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Crystal Data: n.d. Point Group: n.d. Pulverulent massive.

**Physical Properties:** Hardness = n.d. D(meas.) = n.d. D(calc.) = n.d.

Optical Properties: Semitransparent. Color: Orange.

Optical Class: Biaxial (+). Pleochroism: X = pale yellow; Y = reddish yellow; Z = reddish

brown.  $\alpha = 1.709$   $\beta = 1.718$   $\gamma = 1.734$  2V(meas.) = n.d.

Cell Data: Space Group: n.d. Z = n.d.

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
$\text{Fe}_2\text{O}_3$	39.25	40.75
$\mathrm{H_2O}$	20.29	18.39
Total	99.15	100.00

(1) Alcaparrosa, Chile. (2)  $\mathrm{Fe_2(SO_4)_2(OH)_2} \bullet 3\mathrm{H_2O}.$ 

**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.