



>>Entry Name: Magnesium sulfate

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

CAS Registry Number: 7487-88-9

MgSO₄

Molecular Formula: MgO₄S

Molecular Weight: 120.369

Accurate Mass: 119.936772

Percentage Composition: Mg 20.19%; O 53.17%; S 26.64%

Source/Synthesis: Thermal dec. of the hydrates of MgSO₄ ultimately affords the anhydrous material

Use/Importance: Commercially available. Used to stabilise oxidising solns., esp. H₂O₂ bleaching solns. Stabiliser for photographic colour developers. Dehydrating agent. Fertiliser

Biological Use/Importance: Magnesium replenisher. Anticonvulsant and laxative

Physical Description: Hygroscopic, colourless, orthorhombic cryst.

Melting Point: Mp 1127°

Solubility: V. sol. H₂O (26 g per 100 cm³ at 0°; 74 g per 100cm³ at 100°); sol. EtOH; Et₂O; insol. Me₂CO

Other Data: ΔH_f° -1262 kJ mol⁻¹; ΔG_f° -1147 kJ mol⁻¹; S° 91.4 J K⁻¹ mol⁻¹

Aldrich: 24697-2

Fluka: 63136

Sigma: M2643

>>Derivative: Monohydrate

>>Derivative: Dihydrate

CAS Registry Number: 17830-05-6

Molecular Formula: H₄MgO₆S

Molecular Weight: 156.399

Accurate Mass: 155.957902

Percentage Composition: H 2.58%; Mg 15.54%; O 61.38%; S 20.50%

>>Derivative: Trihydrate

CAS Registry Number: 15320-30-6

Molecular Formula: H₆MgO₇S

Molecular Weight: 174.414

Accurate Mass: 173.968467

Percentage Composition: H 3.47%; Mg 13.94%; O 64.21%; S 18.38%

>>Derivative: Tetrahydrate

>>Derivative: Pentahydrate

CAS Registry Number: 17830-17-0

Molecular Formula: H₁₀MgO₉S

Molecular Weight: 210.445

Accurate Mass: 209.989597

Percentage Composition: H 4.79%; Mg 11.55%; O 68.42%; S 15.24%

>>Derivative: Hexahydrate

>>Derivative: Heptahydrate

References: