Balipholite $BaMg_2LiAl_3(Si_2O_6)_2(OH,F)_8$

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Crystals needlelike and fibrous, elongated ‖ [001], up to 1 mm; as radiating or parallel sheaflike aggregates.

Physical Properties: *Cleavage:* Perfect on {010}, distinct on {100} and {110}.
Hardness = n.d. D(meas.) = 3.32–3.35 D(calc.) = [3.32]

Optical Properties: Transparent to translucent. *Color:* Pale yellowish white; in thin section, colorless. *Luster:* Silky.
Optical Class: Biaxial (–). *Orientation:* $X = b$; $Y = c$; $Z = a$. α = 1.5807–1.5810 β = 1.5954–1.5958 γ = 1.5984–1.6008 2V(meas.) = 68°–72°

Cell Data: *Space Group: Ccca*. $a = 13.60$ $b = 20.24$ $c = 5.16$ Z = [4]

X-ray Powder Pattern: Hsianghualing area, China.
10.12 (100), 3.39 (91), 4.05 (78), 2.605 (31), 2.390 (28)

Chemistry:

	(1)		(1)
SiO_2	33.44	CaO	0.28
TiO_2	0.11	BaO	19.07
Al_2O_3	23.43	Li_2O	2.00
Fe_2O_3	0.32	Na_2O	0.26
FeO	0.58	K_2O	0.47
MnO	0.05	H_2O^+	10.30
BeO	0.01	P_2O_5	0.03
MgO	9.68	Total	100.03

(1) Hsianghualing area, China; corresponding to $(Ba_{0.88}K_{0.07}Na_{0.06}Ca_{0.03})_{\Sigma=1.04}(Mg_{1.69}Al_{0.17}Fe^{2+}_{0.06}Fe^{3+}_{0.03})_{\Sigma=1.95}Li_{0.95}Al_{3.00}(Si_{3.93}Al_{0.07})_{\Sigma=4.00}O_{11.96}(OH)_{8.07}$.

Occurrence: In a miarolitic cavity.

Association: Zinnwaldite, quartz.

Distribution: From the Hsianghualing area, Linwu, Hunan Province, China.

Name: For BArium and LIthium in the composition, and the Chinese for *fibrous*.

Type Material: n.d.

References: (1) X-ray Laboratory, Wuhan Geologic College, Geology Team 654, Hunan Geology Bureau, and Geology Laboratory, Hunan Geology Bureau (1975) A new lithium-bearing mineral in China: balipholite, $BaMg_2LiAl_3[Si_2O_6]_2(OH)_8$. Scientia Geologia Sinica, 1, 100 (in Chinese with English title). (2) (1976) Amer. Mineral., 61, 338 (abs. ref. 1). (3) (1975) Mineral. Abs., 26, 325 (abs. ref. 1). (4) Wuhan Geologic College; Hunan Geologic Bureau (1977) Balipholite $BaMg_2LiAl_3[Si_2O_6]_2(OH,F)_8$ and its crystal structure. Ti Chih K'o Hsueh, 65–82 (in Chinese). (5) (1977) Chem. Abs., 87, 120592 (abs. ref. 4).