

Crystal Data: Hexagonal. *Point Group:* 3*m*. As grains to 30 μm.

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. *Hardness:* = n.d.
D(meas.) = n.d. D(calc.) = 7.06

Optical Properties: Opaque. *Color:* Creamy yellow in reflected light. *Streak:* n.d.

Luster: [Metallic.]

Optical Class: n.d. No discernable internal reflections, reflectance pleochroism or anisotropy.

R₁-R₂: (400) 26.2-22.4, (420) 28.3-26.7, (440) 33.4-30.4, (460) 38.1-34.0, (470) 39.9-35.6,
(480) 41.8-37.0, (500) 45.0-39.6, (520) 47.7-41.9, (540) 49.8-44.0, (560) 51.6-45.8, (580) 53.0-47.5,
(589) 53.6-48.2, (600) 54.0-48.8, (620) 55.0-50.2, (640) 55.7-51.3, (650) 55.9-51.7, (660) 56.2-52.1,
(680) 56.6-53.0, (700) 57.0 53.3

Cell Data: Space Group: *R3m*. *a* = 8.60 (5) *c* = 5.40 (18) [Calculated from SAED patterns.]
Z = 3 [By analogy to synthetic AgTe₃.]

X-ray Powder Pattern: Synthetic AgTe₃.

3.052 (100), 2.155 (50), 2.161 (36), 1.763 (16), 1.363 (16), 1.366 (11), 1.757 (10)

Chemistry:	(1)	(2)
S	0.45	
Ag	21.34	21.98
Cu	0.11	
Te	75.81	78.02
Fe	1.57	
<u>Pb</u>	<u>0.14</u>	<u>.</u>
Total	99.43	100.00

(1) Xiaoqinling district, Henan province, central China; average of 17 electron microprobe analyses, Fe, Cu, and S concentrations probably contamination by adjacent sulfide minerals; corresponds to Ag_{0.946}Fe_{0.134}Cu_{0.008}Pb_{0.003}Te_{2.841}S_{0.067}. (2) AgTe₃.

Occurrence: Within pyrite as composite inclusions (<50 μm) probably formed through the cooling of polymetallic melt droplets within the hydrothermal gold-bearing quartz-vein system.

Association: Sylvanite, chalcopyrite, native tellurium, bornite, galena, altaite, stützite.

Distribution: From the S60 gold-bearing quartz vein, Xiaoqinling district, Henan province, central China.

Name: After *Lingbao* city, central China, ~30 km northeast of the mine where the new mineral was discovered.

Type Material: Geological Museum of China, Beijing, China (M13812).

References: (1) Jian, W., J. Mao, B. Lehmann, Y. Li, H. Ye, J. Cai, and Z. Li (2020) Lingbaoite, AgTe₃, a new silver telluride from the Xiaoqinling gold district, central China. *Amer. Mineral.*, 105(5), 745-755.