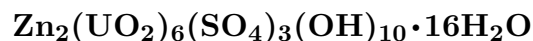


Zinc-zippeite



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Crystal Data: Monoclinic (probable). *Point Group:* n.d. Minute curved crystals and in coatings.

Physical Properties: Hardness = n.d. D(meas.) = n.d. D(calc.) = n.d. Radioactive.

Optical Properties: Semitransparent. *Color:* Yellow, orange, reddish brown.
Optical Class: Biaxial (-). *Pleochroism:* X = colorless; Y = pale yellow; Z = yellow.
 $\alpha = 1.70\text{--}1.715$ $\beta = 1.75\text{--}1.763$ $\gamma = > 1.7$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* n.d. $Z = \text{n.d.}$

X-ray Powder Pattern: Synthetic.

7.08 (100), 3.54 (50), 3.44 (35), 9.62 (33), 3.100 (26), 2.567 (15), 1.943 (15)

Chemistry:

	(1)	(2)
SO ₃	9.69	9.62
UO ₃	69.10	68.71
ZnO	3.4	6.52
PbO	1.6	
MgO	0.87	
H ₂ O	14.26	15.15
insol.	2.1	
Total	101.02	100.00

(1) Hillside mine, Arizona, USA; by microchemical analysis. (2) $\text{Zn}_2(\text{UO}_2)_6(\text{SO}_4)_3(\text{OH})_{10} \cdot 16\text{H}_2\text{O}$; synthetic material has 8 H₂O essential and 8 H₂O held zeolitically.

Occurrence: In quartzose ore containing uraninite and disseminated sulfides.

Association: Sodium-zippeite, johannite, schröckingerite, bayleyite, gypsum.

Distribution: From the Hillside mine, about 5.5 km north of Bagdad, Eureka district, Yavapai Co., Arizona, USA.

Name: For its content of *zinc* and relation to other *zippeite* group species.

Type Material: n.d.

References: (1) Frondel, C., J. Ito, R.M. Honea, and A.M. Weeks (1976) Mineralogy of the zippeite group. *Can. Mineral.*, 14, 429–436. (2) Haacke, D.F. and P.A. Williams (1979) The aqueous chemistry of uranium minerals. Part I. Divalent cation zippëite. *Mineral. Mag.*, 43, 539–541.