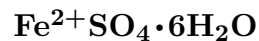


Ferrohexahydrate



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Crystal Data: Monoclinic (by analogy to other group members). *Point Group:* $2/m$.
Stalactites and veinlets, fibrous to capillary crystals, to 6 mm.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = 1.934$ (Hygroscopic;
soluble in H_2O .)

Optical Properties: Transparent. *Color:* Bluish green, colorless.
Optical Class: Biaxial (-) (by analogy to other group members). $\alpha = 1.468(2)$ $\beta = \text{n.d.}$
 $\gamma = 1.498(2)$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* $C2/c$ (ICDD 15-393, by analogy to synthetic $\text{MgSO}_4\cdot 6\text{H}_2\text{O}$).
 $a = 10.08$ $b = 7.28$ $c = 24.59$ $\beta = 98^\circ 22'$ $Z = 8$

X-ray Powder Pattern: Northeastern Tatarstan, Russia.
4.43 (10), 2.97 (7), 2.93 (7), 4.89 (6), 2.03 (6), 1.881 (6), 1.862 (6)

Chemistry: (1) Sofiya mine, Ukraine; described with Fe:Mg from 42.28 to 3.54.
(2) Northeastern Tatarstan, Russia; microchemical analysis confirms ferrous iron and absence of Mg or Zn.

Mineral Group: Hexahydrate group.

Occurrence: In oxidized ore-bearing sandstone (Sofiya mine, Ukraine); a dehydration product of melanterite in drill cores (northeastern Tatarstan, Russia).

Association: Melanterite (northeastern Tatarstan, Russia).

Distribution: From the Sofiya mine, Nikitovka mercury deposit, Gorlovka, Ukraine. At Olkusz, northwest of Krakow, Poland. From an unspecified locality in northeastern Tatarstan, Russia. At Jáchymov (Joachimsthal), Czech Republic. In Italy, on Vesuvius, Campania, and from the Conchea mine, near Rio Marina, Elba. Found along Contrary Creek, Louisa Co., Virginia, USA.

Name: As a ferrous iron sulfate with six essential water molecules per formula unit.

Type Material: n.d.

References: (1) Karnitskii, V.A. and O.I. Nekrasova (1930) Secondary minerals of the Nikitovka mercury deposit. *Mineral Resources*, 1, 135–138 (in Russian). (2) Vlasov, V.V. and A.V. Kuznetsov (1962) Melanterite and the products of its alteration. *Zap. Vses. Mineral. Obshch.*, 91, 490–492 (in Russian). (3) (1963) *Amer. Mineral.*, 48, 433 (abs. ref. 2). (4) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union. *Ocean Pictures*, Moscow, 84.