

Brewsterite**(Sr, Ba, Ca)Al₂Si₆O₁₆•5H₂O**

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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}.

Physical Properties: *Cleavage:* {010}, perfect. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 5–5.5 D(meas.) = 2.45 D(calc.) = [2.42]

Optical Properties: Transparent. *Color:* White, colorless, yellowish, gray, greenish; colorless in thin section. *Streak:* White. *Luster:* Vitreous to pearly on {010}. *Optical Class:* Biaxial (+). *Orientation:* $Z \perp (010)$; $X \wedge c = 19^\circ\text{--}34^\circ$ in various sectors of the crystal. *Dispersion:* $r > v$, weak, crossed. $\alpha = 1.510$ $\beta = 1.512$ $\gamma = 1.523$ $2V(\text{meas.}) = 65^\circ$

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

X-ray Powder Pattern: Strontian, Scotland.
4.53 (10), 6.15 (9), 2.885 (9), 3.209 (8), 3.867 (7), 4.98 (4), 1.989 (4)

Chemistry:	(1)	(2)
SiO ₂	54.42	54.02
Al ₂ O ₃	15.25	15.86
Fe ₂ O ₃	0.08	0.11
CaO	1.19	0.80
SrO	8.99	11.80
BaO	6.80	3.01
Na ₂ O		0.21
K ₂ O		0.14
H ₂ O	13.22	13.72
Total	99.95	99.67

(1) Strontian, Scotland; corresponds to $(\text{Sr}_{0.58}\text{Ba}_{0.30}\text{Ca}_{0.14})_{\Sigma=1.02}\text{Al}_{1.98}\text{Si}_{6.00}\text{O}_{16} \cdot 4.86\text{H}_2\text{O}$.

(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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