



>>Entry Name: Cobalt(II) sulfate (CoSO₄), 8Cl

ENTRY UNDER REVIEW

Synonym(s): Cobaltous sulfate

CAS Registry Number: 10124-43-3

Related CAS Registry Numbers(s): 15136-97-7 60459-08-7

Extra CAS Registry Numbers(s): 10393-49-4

CoSO₄

Molecular Formula: CoO₄S

Molecular Weight: 154.997

Accurate Mass: 154.884928

Percentage Composition: Co 38.02%; O 41.29%; S 20.69%

Source/Synthesis: Crystallisation from H₂O gives heptahydrate, which at 41.5° gives hexahydrate, which in turn at 71° gives monohydrate

Use/Importance: Commercially available as mono- and hexahydrates

Physical Description: Dark bluish solid

Solubility: Sol. H₂O

Other Data: Anhydrous compd. dec. at 735°

>>Derivative: Monohydrate

Physical Description: Red cryst.

Solubility: Sol. H₂O

>>Derivative: Hexahydrate

Synonym(s): Hexaaquacobalt(2+) sulfate. Cobalt(II) sulfate hexahydrate

CAS Registry Number: 16591-12-1

Molecular Formula: CoH₁₂O₁₀S

Molecular Weight: 263.088

Accurate Mass: 262.948318

Percentage Composition: Co 22.40%; H 4.60%; O 60.81%; S 12.19%

Source/Synthesis: Obt. on cryst. below 30°

Physical Description: Orange-pink cryst.

Solubility: Sol. H₂O

Other Data: Hygroscopic; contains [Co(OH₂)₆]²⁽⁺⁾ cations. Dec. at 95° (−2H₂O)

>>Derivative: Heptahydrate

Synonym(s): Cobalt vitriol. Bieberite

CAS Registry Number: 10026-24-1

Source/Synthesis: Mineral found in stalactites

Use/Importance: Pigment

Physical Description: Red cryst.

Melting Point: Mp 96.8°

Solubility: Sol. H₂O, MeOH, EtOH

Other Data: Formulated as [Co(OH₂)₆]SO₄.H₂O

Fluka: 60860

>>Derivative: Double salt with ammonium sulfate, hexahydrate

CAS Registry Number: 13586-38-4

Physical Description: Red cryst.

Solubility: Sol. H₂O

References:

Remy, H., *Treatise Inorg. Chem.*, Elsevier, 1956, **2**, 300, (*synth, props*)

Nobukazu, O. *et al.*, *Nippon Kagaku Zasshi*, 1966, **87**, 363, (*pe*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **6**, 503

Merck Index, 11th edn., 1989, No. 2443

Encyclopedia of Food and Color Additives, (ed. Burdock, G.A.), CRC Press, 1997, 646

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, CNE125