**Boromullite**

**Crystal Data:** Orthorhombic. *Point Group: mm2.* As prisms or bundles of prisms, to 0.4 mm; typically as fine intergrowths with or overgrowths on sillimanite, or embaying werdingite.

**Physical Properties:** *Cleavage: None. Fracture: n.d. Tenacity: Brittle.*

- Hardness = n.d.
- D(meas.) = n.d.
- D(calc.) = 3.081


- Optical Class: Biaxial (+)  
  - α = 1.627(1)  
  - β = 1.634(1)  
  - γ = 1.649(1)  
- 2V(meas.) = 57(2)°
- 2V(calc.) = 69(12)°

**Cell Data:** *Space Group: Cmc2₁.*  
- a = 5.7168(19)  
- b = 15.023(5)  
- c = 7.675(3)  
- Z = 2

**X-ray Powder Pattern:** Mount Stafford, central Australia.

- 3.38 (100), 2.19 (80), 1.512 (80), 2.67 (60), 2.51 (60), 5.37 (50), 2.11(50)

**Chemistry:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Formula</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>SiO₂</td>
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<tr>
<td>TiO₂</td>
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<tr>
<td>B₂O₃</td>
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<td>Al₂O₃</td>
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<td>MgO</td>
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<td>FeO</td>
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</tbody>
</table>

- (1) Mount Stafford, central Australia; average of 11 electron microprobe analyses, corresponding to Mg₀.₀₁Fe₀.₀₃Al₈.₈₈B₁.₁₄Si₁.₉₅O₁₈.₉₄.

**Occurrence:** Product of granulite facies metamorphism of boron-rich peletic rocks.

**Association:** Sillimanite, werdingite, sekaninaite-cordierite, potassium feldspar, biotite, hercynite, ilmenite, ominelite-grandidierite, plagioclase, alusite, tourmaline, monazite-(Ce), an unspecified apatite-group mineral, zircon.

**Distribution:** Mount Stafford, ~170 km northwest of Alice Springs, central Australia.

**Name:** Recognizes boron as an essential constituent and for its relationship to mullite.

**Type Material:** South Australian Museum, Science Centre, Morgan Thomas Lane, Adelaide, South Australia 5000, Australia; SAM G31520 and SAM G31521.

**References:**