



>>Entry Name: **Molybdenum(VI) fluoride (MoF₆)**

Synonym(s): Molybdenum hexafluoride. Hexafluoromolybdenum(VI)

CAS Registry Number: 7783-77-9

MoF₆ (*O_h*)

Molecular Formula: F₆Mo

Molecular Weight: 209.93

Accurate Mass: 211.895824

Percentage Composition: F 54.30%; Mo 45.70%

Source/Synthesis: Synth. by fluorination of MoO₃ with SF₄ in sealed reactor at 350°

Physical Description: Volatile white solid. Solns. often strongly coloured

Melting Point: Mp 17.4°

Solubility: Misc. hexane, cyclohexane, CCl₄, many other solvs.

Other Data: Easily reduced and hydrol.; undergoes halogen exchange reactions with ionic and covalent chlorides; also oxygen exchange reactions e.g. with (Me₃Si)₂O

Hazard & Toxicity: Reacts vigorously with organic matter

Aldrich: 39909-4

Fluka: 69874

References:

Levy, J.H., *Acta Cryst. B*, 1975, **31**, 398, (*struct*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 267, (*synth*)

Brisdon, A.K. *et al.*, *J.C.S. Dalton*, 1992, 447, (*exafs*)