



>>Entry Name: Yttrium(*III*) fluoride (YF₃)

CAS Registry Number: 13709-49-4
YF₃

Molecular Formula: F₃Y

Molecular Weight: 145.901

Accurate Mass: 145.901058

Percentage Composition: F 39.06%; Y 60.94%

also have this struct. The 8-coordinate α -form is adopted at high temps. only

Source/Synthesis: Precipitates from soln. as monohydrate

Use/Importance: When doped with rare earth ions, potential up-converter of ir $\rightarrow$ vis. radiation or uv $\rightarrow$ vis. Used in manuf. of laser glass

Physical Description: White solid

Melting Point: Mp 1155° (1152°)

Solubility: Insol. H₂O

Aldrich: 34326-9

References:

Zalkin, A. *et al.*, *J.A.C.S.*, 1953, **75**, 2453, (*synth*)

Orlovskii, V.P., *Zh. Neorg. Khim.*, 1967, **12**, 20; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1967, **12**, 10, (*synth*)

Peterson, J.R. *et al.*, *J. Inorg. Nucl. Chem.*, 1968, **30**, 1735, (*cryst struct*)

Cheetham, A.K. *et al.*, *Acta Chem. Scand., Ser. A*, 1974, **28**, 55, (*struct*)

Piper, W.W. *et al.*, *J. Lumin.*, 1974, **8**, 344, (*use*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 254, (*synth*)

Gmelin Handbook Inorg. Chem., Syst. No. 39, 1976, **C3**, 147, (*rev, bibl*)

Ettinger, D.C. *et al.*, *Chem. Phys.*, 1978, **68**, 872, (*use*)

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Greis, O. *et al.*, *Handbook on the Physics and Chemistry of Rare Earths*, 1982, **5**, 387, (*rev*)

Greis, O. *et al.*, *Thermochim. Acta*, 1985, **87**, 145, (*dta*)

Uwamino, T. *et al.*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 2263, (*pe*)