Malayaite

\[ \text{CaSnSiO}_5 \]

Crystal Data: Monoclinic. Point Group: 2/m. Crystals wedge-shaped, up to 3 cm; massive, as a coating on cassiterite.

Physical Properties: Hardness = 3.5–4. D(meas.) = 4.3(2) D(calc.) = 4.55. Fluoresces pale to bright yellow or yellow-green under UV.


Optical Class: Biaxial (-). \( \alpha = 1.764-1.765 \), \( \beta = 1.783-1.786 \), \( \gamma = 1.798-1.801 \)

Cell Data: Space Group: \( A2/a \). \( a = 7.156(6) \), \( b = 8.895(9) \), \( c = 6.668(4) \), \( \beta = 113.4(1)^\circ \)

Z = 4

X-ray Powder Pattern: Synthetic.

Chemistry:

<table>
<thead>
<tr>
<th>Element</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{SiO}_2 )</td>
<td>21.26</td>
<td>22.49</td>
</tr>
<tr>
<td>( \text{SnO}_2 )</td>
<td>58.48</td>
<td>56.38</td>
</tr>
<tr>
<td>( \text{FeO} )</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>( \text{CaO} )</td>
<td>19.14</td>
<td>20.94</td>
</tr>
<tr>
<td>LOI</td>
<td>0.50</td>
<td></td>
</tr>
</tbody>
</table>

Total: 99.38 99.96

(1) Sungei Lah Valley, Malaya; corresponds to \( \text{Ca}_{0.95}\text{Sn}_{1.07}\text{Si}_{0.98}\text{O}_5 \). (2) Gumble, Australia; by electron microprobe, corresponding to \( \text{Ca}_{1.00}\text{Sn}_{1.00}\text{Fe}_{0.01}\text{Si}_{1.00}\text{O}_5 \).

Occurrence: In tin-rich contact metamorphic skarn deposits, probably a hydrothermal alteration product of cassiterite or other tin-bearing minerals.

Association: Cassiterite, quartz, calcite, wollastonite, pyroxene, garnet.

Distribution: In the Sungei Lah Valley, Chenderiang, Perak State, and other locations in Malaya, Malaysia. From Piniok, Thailand. In the Toroku and Mitate mines, Miyazaki Prefecture; the Sampo mine, Okayama Prefecture; the Hœi mine, Oita Prefecture; and the Kuga mine, Yamaguchi Prefecture, Japan. In the Kan’onisk deposit, headwaters of the Seimchan River, Yakutia, Russia. From Alpe Rosso, Val Vigezzo, Piedmont, Italy. At the Red-a-Ven Brook mine, Meldon, Devon, England. From near Gumble and Bourke, New South Wales, Australia. From the JC claims, near Dorsey Lake, Cassiar Mountains, and near Ash Mountain, McDame, British Columbia, Canada. From the Mesa Grande district, San Diego Co., California, USA.

Name: For the localities in Malaya, Malaysia.

Type Material: n.d.

References: