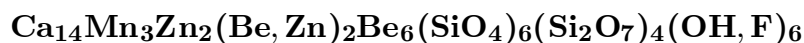


Samfowlerite

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Crystal Data: Monoclinic. *Point Group:* $2/m$. As crystals, to 0.05 mm, and in groups.**Physical Properties:** Hardness = < 3. $D(\text{meas.}) = 3.28(5)$ $D(\text{calc.}) = 3.29\text{--}3.31$ Weakly fluoresces red under SW and LW UV.**Optical Properties:** Semitransparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *Orientation:* $Y = b$; $X \wedge a = 44^\circ$; $Z \wedge c = 29^\circ$. $\alpha = 1.674(3)$
 $\beta = 1.680(3)$ $\gamma = 1.681(3)$ $2V(\text{meas.}) = 29.0(1)^\circ$ **Cell Data:** *Space Group:* $P2_1/c$. $a = 9.068(2)$ $b = 17.992(2)$ $c = 14.586(2)$
 $\beta = 104.86(1)^\circ$ $Z = 2$ **X-ray Powder Pattern:** Franklin, New Jersey, USA.

2.863 (100), 2.653 (50), 2.388 (50), 2.771 (40), 2.272 (30), 1.832 (30), 2.329 (20)

Chemistry:

	(1)
SiO ₂	36.9
MnO	9.3
ZnO	9.5
BeO	5.6
MgO	0.2
CaO	34.1
F	1.0
H ₂ O	[3.8]
-O = F ₂	0.4
Total	[100.0]

(1) Franklin, New Jersey, USA; by electron microprobe, Be and F by ion microprobe, H₂O by difference; crystal structure analysis indicates that Be is lower and H₂O is higher than reported; corresponding to $(\text{Ca}_{13.9}\text{Mg}_{0.1})_{\Sigma=14.0}\text{Mn}_{3.0}\text{Zn}_{2.6}\text{Be}_{5.1}\text{Si}_{14.0}\text{O}_{56.5}\text{H}_{9.6}\text{F}_{1.2}$.**Occurrence:** In vugs in granular willemite-franklinite-andradite ore from a metamorphosed stratiform Zn-Mn deposit.**Association:** Andradite-grossular, cahnite, clinochlore, leucophoenicite, johnbaumite, barite, franklinite, willemite.**Distribution:** From Franklin, Sussex Co., New Jersey, USA.**Name:** For Samuel Fowler, M.D. (1779–1844), who early encouraged study of the Franklin deposits.**Type Material:** National Museum of Natural History, Washington, D.C., USA, M04254.**References:** (1) Rouse, R.C., D.R. Peacor, P.J. Dunn, S.-C. Su, P.H. Chi, and H. Yeates (1994) Samfowlerite, a new Ca Mn Zn beryllsilicate mineral from Franklin, New Jersey: its characterization and crystal structure. *Can. Mineral.*, 32, 43–53.