

Crystal Data: Monoclinic. *Point Group:* *m*. As aggregates of minute crystals, rarely showing pinacoidal faces.

Physical Properties: *Cleavage:* Perfect on {010}, distinct on {100} and {001}.
Tenacity: Brittle. Hardness = ~7 D(meas.) = 2.688(1) D(calc.) = [2.69]

Optical Properties: Transparent to translucent. *Color:* Pale yellow to brown; colorless in thin grains. *Luster:* Oily, vitreous on cleavages.

Optical Class: Biaxial (-). *Orientation:* $Z \wedge c = 41^\circ$. $\alpha = 1.6220$ $\beta = 1.6332$ $\gamma = 1.6380$
 $2V(\text{meas.}) = 66^\circ 18'$

Cell Data: *Space Group:* *Pn*. $a = 4.68$ $b = 4.95$ $c = 6.13$ $\beta = 90^\circ 30'$ $Z = [2]$

X-ray Powder Pattern: Synthetic.

3.84 (100), 3.72 (100), 2.596 (80), 2.349 (80), 2.471 (60), 2.273 (60), 3.41 (40)

Chemistry:

	(1)	(2)
SiO ₂	48.39	52.26
Al ₂ O ₃	0.26	
Fe ₂ O ₃	0.11	
BeO	25.47	21.75
MgO	0.49	
CaO	0.29	
Li ₂ O	23.43	25.99
Na ₂ O	0.25	
K ₂ O	0.10	
H ₂ O ⁻	0.65	
Total	99.44	100.00

(1) "Nan Ling Ranges, south China." (2) Li₂BeSiO₄.

Occurrence: In veins cutting a lepidolite-fluorite-magnetite "ribbon rock" in tactite.

Association: Lepidolite, natrolite, eucryptite, hsianghualite, cassiterite, scheelite.

Distribution: At an undefined locality in the "Nan Ling Ranges, south China" [Hsianghua Ridge, Linwu Co., Hunan Province, China].

Name: Presumably for LITHium and BERYllium in the composition.

Type Material: Harvard University, Cambridge, Massachusetts; National Museum of Natural History, Washington, D.C., USA, 135815.

References: (1) Ch'un-Lin Chao (1964) Liberite (Li₂BeSiO₄), a new lithium-beryllium silicate mineral from the Nanling Ranges, south China. *Ti Chih Hsueh Pao*, 44, 334-342.
(2) (1964) *Chem. Abs.*, 61, 15841 (abs. ref. 1). (3) (1965) *Amer. Mineral.*, 50, 519 (abs. ref. 1). (4) Han-Ching Chang (1966) Structural analysis of liberite. *Ti Chih Hsueh Pao*, 46, 76-86.
(5) (1966) *Chem. Abs.*, 65, 11457 (abs. ref. 4). (6) West, A. (1975) Crystal chemistry of liberite, Li₂BeSiO₄ and Li₂BeGeO₄. *Bull. Soc. fr. Minéral.*, 98, 6-10.