>>**Entry Name: Rhenium(*VI*) fluoride (ReF_6)**
Synonym(s): Rhenium hexafluoride

CAS Registry Number: 10049-17-9
ReF_6 (O_h)

Molecular Formula: F_6Re
Molecular Weight: 300.197
Accurate Mass: 300.946162
Percentage Composition: F 37.97%; Re 62.03%

Source/Synthesis: Synth. from (i) Re and a sl. excess of F_2 or (ii) ReF_7 and Re
Physical Description: Yellow solid and liq., colourless vapour. Extremely hygroscopic
Melting Point: Mp 18.5°
Boiling Point: Bp 33.7°
Solubility: Sol. anhydrous HF, IF_5, SO_2
Other Data: Ir ν 715 cm^{-1}. Raman ν 755 cm^{-1}
Hazard & Toxicity: Reacts violently with H_2O to give first a green soln. (probably $ReOF_5^{(-)}$) and then $ReO_2.2H_2O$, $ReO_4^{(-)}$ and HF aq.

Aldrich: 43561-9

>>**Derivative:** Compd. with graphite

CAS Registry Number: 101205-61-2
Molecular Formula: $C_{10}F_6Re$
Molecular Weight: 420.307
Accurate Mass: 420.946162
Percentage Composition: C 28.58%; F 27.12%; Re 44.30%
Source/Synthesis: Synth. from liq. ReF_6 and highly orientated pyrolitic graphite (HOPG)
Physical Description: Pale blue powder (Stage I)

References:

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