



>>Entry Name: Potassium hydrogen sulfate (KHSO₄)

Synonym(s): Potassium sulfate (KHSO₄). Sulfuric acid, monopotassium salt, 8Cl. Potassium bisulfate. Sal enixum

CAS Registry Number: 7646-93-7

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

K[HSO₄]

Molecular Formula: HKO₄S

Molecular Weight: 136.17

Accurate Mass: 135.923262

Percentage Composition: H 0.74%; K 28.71%; O 47.00%; S 23.55%

Source/Synthesis: Synth. by dehydration of an equimolar mixt. of K₂SO₄ and H₂SO₄ over P₂O₅

Use/Importance: Commercially available. Used in fertiliser production. Dehydration catalyst. Promoter for vanadium oxide catalysts used in the prod. of H₂SO₄

Biological Use/Importance: Laxative-cathartic

Physical Description: Deliquescent colourless orthorhombic cryst.

Melting Point: Mp 214°

Solubility: V. sol. H₂O (36 g per 100 cm³ at 0°; 122 g per 100 cm³ at 100°); insol. EtOH, Me₂CO

Hazard & Toxicity: Corrosive

Aldrich: 22347-6

Fluka: 60363

Sigma: P2838

>>Variant: Mineral-form

Synonym(s): Mercurite

CAS Registry Number: 14832-77-0

Molecular Formula: HKO₄S

Molecular Weight: 136.17

Accurate Mass: 135.923262

Percentage Composition: H 0.74%; K 28.71%; O 47.00%; S 23.55%

Source/Synthesis: Found in crater of Mt. Vesuvius, Italy

Physical Description: Stalactites, white or sky blue

>>Variant: Mineral-form

Synonym(s): Misenite

Molecular Formula: HKO₄S

Molecular Weight: 136.17

Accurate Mass: 135.923262

Percentage Composition: H 0.74%; K 28.71%; O 47.00%; S 23.55%

Source/Synthesis: Found in a fumarole on Cape Miseno, near Naples, Italy

Physical Description: Acicular or lathlike cryst., greyish white

References:

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Sahm, W. *et al.*, *Z. Naturforsch., A*, 1974, **29**, 1754, (*K-39, K-40 nmr*)

Feucht, H. *et al.*, *Z. Naturforsch., A*, 1976, **31**, 1173, (*pmr*)

Tomishko, M.M. *et al.*, *CA*, 1980, **92**, 153658, (*KHSO₄-V₂O₅ catalysts*)

Dey, B. *et al.*, *J. Raman Spectrosc.*, 1982, **13**, 209, (*ir, Raman*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 2904C, (*haz*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, PKX750