



>>Entry Name: Rubidium sulfate (Rb₂SO₄)

Synonym(s): Sulfuric acid, dirubidium salt, 8Cl

CAS Registry Number: 7488-54-2

Rb₂SO₄

Molecular Formula: O₄Rb₂S

Molecular Weight: 266.999

Accurate Mass: 265.775318

Percentage Composition: O 23.97%; Rb 64.02%; S 12.01%

Source/Synthesis: Prepd. by slow neutralisation of Rb₂CO₃ with H₂SO₄ in aq. soln.

Use/Importance: Commercially available

Physical Description: Colourless orthorhombic cryst. Undergoes orthorhombic to hexagonal transition at 655°

Melting Point: Mp 1060°

Boiling Point: Bp 1700°

Solubility: V. sol. H₂O (42 g per 100 cm³ at 10°; 82 g per 100 cm³ at 100°); insol. Me₂CO

Other Data: ΔH_f° -1436 kJ mol⁻¹; ΔG_f° -1317 kJ mol⁻¹; S° 197 J K⁻¹ mol⁻¹

Hazard & Toxicity: Irritant

Aldrich: 28928-0

Fluka: 84020

Sigma: R0253

References:

Gmelin Handbook Inorg. Chem., Syst. No. 24, 1955, 207, (rev, bibl)

Pannetier, G. *et al.*, *Bull. Soc. Chim. Fr.*, 1966, 1273, (*cryst struct, polymorphs*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3058C

Baltisberger, J.H. *et al.*, *J.A.C.S.*, 1992, **114**, 7489, (*Rb-87 nmr*)