



>>Entry Name: Nickel(II) fluoride (NiF₂), 9CI

Synonym(s): Nickel difluoride

CAS Registry Number: 10028-18-9

NiF₂

Molecular Formula: F₂Ni

Molecular Weight: 96.687

Accurate Mass: 95.932152

Percentage Composition: F 39.30%; Ni 60.70%

Source/Synthesis: Obt. by heating NH₄ salt of Tetrafluoronickelate(II)(2-) [KBN40-J](#) or from Nickel(II) chloride (NiCl₂) [JCB87-Q](#) + HF(g)

Use/Importance: Commercially available. With AlCl₃Et, cocatalyst for ethene oligomerisation

Physical Description: Green tetragonal cryst. or light brown-green prisms or light yellow powder; inert to conc. acids

Boiling Point: Subl. 1000° (HF(g))

Other Data: Parasitic ferromagnet

Aldrich: 34221-1

>>Derivative: Trihydrate

Source/Synthesis: Obt. from Ni(OH)₂ + HF

Physical Description: Pale green granular cryst.

>>Derivative: Tetrahydrate

CAS Registry Number: 13940-83-5

Use/Importance: Commercially available

Other Data: Most stable hydrate

Aldrich: 34223-8

References:

Inorg. Synth., 1950, **3**, 173, (*synth*)

Sidgwick, N.V., *The Chemical Elements and their Compds.*, Oxford, 1950, 1432

Remy, H., *Treatise Inorg. Chem.*, Elsevier, 1956, **2**, 314

Goodenough, J.B., *Magnetism and the Chemical Bond*, Interscience, 1963, 98; 241

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 276, (*synth*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **10**, 766

Einloft, S. *et al.*, *Polyhedron*, 1996, **15**, 3257, (*use*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, NDC500