



>>Entry Name: **Iron(III) fluoride (FeF₃)**

Synonym(s): Ferric fluoride. Iron trifluoride

CAS Registry Number: 7783-50-8

FeF₃

Molecular Formula: F₃Fe

Molecular Weight: 112.842

Accurate Mass: 112.930148

Percentage Composition: F 50.51%; Fe 49.49%

Source/Synthesis: Synth. from (1) FeCl₃ + F₂, BrF₃, ClF₃ or HF, (2) FeF₂ + F₂, (3) Fe₂S₃ + SF₄

Use/Importance: Has applications for ceramics; catalyst

Physical Description: White cryst. (sometimes green)

Melting Point: Mp 1000°

Solubility: Spar. sol. H₂O, HF, EtOH, Et₂O

Hazard & Toxicity: Irritant

Aldrich: 28865-9

Sigma: F2383

>>Derivative: Trihydrate

References:

Gmelin Handbook Inorg. Chem., Syst. No. 59, 1929, B1, 177, (bibl, rev)

Shinn, D.B., *Inorg. Chem.*, 1966, **5**, 1927, (synth)

Colton, R. *et al.*, *Halides of the First Row Transition Metals*, Wiley, N.Y., 1969, 272, (bibl, rev)

Jacobson, A.J. *et al.*, *J. Phys. C: Solid State Phys.*, 1974, **7**, 783, (cryst struct)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 275, (synth)

Karraker, D.G. *et al.*, *Inorg. Chem.*, 1992, **31**, 1118, (struct, Mössbauer)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, FAX000