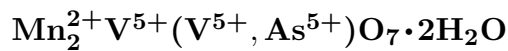


Fianelite

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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* = ~ 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 ₂ O ₅ 13.57
	V ₂ O ₅ 38.23
	SiO ₂ 0.12
	MnO 37.49
	H ₂ O [9.64]
	<hr/> Total [99.05]

(1) Fianel mine, Switzerland; by electron microprobe, average of eight analyses on three grains, total Mn as MnO, H₂O 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.