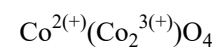




>>Entry Name: Cobalt oxide (Co₃O₄)

Synonym(s): Cobaltic cobaltous oxide. Cobalto-cobaltic oxide. Tricobalt tetroxide

CAS Registry Number: 1308-06-1



Molecular Formula: Co₃O₄

Molecular Weight: 240.797

Accurate Mass: 240.779254

Percentage Composition: Co 73.42%; O 26.58%

General Statement: Has the normal spinel struct.

Source/Synthesis: Derived by heating other Co oxides in air

Use/Importance: Used in ceramics, pigments and semiconductors

Physical Description: Hygroscopic black or grey cryst. Above 900° loses O₂ to form CoO

Melting Point: Mp 895 dec.°

Solubility: Prac. insol. H₂O

Aldrich: 20311-4

Fluka: 60847

References:

Kuendig, W. *et al.*, *J. Phys. Chem. Solids*, 1969, **30**, 819, (*Mössbauer*)

Smith, W.L. *et al.*, *Acta Cryst. B*, 1973, **29**, 362, (*cryst struct*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 1664, (*synth*)

Shirai, H. *et al.*, *J. Phys. Soc. Jpn.*, 1982, **51**, 592, (*ir, Raman*)

Khadzhiev, V. *et al.*, *J. Phys. C: Solid State Phys.*, 1988, **21**, L199, (*Raman*)

Merck Index, 12th edn., 1996, No. 2490