

**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . Rarely as tabular to stout prismatic crystals, to 2 mm, showing {001}, {110}, {101}, {111}, {221}, and in groups; commonly extremely fine-grained, in pisolitic aggregates or disseminated.

**Physical Properties:** *Cleavage:* {010}, very good; {100}, well-developed; {001}, poor. Hardness = 3.5 D(meas.) = 3.02–3.05 D(calc.) = [3.08]

**Optical Properties:** Semitransparent. *Color:* White, pale grayish brown; colorless in thin section. *Streak:* White. *Luster:* Vitreous, pearly on {010}.

*Optical Class:* Biaxial (+). *Orientation:*  $X = c$ ;  $Y = b$ ;  $Z = a$ .  $\alpha = 1.644$ – $1.648$   
 $\beta = 1.654$ – $1.657$   $\gamma = 1.661$ – $1.668$   $2V(\text{meas.}) = 74^\circ$ – $88^\circ$

**Cell Data:** *Space Group:*  $Amam$ .  $a = 3.693(1)$   $b = 12.221(2)$   $c = 2.865(1)$   $Z = 4$

**X-ray Powder Pattern:** Huruni Peak, New Zealand.

6.11 (100), 3.15 (60), 2.347 (60), 1.862 (20), 1.850 (20), 1.308 (15), 1.661 (10)

Chemistry:	(1)	(2)	(1)	(2)
SiO <sub>2</sub>	2.11	0.76	Fe <sub>2</sub> O <sub>3</sub>	0.58
TiO <sub>2</sub>		0.03	MgO	0.02
Al <sub>2</sub> O <sub>3</sub>	81.60	83.84	CaO	0.26
Ga <sub>2</sub> O <sub>3</sub>	0.05		H <sub>2</sub> O	15.31
				[15.05]
			Total	99.91
				[100.31]

(1) Vishnevsky Mountains, Ural Mountains, Russia; corresponds to Al<sub>0.98</sub>[O<sub>0.96</sub>(OH)<sub>1.04</sub>] <sub>$\Sigma=2.00$</sub> .

(2) Huruni Peak, New Zealand; by electron microprobe, H<sub>2</sub>O calculated from stoichiometry; corresponds to Al<sub>0.98</sub>Si<sub>0.01</sub>O(OH).

**Polymorphism & Series:** Dimorphous with diaspore.

**Occurrence:** Formed from aluminosilicates during tropical weathering, commonly a major constituent of bauxites, laterites, or fireclays; a late product of low-temperature hydrothermal decomposition of corundum, nepheline in nepheline pegmatites, syenites, or ocean-ridge basalts.

**Association:** Kaolinite, gibbsite, diaspore (bauxites); nepheline, gibbsite, diaspore, natrolite, analcime (nepheline pegmatites).

**Distribution:** Widespread, but rarely well-crystallized; studied material from: in France, at les Baux, near Arles, Bouches-du-Rhône; at Recoux, Var; and Pérlille and Cadarcet, Ariège. On Montecchio Maggiore, Vicenza, Italy. At Baratka, Hungary. Crystals from the Tvedalen district and elsewhere in the Langesundsfjord area, Norway. In the Mandamus complex, 20 km west of Culverden, New Zealand. In the USA, in the Alberhill clay pits, Riverside Co., California; from the Linwood-Barton district, and at the Laurel Creek mine, Rabun Co., Georgia; on Hogback Mountain, Jackson Co., North Carolina.

**Name:** For Johannes Böhm (1857–1938), German geologist, who first studied the species.

**Type Material:** n.d.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 645–646. (2) Deer, W.A., R.A. Howie, and J. Zussman (1962) Rock-forming minerals, v. 5, non-silicates, 111–117. (3) Sahama, T.G., M. Lehtinen, and P. Rehtijärvi (1973) Natural boehmite single crystals from Ceylon. Contr. Mineral. Petrol., 39, 171–174. (4) Shelley, D., D. Smale, and A.J. Tulloch (1977) Boehmite in syenite from New Zealand. Mineral. Mag., 41, 398–400. (5) Larsen, A.O. (1981) Boehmite from syenite pegmatites in the Oslo region, Norway. Mineral. Record, 12, 227–230. (6) Hill, R.J. (1981) Hydrogen atoms in boehmite: a single crystal X-ray diffraction and molecular orbital study. Clays and Clay Minerals, 29, 435–445. (7) Corbató, C.E., R.T. Tettendorf, and G.G. Christoph (1985) Structure refinement of deuterated boehmite. Clays and Clay Minerals, 33, 71–75.

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