

Crystal Data: Tetragonal. *Point Group:* $\bar{4} 2m$. As grains to 10 μm in equigranular aggregates.

Physical Properties: *Cleavage:* None. *Fracture:* n.d. *Tenacity:* n.d. *Hardness* = ~5.5
D(meas.) = n.d. D(calc.) = 3.30

Optical Properties: Translucent. *Color:* Creamy white, colorless in thin section. *Streak:* White.
Luster: Earthy.
Optical Class: Uniaxial (-). $\omega = 1.700$ $\varepsilon = 1.696$

Cell Data: *Space Group:* $P\bar{4} 21m$. $a = 7.1248(2)$ $c = 4.8177(2)$ $Z = 2$

X-ray Powder Pattern: Fuka Mine, Okayama Prefecture, Japan.
2.654 (100), 2.862 (55), 3.479 (40), 1.920 (35), 1.644 (29), 2.129 (20), 1.644 (20)

Chemistry:	(1)
	CaO
	46.28
	B ₂ O ₃
	28.50
	SiO ₂
	24.24
	<u>Al₂O₃</u>
	0.36
	Total
	99.38

(1) Fuka Mine, Okayama Prefecture, Japan; average electron microprobe analysis; corresponding to Ca_{2.01}B_{2.00}Si_{0.98}Al_{0.02}O₇. (2) Arendal district, Sørlandet, Norway; average electron microprobe analysis corrected for SiO₂ impurity, analysis given in at. wt. %; corresponds to Ca_{1.96}B_{2.07}Si_{0.97}O_{7.00}.

Mineral Group: Melilite group.

Occurrence: In skarn by boron metasomatism of a wollastonite-calcite aggregate (Japan); probably by desilication-dehydroxylation of datolite in a magnetite-hematite skarn deposit (Norway).

Association: Wollastonite, vesuvianite, calcite, johnbaumite (Japan); datolite, calcite, apophyllite, chlorite, amorphous silica (Norway).

Distribution: From the Fuka Mine, Bicchu-cho, Okayama Prefecture, Japan [TL]. In the Arendal district, Sørlandet, Norway.

Name: For *Okayama* prefecture, Japan.

Type Material: National Science Museum, Tokyo, Japan (NSM M-27525).

References: (1) Matsubara, S., R. Miyawaki, A. Kato, K. Yokoyama, and A. Okamoto (1998) Okayamalite, Ca₂B₂SiO₇, a new mineral, boron analogue of gehlenite. *Mineral. Mag.*, 62, 703-706.
(2) Olmi, F., C. Viti, L. Bindi, P. Bonazzi, and S. Menchetti (2000) Second occurrence of okayamalite, Ca₂SiB₂O₇: chemical and TEM characterization. *Amer. Mineral.*, 85(10), 1508-1511.
(3) Giuli, G., L. Bindi, and P. Bonazzi (2000) Rietveld refinement of okayamalite, Ca₂SiB₂O₇: Structural evidence for the B/Si ordered distribution. *Amer. Mineral.*, 85(10), 1512-1515.