



>>Entry Name: Rubidium carbonate (Rb₂CO₃)

Synonym(s): Carbonic acid, dirubidium salt, 8CI

CAS Registry Number: 584-09-8

Rb₂CO₃

Molecular Formula: CO₃Rb₂

Molecular Weight: 230.945

Accurate Mass: 229.808333

Percentage Composition: C 5.20%; O 20.78%; Rb 74.02%

Source/Synthesis: Prepd. from aq. RbOH + CO₂ at 1000-2200 atm. and 200-400°. Alternatively an aq. soln. of RbOH, obtained by reaction of Rb₂SO₄ with Ba(OH)₂, is treated with (NH₄)₂CO₃

Use/Importance: Commercially available. Catalyst for gasification of graphite. Dissolution in acids affords the corresp. Rb salts

Physical Description: Colourless monoclinic cryst.; deliquescent. Dec. on heating with CO₂ loss

Melting Point: Mp 837° (> 1 atm)

Solubility: V. sol. H₂O (450 g per 100 cm³ at 20°)

Other Data: ΔH_f° -1136 kJ mol⁻¹; ΔG_f° -1051 kJ mol⁻¹; S° 181 J K⁻¹ mol⁻¹

Hazard & Toxicity: Irritant; corrosive

Aldrich: 25143-7

Fluka: 83970

References:

Gmelin Handbook Inorg. Chem., Syst. No. 24, 1955, 222, (rev, bibl)

Brooker, M.H. *et al.*, *Spectrochim. Acta A*, 1974, **30**, 2211, (*ir, Raman*)

Ehrhardt, H. *et al.*, *Z. Anorg. Allg. Chem.*, 1980, **462**, 185, (*synth, cryst struct*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3056C