

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As prismatic crystals, typically curved or split, to 0.2 mm, in crusts to 2 mm.

Physical Properties: *Cleavage:* Distinct on {010}. *Fracture:* Stepped. *Tenacity:* Brittle. Hardness = 2.5 D(meas.) = n.d. D(calc.) = 3.16

Optical Properties: Transparent. *Color:* Bluish-green to turquoise-blue. *Streak:* Bluish green. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.602(4)$ $\beta = 1.666(5)$ $\gamma = 1.679(5)$ $2V(\text{meas.}) = 50(10)^\circ$ $2V(\text{calc.}) = 47^\circ$ *Dispersion:* $r < v$, strong. *Orientation:* $Z \approx$ elongation. *Pleochroism:* Medium, in bluish-green. *Absorption:* $Z > Y > X$.

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.0731(6)$ $b = 11.0597(13)$ $c = 5.5094(6)$
 $\alpha = 102.883(9)^\circ$ $\beta = 92.348(8)^\circ$ $\gamma = 92.597(9)^\circ$ $Z = 1$

X-ray Powder Pattern: Kapital'naya mine, Vishnevye Mountains, South Urals, Russia. 10.84 (100), 5.399 (40), 3.590 (16), 2.691 (16), 5.178 (12), 2.653 (12), 2.583 (12)

Chemistry:	(1)
CuO	57.72
ZnO	0.09
FeO	0.28
SO ₃	23.52
H ₂ O	[18.39]
Total	100.00

(1) Kapital'naya mine, Vishnevye Mountains, South Urals, Russia; average of 4 electron microprobe analyses supplemented by IR spectroscopy, H₂O by difference; corresponding to $\text{Cu}_{4.96}\text{Fe}_{0.03}\text{Zn}_{0.01}\text{S}_{2.01}\text{O}_{8.04}(\text{OH})_{5.96} \cdot 4\text{H}_2\text{O}$.

Mineral Group: Devilline group.

Occurrence: As a secondary mineral in pyrite-chalcopyrite veins cutting fenites in an alkaline igneous complex.

Association: Calcite, quartz.

Distribution: At the Kapital'naya mine, Vishnevye Mountains, Chelyabinsk Oblast', South Urals, Russia.

Name: Honors Russian mineralogist Yuriy Stepanovich Kobayashev (1935-2009), a specialist on the mineralogy of the Urals.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4152/1).

References: (1) Pekov, I.V., N.V. Zubkova, V.O. Yapaskurt, D.I. Belakovskiy, N.V. Chukanov, A.V. Kasatkin, A.M. Kuznetsov, and D.Yu. Pushcharovsky (2013) Kobayashevite, $\text{Cu}_5(\text{SO}_4)_2(\text{OH})_6 \cdot 4\text{H}_2\text{O}$, a new devilline-group mineral from the Vishnevye Mountains, South Urals, Russia. *Mineralogy and Petrology*, 107(2), 201-210. (2) (2016) *Amer. Mineral.*, 101, 488-489 (abs. ref. 1).