



>>Entry Name: Manganese(II) carbonate (MnCO₃)

Synonym(s): [Carbonato(2-)-O]manganese, 11Cl

CAS Registry Number: 598-62-9

Extra CAS Registry Numbers(s): 17375-37-0

MnCO₃

Molecular Formula: CMnO₃

Molecular Weight: 114.947

Accurate Mass: 114.922792

Percentage Composition: C 10.45%; Mn 47.79%; O 41.76%

Source/Synthesis: Synth. by reaction of Mn(OAc)₂·4H₂O solns. or Mn(OH)₂ with super critical CO₂ at 180° and 1200 atm. CO₂. Precipitation from aq. Mn²⁽⁺⁾ by CO₃²⁽⁻⁾ or HCO₃⁽⁻⁾ does not give stoichiometric pure products since CO₂ pressures are not high enough. Such products are of the type Mn(CO₃)_x(OH)_y(H₂O)₂

Physical Description: Pink to almost white powder. Commercial precipitated MnCO₃ is often light brown due to oxidation

Solubility: Sol. saturated aq. K₂CO₃

Other Data: Magnetically ordered below Néel temp. T_N 32.14K. $\mu_{\text{eff}} = 6.26\mu_B$. Dec. at 250-300°

Aldrich: 37744-9

>>Variant: Mineral-form

Synonym(s): Rhodochrosite

CAS Registry Number: 14476-12-1

Molecular Formula: CMnO₃

Molecular Weight: 114.947

Accurate Mass: 114.922792

Percentage Composition: C 10.45%; Mn 47.79%; O 41.76%

Source/Synthesis: Found in e.g. Colorado USA, Romania, eastern Germany, South Africa

Physical Description: Pale pink to deep red or orangish cryst.

References:

Amity, L. *et al.*, *Phys. Lett. A*, 1968, **27**, 595, (*epr*, *nmr*)

Griffith, W.P., *J.C.S.(A)*, 1970, 286, (*ir*, *Raman*)

Meijer, H.C. *et al.*, *Physica (Amsterdam)*, 1970, **46**, 279, (*magnetism*)

McCain, W.S. *et al.*, *Adv. X-Ray Anal.*, 1973, **16**, 390, (*cryst struct*)

Le Paillier-Malécat, A., *J. Phys. (Paris)*, 1973, **34**, 429, (*uv*)

Ehrhardt, H. *et al.*, *Z. Anorg. Allg. Chem.*, 1980, **462**, 185; **465**, 83, (*synth*)

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