

Clinophosinaite**Na₃Ca(SiO₃)(PO₄)**

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Crystal Data: Monoclinic. *Point Group:* 2/*m*. Habit not described.**Physical Properties:** *Fracture:* Conchoidal. Hardness = 4 D(meas.) = 2.85–2.88
D(calc.) = [2.84]**Optical Properties:** Semitransparent. *Color:* Pale lilac. *Luster:* Vitreous.
Optical Class: Biaxial (+). $\alpha = 1.556$ – 1.557 $\beta = 1.559$ – 1.561 $\gamma = 1.563$ – 1.567
2V(meas.) = 75°–80°**Cell Data:** *Space Group:* P2/*c*. $a = 7.303(2)$ $b = 12.201(5)$ $c = 14.715(4)$ $\beta = 91^\circ 56'$
Z = 8**X-ray Powder Pattern:** Mt. Koashva, Russia.
2.724 (100), 2.639 (57), 2.550 (50), 2.031 (50), 1.823 (47), 1.838 (35), 3.97 (12)

Chemistry:	(1)	(2)	(3)
SiO ₂	20.1	20.1	21.45
Ce ₂ O ₃	0.18	0.44	
MnO	0.60	0.54	
CaO	15.65	16.45	20.02
SrO	3.08	1.91	
Na ₂ O	32.55	32.7	33.19
K ₂ O	0.09	0.05	
P ₂ O ₅	25.35	25.5	25.34
LOI	1.08	2.55	
Total	98.68	100.24	100.00

(1) Mt. Koashva, Russia; by electron microprobe, contains traces of Ti, Zr, Al, Fe, Mg, Ba, loss on ignition may be H₂O; corresponds to (Na_{3.04}K_{0.01})_{Σ=3.05}(Ca_{0.81}Sr_{0.09}Mn_{0.02})_{Σ=0.92}Si_{0.97}P_{1.03}O_{6.95}. (2) Mt. Yukspor, Russia; by electron microprobe, impurities as in (1), corresponds to Na_{3.04}(Ca_{0.85}Sr_{0.05}Mn_{0.02})_{Σ=0.92}Si_{0.96}P_{1.04}O_{6.97}. (3) Na₃CaPSiO₇.

Occurrence: Apparently as an alteration product of eudialyte in alkalic pegmatites in a differentiated alkalic massif.**Association:** Zirsinalite, eudialyte.**Distribution:** In Russia, on Mts. Yukspor and Koashva, Khibiny massif, Kola Peninsula.**Name:** For its monoclinic crystallography and chemical similarity to *phosinaite*.**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 81592.**References:** (1) Khomyakov, A.P., D.Y. Pushcharovskii, and J.G. Ronsbo (1981) Clinophosinaite, Na₃CaPSiO₇, a new mineral. Zap. Vses. Mineral. Obshch., 110, 351–355 (in Russian). (2) (1982) Amer. Mineral., 67, 414 (abs. ref. 1). (3) Krutik, V.M., D.Y. Pushcharovskii, A.P. Khomyakov, E.A. Pobedinskaya, and N.V. Belov (1980) Anion radical of mixed type (four [Si₄O₁₂] rings and P orthotetrahedra) in the structure of monoclinic phosinaite. Kristallografiya (Sov. Phys. Crystal.), 25, 240–247 (in Russian).