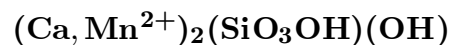


Poldervaartite



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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Crystals are prismatic, with {110}, {100}, {010}, and {001}, to 7 mm; aggregates in sheaves.

Physical Properties: *Tenacity:* Very brittle. Hardness = 5 D(meas.) = 2.91(2)
D(calc.) = 2.90 Fluoresces deep red under SW UV.

Optical Properties: Transparent to translucent. *Color:* Colorless to white. *Streak:* [White.]
Luster: Vitreous on fractures to subvitreous on crystal faces.
Optical Class: Biaxial (+). *Pleochroism:* Weak; X = colorless; Y = light gray; Z = bluish gray.
Orientation: X = b; Y = a; Z = c. *Dispersion:* $r < v$, weak. $\alpha = 1.634(2)$ $\beta = 1.640(4)$
 $\gamma = 1.656(2)$ $2V(\text{meas.}) = 65(5)^\circ$ $2V(\text{calc.}) = 63^\circ$

Cell Data: *Space Group:* $Pbca$. $a = 9.398(1)$ $b = 9.139(2)$ $c = 10.535(2)$ $Z = 8$

X-ray Powder Pattern: Wessels mine, South Africa.
3.231 (100), 4.18 (45), 2.846 (42), 2.391 (42), 2.789 (35), 2.042 (28), 3.27 (26)

Chemistry:	(1)
SiO ₂	29.8
FeO	0.1
MnO	18.7
MgO	0.0
CaO	41.5
H ₂ O ⁺	9.4
Total	99.5

(1) Wessels mine, South Africa; by electron microprobe, H₂O by TGA; corresponds to
(Ca_{1.47}Mn_{0.53})_{Σ=2.00}Si_{0.99}O_{3.96} • 1.04H₂O.

Occurrence: In a pocket in massive manganese ores in a bedded manganese ore deposit.

Association: Braunite, hausmannite, henritermierite, bultfonteinite, hematite, calcite.

Distribution: In the Wessels mine, near Kuruman, Cape Province, South Africa.

Name: To honor Arie Poldervaart (1918–1964), Professor of Petrology, Columbia University, New York City, New York, USA.

Type Material: American Museum of Natural History, New York, New York, USA, T100728.

References: (1) Dai, Y., G.E. Harlow, and A.R. McGhie (1993) Poldervaartite, Ca(Ca_{0.5}Mn_{0.5})(SiO₃OH)(OH), a new acid nesosilicate from the Kalahari manganese field, South Africa: crystal structure and description. *Amer. Mineral.*, 78, 1082–1087.