

Crystal Data: Monoclinic. *Point Group:* 2/m. Tabular pseudo-tetragonal crystals display {100}, {010}, and {001}.

Physical Properties: *Cleavage:* Perfect on (001), good on (100) and (010). *Tenacity:* Brittle. *Fracture:* Stepped. Hardness = 3 D(meas.) = 3.65(3) D(calc.) = 3.73 Dissolves in 10% HCl.

Optical Properties: Transparent. *Color:* Turquoise blue, green in transmitted light.

Streak: Pale blue. *Luster:* Vitreous.

Optical Class: Biaxial (-). $\alpha = 1.708(5)$ $\beta = 1.730(5)$ $\gamma = 1.735(5)$ $2V(\text{meas.}) = 40-45(5)^\circ$ $2V(\text{calc.}) = 50^\circ$ *Dispersion:* None. *Orientation:* $X = a$, $Y = b$.

Cell Data: *Space Group:* P2₁/m. $a = 9.6911(8)$ $b = 9.7547(9)$ $c = 9.9632(14)$ $\beta = 102.237(10)^\circ$ $Z = 2$

X-ray Powder Pattern: Këster deposit, Arga-Ynnykh-Khai massif, NE Yakutia, Russia. 9.73 (100), 3.072 (43), 6.79 (35), 3.061 (24), 3.003 (24), 4.355 (12), 2.698 (11)

Chemistry:	(1)	(2)
Na ₂ O	3.04	3.02
K ₂ O	0.31	
CaO	4.42	5.46
CuO	38.66	38.70
ZnO	0.49	
P ₂ O ₅	28.72	27.62
As ₂ O ₅	8.95	11.18
H ₂ O	9.60	17.02
Cl	0.05	
- O = Cl ₂	0.01	
Total	99.23	100.00

(1) Këster deposit, Arga-Ynnykh-Khai massif, NE Yakutia, Russia; average electron microprobe analysis supplemented by Raman spectroscopy and TGA; corresponds to (Na_{0.94}K_{0.06}) $\Sigma=1.00$ (Ca_{0.82}Na_{0.08}) $\Sigma=0.90$ (Cu_{5.04}Zn_{0.06}) $\Sigma=5.10$ (PO₄)₄ [(As_{0.81}P_{0.19}) $\Sigma=1.00$ (O_{1.92}OH_{2.06}Cl_{0.02}) $\Sigma=4.00$]·7.37H₂O.
 (2) NaCaCu₅(PO₄)₄[AsO₂(OH)₂]₂·7H₂O.

Occurrence: A secondary low-temperature mineral formed by alteration of primary minerals in a quartz-phosphate mass ~5 m in diameter within greisenized cassiterite-bearing granodiorite.

Association: Copper, arsenolite, tobermorite, slavkovite, libethenite, pseudomalachite, fluorapatite.

Distribution: From the Këster Sn-Ta deposit, Arga-Ynnykh-Khai massif, NE Yakutia, Russia.

Name: Honors Porphiry Prokopievich Epifanov, Russian geologist, the discoverer of the Këster, Ege-Khaya, and others tin deposits between 1936-1938.

Type Material: Mineralogical Museum, St. Petersburg State University, Russia (19658/1).

References: (1) Yakovenchuk, V.N., Ya.A. Pakhomovsky, N.G. Konoplyova, T.L. Panikorovskii, Yu.A. Mikhailova, V.N. Bocharov, S.V. Krivovichev, and G.Yu. Ivanyuk (2017) Epifanovite, NaCaCu₅(PO₄)₄[AsO₂(OH)₂]₂·7H₂O, a new mineral from Këster deposit (Sakha-Yakutia, Russia). Zap. Ross. Mineral. Obshch., 146(3), 30-39 (in Russian). (2) Panikorovskii, T.L., S.V. Krivovichev, V.N. Yakovenchuk, and G.Yu. Ivanyuk (2017) The crystal structure of epifanovite. Zap. Ross. Mineral. Obshch., 146(3), 39-50 (in Russian). (3) (2018) Amer. Mineral., 103, 2039-2040 (abs. refs. 1 & 2).