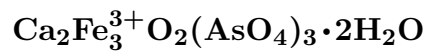


**Kolfanite**

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**Crystal Data:** Monoclinic. *Point Group:* n.d. As flattened crystals, compact radiating in nodules, to 1.5 mm, and in incrustations.

**Physical Properties:** *Cleavage:* One, parallel to flattening. *Tenacity:* Brittle. Hardness = n.d. VHN = 73 (100 g load). D(meas.) = 3.3 D(calc.) = 3.75

**Optical Properties:** Semitransparent. *Color:* Red; orange to yellow in transmitted light. *Luster:* Adamantine.

*Optical Class:* Biaxial (-). *Pleochroism:* X = pale yellow; Y = Z = dark orange.  $\alpha = 1.810$   
 $\beta = 1.923$   $\gamma = 1.933$   $2V(\text{meas.}) = 5^\circ - 7^\circ$

**Cell Data:** *Space Group:* n.d.  $a = 17.86(4)$   $b = 19.66(5)$   $c = 11.11(3)$   $\beta = 96^\circ$   
Z = 12

**X-ray Powder Pattern:** Mt. Vasin-Myl'k, Russia.

8.90 (10), 2.72 (10), 3.29 (9), 2.95 (9), 2.216 (8), 1.646 (8), 5.64 (5)

**Chemistry:**

	(1)	(2)
P <sub>2</sub> O <sub>5</sub>	0.96	
As <sub>2</sub> O <sub>5</sub>	43.30	47.07
Sb <sub>2</sub> O <sub>5</sub>	2.20	
SiO <sub>2</sub>	1.20	
Al <sub>2</sub> O <sub>3</sub>	0.05	
Fe <sub>2</sub> O <sub>3</sub>	32.09	32.70
CaO	14.97	15.31
H <sub>2</sub> O	5.10	4.92
Total	99.87	100.00

(1) Mt. Vasin-Myl'k, Russia; by electron microprobe, total Fe as Fe<sub>2</sub>O<sub>3</sub>, H<sub>2</sub>O by TGA; corresponds to Ca<sub>1.95</sub>(Fe<sub>2.93</sub>Al<sub>0.01</sub>)<sub>Σ=2.94</sub>(As<sub>2.74</sub>Si<sub>0.14</sub>P<sub>0.10</sub>Sb<sub>0.10</sub>)<sub>Σ=3.08</sub>O<sub>14</sub> • 2.06H<sub>2</sub>O.

(2) Ca<sub>2</sub>Fe<sub>3</sub>O<sub>2</sub>(AsO<sub>4</sub>)<sub>3</sub> • 2H<sub>2</sub>O.

**Occurrence:** An alteration product of holtite in a hydrothermally altered granite pegmatite.

**Association:** Mitridatite, arseniosiderite, laueite, apatite, montebrazite.

**Distribution:** From Mt. Vasin-Myl'k, Voron'i massif, Kola Peninsula, Russia.

**Name:** An abbreviation for the Russian KOL'skii Filial Akademii Nauk SSSR [Kola Branch of the Academy of Sciences of the USSR].

**Type Material:** Geology Museum, Kola Branch, Academy of Sciences, Apatity, 5537; Mining Institute, St. Petersburg, 1654/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 82769.

**References:** (1) Voloshin, A.V., Y.P. Men'shikov, L.I. Polezhaeva, and A.A. Lentsi (1982) Kolfanite, a new mineral from granite pegmatite, Kola Peninsula. *Mineral. Zhurnal*, 4(2), 90-95 (in Russian with English abs.). (2) (1983) *Amer. Mineral.*, 68, 280 (abs. ref. 1). (3) (1982) *Mineral. Abs.*, 33, 431 (abs. ref. 1).