Glikinite $Zn_3O(SO_4)_2$

Crystal Data: Monoclinic. *Point Group*: 2/*m.* As prismatic crystals to ~200 μm.

Physical Properties: *Cleavage*: None. *Tenacity*: Brittle. *Fracture*: Uneven. Hardness = 2-3
D(Meas.) = n.d. D(calc.) = 3.98 Nonfluorescent.

Optical Properties: Transparent. *Color*: Colorless to white with a slight bluish hue.
Streak: White. *Luster*: Vitreous.
Optical Class: Biaxial (+). α = 1.737(2) β = 1.686(2) γ(calc.) = 1.671(2) 2V(calc.) = 54°
Dispersion: Distinct, $r > v$. Non-pleochroic.

Cell Data: *Space Group: P*$2_1/m$. a = 7.30(2) b = 6.59(1) c = 7.84(1) β = 117.14(3)° Z = 2

X-Ray Diffraction Pattern: Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia.
3.483 (100), 2.394 (86), 2.533 (63), 2.507 (63), 6.968 (56), 3.942 (52), 3.294 (49)

Chemistry:

	(1)	(2)
ZnO	42.47	60.40
CuO	19.50	
SO_3	39.96	39.60
Total	101.93	100.00

(1) Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia; average electron microprobe analysis; corresponds to $Zn_{2.07}Cu_{0.97}S_{1.98}O_9$. (2) $Zn_3O(SO_4)_2$.

Occurrence: A sublimate around an active volcanic fumarole.

Association: Langbeinite, lammerite-β, bradaczekite, euchlorine, anhydrite, chalcocyanite, tenorite.

Distribution: From the Arsenatnaya fumarole, Second scoria cone, Northern Breakthrough, Great Tolbachik Fissure Eruption, Tolbachik volcano, Kamchatka peninsula, Far-Eastern Region, Russia.

Name: Honors Russian Professor Arkady *Glikin* (1943-2012), Department of Crystallography, St. Petersburg State University, for his work on crystal growth and mineral forming processes.

Type Material: Mineralogical Museum, Department of Mineralogy, St. Petersburg State University, St. Petersburg, Russia (1/19695).

References: (1) Nazarchuk, E.V., O.I. Siidra, D.O. Nekrasova, V.V. Shilovskikh, A.S. Borisov, and E.Y. Avdontseva (2020) Glikinite, $Zn_3O(SO_4)_2$, a new anhydrous zinc oxysulfate mineral structurally based on OZn_4 tetrahedra. Mineral. Mag., 84, 563-567.