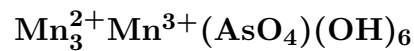


Jarosewichite

©2001-2005 Mineral Data Publishing, version 1

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$, 222 , or $mm2$. Crystals are prismatic, barrel-shaped, elongated along [100], flattened on {010}, with {021}, giving six-sided sections, to 1 mm; typically as divergent sprays of prismatic crystals.

Physical Properties: Hardness = ~ 4 D(meas.) = 3.66(4) D(calc.) = 3.70

Optical Properties: Translucent through thin edges. *Color:* Very dark red, appearing black. *Streak:* Reddish orange. *Luster:* Subvitreous on fractured surfaces.

Optical Class: Biaxial (-). *Pleochroism:* Weak; X = medium brownish red; Z = dark brownish red. *Orientation:* $X = a$; $Y = b$; $Z = c$. *Absorption:* $Z > X$. $\alpha = 1.780(5)$ $\beta = 1.795(5)$ $\gamma = 1.805(5)$ 2V(meas.) = n.d. 2V(calc.) = 78°

Cell Data: *Space Group:* $Cmmm$, $Cmm2$ or $C222$. $a = 6.56(3)$ $b = 25.20(10)$ $c = 10.00(5)$ $Z = 8$

X-ray Powder Pattern: Franklin, New Jersey, USA.
2.669 (100), 3.91 (60), 1.788 (50), 2.503 (30), 1.558 (30), 6.29 (20), 1.576 (20)

Chemistry:	(1)	(2)
As ₂ O ₅	24.0	24.95
Mn ₂ O ₃	17.7	17.13
FeO	0.4	
MnO	42.3	46.19
ZnO	1.2	
MgO	2.1	
CaO	0.2	
H ₂ O	[12.1]	11.73
Total	[100.0]	100.00

(1) Franklin, New Jersey, USA; by electron microprobe, total As as As₂O₅ from associated species, Mn²⁺:Mn³⁺ assigned as 3:1, H₂O by difference; corresponding to Mn_{1.00}³⁺(Mn_{2.74}²⁺Mg_{0.24}Zn_{0.07}Fe_{0.03}Ca_{0.02})_{Σ=3.10}(AsO₄)_{0.95}(OH)_{6.35}. (2) Mn₃²⁺Mn³⁺(AsO₄)(OH)₆.

Occurrence: In a mine-dump specimen, incrusting vugs in zinc ore from a metamorphosed stratiform zinc orebody.

Association: Flinkite, cahnite, allactite, hausmannite, andradite, franklinite.

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

Name: Honors Eugene Jarosewich (1926–), Chief Chemist, Department of Mineral Sciences, Smithsonian Institution, Washington, D.C., USA.

Type Material: Harvard University, Cambridge, Massachusetts, 109463; National Museum of Natural History, Washington, D.C., USA, 148972.

References: (1) Dunn, P.J., D.R. Peacor, P.B. Leavens, and W.B. Simmons (1982) Jarosewichite and a related phase: basic manganese arsenates of the chlorophoenicite group from Franklin, New Jersey. *Amer. Mineral.*, 67, 1043–1047.