



>>Entry Name: Potassium sulfate (K₂SO₄)

ENTRY UNDER REVIEW

Synonym(s): Sulfuric acid, dipotassium salt, 8Cl. Sal polychrestum. Arcanum duplicatum. Tartarus vitriolatus

CAS Registry Number: 7778-80-5

Extra CAS Registry Numbers(s): 10233-01-9

K₂SO₄

Molecular Formula: K₂O₄S

Molecular Weight: 174.26

Accurate Mass: 173.879144

Percentage Composition: K 44.87%; O 36.73%; S 18.40%

Source/Synthesis: Synth. by reaction of aq. K₂CO₃ with aq. H₂SO₄

Use/Importance: Commercially available. Widely used oxidation catalyst; additive to concrete. Used in the electrochemical treatment of aluminium alloys and steels. Promoter for vanadium oxide catalysts used in the production of sulfuric acid

Biological Use/Importance: Laxative-cathartic. Electrolyte replenisher

Physical Description: Colourless orthorhombic cryst. Undergoes orthorhombic-hexagonal transition at 584°

Melting Point: Mp 1069°

Boiling Point: Bp 1689°

Solubility: Sol. H₂O (12 g per 100 cm³ at 25°; 24 g per 100 cm³ at 100°); insol. EtOH, Me₂CO

Other Data: ΔH_f° -1438 kJ mol⁻¹; ΔG_f° -1320 kJ mol⁻¹; S° 175.5 J K⁻¹ mol⁻¹. Ferroelectric

Aldrich: 22132-5

Fluka: 60533

Sigma: P9458

>>Variant: Mineral-form

Synonym(s): Arcanite

CAS Registry Number: 14293-72-2

Molecular Formula: K₂O₄S

Molecular Weight: 174.26

Accurate Mass: 173.879144

Percentage Composition: K 44.87%; O 36.73%; S 18.40%

Source/Synthesis: Found in Trabuco Canyon, California and Latinum, Italy

Physical Description: Colourless, yellowish, transparent, pseudohexagonal, thin plates

References:

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