



>>Entry Name: Lithium oxide (Li₂O), 8CI

Synonym(s): Dilithium oxide. Lithium monoxide

CAS Registry Number: 12057-24-8

Li₂O

Molecular Formula: Li₂O

Molecular Weight: 29.881

Accurate Mass: 30.026921

Percentage Composition: Li 46.46%; O 53.54%

Source/Synthesis: Prepared by reaction of O₂ with Li at elevated temps. or by thermal dec. of either Li₂O₂ or LiOH

Use/Importance: Tritium breeder for use in fusion reactor blankets. Component of speciality glasses. Forms piezoelectric ceramics with lead transition metal (Ti, Zr, Nb) oxides. Commercially available

Physical Description: Moisture sensitive white cubic cryst. Reacts with H₂O with formation of LiOH. Absorbs CO₂ from atm.

Melting Point: Mp 1570°

Other Data: ΔH_f° -599 kJ mol⁻¹; ΔG_f° -562 kJ mol⁻¹; S° 37.89 J K⁻¹ mol⁻¹

Hazard & Toxicity: Corrosive

Aldrich: 37472-5

References:

Zintl, E. *et al.*, *Z. Elektrochem.*, 1934, **40**, 588, (*cryst struct*)

Gmelin Handbook Inorg. Chem., Syst. No. 20, 1960, 258, (*rev, bibl*)

Messer, C.E., *Spec. Publ. - Chem. Soc.*, 1967, **22**, 183, (*rev*)

Vulikh, A.I. *et al.*, *CA*, 1968, **69**, 56562, (*synth*)

Watanabe, H. *et al.*, *Fusion React. Des. Technol., Proc. Tech. Comm. Meet. Workshop, 3rd*, (Publ. 1983), 1981, **2**, 319; *CA*, 1984, **100**, 181571, (*uses*)

Lloyd, J.E., *Spec. Publ. - R. Soc. Chem.*, (Thompson R., Ed.), RSC, London, 1981, 98, (*uses*)

Chase, M.W. *et al.*, *J. Phys. Chem. Ref. Data*, 1985, **14**, 1441, (*thermochem data*)