Brattforsite

Crystal Data: Monoclinic (pseudotetragonal). Point Group: 2/m. As subhedral, mostly equant crystals to 0.5 mm. Twinning: Polysynthetic with extinction between lamellae at 27(1)°.


Cell Data: Space Group: I2/a. a = 19.5806(7) b = 19.5763(7) c = 19.7595(7) β = 90.393(3)° Z = 8

X-ray Powder Pattern: Brattforsgruvan mine, Filipstad municipality, Värmland, Sweden. 2.843 (100), 2.828 (99), 1.731 (32), 2.448 (28), 1.739 (25), 2.471 (16), 1.746 (16)

Chemistry:

<table>
<thead>
<tr>
<th>Element</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MgO</td>
<td>0.62</td>
<td></td>
</tr>
<tr>
<td>CaO</td>
<td>1.26</td>
<td></td>
</tr>
<tr>
<td>MnO</td>
<td>48.66</td>
<td>52.04</td>
</tr>
<tr>
<td>FeO</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>As₂O₃</td>
<td>46.72</td>
<td>45.84</td>
</tr>
<tr>
<td>Cl</td>
<td>2.61</td>
<td>2.74</td>
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<tr>
<td>H₂O</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>-O = Cl</td>
<td>0.59</td>
<td>0.62</td>
</tr>
<tr>
<td>Total</td>
<td>99.48</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Brattforsgruvan mine, Filipstad municipality, Värmland, Sweden; average electron microprobe, FTIR and Raman spectroscopic analyses; corresponding to (Mn₁₇.67Ca₀.58Mg₀.40Fe₀.05)Σ=18.70 As₁₂.₁₅O₃₅.₉₀Cl₁₁.₉₀(OH)₉₀.₂₀.  (2) Mn₁₉(AsO₃)₁₂Cl₂.

Occurrence: Probably replaced a Mn-rich precursor mineral in mineralized skarn due to alteration by a late- or post-metamorphic, As and Cl-bearing fluid.

Association: Jacobsite, alleghanyite, phlogopite, calcite, dolomite.

Distribution: From the Brattforsgruvan mine, Filipstad municipality, Värmland, Sweden.

Name: For the mine that produced the studied material.

Type Material: Department of Geosciences, Swedish Museum of Natural History, Stockholm, Sweden (GEO-NRM #19100303) and the Natural History Museum, University of Pisa, Italy (19912).