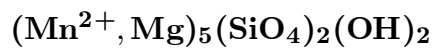


Ribbeite



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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$ or $mm2$. Crystals, up to 0.5 mm, in granular aggregates, to 20 cm.

Physical Properties: Hardness = ~ 5 $D(\text{meas.}) = 3.90(5)$ $D(\text{calc.}) = 3.84$

Optical Properties: Transparent. *Color:* Pink. *Streak:* Light pink. *Luster:* Vitreous. *Optical Class:* Biaxial (+). *Pleochroism:* Weak; $X = Y =$ colorless; $Z =$ light pink. *Orientation:* $X = b$; $Y = a$; $Z = c$. *Dispersion:* $r > v$, moderate. *Absorption:* $Z > X = Y$. $\alpha = 1.780(3)$
 $\beta = 1.792(3)$ $\gamma = 1.808(3)$ $2V(\text{meas.}) = 81.3(2)^\circ$ $2V(\text{calc.}) = 82.5^\circ$

Cell Data: *Space Group:* $Pbnm$ or $Pbn2_1$. $a = 4.799(1)$ $b = 10.742(6)$ $c = 15.70(1)$
 $Z = 4$

X-ray Powder Pattern: Kombat mine, Namibia.

1.796 (100), 2.873 (80), 2.552 (80), 2.925 (70), 2.821 (70), 2.695 (60), 2.515 (40)

Chemistry:

	(1)
SiO ₂	24.3
FeO	0.3
MnO	65.1
MgO	5.2
CaO	0.2
F	0.0
H ₂ O	[4.9]
Total	[100.0]

(1) Kombat mine, Namibia; by electron microprobe, H₂O by difference; corresponds to $(\text{Mn}_{4.30}^{2+}\text{Mg}_{0.60}\text{Fe}_{0.02}\text{Ca}_{0.02})_{\Sigma=4.94}\text{Si}_{1.90}\text{O}_{10}\text{H}_{2.54}$.

Polymorphism & Series: Dimorphous with alleghanyite.

Mineral Group: Leucophoenicite group.

Occurrence: In mineralogically distinct layers, in tectonically transported and boudinaged manganese-rich lenses within dolostones, apparently formed under prograde metamorphic conditions.

Association: Alleghanyite, manganoan calcite, pyrochroite, chlorite, galaxite, jacobsite.

Distribution: In the Kombat mine, 49 km south of Tsumeb, Namibia.

Name: To honor Dr. Paul H. Ribbe, Virginia Polytechnic Institute, Blacksburg, Virginia, USA.

Type Material: National Museum of Natural History, Washington, D.C., USA, 163208.

References: (1) Peacor, D.R., P.J. Dunn, S.-C. Su, and J. Innes (1987) Ribbeite, a polymorph of alleghanyite and member of the leucophoenicite group from the Kombat mine, Namibia. *Amer. Mineral.*, 72, 213–216.