



>>Entry Name: Nickel(II) thiocyanate

ENTRY UNDER REVIEW

Synonym(s): Bis(thiocyanato)nickel, 8CI

CAS Registry Number: 13689-92-4

Ni(NCS)₂

Molecular Formula: C₂N₂NiS₂

Molecular Weight: 174.857

Accurate Mass: 173.885634

Percentage Composition: C 13.74%; N 16.02%; Ni 33.56%; S 36.68%

Source/Synthesis: Synth. from NiCO₃ + HNCS; Ba(NCS)₂ + NiSO₄ (aq.) or Ni²⁽⁺⁾ and (NH₄)SCN in aq. AcOH

Physical Description: Brown solid

Solubility: Sol. H₂O

Other Data: Ir ν_{C=N} 2151 cm⁻¹

>>Derivative: Hemihydrate

CAS Registry Number: 97126-37-9

Physical Description: Yellow solid

Solubility: Sol. H₂O

Other Data: Obtd. on cryst. of soln. >15°

>>Derivative: Tetrahydrate

Molecular Formula: C₂H₈N₂NiO₄S₂

Molecular Weight: 246.918

Accurate Mass: 245.927894

Percentage Composition: C 9.73%; H 3.27%; N 11.35%; Ni 23.77%; O 25.92%; S 25.97%

Source/Synthesis: Obtd. by metathesis from NiSO₄ and Ba(NCS)₂

Physical Description: Green cryst. (obt. <15°)

Solubility: Sol. H₂O

References:

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Peters, W., *Chem. Ber.*, 1968, **41**, 3175, (*synth*)

Ali, S. *et al.*, *Pol. J. Chem. (Rocz. Chem.)*, 1984, **58**, 659; 1985, **59**, 535, (*ir*)

Sarmi, K.P. *et al.*, *Transition Met. Chem. (Weinheim, Ger.)*, 1984, **9**, 135, (*synth, derivs*)

Pickardt, J. *et al.*, *Z. Kristallogr.*, 1995, **210**, 717, (*trans-tetrahydrates, cryst struct*)