



>>Entry Name: **Iron(II) oxide (FeO)**

Synonym(s): Ferrous oxide. Iron monoxide

CAS Registry Number: 1345-25-1

FeO

Molecular Formula: FeO

Molecular Weight: 71.846

Accurate Mass: 71.929854

Percentage Composition: Fe 77.73%; O 22.27%

Source/Synthesis: Obt. by thermol. of ferrous oxalate

Use/Importance: Catalyst, pigment, used in steel manuf.

Physical Description: Black

Melting Point: Mp 1420°

Solubility: Insol. H₂O; sol. acids

Aldrich: 40086-6

>>Variant: Iron-deficient-form

Synonym(s): Wüstite

CAS Registry Number: 17125-56-3

Molecular Formula: FeO

Molecular Weight: 71.846

Accurate Mass: 71.929854

Source/Synthesis: Mineral: occurs naturally in meteorites and in oceanic basalt. Prepd. at high temps. followed by rapid quenching to avoid disproportionation to Fe + Fe₃O₄

Physical Description: Black cubic cryst.

Melting Point: Mp 1369°

Solubility: Insol. H₂O, sol. HCl, H₂SO₄, sl. sol. HNO₃

Other Data: *n*_D 2.32

References:

Gmelin Handbook Inorg. Chem., Syst. No. 59, 1929, B1, 26, (bibl)

Smart, J.S. *et al.*, *Phys. Rev.*, 1951, **82**, 113, (*struct*)

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Brauer, G., *Handbuch Prep. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 1645, (*synth*)

Burke, L.D. *et al.*, *J. Electroanal. Chem.*, 1980, **109**, 379, (*electrochem, electrochromism*)

Cornell, R.M. *et al.*, *The Iron Oxides*, Wiley-VCH, 1996, (*book*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, IHC500