



>>Entry Name: Titanium(IV) fluoride (TiF₄), 11Cl

Synonym(s): Titanium tetrafluoride

CAS Registry Number: 7783-63-3

TiF₄

Molecular Formula: F₄Ti

Molecular Weight: 123.874

Accurate Mass: 123.941559

Percentage Composition: F 61.35%; Ti 38.65%

Source/Synthesis: Best synth. by reaction of TiO₂ or Ti with F₂ in a flow system at 200°. Thermal dec. of (NH₄)₂TiF₆ is an alternative route

Use/Importance: Of some use in catalysts for a wide variety of processes

Physical Description: White, v. hygroscopic solid. Readily subl. *in vacuo*

Melting Point: Mp 0 400°

Boiling Point: Subl. 284°

Solubility: Insol. Et₂O

Other Data: Forms a dihydrate and two ammoniates

Hazard & Toxicity: Forms HF when hydrol.

Aldrich: 33323-9

References:

Haendler, H.M. *et al.*, *J.A.C.S.*, 1954, **76**, 2177, (*synth*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **10**, 821, (*rev*)

Eur. Pat., 1985, 156 617; *CA*, **103**, 198046f, (*manuf*)