

Crystal Data: Hexagonal. *Point Group:* n.d. As subhedral to euhedral platy crystals, to 1mm; in radiating crystal aggregates.

Physical Properties: *Cleavage:* {0001}, good. Hardness = n.d. $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = [3.14]$

Optical Properties: Semitransparent. Color: In transmitted light, colorless.

Optical Class: Uniaxial (-). $\omega = 1.677(2)$ $\varepsilon = 1.652(2)$

Cell Data: Space Group: n.d. $a = 13.33(3)$ $c = 7.11(2)$ $Z = [2]$

X-ray Powder Pattern: Pegmont deposit, Australia.

2.675 (10), 7.13 (8), 3.564 (6), 2.243 (6), 1.833 (4), 1.667 (4), 1.513 (4)

Chemistry:

	(1)
SiO ₂	34.17
Al ₂ O ₃	0.00
FeO	49.54
MnO	4.36
MgO	0.64
Cl	4.00
H ₂ O	[8.19]
-O = Cl ₂	0.90
Total	[100.00]

(1) Pegmont deposit, Australia; by electron microprobe, H₂O by difference; corresponds to $(\text{Fe}_{7.14}\text{Mn}_{0.64}\text{Mg}_{0.16})_{\Sigma=7.94}\text{Si}_{5.89}\text{O}_{14.42}[(\text{OH})_{9.41}\text{Cl}_{1.17}]_{\Sigma=10.58}$.

Polymorphism & Series: Forms a series with pyrosmalite-(Mn).

Occurrence: Intergrown with sulfides, formed during metamorphism of a stratiform Pb-Zn deposit; a retrograde reaction product derived from clinopyroxene in saline fluid inclusions in contact metamorphic rocks.

Association: Fayalite, greenalite, galena, sphalerite, clinopyroxene, hornblende, grunerite, garnet, biotite, magnetite, apatite.

Distribution: From the Pegmont lead-zinc deposit, 175 km southeast of Mt. Isa, Queensland, Australia. In Canada from the Ni-Cu-PGE deposits of Sudbury, Ontario and the PGE-Au-As deposits of the Thomson nickel belt, Manitoba. From the Banská Štiavnica district, Slovakia.

Name: For its high Fe iron content and relation to *pyrosmalite-(Mn)*; *pyrosmalite* from the Greek for *fire* and *odor*, for the odor when heated.

Type Material: n.d.

References: (1) Vaughan, J.P. (1986) The iron end-member of the pyrosmalite series from the Pegmont lead-zinc deposit, Queensland. *Mineral. Mag.*, 50, 527-531. (2) Vaughan, J.P. (1987) Ferropyrosmalite and nomenclature in the pyrosmalite series. *Mineral. Mag.*, 51, 174. (3) (1988) *Amer. Mineral.*, 73, 933-934 (abs. refs. 1 and 2). (4) Koděra, P., P.J. Murphy, and A. H. Rankin (2003) Retrograde mineral reactions in saline fluid inclusions: The transformation ferropyrosmalite \leftrightarrow clinopyroxene. *Amer. Mineral.*, 88, 151-158. (5) Burke, E.A.J. (2008) Tidying up mineral names: an IMA-CNMNC scheme for suffixes, hyphens and diacritical marks. *Mineral. Record*, 39, 131-135.