

Crystal Data: Monoclinic. *Point Group:* 2/m. As free-standing fan-shaped aggregates or as flattened crystals to 4 mm.

Physical Properties: *Cleavage:* Perfect on {001}. *Fracture:* n.d. *Tenacity:* Brittle. Hardness = 2-2.5 D(meas.) = 2.50(2) D(calc.) = 2.499 Soluble in 10% HCl.

Optical Properties: Transparent. *Color:* Light yellow, or greenish; colorless in transmitted light. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (+). $\alpha = 1.538(1)$ $\beta = 1.540(1)$ $\gamma = 1.543(1)$ $2V(\text{calc.}) = 72.5^\circ$ *Orientation:* $b = Z, c \wedge X = 45^\circ$.

Cell Data: *Space Group:* P2₁/c. $a = 8.3086(8)$ $b = 12.906(1)$ $c = 17.486(2)$ $\beta = 102.01(1)^\circ$ $Z = 4$

X-ray Powder Pattern: Kovdor massif, Kola Peninsula, Russia. 8.56 (100), 10.31 (33), 2.849 (33), 2.675 (25) 3.496 (23), 3.314 (23)

Chemistry:	(1)	(2)
Na ₂ O	9.17	9.20
MgO	29.40	29.94
CaO	0.07	
MnO	0.33	
FeO	0.84	
P ₂ O ₅	41.57	42.14
H ₂ O	[18.62]	18.72
Total	100.00	100.00

(1) Kovdor massif, Kola Peninsula, Russia; average electron microprobe analysis, H₂O by difference; corresponding to (Na_{2.02}Ca_{0.01})_{Σ=2.03}(Mg_{4.98}Fe²⁺_{0.08}Mn_{0.03})_{Σ=5.09}P₄O_{16.11}·7.06H₂O. (2) Na₂Mg₅(PO₄)₄·7H₂O.

Occurrence: A hydrothermal mineral in vuggy veins of dolomite carbonatite that cuts forsterite-magnetite ore in an alkaline-ultramafic massif.

Association: Bobierite, pyrite, collinsite, chlorite, nastrophite, juonniite, cattite.

Distribution: From the Zhelezny (Iron) mine, Kovdor massif, Kola Peninsula, Russia.

Name: Honors crystallographer Alexander Yu. Bakhchisaraitsev (1947-1998).

Type Material: Mining Museum, St. Petersburg Mining Institute, Russia, and the Geological Museum, University of Oulu, Finland.

References: (1) Liferovich, R.P., YA.A. Pakhomovsky, O.V. Yakubovich, W. Massa, K. Laajoki, S. Gehör, A.N. Bogdanova, and N.V. Sorokhtina (2000) Bakhchisaraitsevite, Na₂Mg₅[PO₄]₄·7H₂O, a new mineral from hydrothermal assemblages related to phoscorite-carbonatite complex of the Kovdor massif, Russia. *Neues Jahrb. Mineral., Monatsh.*, 402-418. (2) Yakubovich, O.V., W. Mass, R.P. Liferovich, and YA.A. Pakhomovsky (2000) The crystal structure of bakhchisaraitsevite, [Na₂(H₂O)₂]{(Mg_{4.5}Fe_{0.5})(PO₄)₄(H₂O)₅}, a new mineral species of hydrothermal origin from the Kovdor phoscorite-carbonatite complex, Russia. *Can. Mineral.*, 38(4), 831-838. (3) (2000) *Amer. Mineral.*, 86, 767 (abs. refs. 1 and 2).