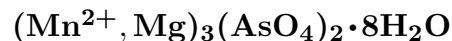


# Manganese-hörnesite



©2001-2005 Mineral Data Publishing, version 1

**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ . As acicular crystals, flattened on {010}, in stellate radial aggregates, to 0.5 cm.

**Physical Properties:** *Cleavage:* Perfect on {010}; imperfect on {100}, {201},  $\{\bar{2}01\}$ .  
Hardness = 1 D(meas.) = 2.64 (impure material). D(calc.) = 2.76

**Optical Properties:** Transparent to translucent. *Color:* White to colorless. *Streak:* White.  
*Luster:* Silky on cleavages.

*Optical Class:* Biaxial (+). *Orientation:*  $X = b$ ;  $Z \wedge c = 31^\circ$ .  $\alpha = 1.579$   $\beta = 1.589$   
 $\gamma = 1.609$   $2V(\text{meas.}) = 65^\circ\text{--}70^\circ$

**Cell Data:** *Space Group:*  $P2_1/c$ .  $a = 10.38(5)$   $b = 28.09(5)$   $c = 4.774(50)$   $\beta = 105^\circ 40'$   
 $Z = 4$

**X-ray Powder Pattern:** Långban, Sweden.

7.01 (10), 8.19 (8), 3.02 (7), 2.41 (7), 3.25 (6), 3.09 (6), 2.88 (4)

## Chemistry:

	(1)	(2)
As <sub>2</sub> O <sub>5</sub>	40.78	42.50
CO <sub>2</sub>	1.35	
MnO	22.87	19.67
MgO	9.47	11.18
H <sub>2</sub> O	25.64	26.65
Total	100.11	100.00

(1) Långban, Sweden; CO<sub>2</sub> and 2.17% MgO from rhodochrosite impurity; corresponds then to (Mn<sub>1.65</sub>Mg<sub>1.32</sub>)<sub>Σ=2.97</sub>(AsO<sub>4</sub>)<sub>2.00</sub>•8.02H<sub>2</sub>O. (2) (Mn, Mg)<sub>3</sub>(AsO<sub>4</sub>)<sub>2</sub>•8H<sub>2</sub>O with Mn:Mg = 1:1.

**Occurrence:** In fissure veins in skarn in a metamorphosed Fe–Mn orebody (Långban, Sweden).

**Association:** Rhodochrosite, synadelphite, quartz (Långban, Sweden); adelite, alleghanyite, kraisslite, willemite (Sterling Hill, New Jersey, USA).

**Distribution:** From Långban, Värmland, Sweden. At Sterling Hill, Ogdensburg, Sussex Co., New Jersey, USA.

**Name:** For the dominant *manganese* content and its relation to *hörnesite*.

**Type Material:** Swedish Museum of Natural History, Stockholm, Sweden.

**References:** (1) Gabrielson, O. (1954) Manganiferous hoernesite and manganese-hoernesite from Långban, Sweden. *Arkiv. Mineral. Geol.*, 1(11), 333–337. (2) (1954) *Amer. Mineral.*, 39, 159 (abs. ref. 1).