



>>Entry Name: Chromium potassium sulfate (CrK(SO₄)₂)

Synonym(s): Sulfuric acid chromium(3+) potassium salt (2:1:1)

CAS Registry Number: 10141-00-1

KCr(SO₄)₂

Molecular Formula: CrK₂O₈S₂

Molecular Weight: 283.222

Accurate Mass: 282.807676

Percentage Composition: Cr 18.36%; K 13.80%; O 45.19%; S 22.64%

>>Derivative: Dodecahydrate

Synonym(s): Potassium chrome alum. Chromic potassium sulfate dodecahydrate. Hexaaquachromium(3+) potassium bisulfate hexahydrate. Potassium chromic sulfate dodecahydrate. Potassium disulfatochromate(III) dodecahydrate

CAS Registry Number: 7788-99-0

Extra CAS Registry Numbers(s): 149213-06-9

Molecular Formula: CrH₂₄KO₂₀S₂

Molecular Weight: 499.404

Accurate Mass: 498.934456

Percentage Composition: Cr 10.41%; H 4.84%; K 7.83%; O 64.07%; S 12.84%

Use/Importance: Mordant for fabric dyeing, formerly much used in tanning leather, ink manuf., waterproofing fabrics. Starting material for chromium salts

Physical Description: Deep purple cryst.

Melting Point: Mp 89° (incongr.)

Solubility: Sol. H₂O; virt. insol. EtOH

Other Data: Double sulfate. Formulated as [Cr(H₂O)₆]K(SO₄)₂·6H₂O

Aldrich: 24336-1

Fluka: 60152

Sigma: C5926

References:

- Mellor Compr. Treat. Inorg. Theor. Chem., 1931, **11**, 454, (dodecahydrate, rev, bibl)
Bacon, G.E. et al., Proc. R. Soc. London, A, 1958, **246**, 78-90, (dodecahydrate, cryst struct)
Nouveau Traite de Chimie Minerale, (ed. Pascal, P.), 1959, **14**, 322, (dodecahydrate, rev, bibl)
Muzyka, I.D., Zh. Neorg. Khim., 1959, **4**, 1202-1204; CA, **54**, 8257d, (synth)
Gmelin Handbook Inorg. Chem., Syst. No. 52, 1962, 609, (dodecahydrate, rev, bibl)
Franke, W. et al., Acta Cryst., 1965, **19**, 870-871, (synth, cryst struct)
Rems, P. et al., Inorg. Chim. Acta, 1971, **5**, 33-36, (ir)
Strupler, N. et al., Bull. Soc. Chim. Fr., 1974, 1830-1834, (dodecahydrate, ir)
Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **2**, 249; **6**, 84, (dodecahydrate, props)
Ullmann's Encycl. Ind. Chem., 5th Edn., 1986, **A7**, 82, (dodecahydrate, uses)
Soptrajanov, B. et al., J. Mol. Struct., 1993, **293**, 101-104, (dodecahydrate)
Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold, 1992, CMG850, (dodehydrate)