

Crystal Data: Monoclinic. *Point Group:* 2/*m*. Equant, complexly faceted crystals, thick tabular or rarely prismatic || [001], with common forms {001}, {100}, {110}, { $\bar{1}$ 01}, and {111}; as groupings of parallel individuals, to 2 mm.

Physical Properties: *Cleavage:* {110}, good, but difficult. *Fracture:* Conchoidal. Hardness = 2.5–3 D(meas.) = 2.19–2.20 D(calc.) = 2.22 Soluble in H₂O; taste astringent.

Optical Properties: Transparent. *Color:* Pale yellow with a greenish tint. *Luster:* Vitreous to adamantine.

Optical Class: Biaxial (+). *Orientation:* $Y = b$; $X \wedge c = -39^\circ$; $Z \wedge c = 51^\circ$. *Dispersion:* $r < v$. $\alpha = 1.532(2)$ $\beta = 1.555(3)$ $\gamma = 1.591(2)$ 2V(meas.) = Large.

Cell Data: *Space Group:* C2/*c*. $a = 8.4190(61)$ $b = 10.8409(40)$ $c = 12.4717(50)$
 $\beta = 95.495(47)^\circ$ $Z = 4$

X-ray Powder Pattern: n.d.

Chemistry:

	(1)	(2)
SO ₃	43.59	42.24
Fe ₂ O ₃	21.39	21.06
Na ₂ O	7.14	8.18
H ₂ O	28.45	28.52
Total	100.57	100.00

(1) Tierra Amarilla, Chile. (2) NaFe(SO₄)₂•6H₂O.

Occurrence: Formed in the oxidation zones of sulfide deposits.

Association: Coquimbite, other sulfates.

Distribution: From Tierra Amarilla, southeast of Copiapó, Atacama, Chile. At the Xitieshan Pb–Zn mine, south of Mt. Qilianshan, Chaidamu, Qinghai Province, China.

Name: For the locality at Tierra Amarilla, Chile.

Type Material: National School of Mines, Paris, France, 133.69.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 468–469. (2) Li Jia-Ju, Zhou Jing-Liang, and Dong Wei (1990) The structure of amarillite. Chinese Science Bulletin, 35(24), 2073–2075 (in English).