



>>Entry Name: Titanium(III) fluoride (TiF₃), 11Cl

Synonym(s): Titanium trifluoride

CAS Registry Number: 13470-08-1

TiF₃

Molecular Formula: F₃Ti

Molecular Weight: 104.875

Accurate Mass: 104.943156

Percentage Composition: F 54.35%; Ti 45.65%

Source/Synthesis: Synth. by passing H₂ + HF over Ti or Ti hydride at 700°; or by heating TiF₄ and Ti; or by halogen exchange with HF and TiCl₃ or TiBr₃. Manuf. by heating (NH₄)₃TiF₆

Physical Description: Blue solid

Melting Point: Mp 1200°

Boiling Point: Bp 1400°

Other Data: Paramagnetic, $\mu_{\text{eff}} = 1.75\mu_{\text{B}}$ (300K)

Aldrich: 39981-7

Fluka: 89495

References:

Ehrlich, P. *et al.*, *Z. Anorg. Allg. Chem.*, 1954, **275**, 121, (*synth, cryst struct, magnetism*)

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

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