

Crystal Data: Orthorhombic. *Point Group:* $mm2$. As crystals, short to long prismatic [100], to 2.3 cm, and tabular [001]; striated on {001} parallel to [100]. May also be massive, fine granular or radiating. *Twinning:* On {110}.

Physical Properties: *Cleavage:* {001}. *Tenacity:* Brittle. Hardness = 3–3.5 VHN = 239–259 (100 g load). $D(\text{meas.}) = 4.91$ $D(\text{calc.}) = 4.878$

Optical Properties: Opaque. *Color:* Black, steel-gray with reddish tone. *Streak:* Black. *Luster:* Metallic to semimetallic. *Pleochroism:* Very weak. *Anisotropism:* Weak.

R_1 – R_2 : (400) 34.2–36.6, (420) 33.6–35.8, (440) 33.0–35.0, (460) 32.1–33.9, (480) 31.5–33.1, (500) 30.9–32.5, (520) 30.6–31.9, (540) 30.5–31.4, (560) 30.6–31.0, (580) 30.6–30.8, (600) 30.8–30.8, (620) 31.0–31.1, (640) 31.5–31.4, (660) 31.8–31.4, (680) 31.9–31.2, (700) 31.6–31.0

Cell Data: *Space Group:* $Pna2_1$. $a = 11.350$ $b = 5.456$ $c = 3.749$ $Z = 4$

X-ray Powder Pattern: Lauta, Germany.

3.10 (100), 1.903 (80), 1.610 (60), 1.232 (50), 1.095 (50), 1.030 (50), 1.797 (40)

Chemistry:

	(1)	(2)	(3)
Cu	36.10	37.6	37.28
As	45.66	43.5	43.92
S	17.88	18.8	18.80
Total	99.64	99.9	100.00

(1) Lauta, Germany. (2) Do.; by electron microprobe. (3) CuAsS.

Occurrence: In hydrothermal veins formed at medium temperatures.

Association: Arsenic, tennantite, proustite, chalcopyrite, galena, barite (Lauta, Germany); kutinaite, paxite (Niederbeerbach, Germany); arsenic, bismuth, tennantite, löllingite, rammelsbergite, proustite, quartz (Gabe Gottes mine, France).

Distribution: In Germany, from Lauta, near Marienberg, Saxony [TL]; and at Mühlthal, Niederbeerbach, Odenwald, Hesse. In the Gabe-Gottes mine, Rauenthal, near Sainte-Marie-aux-Mines, Haut-Rhin, France. From Turț, Romania. At the Laerma Au–Cu–U deposit, Sichuan Province, China.

Name: For the Lauta, Germany occurrence.

Type Material: Mining Academy, Freiberg, Germany, 44485.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 327–328. (2) Craig, D.C. and N.C. Stevenson (1965) The crystal structure of lautite, CuAsS. *Acta Cryst.*, 19, 543–547. (3) Berry, L.G. and R.M. Thompson (1962) X-ray powder data for the ore minerals. *Geol. Soc. Amer. Mem.* 85, 108–109. (4) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 316.