



>>Entry Name: Magnesium oxide (MgO)

ENTRY UNDER REVIEW

Synonym(s): Magnesita. Calcined brucite

CAS Registry Number: 1309-48-4

Related CAS Registry Numbers(s): 12274-68-9

MgO

Molecular Formula: MgO

Molecular Weight: 40.304

Accurate Mass: 39.979957

Percentage Composition: Mg 60.30%; O 39.70%

Source/Synthesis: Prepd. by thermal dec. of $\text{Mg}(\text{OH})_2$ or MgCO_3

Use/Importance: Commercially available. Extensively used as a refractory material. Antacid, pharmaceutical excipient (diluent)

Physical Description: Colourless, cubic cryst. Moisture sensitive

Melting Point: Mp 2832°

Boiling Point: Bp 3600°

Solubility: Pract. insol. H_2O (8.6×10^{-3} g per 100 cm^3 at 30°); insol. EtOH; sol. acids

Other Data: ΔH_f° -601.2 kJ mol^{-1} ; ΔG_f° -568.9 kJ mol^{-1} ; S° 26.92 J K^{-1} mol^{-1}

Aldrich: 34279-3

Fluka: 63093

Sigma: M8761

>>Variant: Mineral-form

Synonym(s): Periclase

CAS Registry Number: 1317-74-4

Molecular Formula: MgO

Molecular Weight: 40.304

Accurate Mass: 39.979957

Percentage Composition: Mg 60.30%; O 39.70%

Source/Synthesis: High temp. metamorphic mineral e.g. in marbles

Physical Description: Usually colourless to grey-yellow cubic cryst.

References:

Skinner, *Am. Mineral.*, 1957, **42**, 39, (*cryst struct*)

Kammori, O. *et al.*, *Bunseki Kagaku (Jpn. Anal.)*, 1967, **16**, 1050; *CA*, 1968, **69**, 6597, (*ir*)

Hanso, W.F. *et al.*, *J. Appl. Phys.*, 1972, **43**, 1661, (*uv*)

Schramm, S. *et al.*, *J.A.C.S.*, 1983, **105**, 2483, (*O-17 nmr*)

Chase, M.W. *et al.*, *J. Phys. Chem. Ref. Data*, 1985, **14**, 1469, (*thermochem data*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 2180C

Handbook of Pharmaceutical Excipients, 2nd edn., (eds. Wade, A. *et al*), American Pharmaceutical Association/Pharmaceutical Press, 1994, 278-279

Martindale, The Extra Pharmacopoeia, 31st edn., *Pharmaceutical Press*, 1996, 1226

Encyclopedia of Food and Color Additives, (ed. Burdock, G.A.), CRC Press, 1997, 1627-1628

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., *Van Nostrand Reinhold*, 1992, MAH500