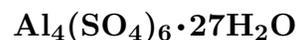


## Meta-alunogen



©2001-2005 Mineral Data Publishing, version 1

**Crystal Data:** Orthorhombic (synthetic). *Point Group:* n.d. Typically in fibrous tangled masses and efflorescences, or crackled massive, altered from alunogen.

**Physical Properties:** *Cleavage:* Perfect on {010}. *Hardness =* n.d. *D(meas.) =* n.d. *D(calc.) =* [2.85]

**Optical Properties:** Semitransparent. *Color:* White, pale yellow; colorless in transmitted light. *Luster:* Waxy to pearly.

*Optical Class:* Biaxial (+). *Orientation:*  $X \perp b$ .  $\alpha = 1.469$   $\beta = 1.473$   $\gamma = 1.491$

*2V(meas.) =* Large.

**Cell Data:** *Space Group:* n.d.  $a = 12.25$   $b = 13.95$   $c = 15.95$   $Z = 4$

**X-ray Powder Pattern:** Synthetic.

4.071 (100), 12.20 (26), 6.114 (11), 3.860 (9), 4.208 (7), 3.990 (5), 3.024 (4)

**Chemistry:**

	(1)	(2)
SO <sub>3</sub>	41.04	41.03
Al <sub>2</sub> O <sub>3</sub>	17.33	17.42
H <sub>2</sub> O	41.44	41.55
Total	99.81	100.00

(1) Francisco de Vergara, Chile. (2)  $\text{Al}_4(\text{SO}_4)_6 \cdot 27\text{H}_2\text{O}$ .

**Occurrence:** An uncommon mineral formed by dehydration of alunogen; found in sulfate-rich hydrothermal deposits and geothermal fields.

**Association:** Alunogen, pickeringite, halotrichite, mirabilite, kalinite, gypsum.

**Distribution:** From alum mines 3.5 km south of Francisco de Vergara, Antofagasta, Chile. In Ruatapu Cave and within the Te Kopia geothermal field, Taupo Volcanic Zone, New Zealand.

**Name:** For *meta*, indicating a lower hydrate, and *alunogen*.

**Type Material:** n.d.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 539–540, 537–539 [alunogen, part]. (2) Náráy-Szabó, I (1969) Über die hydrate des Aluminiumsulfats. Acta Chimica Academiae Scientiarum Hungaricae, 60(1–2), 27–36 (in German).