



>>Entry Name: Lithium sulfate (Li₂SO₄)

Synonym(s): Sulfuric acid, dilithium salt, 8Cl. Lithiophor. Lithium-Duriles

CAS Registry Number: 10377-48-7

Li₂SO₄

Molecular Formula: Li₂O₄S

Molecular Weight: 109.946

Accurate Mass: 109.983736

Percentage Composition: Li 12.63%; O 58.21%; S 29.17%

Source/Synthesis: Prepared by slow neutralisation of Li₂CO₃ by H₂SO₄; crystallised as monohydrate

Use/Importance: Commercially available. Component of sulfate electroplating baths

Biological Use/Importance: Antimanic agent

Physical Description: Colourless monoclinic cryst. Undergoes monoclinic to cubic transition at 575°

Melting Point: Mp 859°

Solubility: V. sol. H₂O (26 g per 100 cm³ at 0°; 23 g per 100 cm³ at 100°); insol. EtOH, Me₂CO

Other Data: ΔH_f° -1436 kJ mol⁻¹; ΔG_f° -1321 kJ mol⁻¹; S° 113.9 J K⁻¹ mol⁻¹

Aldrich: 20365-3

Fluka: 62613

Sigma: L4027

>>Derivative: Monohydrate

Synonym(s): Sulfuric acid, dilithium salt, monohydrate, 8Cl

CAS Registry Number: 10102-25-7

Molecular Formula: H₂Li₂O₅S

Molecular Weight: 127.961

Accurate Mass: 127.994301

Percentage Composition: H 1.58%; Li 10.85%; O 62.52%; S 25.06%

Use/Importance: Commercially available. Piezoelectric

Physical Description: Colourless monoclinic cryst, dec. on heating by water loss

Solubility: V. sol. H₂O (35 g per 100 cm³ at 25°; 29 g per 100 cm³ at 100°), 23.9% EtOH aq. (12 g per 100 cm³ at 30°); insol. Me₂CO, Py

Other Data: ΔH_f° -1736 kJ mol⁻¹; ΔG_f° -1566 kJ mol⁻¹; S° 164 J K⁻¹ mol⁻¹

Aldrich: 39815-2

Sigma: L5776

References:

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