

Metahohmannite

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Pulverulent massive.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = 2.568$

Optical Properties: Semitransparent. *Color:* Orange.

Optical Class: Biaxial (+). $\alpha = 1.709$ $\beta = 1.718$ $\gamma = 1.734$ $2V(\text{meas.}) = \text{n.d.}$ *Pleochroism:* X = pale yellow; Y = reddish yellow; Z = reddish brown.

Cell Data: *Space Group:* $P\bar{1}$. $a = 7.3484(5)$ $b = 9.7710(6)$ $c = 7.1521(5)$ $\alpha = 91.684(5)^\circ$
 $\beta = 98.523(5)^\circ$ $\gamma = 86.390(5)^\circ$ $Z = 2$

X-ray Powder Pattern: Saghand, Iran; artificially dehydrated from hohmannite. (ICDD 39-379).
7.18 (100), 4.27 (71), 3.28 (71), 2.96 (71), 2.70 (71), 2.49 (71), 9.7 (57)

Chemistry:	(1)	(2)
SO ₃	39.61	40.86
Fe ₂ O ₃	39.25	40.75
H ₂ O	20.29	18.40
Total	99.15	100.01

(1) Alcaparrosa, Chile. (2) $\text{Fe}^{3+}_2\text{O}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$.

Mineral Group: Amarantite group.

Occurrence: Formed by the partial dehydration of hohmannite.

Association: Hohmannite.

Distribution: In Chile, in Antofagasta, from Chuquicamata, at Quetena, west of Calama, and Alcaparrosa, near Cerritos Bayos, southwest of Calama. From Saghand, Yazd, Iran. At the Redington mercury mine, Knoxville, Napa Co., California, USA.

Name: The prefix, from the Greek, *meta*, indicates a lower hydrate than *hohmannite*.

Type Material: Harvard University, Cambridge, Massachusetts, USA, 99049, 99051.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 608. (2) Scordari, F., G. Ventruti, and A.F. Gualtieri (2004) The structure of metahohmannite, $\text{Fe}^{3+}_2[\text{O}(\text{SO}_4)_2] \cdot 4\text{H}_2\text{O}$, by in situ synchrotron powder diffraction. *Amer. Mineral.*, 89, 265-370.