

# Stranskiite

# Zn<sub>2</sub>Cu(AsO<sub>4</sub>)<sub>2</sub>

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**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . Tabular crystals in radiating aggregates and massive, to 1 cm.

**Physical Properties:** *Cleavage:* On {010}, good; on {100}, {001},  $\{\bar{1}01\}$ , indistinct. Hardness = 4 D(meas.) = 5.23–5.3 D(calc.) = 5.00–5.1

**Optical Properties:** Semitransparent. *Color:* Cyan-blue. *Luster:* Vitreous. *Optical Class:* Biaxial (-).  $\alpha = 1.795$   $\beta = 1.842$   $\gamma = 1.874$   $2V(\text{meas.}) = 80^\circ$   $2V(\text{calc.}) = 76^\circ$

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 5.073\text{--}5.092$   $b = 6.669\text{--}6.695$   $c = 5.268\text{--}5.304$   $\alpha = 109.85^\circ\text{--}110.16^\circ$   $\beta = 112.09^\circ\text{--}112.14^\circ$   $\gamma = 86.74^\circ\text{--}86.88^\circ$   $Z = 1$

**X-ray Powder Pattern:** Tsumeb, Namibia.

3.134 (100), 2.788 (80), 2.506 (60), 4.154 (30), 2.601 (30), 6.250 (20), 4.690 (20)

<b>Chemistry:</b>	(1)	(2)	(3)	(4)
SO <sub>3</sub>		trace		
As <sub>2</sub> O <sub>5</sub>	47.1	50.3	49.0	48.68
SiO <sub>2</sub>	1.3			
FeO	0.8	trace		
CuO	18.4	21.1	17.4	16.85
ZnO	30.4	28.0	34.4	34.47
MgO	0.8			
CaO	1.2			
Total	100.0	99.4	100.8	100.00

(1) Tsumeb, Namibia; analysis calculated from empirical  $(\text{Zn}_{1.73}\text{Ca}_{0.10}\text{Mg}_{0.09}\text{Fe}_{0.05})_{\Sigma=1.97}\text{Cu}_{1.07}[(\text{As}_{0.95}\text{Si}_{0.05})_{\Sigma=1.00}\text{O}_4]_2$ . (2) Do.; by XRF, corresponding to  $\text{Zn}_{1.69}\text{Cu}_{1.28}(\text{AsO}_4)_{2.00}$ . (3) Do.; by electron microprobe. (4)  $\text{Zn}_2\text{Cu}(\text{AsO}_4)_2$ .

**Occurrence:** A very rare secondary mineral in the oxidized zone of a dolostone-hosted hydrothermal polymetallic ore deposit.

**Association:** Chalcocite, tennantite, galena, schulténite, anglesite, bayldonite, cuprian adamite, keyite, olivenite, claudetite, ludlockite, tsumcorite, koritnigite, warikahnite, duftite, carminite, beadantite, scorodite, o'danielite, zincroselite, leiteite.

**Distribution:** From Tsumeb, Namibia.

**Name:** Honoring Professor Iwan N. Stranski (1897–1979), German chemist and physicist, Berlin, Germany.

**Type Material:** n.d.

**References:** (1) Strunz, H. (1960) Stranskiit, ein neues Mineral. *Naturwiss.*, 47, 376 (in German). (2) (1960) *Amer. Mineral.*, 45, 1315 (abs. ref. 1). (3) Hänni, H.A., W.B. Stern, and M. Glor (1978) New data on stranskiite from Tsumeb, Namibia. *Amer. Mineral.*, 63, 213–215. (4) Keller, P., H. Hess, and P.J. Dunn (1979) Die Ladungsbilanz für eine verfeinerte Kristallstruktur von Stranskiit,  $\text{Zn}_2\text{Cu}(\text{AsO}_4)_2$ . *Tschermaks Mineral. Petrog. Mitt.*, 26, 167–174 (in German with English abs.).