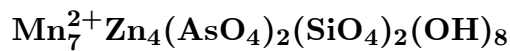


Kolicite

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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As crystals, to 0.5 mm, of pinacoidal habit, predominantly tabular; as fractured grains.

Physical Properties: *Fracture:* Even. *Tenacity:* Brittle. *Hardness* = ~ 4.5
D(meas.) = 4.17(2) D(calc.) = 4.20

Optical Properties: Semitransparent. *Color:* Bright yellowish orange. *Streak:* Light orange. *Luster:* Vitreous.

Optical Class: Biaxial (-). *Pleochroism:* Strong; X = colorless or pale yellow; Y = yellowish orange; Z = light yellow. *Orientation:* X = b; Y = c; Z = a. *Dispersion:* $r < v$, strong. *Absorption:* Z = Y > X. $\alpha = 1.779(2)$ $\beta = 1.786(2)$ $\gamma = 1.790(2)$ $2V(\text{meas.}) = 78(2)^\circ$
 $2V(\text{calc.}) = 74^\circ$

Cell Data: *Space Group:* *Cmca*. $a = 18.59(3)$ $b = 8.789(5)$ $c = 12.04(1)$ $Z = 4$

X-ray Powder Pattern: Sterling Hill, New Jersey, USA.

2.970 (100), 1.540 (70), 3.58 (60), 2.608 (50), 2.815 (40), 2.479 (40), 2.342 (40)

Chemistry:

	(1)
SiO ₂	10.4
As ₂ O ₅	18.9
FeO	0.4
MnO	39.2
ZnO	26.0
MgO	0.8
H ₂ O	5.5
Total	101.2

(1) Sterling Hill, New Jersey, USA; by electron microprobe, H₂O by TGA; corresponds to $(\text{Mn}_{6.70}\text{Mg}_{0.24}\text{Fe}_{0.06})_{\Sigma=7.00}\text{Zn}_{3.87}(\text{AsO}_4)_2(\text{Si}_{1.05}\text{O}_4)_2(\text{OH})_8$.

Occurrence: Incrusting willemite-franklinite ore from metamorphosed stratiform zinc orebodies.

Association: Willemite, franklinite, sonolite, friedelite, holdenite, calcite.

Distribution: At Sterling Hill, Ogdensburg, and at Franklin, Sussex Co., New Jersey, USA.

Name: For John Kolic, of Rockaway, New Jersey, USA, who first discovered the mineral.

Type Material: Harvard University, Cambridge, Massachusetts; National Museum of Natural History, Washington, D.C., USA, 143765.

References: (1) Dunn, P.J., D.R. Peacor, and B.D. Sturman (1979) Kolicite, a new manganese zinc silicate arsenate from Sterling Hill, Ogdensburg, New Jersey. *Amer. Mineral.*, 64, 708–712.

(2) Peacor, D.R. (1980) The crystal structure of kolicite, $\text{Mn}_7(\text{OH})_4[\text{As}_2\text{Zn}_4\text{Si}_2\text{O}_{16}(\text{OH})_4]$. *Amer. Mineral.*, 65, 483–487.