



>>Entry Name: Mercury(II) fluoride (HgF<sub>2</sub>)

Synonym(s): Mercuric fluoride

CAS Registry Number: 7783-39-3

HgF<sub>2</sub>

Molecular Formula: F<sub>2</sub>Hg

Molecular Weight: 238.587

Accurate Mass: 239.967423

Percentage Composition: F 15.93%; Hg 84.07%

Source/Synthesis: Synth. from HgCl<sub>2</sub> and F<sub>2</sub> at 100°, or from Hg(OAc)<sub>2</sub> and SF<sub>4</sub>, or by heating Hg<sub>2</sub>F<sub>2</sub> at 450° or from Hg<sub>2</sub>F<sub>2</sub> and Cl<sub>2</sub> or Br<sub>2</sub>

Use/Importance: Fluorinating agent; used in optical fibres

Physical Description: Light sensitive colourless cryst.

Melting Point: Mp 645 dec.°

Boiling Point: Bp 650°

Solubility: Sol. HF, dil. HNO<sub>3</sub>. Dec. in H<sub>2</sub>O

Aldrich: 33932-6

Fluka: 83386

>>Derivative: Dihydrate

CAS Registry Number: 26453-89-4

Source/Synthesis: Synth. from red HgO and HF

Physical Description: Cryst.

Other Data: Struct. contains 8-coord. Hg (4F + 4O) in a Thompson cube. Readily hydrol. forming FHgOH

References:

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*Gmelin Handbook Inorg. Chem., Syst. No. 34*, 1967, **B2**, 408, (*rev, bibl*)  
Loewenschuss, A. *et al.*, *J. Chem. Phys.*, 1969, **50**, 2502, (*ir, vapour*)  
Polishchuk, S.A. *et al.*, *J. Less-Common Met.*, 1970, **21**, 63, (*synth, ir, pmr, thermal anal, dihydrate*)  
Gagarinskii, Yu.V. *et al.*, *Spectrosc. Lett.*, 1970, **3**, 23, (*F-19 nmr, salt and dihydrate*)  
Vaughan, R.W. *et al.*, *J. Chem. Phys.*, 1972, **57**, 5383, (*F-19 nmr*)  
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*Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley*, 1978, **10**, 763  
Poole, R.T. *et al.*, *Phys. Rev. B: Condens. Matter*, 1979, **20**, 1733, (*pe*)  
Givan, A. *et al.*, *J. Chem. Phys.*, 1980, **72**, 3809, (*ir, Raman, matrix*)  
Shendrik, V.P. *et al.*, *Ukr. Khim. Zh. (Russ. edn.)*, 1982, **48**, 1108, (*synth*)  
Laubach, S. *et al.*, *Hyperfine Interact.*, 1985, **23**, 259, (*Hg-199 Mössbauer*)