Strontioborite \[\text{Sr[B}_8\text{O}_{11}(\text{OH})_4]\]

**Crystal Data:** Monoclinic. **Point Group:** 2. Micalike crystals, to 2 mm.

**Physical Properties:**  
- **Tenacity:** Very brittle.  
- **Fracture:** n.d.  
- **Hardness:** n.d.  
- D(meas.) = 2.40  
- D(calc.) = 2.38

**Optical Properties:**  
- **Color:** Colorless.  
- **Optical Class:** Biaxial (+) or (-).  
- \(\alpha = 1.470(2)\)  
- \(\beta = 1.510(2)\)  
- \(\gamma = 1.579(2)\)  
- 2V(meas.) = \(\sim 85^\circ\)  
- 2V(calc.) = 78°  
- **Orientation:** Positive or negative elongation, inclined extinction.

**Cell Data:**  
- **Space Group:** \(P2_1\).  
- \(a = 7.6192(3)\)  
- \(b = 8.1867(2)\)  
- \(c = 9.9164(3)\)  
- \(\beta = 108.357(4)^\circ\)  
- \(Z = 2\)

**X-Ray Diffraction Pattern:** Chelkar salt dome, near Chelkar (Shalkar) lake, Kazakhstan.

7.22 (100), 4.090 (64), 5.409 (61), 3.300 (48), 2.043 (37), 2.121 (30), 3.082 (28)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\text{B}_2\text{O}_3)</td>
<td>57.85</td>
<td>66.60</td>
</tr>
<tr>
<td>(\text{MgO})</td>
<td>5.75</td>
<td></td>
</tr>
<tr>
<td>(\text{CaO})</td>
<td>4.15</td>
<td></td>
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<tr>
<td>(\text{SrO})</td>
<td>21.66</td>
<td>24.78</td>
</tr>
<tr>
<td>(\text{H}_2\text{O})</td>
<td>11.52</td>
<td>8.62</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.93</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Chelkar salt dome, Kazakhstan.  
(2) \(\text{Sr[B}_8\text{O}_{11}(\text{OH})_4]\).

**Occurrence:** In the insoluble residue from a salt dome.

**Association:** Ginorite, boracite, halurgite, kieserite, anhydrite, preobrazhenskite, boracite, aksaiite, metaborite (Chelkar salt dome, Kazakhstan).

**Distribution:** From the Chelkar salt dome, near Lake Chelkar (Shalkar), Ak-sai Valley, Uralsk district, and in the Inder borate deposit, Kazakhstan.

**Distribution:** In cores of boreholes drilled at the Chelkar salt dome, Kazakhstan.

**Name:** For STRONTIum and BORate in the essential composition.

**Type Material:** A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (69851 and ST-7069).

**References:**