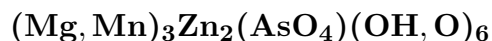


Magnesium-chlorophoenicite



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Crystal Data: Monoclinic. *Point Group:* $2/m$. As prismatic crystals, stout to acicular, usually in radial aggregates and rosettes, to 12 mm.

Physical Properties: *Cleavage:* One perfect, parallel to elongation. *Tenacity:* [Brittle] (by analogy to chlorophoenicite). *Hardness* = [Soft.] $D(\text{meas.}) = 3.45$ $D(\text{calc.}) = [3.36]$

Optical Properties: Translucent. *Color:* Colorless to white; colorless in thin section.

Luster: [Vitreous.]

Optical Class: Biaxial (+). *Orientation:* Y = elongation. *Dispersion:* $r < v$, strong.

$\alpha = 1.669$ $\beta = 1.672$ $\gamma = 1.677$ $2V(\text{meas.}) = \text{Small}$.

Cell Data: *Space Group:* $C2/m$. $a = 22.99(1)$ $b = 3.236(2)$ $c = 7.299(3)$ $\beta = 106.5(1)^\circ$
 $Z = 2$

X-ray Powder Pattern: Franklin, New Jersey, USA; nearly identical to chlorophoenicite. 2.607 (100), 3.706 (50), 3.092 (40), 2.977 (25), 6.98 (20), 6.87 (20), 1.7560 (20)

Chemistry:

	(1)
P_2O_5	0.1
As_2O_5	20.7
FeO	0.0
MnO	15.9
ZnO	37.5
MgO	10.6
CaO	0.0
H_2O	[15.2]
Total	[100.0]

(1) Franklin, New Jersey, USA; by electron microprobe, H_2O by difference; corresponding to $(\text{Mg}_{1.39}\text{Mn}_{1.18}\text{Zn}_{0.43})_{\Sigma=3.00}\text{Zn}_{2.00}(\text{OH})_6[\text{As}_{0.42}\text{H}_{0.5}(\text{OH, O})_3]_2$.

Occurrence: A very rare mineral, in open veinlets cutting a metamorphosed stratiform zinc orebody.

Association: Willemite, zincite, andradite, franklinite, hodgkinsonite, barite, calcite.

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

Name: For its *magnesium* content and similarity to *chlorophoenicite*.

Type Material: Harvard University, Cambridge, Massachusetts, USA, 92803.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 780. (2) Dunn, P.J. (1981) Magnesium-chlorophoenicite redefined and new data on chlorophoenicite. *Can. Mineral.*, 19, 333–336. (3) Dunn, P.J. (1995) Franklin and Sterling Hill, New Jersey. No publisher, n.p., 671–672. (4) Bayliss, P. and S. St. J. Warne (1987) Powder X-ray diffraction data of magnesium-chlorophoenicite. *Powder Diffraction*, 2(4), 225–226.