Brewsterite

\((\text{Sr, Ba, Ca})\text{Al}_2\text{Si}_6\text{O}_{16} \cdot 5\text{H}_2\text{O}\)

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Crystal Data: Monoclinic. Point Group: 2/\(m\). Crystals commonly equant or prismatic, striated and elongated along [100], to 1.5 cm. Platy, radial fibrous, and in granular aggregates. Twinning: Lamellar || (010).


Cell Data: Space Group: \(P2_1/m\). \(a = 6.793(2)\) \(b = 17.573(6)\) \(c = 7.759(2)\) \(\beta = 94.54(3)°\) \(Z = 2\)

X-ray Powder Pattern: Strontian, Scotland.

Chemistry:

\[
\begin{array}{cccc}
\text{SiO}_2 & (1) & 54.42 & 54.02 \\
\text{Al}_2\text{O}_3 & (2) & 15.25 & 15.86 \\
\text{Fe}_2\text{O}_3 & (1) & 0.08 & 0.11 \\
\text{CaO} & (1) & 1.19 & 0.80 \\
\text{SrO} & (1) & 8.99 & 11.80 \\
\text{BaO} & (1) & 6.80 & 3.01 \\
\text{Na}_2\text{O} & (1) & 0.21 & \\
\text{K}_2\text{O} & (1) & 0.14 & \\
\text{H}_2\text{O} & (1) & 13.22 & 13.72 \\
\text{Total} & (1) & 99.95 & 99.67 \\
\text{Total} & (2) & 99.95 & 99.67 \\
\end{array}
\]

(1) Strontian, Scotland; corresponds to \((\text{Sr}_{0.59}\text{Ba}_{0.30}\text{Ca}_{0.11})\Sigma_{-1.02}\text{Al}_{1.99}\text{Si}_{5.03}\text{O}_{16} \cdot 4.86\text{H}_2\text{O}\).

(2) Burpala massif, Russia; corresponds to \((\text{Sr}_{0.76}\text{Ba}_{0.13}\text{Ca}_{0.10}\text{Na}_{0.04}\text{K}_{0.02}\text{Fe}_{0.01})\Sigma_{-1.06}\text{Al}_{2.06}\text{Si}_{5.94}\text{O}_{16} \cdot 4.86\text{H}_2\text{O}\).

Mineral Group: Zeolite group.

Occurrence: Hydrothermally deposited in druses lining cavities in basalts and schists; more rarely in ore deposits.

Association: Zeolites, calcite, quartz.

Distribution: From Strontian, Argyllshire, Scotland. At St. Christophe, Bourg d’Oisans, Isère, and around Barèges, Hautes-Pyrénées, France. In the Burpala massif, about 120 km north of Lake Baikal, eastern Siberia, Russia. At Yellow Lake, near Olalla, British Columbia, Canada. Other localities are reported but require confirmation.

Name: Honoring Sir David Brewster (1781–1868), Scottish mineralogist.


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