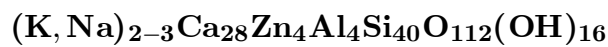


Minehillite



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Crystal Data: Hexagonal. *Point Group:* $6/m\ 2/m\ 2/m, \bar{6}m2$, or $6mm$. As plates, to 5 mm, forming bands and incrustations.

Physical Properties: *Cleavage:* {0001}, perfect. Hardness = ~ 4 $D(\text{meas.}) = 2.93$
 $D(\text{calc.}) = 2.94$ Fluoresces medium dull violet in SW and duller violet in LW UV.

Optical Properties: Transparent. *Color:* Colorless; white in aggregates, gray to black with lead inclusions. *Luster:* Pearly on cleavage, vitreous on fractures.
Optical Class: Uniaxial (-). $\omega = 1.607(2)$ $\epsilon = 1.604(2)$

Cell Data: *Space Group:* $P6_3/mmc, P\bar{6}2c$, or $P6_3mc$. $a = 9.77(2)$ $c = 33.01(7)$ $Z = 1$

X-ray Powder Pattern: Franklin, New Jersey, USA.
2.764 (100), 3.35 (90), 1.847 (90), 16.1 (70), 3.07 (70), 3.14 (60), 2.965 (50)

Chemistry:	(1)
	SiO ₂ 49.8
	Al ₂ O ₃ 4.6
	FeO 0.2
	MnO 0.2
	ZnO 8.1
	MgO 0.1
	CaO 32.0
	Na ₂ O 0.2
	K ₂ O 1.9
	H ₂ O 2.84
	<hr/>
	Total 99.9

(1) Franklin, New Jersey, USA; by electron microprobe, H₂O by the Penfield method; corresponds to $\text{K}_{1.9}\text{Na}_{0.3}\text{Fe}_{0.1}\text{Mg}_{0.1}\text{Mn}_{0.1}\text{Ca}_{27.5}\text{Zn}_{4.8}\text{Al}_{4.4}\text{Si}_{39.4}\text{O}_{112}(\text{OH})_{15.2}$.

Occurrence: A secondary low-temperature hydrothermal mineral formed by replacement of associated minerals in a metamorphosed stratiform zinc deposit.

Association: Microcline, wollastonite, grossular, vesuvianite, margarosanite, calcite, diopside, lead, allanite.

Distribution: At Franklin, Sussex Co., New Jersey, USA.

Name: For Mine Hill, at Franklin, New Jersey, USA, where the Franklin deposit was exposed at the surface.

Type Material: National Museum of Natural History, Washington, D.C., USA, C6411, C6412, 150332.

References: (1) Dunn, P.J., D.R. Peacor, P.B. Leavens, and F.J. Wicks (1984) Minehillite, a new layer silicate from Franklin, New Jersey, related to reyerite and truscottite. *Amer. Mineral.*, 69, 1150–1155.