**Vonbezingite** *Ca₆Cu₃(SO₄)₃(OH)₁₂·2H₂O*

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**Crystal Data**: Monoclinic. **Point Group**: 2/m. As crystals, elongated along [001], to 3 cm, showing {110}, {010}, {100}, {111}, {101}. **Twining**: On {001}, twinned by merohedry.

**Physical Properties**: Fracture: Subconchoidal. **Tenacity**: Brittle. **Hardness**: ∼4

D(meas.) = 2.82(2)  D(calc.) = 2.81–2.83

**Optical Properties**: Semitransparent. **Color**: Dark blue. **Streak**: Pale blue. **Luster**: Vitreous on fractures, subvitreous on crystal faces.

**Optical Class**: Biaxial (−). **Pleochroism**: Strong; X = pale blue; Y = grayish blue; Z = dark blue. **Orientation**: X = b; Y ∧ a = 30.2°; Z ∧ c = −11.5°. **Dispersion**: r > v, moderate.  

α = 1.590(2)  β = 1.610(3)  γ = 1.619(2)  2V(meas.) = 65(5)°  2V(calc.) = 67°

**Cell Data**: **Space Group**: P2₁/c.  

a = 15.122(2)  b = 14.358(1)  c = 22.063(4)

β = 108.68(1)°  Z = 8

**X-ray Powder Pattern**: Wessels mine, South Africa.

3.393 (100), 3.120 (85), 3.188 (65), 3.098 (57), 3.368 (55), 3.200 (53), 2.769 (41)

**Chemistry**:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₃</td>
<td>24.0</td>
<td>25.04</td>
</tr>
<tr>
<td>CuO</td>
<td>25.5</td>
<td>24.87</td>
</tr>
<tr>
<td>CaO</td>
<td>35.4</td>
<td>35.07</td>
</tr>
<tr>
<td>H₂O</td>
<td>15.6</td>
<td>15.02</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.5</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Wessels mine, South Africa; by electron microprobe, average of six analyses, H₂O by TGA-mass spectrometry; corresponds to Ca₆.₀₃Cu₃.₀₇(SO₄)₂.₈₇(OH)₁₂.₄₆•2.₀₆H₂O. (2) Ca₆Cu₃(SO₄)₃(OH)₁₂•2H₂O.

**Occurrence**: A very rare mineral formed during a period of evaporation of surface or ground waters at ambient temperature and atmospheric pressure.

**Association**: Barite, azurite, sturmanite, calcite, gypsum, bultfonteinite.

**Distribution**: From the Wessels mine, near Kuruman, Cape Province, South Africa.

**Name**: To honor Karl-Ludwig von Bezing (1945–), Austrian-South African mineral collector, for his contributions to knowledge of mineralogy of the Kalahari manganese field.

**Type Material**: American Museum of Natural History, New York, New York, USA, T100748.


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