and 21R are known.

Occurrence: Of hydrothermal origin in veins with other sulfides. Also along shrinkage fractures in clay-ironstone concretions, of low-temperature origin.

Association: Sphalerite, pyrite, chalcopyrite, barite, marcasite.

Distribution: Numerous localities; a few of those providing good crystals or especially rich material follow. In the USA, from near the Thomaston Dam, Litchfield Co., Connecticut; at the Leonard mine, Butte, Silver Bow Co., Montana; at Frisco, Beaver Co., Utah; and from the Joplin district, Jasper Co., Missouri. From Rachelshausen, near Gladenbach, Hesse, Germany. At Liskeard, Cornwall, England. From Mežica (Mies), Serbia. At Příbram, Czech Republic. In Romania, from Baia Sprie (Felsőbánya). At Quispisiza, near Castro Virreyana, Peru. In a number of mines in the Huanuni district, Oruro, and Chocaya, Potosí, Bolivia.

Name: For Charles Adolphe Wurtz (1817–1884), French chemist, of Paris, France.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 226–228. (2) Frondel, C. and C. Palache (1950) Three new polymorphs of zinc sulfide. *Amer. Mineral.*, 35, 29–42. (3) (1953) NBS Circ. 539, 2, 14.