

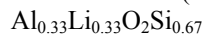
hP12

(180) *P6₂22* – jca

LiAlSi₂O₆ form III [2], eucryptite β rt

Structural features: (Si,Al)O₄ tetrahedra share vertices to form a 3D-framework with twisted chains; Li in narrow channels of hexagonal cross-section parallel to [001]. Filled-up derivative of SiO₂ β-quartz.

Müller G. et al. (1990) [1]



$a = 0.5226$, $c = 0.5465$ nm, $c/a = 1.046$, $V = 0.1293$ nm³, $Z = 3$

site	Wyck.	sym.	<i>x</i>	<i>y</i>	<i>z</i>	occ.	atomic environment
O1	6j	..2	0.203	0.406	1/2		tetrahedron Si ₂ Li ₂
M2	3c	222	1/2	0	0		tetrahedron O ₄
Li3	3a	222	0	0	0	0.333	octahedron Li ₂ O ₄

M2 = 0.667Si + 0.333Al

Experimental: single crystal, diffractometer, X-rays, R = 0.020

Remarks: Short interatomic distances for partly occupied site(s). Average structure. The superstructure was refined in space group (180) *P6₂22* (new axes 2a,2b,2c) in [3].

References: [1] Müller G., Paulus H., Stiefel J. (1990), Neues Jahrb. Mineral., Monatsh. 1990, 493-503. [2] Li C.T. (1968), Z. Kristallogr. 127, 327-348. [3] Tscherry V., Schulz H., Laves F. (1972), Z. Kristallogr. 135, 175-198.