Latiumite  
\((\text{Ca, K})_8(\text{Al, Mg, Fe})(\text{Si, Al})_{10}\text{O}_{25}(\text{SO}_4))\)

Crystal Data: Monoclinic.  
Point Group: 2.  
Elongated tabular crystals, to 5 mm; also massive.  
Twinning: On \{100\} common, simple or multiple.

Physical Properties: Cleavage: \{100\}, perfect.  
Hardness = 5.5–6  
D(meas.) = 2.93  
D(calc.) = 2.92

Optical Properties: Transparent to translucent.  
Color: White, may be zoned or mottled.  
Luster: Vitreous.  
Optical Class: Biaxial (+) or (−).  
Orientation: \(Z = b; X \wedge c = 16^\circ–28^\circ\).  
Dispersion: \(r > v\), marked.  
\(\alpha = 1.600–1.603\)  
\(\beta = 1.606–1.609\)  
\(\gamma = 1.614–1.615\)  
\(2V(\text{meas.}) = 83^\circ–90^\circ\)

Cell Data: Space Group: \(P2_1\).  
\(a = 12.06(1)\)  
\(b = 5.08(2)\)  
\(c = 10.81(1)\)  
\(\beta = 106.0^\circ\)

X-ray Powder Pattern: Albano, Italy.  
2.86 (s1), 3.06 (s2), 2.96 (s3), 2.54 (s), 4.6 (m), 4.5 (m), 3.83 (m)

Chemistry:  
\[\begin{array}{ccc}
\text{SiO}_2 & 28.33 & K_2O \\
\text{Al}_2\text{O}_3 & 24.67 & \text{Cl} \\
\text{Fe}_2\text{O}_3 & 0.50 & \text{H}_2\text{O}^+ \\
\text{FeO} & 0.55 & \text{H}_2\text{O}^- \\
\text{MnO} & 0.02 & \text{CO}_2 \\
\text{MgO} & 0.76 & \text{SO}_3 \\
\text{CaO} & 29.41 & \text{O} = \text{Cl}_2 \\
\text{Na}_2\text{O} & 1.11 & \text{Total} \\
\end{array}\]

(1) Albano, Italy; combination of two partial analyses, corresponding to \((\text{Ca}_{5.91}\text{K}_{1.73}\text{Na}_{0.40})_\Sigma = 8.04\)  
\((\text{Al}_{0.76}\text{Mg}_{0.21}\text{Fe}^{2+}_{0.09}\text{Fe}^{3+}_{0.07})_\Sigma = 1.03(\text{Si}_{5.31}\text{Al}_{4.69})_\Sigma = 10.06\text{O}_{25}[(\text{SO}_4)_{0.70}(\text{CO}_3)_{0.40}\text{Cl}_{0.02}]_\Sigma = 1.18\)

Occurrence: In blocks of metamorphosed limestone ejected by volcanism.

Association: Hedenbergite, grossular-andradite, melilite, leucite, haüyne, kaliophilite.

Distribution: From Albano, in the Alban Hills, Lazio, and from Pitigliano, near Grosseto, Tuscany, Italy.

Name: For the Latin name of the district of origin, Latium, Italy.

Type Material: Cambridge University, Cambridge, England, 45482, 29799.

References:  