

Crystal Data: Monoclinic. *Point Group:* $2/m$. As prismatic to acicular crystals, elongated along [001], showing {100}, {110}, $\{\bar{1}01\}$, $\{\bar{1}11\}$, $\{\bar{2}11\}$, to 2 cm; commonly in radiating aggregates.

Physical Properties: *Tenacity:* Brittle. Hardness = 3 D(meas.) = 2.345
D(calc.) = [2.36]

Optical Properties: Transparent to translucent. *Color:* Colorless, white, pale green; colorless in thin section. *Luster:* Vitreous to silky in aggregates.

Optical Class: Biaxial (+). *Orientation:* $X = b$; $Z \wedge c \simeq -17^\circ$. $\alpha = 1.550(1)$ $\beta = 1.561(1)$
 $\gamma = 1.577(1)$ $2V(\text{meas.}) = \text{Large}$.

Cell Data: *Space Group:* $P2_1/c$. $a = 10.22$ $b = 9.56$ $c = 6.94$ $\beta = 97.9^\circ$ $Z = 2$

X-ray Powder Pattern: Llallagua, Bolivia.

4.687 (100), 4.337 (79), 2.764 (75), 10.12 (69), 3.985 (54), 5.095 (50), 2.749 (32)

Chemistry:	(1)	(2)
P_2O_5	29.55	29.70
SiO_2	0.05	
Al_2O_3	21.01	21.34
Fe_2O_3	0.35	
FeO	14.57	15.03
MgO	0.55	
CaO	0.27	
H_2O^+	14.00	
H_2O^-	19.22	
H_2O		33.93
Total	99.57	100.00

(1) Llallagua, Bolivia. (2) $\text{FeAl}_2(\text{PO}_4)_2(\text{OH})_2 \cdot 8\text{H}_2\text{O}$.

Polymorphism & Series: Dimorphous with paravauxite.

Occurrence: An uncommon secondary mineral in the oxidized zone of tin mines.

Association: Vauxite, paravauxite, wavellite, quartz.

Distribution: From Llallagua and Tazna, Potosí, Bolivia.

Name: In allusion to the chemical relation to *vauxite*.

Type Material: The Natural History Museum, London, England, 1928,335; National Museum of Natural History, Washington, D.C., USA, 136009.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 971–972. (2) Baur, W.H. and B. Rama Rao (1967) The crystal structure of metavauxite. *Naturwiss.*, 51, 561. (3) Blanchard, F.N. and S.A. Abernathy (1980) X-ray powder diffraction data for phosphate minerals: vauxite, metavauxite, vivianite, Mn-heterosite, scorzalite, and lazulite. *Florida Scientist*, 43, 257–265.