

Potassic-carpholite

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As acicular crystals, to 500 μm , in tuft-like sprays to 2 mm. Crystals elongated on [100].

Physical Properties: *Cleavage:* Perfect on {010}. *Fracture:* Irregular. *Tenacity:* Brittle. Hardness ≈ 5 D(meas.) = 3.08(2) D(calc.) = 3.06

Optical Properties: Transparent. *Color:* White to straw-yellow. *Streak:* White. *Luster:* Silky. *Optical Class:* Biaxial (-). $\alpha = 1.578(2)$ $\beta = 1.592(2)$ $\gamma = 1.598(2)$ $2V(\text{meas.}) = 57^\circ$ $2V(\text{calc.}) = 66^\circ$ *Pleochroism:* Weak; $X = \text{pale yellow}$, $Y = Z = \text{colorless}$. *Absorption:* $X > Y, Z$. *Orientation:* $X = b, Y = a, Z = c$.

Cell Data: *Space Group:* $Ccca$. $a = 13.727(3)$ $b = 20.329(6)$ $c = 5.136(2)$ $Z = 4$

X-ray Powder Pattern: Sawtooth batholith, Boise County, Idaho, USA.

5.705 (100), 2.613 (100), 3.048 (90), 3.819 (80), 3.433 (80), 2.744 (80), 2.050 (80)

Chemistry:	(1)
Na ₂ O	0.51
K ₂ O	4.07
Li ₂ O	[1.34]
MgO	0.04
MnO	13.37
FeO	1.44
Al ₂ O ₃	29.38
TiO ₂	0.10
SiO ₂	36.73
F	7.47
H ₂ O	[7.24]
- O = F	3.14
Total	98.53

(1) Sawtooth batholith, Boise County, Idaho, USA; electron microprobe analysis, Li₂O and H₂O calculated; corresponding to $(\text{K}_{0.56}\text{Na}_{0.11}\square_{0.33})_{\Sigma=1.00}(\text{Mn}^{2+}_{1.26}\text{Li}_{0.60}\text{Fe}^{2+}_{0.13}\text{Mg}_{0.01})_{\Sigma=2.00}(\text{Al}_{3.85}\text{Si}_{0.08})_{\Sigma=3.93}\text{Si}_4\text{O}_{12}(\text{OH})_4[\text{F}_{2.63}(\text{OH})_{1.37}]_{\Sigma=4.00}$.

Occurrence: Liningmiarolitic cavities in microcline in granite.

Association: Quartz, albite, beryl, topaz, bertrandite, hellandite, zinnwaldite, fluorite, hematite, apatite.

Distribution: From the Sawtooth batholith in the Fall Creek drainage, in the vicinity of Glens Peak, Boise County, Idaho, USA.

Name: For the dominant potassium in the composition and relationship to *carpholite*.

Type Material: Canadian Museum of Nature, Ottawa, Ontario, Canada (CMNMC 83920).

References: (1) Tait, K.T., F.C. Hawthorne, J.D. Grice, J.L. Jambor, and W.W. Pinch (2004) Potassic-carpholite, a new mineral species from the Sawtooth batholith, Boise County, Idaho, U.S.A. *Can. Mineral.*, 42, 121-124. (2) (2004) *Amer. Mineral.*, 89, 1831 (abs. ref. 1). (3) Van Laer, W.C. (2005) Potassic-carpholite and the myth of Centerville, Idaho. *Can. Mineral.*, 43, 1125-1126. (4) (2006) *Amer. Mineral.*, 91(1), 222-223 (abs. ref. 3).