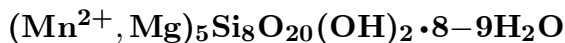


Yofortierite

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Crystal Data: Monoclinic, probable. *Point Group:* *m*. As very fine radiating fibers, to 3 cm, divergent sprays, spherical aggregates.

Physical Properties: *Tenacity:* Elastic. Hardness = 2.5 D(meas.) = 2.18
D(calc.) = [2.82]

Optical Properties: Transparent to opaque. *Color:* Pink, purple, violet, beige, reddish to orange-brown, dark brown, bronze; in transmitted light, pale maroon. *Luster:* Silky.
Optical Class: Biaxial. *Pleochroism:* Distinct. *Orientation:* $X \wedge$ fiber axis = 8° .
Absorption: Maximum \perp length of fibers. $\alpha = 1.530$ $\beta = \text{n.d.}$ $\gamma = 1.559$ 2V(meas.) = n.d.

Cell Data: *Space Group:* [*Pn*] (ICDD 27-312, by analogy to paligorskite). $a = 12.759$
 $b = 18.369$ $c = 5.024$ $\beta = 91.98^\circ$ $Z = 2$

X-ray Powder Pattern: Mont Saint-Hilaire, Canada.
10.5 (100), 3.302 (90), 2.621 (30), 2.510 (20), 4.41 (18), 3.680 (15), 2.526 (15)

Chemistry:

	(1)
SiO ₂	48.44
TiO ₂	0.09
Al ₂ O ₃	1.49
Cr ₂ O ₃	0.007
MnO	28.41
ZnO	1.10
MgO	2.35
CaO	0.90
K ₂ O	0.05
H ₂ O	17.22
Total	100.057

(1) Mont Saint-Hilaire, Canada; by XRF, AA, and TGA; corresponds to $(\text{Mn}_{3.97}\text{Mg}_{0.58}\text{Al}_{0.29}\text{Ca}_{0.16}\text{Zn}_{0.13}\text{K}_{0.01}\text{Ti}_{0.01})_{\Sigma=5.15}\text{Si}_8\text{O}_{20.31}(\text{OH})_{1.99} \cdot 9.06\text{H}_2\text{O}$.

Occurrence: A late-stage hydrothermal mineral in pegmatite veins within nepheline syenite in an intrusive alkalic gabbro-syenite complex (Mont Saint-Hilaire, Canada);

Association: Analcime, sérandite, eudialyte, polyolithionite, aegirine, microcline, albite (Mont Saint-Hilaire, Canada).

Distribution: From Mont Saint-Hilaire and in the Saint-Amable sill, near Varennes, Quebec, Canada. On Mt. Karnasurt, Lovozero massif, Russia.

Name: For Yves Oscar Fortier (1914–), former Director of the Geological Survey of Canada (1964–1972).

Type Material: École Polytechnique, Montreal, 13017; Royal Ontario Museum, Toronto, M33627; Canadian Museum of Nature, Ottawa, Canada; National Museum of Natural History, Washington, D.C., USA, 131952; The Natural History Museum, London, England, 1975,418; University of Paris, Paris; Museum of Natural History, Paris; National School of Mines, Paris, France.

References: (1) Perrault, G., Y. Harvey, and R. Pertsowsky (1975) La yofortierite, un nouveau silicate hydraté de manganèse de St-Hilaire, P.Q. Can. Mineral., 13, 68–74 (in French with English abs.). (2) (1976) Amer. Mineral., 61, 341 (abs. ref. 1). (3) Horváth, L., E. Pfenninger-Horváth, R.A. Gault, and P. Tarassoff (1998) Mineralogy of the Saint-Amable Sill, Varennes and Saint-Amable, Québec. Mineral. Record, 29, 83–118, esp. 112.

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