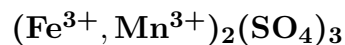


Mikasaite

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Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. Typically in aggregates of porous spherical crystals, to 100 μm .

Physical Properties: Hardness = n.d. $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = [3.06]$ Deliquescent, dissolving in adsorbed H_2O .

Optical Properties: Semitransparent. *Color:* White to pale brown. *Streak:* White to pale brown.

Optical Class: Uniaxial (+). $\omega = 1.504(2)$ $\epsilon = 1.518(3)$

Cell Data: *Space Group:* $[R\bar{3}]$ (by analogy to synthetic $\text{Fe}_2(\text{SO}_4)_3$). $a = 8.14(1)$
 $c = 21.99(8)$ $Z = [6]$

X-ray Powder Pattern: Ikushunbetsu, Japan.

3.56 (100), 5.99 (28), 4.35 (23), 2.97 (20), 2.72 (20), 2.64 (11), 2.35 (7)

Chemistry:

	(1)	(2)	(3)
SO_3	46.8	61.6	60.07
Al_2O_3	4.3	5.7	
Fe_2O_3	24.3	32.0	39.93
Mn_2O_3	0.5	0.7	
H_2O	23.0		
Total	98.9	100.0	100.00

(1) Ikushunbetsu, Japan; by electron microprobe, average of seven analyses, total Fe as Fe^{3+} , total Mn as Mn^{3+} , SO_3 by wet analysis, H_2O by moisture evolution analyzer, considered as adsorbed. (2) Analysis (1) recalculated to a H_2O -free basis, then corresponding to $(\text{Fe}_{1.56}\text{Al}_{0.44}\text{Mn}_{0.03})_{\Sigma=2.03}(\text{SO}_4)_{3.00}$. (2) $\text{Fe}_2(\text{SO}_4)_3$.

Occurrence: A sublimate around a burning coal-gas escape fracture, formed at > 300 °C.

Association: n.d.

Distribution: From Ikushunbetsu, near Mikasa, Hokkaido, Japan.

Name: For its occurrence near Mikasa, Japan.

Type Material: Hokkaido University, Sapporo, Japan.

References: (1) Miura, H., K. Niida, and T. Hirama (1994) Mikasaite, $(\text{Fe}^{3+}, \text{Al})_2(\text{SO}_4)_3$, a new ferric sulphate mineral from Mikasa City, Hokkaido, Japan. *Mineral. Mag.*, 58, 649–653. (2) (1995) *Amer. Mineral.*, 80, 846 (abs. ref. 1).