

**Crystal Data:** Monoclinic. *Point Group:* 2/m. Fibrous aggregates, to 4 cm; commonly as powdery efflorescences.

**Physical Properties:** Hardness = [2–3] (by analogy to rozenite group members).  
D(meas.) = 2.01 (synthetic). D(calc.) = 2.007(3) Soluble in H<sub>2</sub>O.

**Optical Properties:** Semitransparent. *Color:* White to pale yellow. *Luster:* Dull.  
*Optical Class:* Biaxial (-).  $\alpha = 1.460$   $\beta = 1.471$   $\gamma = 1.474$   $2V(\text{meas.}) = 55(18)^\circ$

**Cell Data:** *Space Group:* P2<sub>1</sub>/n (synthetic).  $a = 5.922(6)$   $b = 13.604(4)$   $c = 7.905(5)$   
 $\beta = 90^\circ 51(10)'$   $Z = 4$

**X-ray Powder Pattern:** Synthetic. (ICDD 24-720).  
4.46 (100), 5.43 (75), 3.951 (65), 2.946 (55), 6.83 (45), 3.398 (45), 3.216 (40)

Chemistry:	(1)	(2)
SO <sub>3</sub>	41.0	41.61
FeO	4.5	
MgO	17.5	20.94
H <sub>2</sub> O	36.0	37.45
Total	99.0	100.00

(1) Alta mine, California, USA; by electron microprobe and gravimetric methods, total Fe as FeO; corresponds to (Mg<sub>0.86</sub>Fe<sub>0.12</sub>)<sub>Σ=0.98</sub>(SO<sub>4</sub>)<sub>1.02</sub>·4.00H<sub>2</sub>O. (2) MgSO<sub>4</sub>·4H<sub>2</sub>O.

**Mineral Group:** Rozenite group.

**Occurrence:** An uncommon secondary mineral formed in the presence of iron sulfides; as efflorescences from evaporation of surface and ground waters.

**Association:** Pyrite, marcasite (Starkey mine, Missouri, USA); konyaite, blödite, gypsum, halite (Great Konya Basin, Turkey); szomolnokite, gunningite (Goldstrike mine, Nevada, USA).

**Distribution:** In the USA, from the Starkey mine, Madison Co., Missouri; at the Alta troilite mine, Del Norte Co., California; in the Green River Formation, northern Piceance Creek Basin, Garfield and Rio Blanco Cos., and at Garden Park, Fremont Co., Colorado; from the Goldstrike mine, Lynn district, Eureka Co., Nevada; near the Fuemerol mine area, Emery Co., Utah. In the Hansa I mine, Empelde, and the Niedersachsen mine, near Wathlingen, Lower Saxony, Germany. In the Nižná Mysl'a mine, Vel'ky Milic massif, Slovakia. Long fibers from Felsőpetény, also at Rudabánya, Szarvaskó, and Radostyán, Hungary. From the Cantiere Macei, Capo Calamita, Elba, Italy. In Turkey, in the Great Konya Basin, near Çakmak, Konya Province.

**Name:** For its originally-noted occurrence at the Starkey mine, Missouri, USA.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 105610.

**References:** (1) Grawe, O.R. (1956) Starkeyite, a correction. *Amer. Mineral.*, 41, 662.  
(2) Baur, W.H. (1964) On the crystal chemistry of salt hydrates. II. A neutron diffraction study of MgSO<sub>4</sub>·4H<sub>2</sub>O. *Acta Cryst.*, 17, 863–869. (3) Snetsinger, K.G. (1973) Ferroan starkeyite from Del Norte Co., California. *Can. Mineral.*, 12, 229.