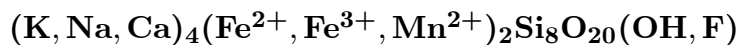


Fenaksite

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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As grains up to 4 cm.

Physical Properties: *Cleavage:* Two intersecting at an angle of 122° . Hardness = 5–5.5
D(meas.) = 2.744 D(calc.) = 2.74

Optical Properties: Transparent to translucent. *Color:* Light rose. *Luster:* Pearly on cleavages.

Optical Class: Biaxial (+) [sic]. *Orientation:* $Z = b$; $Z \wedge$ cleavage 1 = 20° ; $Y \wedge$ cleavage 2 = 49° ; $X \wedge$ cleavage 2 = 8° . $\alpha = 1.541$ $\beta = 1.560$ $\gamma = 1.567$ $2V(\text{meas.}) = 84^\circ$ $2V(\text{calc.}) = [61^\circ]$

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.98$ $b = 8.24$ $c = 9.98$ $\alpha = 114.20^\circ$ $\beta = 80.22^\circ$
 $\gamma = 115.60^\circ$ $Z = 2$

X-ray Powder Pattern: Khibiny massif, Russia.

3.03 (100), 3.55 (70), 3.44 (70), 2.46 (70), 2.88 (60), 2.71 (60), 1.875 (60)

Chemistry:

	(1)		(1)
SiO ₂	60.54	CaO	0.74
TiO ₂	0.04	Na ₂ O	7.51
Al ₂ O ₃	0.66	K ₂ O	11.71
Fe ₂ O ₃	1.54	F	0.47
FeO	12.49	H ₂ O ⁺	0.67
MnO	2.49	H ₂ O [−]	0.78
MgO	0.70	−O = F ₂	0.20
		Total	100.14

(1) Khibiny massif, Russia.

Occurrence: In pegmatites associated with an ijolite-urtite intrusion in a differentiated alkalic massif.

Association: Albite, nepheline, “aegirine-augite,” delhayelite, eudialyte.

Distribution: On Mts. Rasvumchorr and Yukspor, Khibiny massif, Kola Peninsula, Russia.

Name: For Fe, Na, K, Si in the composition.

Type Material: Geology Museum, Kola Branch, Academy of Sciences, Apatity, 1780; Vernadsky Geological Museum, Moscow, 46626; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 61123, 61124, 62013.

References: (1) Dorfman, M.D., D.D. Rogachev, Z.I. Goroshchenko, and A.V. Mokretsova (1959) Fenaksite—a new mineral. *Trudy Mineral. Muzeya Akad. Nauk SSSR*, 152–157 (in Russian). (2) (1960) *Amer. Mineral.*, 45, 252–253 (abs. ref. 1). (3) (1960) *Mineral. Abs.*, 14, 414 (abs. ref. 1). (4) Golovachev, V.P., Y.N. Drozdov, E.A. Kuz'min, and N.V. Belov (1970) The crystal structure of phenaxite [fenaksite] $\text{FeNaK}(\text{Si}_4\text{O}_{10}) - \text{KFeNa}(\text{Si}_4\text{O}_{10})$. *Doklady Acad. Nauk SSSR*, 194, 818–820 (in Russian).