Volaschioite $Fe_4(SO_4)O_2(OH)_6 \cdot 2H_2O$

Crystal Data: Monoclinic. *Point Group:* 2/*m*. As radial clusters of bladed crystals to 0.1 mm, elongated along [010].

Physical Properties: *Cleavage:* Perfect on {100}. *Fracture:* n.d. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 3.03

Optical Properties: Transparent. *Color:* Yellowish-orange. *Streak:* Orange. *Luster:* Vitreous to resinous. *Optical Class:* n.d. *n* >1.68 *Pleochroism*: Strong; red [010], yellowish-orange (010).

Cell Data: *Space Group: C2/m*. a = 18.068(4) b = 3.058(1) c = 10.929(2) β = 93.82(3)° Z = 2

X-ray Powder Pattern: Fornovolasco, Apuan Alps, Tuscany, Italy.
8.03 (s), 4.37 (m), 3.989 (m), 3.343 (mw), 2.633 (mw), 3.028 (w), 2.73 (w)

Chemistry:

	(1)	(2)
Fe_2O_3	63.33	65.24
SO_3	14.07	16.36
H_2O	17.18	18.40
Total	94.58	100.00

(1) Fornovolasco, Apuan Alps, Tuscany, Italy; average of 11 electron microprobe analyses, H_2O and OH^- calculated from structure analysis; corresponding to $Fe_{4.16}(SO_4)_{0.92}O_{2.32}(OH)_6 \cdot 2H_2O$.
(2) $Fe_4(SO_4)O_2(OH)_6 \cdot 2H_2O$.

Occurrence: An oxidation product of pyrite in tunnels through a magnetite-pyrite deposit.

Association: Pyrite, fibroferrite, goethite, melanterite, römerite.

Distribution: Cava del Ferro mining complex, Fornovolasco, Apuan Alps, Tuscany, Italy.

Name: Derived from the ancient name for the first known locality, believed to be derived from *forno* (furnace) and *Volaschio* (a locally significant proper noun).

Type Material: Museum of Natural History, University of Pisa, Italy; 19300.

References: (1) Biagioni, C., E. Bonnaccorsi, and P. Orlandi (2011) Volaschioite, $Fe_4(SO_4)O_2(OH)_6 \cdot 2H_2O$, a new mineral species from Fornovolasco, Apuan Alps, Tuscany, Italy. Canadian Mineralogist, 49, 605-614. (2) (2013) Amer. Mineral., 98, 813-814 (abs. ref. 1).