



>>Entry Name: Lithium silicate (Li_2SiO_3)

Synonym(s): Lithium metasilicate (Li_2SiO_3)

CAS Registry Number: 10102-24-6

Li_2SiO_3

Molecular Formula: $\text{Li}_2\text{O}_3\text{Si}$

Molecular Weight: 89.966

Accurate Mass: 89.993678

Percentage Composition: Li 15.43%; O 53.35%; Si 31.22%

Source/Synthesis: Synth. by fusing Li_2CO_3 with quartz

Use/Importance: Breeder material in nuclear fusion reactors

Physical Description: Needles or a glass

Melting Point: Mp 1205.2°

Solubility: Insol. H_2O

Aldrich: 37267-6

References:

Kracek, F.C., *J. Phys. Chem.*, 1930, **34**, 2641, (*synth*)

Barrer, R.M. *et al.*, *J.C.S.*, 1951, 1267, (*synth*)

Krishna Murthy, M. *et al.*, *J. Am. Ceram. Soc.*, 1962, **45**, 324, (*ir*)

Hesse, K.F., *Acta Cryst. B*, 1977, **33**, 901, (*cryst struct*)

Vöellenkle, H., *Z. Kristallogr.*, 1981, **154**, 77, (*cryst struct*)

Magi, M. *et al.*, *J. Phys. Chem.*, 1984, **88**, 1518, (*Si-29 nmr*)

McCracken, W.J. *et al.*, *J. Mater. Sci.*, 1985, **20**, 3853, (*ir*)

Vollath, D. *et al.*, *J. Nucl. Mater.*, 1985, **133**, 226, (*synth, use*)