Mikasaite  
\((\text{Fe}^{3+}, \text{Mn}^{3+})_2(\text{SO}_4)_3\)  

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

Physical Properties: Hardness = n.d.  
D(meas.) = n.d.  
D(calc.) = [3.06] Deliquescent, dissolving in adsorbed H₂O.

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:** \([R3]\) (by analogy to synthetic Fe₂(SO₄)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:  
<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₃</td>
<td>46.8</td>
<td>61.6</td>
<td>60.07</td>
</tr>
<tr>
<td>Al₂O₃</td>
<td>4.3</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>Fe₂O₃</td>
<td>24.3</td>
<td>32.0</td>
<td>39.93</td>
</tr>
<tr>
<td>Mn₂O₃</td>
<td>0.5</td>
<td>0.7</td>
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<tr>
<td>H₂O</td>
<td>23.0</td>
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<tr>
<td><strong>Total</strong></td>
<td>98.9</td>
<td>100.0</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Ikushunbetsu, Japan; by electron microprobe, average of seven analyses, total Fe as Fe³⁺, total Mn as Mn³⁺, SO₃ by wet analysis, H₂O by moisture evolution analyzer, considered as adsorbed.  
(2) Analysis (1) recalculated to a H₂O–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) Fe₂(SO₄)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:  