



>>Entry Name: Nickel(*II*) sulfate (NiSO₄)

Synonym(s): Nickel sulfate

CAS Registry Number: 7786-81-4

Related CAS Registry Numbers(s): 14708-53-3 21608-36-6

NiSO₄

Molecular Formula: NiO₄S

Molecular Weight: 154.754

Accurate Mass: 153.887076

Percentage Composition: Ni 37.92%; O 41.35%; S 20.72%

Source/Synthesis: Obt. by dehydration of hydrates

Physical Description: Green-yellow solid

Solubility: Insol. H₂O

Other Data: Dec. at 848°. Magnetism shows antiferromagnetic and ferromagnetic effects

>>Derivative: Monohydrate

Source/Synthesis: Obt. by partial dehydration of other hydrates

>>Derivative: Hexahydrate

Synonym(s): Nickel sulfate hexahydrate. Hexaaquanickel(*II*) sulfate

CAS Registry Number: 10101-97-0

Molecular Formula: H₁₂NiO₁₀S

Molecular Weight: 262.845

Accurate Mass: 261.950466

Percentage Composition: H 4.60%; Ni 22.33%; O 60.87%; S 12.20%

Use/Importance: Commercially available. Ni source for electroplating

Physical Description: Blue-green cryst.

Solubility: Sol. H₂O, EtOH, MeOH

Other Data: α -Form (tetragonal) formed at 31.5-53.3° and β -form (monoclinic) >53.3°. β -form loses 6H₂O at 103°. Best considered as sulfate salt of Hexaaquanickel(*II*) (2+) [JWL44-J](#). Paramagnetic

Aldrich: 46790-1

Fluka: 72280

Sigma: N4882

>>Derivative: Heptahydrate

Synonym(s): Morenorite. Nickel vitriol. Nickel sulfate heptahydrate. Hexaaquanickel sulfate monohydrate

CAS Registry Number: 10101-98-1

Source/Synthesis: Occurs widely as mineral

Use/Importance: Commercially available

Physical Description: Greenish-white cryst.

Solubility: Sol. H₂O, EtOH

Other Data: Paramagnetic. Monohydrate of SO₄²⁽⁻⁾ salt of Hexaaquanickel(*II*)(2+) [JWL44-J](#). Other hydrates are less well defined

Aldrich: 20389-0

Fluka: 72285

References:

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