



>>Entry Name: **Iron(II) fluoride (FeF₂)**

Synonym(s): Ferrous fluoride

CAS Registry Number: 7789-28-8

FeF₂

Molecular Formula: F₂Fe

Molecular Weight: 93.844

Accurate Mass: 93.931745

Percentage Composition: F 40.49%; Fe 59.51%

Source/Synthesis: Synth. from (1) Fe + HF (2) FeCl₂ + HF

Use/Importance: Catalyst; has applications in ceramics

Physical Description: White when pure (green usually)

Melting Point: Mp 1020°

Boiling Point: Subl. 1100°

Solubility: Spar. sol. H₂O; insol. EtOH, Et₂O

Other Data: $\mu_{\text{eff}} = 5.56\mu_{\text{B}}$ (>100K). Magnetically anisotropic. (Brown colouration due to oxide impurity)

Hazard & Toxicity: Irritant

Aldrich: 39984-1

Fluka: 44958

>>Derivative: Tetrahydrate

References:

Gmelin Handbook Inorg. Chem., Syst. No. 59, 1929, **B1**, 173, (bibl, rev)

Muetterties, E.L. *et al.*, *J. Inorg. Nucl. Chem.*, 1961, **18**, 148, (synth)

Colton, R. *et al.*, *Halides of the First Row Transition Metals*, Wiley, N.Y., 1969, 281, (bibl, rev)

Baur, W.M. *et al.*, *Acta Chem. Scand.*, 1971, **27**, 2133, (cryst struct)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 274, (synth)