

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Crystals are rough, pseudo-hexagonal, showing {010}, {110}, {001}, and {012}, striated || [001], to 4.7 cm.

Physical Properties: *Cleavage:* On {110}, {011}, {111}, good. Hardness = 5–5.5
D(meas.) = 4.270 D(calc.) = 4.283

Optical Properties: Transparent. *Color:* Light yellow-green, changing to sea-blue on exposure.
Luster: Vitreous to adamantine on fracture surfaces.
Optical Class: Biaxial (-). $\alpha = 1.749$ $\beta = 1.790$ $\gamma = 1.821$

Cell Data: *Space Group:* $Pbam$. $a = 6.0883(2)$ $b = 14.3941(5)$ $c = 7.8022(2)$ $Z = 4$

X-ray Powder Pattern: Tsumeb, Namibia.
3.9954 (1000), 2.6455 (290), 1.5488 (191), 3.2025 (187), 2.7826 (176), 2.6023 (145), 3.3942 (143)

Chemistry:	(1)	(2)
As ₂ O ₃	43.83	44.76
ZnO	56.01	55.24
Total	99.84	100.00

(1) Tsumeb, Namibia; by electron microprobe. (2) $\text{Zn}_3(\text{As}^{3+}\text{O}_3)_2$.

Occurrence: Extremely rare in a deep oxidation zone in a dolostone-hosted hydrothermal polymetallic ore deposit.

Association: Chalcocite, bornite, willemite, smithsonite, hydrozincite, hemimorphite, adamite, olivenite, gebhardtite.

Distribution: From Tsumeb, Namibia.

Name: To honor Willy Reiner (1895–1965), Senior Chemist, Tsumeb Corporation, Tsumeb, Namibia, who analyzed this material.

Type Material: n.d.

References: (1) Geier, B.H. and K. Weber (1958) Reinerit $\text{Zn}_3[\text{AsO}_3]_2$, ein neues Mineral der Tsumeb Mine Südwestafrika. Neues Jahrb. Mineral., Monatsh., 160–167 (in German). (2) (1959) Amer. Mineral., 44, 207 (abs. ref. 1). (3) Ghose, S., P. Boving, W.A. LaChapelle, and C. Wan (1977) Reinerite, $\text{Zn}_3(\text{AsO}_3)_2$: an arsenite with a novel type of Zn-tetrahedral double chain. Amer. Mineral., 62, 1129–1134. (4) Breidstein, B. (1994) Powder diffraction data of natural reinerite $\text{Zn}_3(\text{AsO}_3)_2$. Neues Jahrb. Mineral., Monatsh., 174–178.