



CAS Registry Number: 12137-12-1
Molecular Formula: Ni₃S₄
Molecular Weight: 304.334
Accurate Mass: 301.694318
Percentage Composition: Ni 57.85%; S 42.15%

Source/Synthesis: Mineral, occurs in Germany
Physical Description: Grey-black cryst.
Solubility: Sol. HNO₃

>>Variant: Nickel sulfide (NiS₂)

CAS Registry Number: 12035-51-7

Molecular Formula: NiS₂
Molecular Weight: 122.822
Accurate Mass: 121.879486
Percentage Composition: Ni 47.78%; S 52.22%

Source/Synthesis: Synth. from Nickel(II) carbonate (NiCO₃) JCB86-P + K₂CO₃ + S
Physical Description: Dark iron grey solid
Other Data: Antiferromagnetic

Aldrich: 34247-5

References:

- Sidgwick, N.V., *The Chemical Elements and their Compds.*, Oxford, 1950, 1432
Remy, H., *Treatise Inorg. Chem.*, Elsevier, 1956, **2**, 312
Goodenough, J.B., *Magnetism and the Chemical Bond*, Interscience, 1963, 98; 102
Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 1692, (*synth*)
Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **15**, 805
Pasquariello, D.M. *et al.*, *Inorg. Chem.*, 1984, **23**, 872, (*Ni₃S₂*)
Wells, A.F., *Structural Inorg. Chem.*, 5th Ed., Oxford, 1984, 752, (*struct*)
Metcalf, P.A. *et al.*, *J. Solid State Chem.*, 1993, **104**, 81, (*synth, cryst struct, powder struct, tem, elect conductivity, magnetism, Ni₃S₂*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, NDB875; NDL100