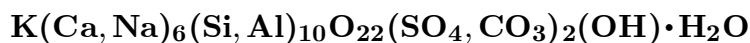


Tuscanite

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Crystal Data: Monoclinic. *Point Group:* $2/m$. In platy crystals, flattened on {100}, to 1 cm. *Twinning:* Common, twin plane {100}.

Physical Properties: *Cleavage:* {100}, distinct. Hardness = 5.5–6 D(meas.) = 2.83 D(calc.) = 2.77

Optical Properties: Transparent. *Color:* Colorless.
Optical Class: Biaxial (-). *Orientation:* $Z = b$; $X \wedge c = 40^\circ$. $\alpha = 1.581(1)$ $\beta = 1.590(1)$
 $\gamma = 1.591(1)$ $2V(\text{meas.}) = 40^\circ$

Cell Data: *Space Group:* $P2_1/a$. $a = 24.036(14)$ $b = 5.110(3)$ $c = 10.888(8)$
 $\beta = 106.96(3)^\circ$ $Z = [2]$

X-ray Powder Pattern: Latera caldera, Italy.
 11.51 (100), 2.872 (100), 3.065 (47), 3.832 (24), 2.962 (24), 5.75 (17), 2.830 (16)

Chemistry:	(1)
SiO ₂	34.64
Al ₂ O ₃	16.95
Fe ₂ O ₃	0.76
MgO	0.40
CaO	26.76
SrO	0.38
Na ₂ O	1.45
K ₂ O	3.79
Cl	0.02
H ₂ O	2.61
CO ₂	2.20
SO ₃	10.04
Total	100.00

(1) Latera caldera, Italy; by AA and XRF, corresponds to $(\text{K}_{0.88}\text{Sr}_{0.04})_{\Sigma=0.92}(\text{Ca}_{5.25}\text{Na}_{0.51}\text{Mg}_{0.11}\text{Fe}_{0.10}^{3+})_{\Sigma=5.97}(\text{Si}_{6.34}\text{Al}_{3.66})_{\Sigma=10.00}\text{O}_{22}[(\text{SO}_4)_{1.38}(\text{CO}_3)_{0.55}]_{\Sigma=1.93}(\text{OH})_{0.99} \cdot (\text{H}_2\text{O})_{1.08}$.

Occurrence: Within ejected blocks of metasomatized carbonate rocks in a pumice deposit.

Association: Vesuvianite, andradite, grossular, pyroxene, wollastonite, anorthite, clintonite, latiumite.

Distribution: From the Casa Collina quarry, in the Latera caldera, Pitigliano, near Grosseto, Tuscany, and at Sacrofano, Lazio, Italy.

Name: For the Tuscany region of Italy where the mineral was first found.

Type Material: University of Pisa, Pisa, 3210; University of Modena, Modena, Italy; National Museum of Natural History, Washington, D.C., USA, 143944.

References: (1) Orlandi, P., L. Leoni, M. Mellini, and S. Merlino (1977) Tuscanite, a new mineral related to latiumite. *Amer. Mineral.*, 62, 1110–1113. (2) Mellini, M., S. Merlino, and G. Rossi (1977) The crystal structure of tuscanite. *Amer. Mineral.*, 62, 1114–1120.