



>>Entry Name: Mullite

Synonym(s): Aluminium oxide silicate

CAS Registry Number: 1302-93-8

Related CAS Registry Numbers(s): 58425-86-8

Extra CAS Registry Numbers(s): 1335-30-4 12068-56-3

$\text{Al}_6\text{O}_5(\text{SiO}_4)_2$

Molecular Formula: $\text{Al}_6\text{O}_{13}\text{Si}_2$

Molecular Weight: 426.052

Accurate Mass: 425.776983

Percentage Composition: Al 38.00%; O 48.82%; Si 13.18%

Source/Synthesis: Widely distributed mineral. Synthetic samples form from oxide melts or from monophasic or diphasic gels

Use/Importance: Important refractory

Physical Description: Colourless to pale pink

References:

Agrell, S.O. *et al.*, *J. Am. Ceram. Soc.*, 1960, **43**, 69, (*cryst struct, optical data*)

Holm, J.L. *et al.*, *Am. Mineral.*, 1966, **51**, 1608, (*thermodyn*)

Askay, I.A., *J. Am. Ceram. Soc.*, 1975, **58**, 507, (*phase diagram*)

Bullens, M. *et al.*, *J. Am. Ceram. Soc.*, 1978, **61**, 81, (*esca, fluorescence*)

Howald, R.A. *et al.*, *J. Phys. Chem.*, 1978, **82**, 2199, (*thermodyn*)

Thomas, J.M. *et al.*, *Angew. Chem., Int. Ed.*, 1983, **22**, 614, (*Al-27, Si-29 nmr*)

Hoffman, D.W. *et al.*, *J. Am. Ceram. Soc.*, 1984, **67**, 468, (*synth*)

Komarneni, S. *et al.*, *J. Am. Ceram. Soc.*, 1985, **68**, C243, (*Al-27 nmr*)

Schneider, H. *et al.*, *Mullite and Mullite Ceramics*, Wiley, 1994

Treadwell, D.R. *et al.*, *Chem. Mater.*, 1996, **8**, 2056-2059, (*synth*)