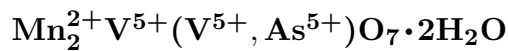


**Fianelite**

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**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ . Rare crystals, platy, prominent {010}, with {100}, {001}, {041}(?), intergrown and striated || [100], to 0.2 mm; in rosettes and polycrystalline crusts.

**Physical Properties:** *Cleavage:* Parallel {001}(?) and {100}(?), good. *Hardness* =  $\sim 3$  VHN = 84–89, average 86.5 (15 g load).  $D(\text{meas.}) = 3.21(1)$   $D(\text{calc.}) = 3.217(2)$

**Optical Properties:** Transparent. *Color:* Red-orange. *Streak:* Orange. *Luster:* Vitreous. *Optical Class:* Biaxial. *Pleochroism:* Strong; yellow to red on {010} (?).  $n = 1.82(2)$   $2V(\text{meas.}) = < 10^\circ$

**Cell Data:** *Space Group:*  $P2_1/n$ .  $a = 7.809(2)$   $b = 14.554(4)$   $c = 6.705(4)$   $\beta = 93.27(3)^\circ$   $Z = 4$

**X-ray Powder Pattern:** Fianel mine, Switzerland.  
3.039 (100), 5.32 (80), 2.721 (60), 1.593 (60), 3.436 (50), 3.259 (50), 2.573 (50)

Chemistry:	(1)
As <sub>2</sub> O <sub>5</sub>	13.57
V <sub>2</sub> O <sub>5</sub>	38.23
SiO <sub>2</sub>	0.12
MnO	37.49
H <sub>2</sub> O	[9.64]
Total	[99.05]

(1) Fianel mine, Switzerland; by electron microprobe, average of eight analyses on three grains, total Mn as MnO, H<sub>2</sub>O calculated from crystal-structure analysis; corresponds to  $\text{Mn}_{1.98}(\text{V}_{1.57}\text{As}_{0.44}\text{Si}_{0.01})_{\Sigma=2.02}\text{O}_7 \cdot 2\text{H}_2\text{O}$ .

**Occurrence:** In fractures crosscutting veinlets in metamorphosed Fe–Mn ores.

**Association:** Medaite, palenzonaite, saneroite, pyrobelonite, parsettensite, rhodochrosite, kutnohorite, aegirine, quartz.

**Distribution:** From the Fianel mine, Val Ferrera, Graubünden, Switzerland.

**Name:** For its occurrence in the Fianel mine, Switzerland.

**Type Material:** Natural History Museum, Basel, Switzerland.

**References:** (1) Brugger, J. and P. Berlepsch (1996) Description and crystal structure of fianelite,  $\text{Mn}_2\text{V}(\text{V}, \text{As})\text{O}_7 \cdot 2\text{H}_2\text{O}$ , a new mineral from Fianel, Val Ferrera, Graubünden, Switzerland. *Amer. Mineral.*, 81, 1270–1276.