(c)2001-2005 Mineral Data Publishing, version 1

**Crystal Data:** Hexagonal. *Point Group:* 3m. Pipelike tubes, to 3 mm, of radial fibers, and rosettes of rounded tabular crystals, flattened on {0001}; fine granular.

**Physical Properties:** Cleavage: On  $\{0001\}$ , fair, may be a parting. Hardness = n.d. D(meas.) = 3.64(2) D(calc.) = 3.60

**Optical Properties:** Semitransparent. *Color:* White, pale gray, pale brown; colorless in transmitted light. *Streak:* White. *Luster:* Dull.

Optical Class: Uniaxial (–). Orientation: X=c; parallel extinction.  $\omega=1.601(2)$   $\epsilon=1.598(2)$ 

Cell Data: Space Group: [R3c] (by analogy to whitlockite). a=10.644(9) c=39.54(6) Z=6

**X-ray Powder Pattern:** Kovdor massif, Kola Peninsula, Russia. 3.004 (100), 2.661 (80), 3.288 (37), 1.783 (36), 3.071 (29), 1.940 (29), 2.246 (26)

Chemistry:

	(1)	(2)
$P_2O_5$	35.2	33.60
FeO	0.2	
MnO	0.2	
MgO	4.6	2.73
CaO	5.5	
SrO	51.4	63.06
BaO	2.3	
$Na_2O$	0.0	
$\mathrm{H_2O}$	0.5	0.61
Total	99.9	100.00

(1) Kovdor massif, Kola Peninsula, Russia; by electron microprobe,  $H_2O$  by microcoulometric methods,  $PO_3OH$  confirmed by IR; corresponds to  $(Sr_{6.96}Ca_{1.38}Mg_{0.60}Ba_{0.21}Mn_{0.04}Fe_{0.04})_{\Sigma=9.23}Mg_{1.00}(PO_4)_6(P_{0.96}O_3OH_{0.78})$ . (2)  $Sr_9Mg(PO_4)_6(PO_3OH)$ .

**Occurrence:** Very rare, in cavities in a dolomite carbonatite vein cutting pyroxenites in an alkalic massif.

**Association:** Strontian collinsite, bobierrite, carbonate-fluorapatite, rimkorolgite, pyrite, dolomite, unnamed Sr–Mg phosphate.

**Distribution:** From the Zheleznyi iron ore deposit, Kovdor alkalic massif, Kola Peninsula, Russia.

**Name:** As the strontium analog of whitlockite.

**Type Material:** Mining Institute, St. Petersburg, 2022/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, r558.

**References:** (1) Britvin, S.N., Y.A. Pakhomovskii, A.N. Bogdanova, and V.I. Skiba (1991) Strontiowhitlockite,  $Sr_9Mg(PO_3OH)(PO_4)_6$ , a new mineral from the Kovdor deposit, Kola Peninsula, U.S.S.R. Can. Mineral., 29, 87–93. (2) (1991) Amer. Mineral., 76, 2024 (abs. ref. 1).