



>>Entry Name: Indium(III) fluoride (InF₃)

Synonym(s): Indium trifluoride

CAS Registry Number: 7783-52-0

InF₃

Molecular Formula: F₃In

Molecular Weight: 171.815

Accurate Mass: 171.899089

Percentage Composition: F 33.17%; In 66.83%

Source/Synthesis: Synth. by thermal dec. of [NH₄]₃[InF₆], or from In₂O₃ and F₂

Use/Importance: Used to bond gold to glass or oxide substrates. Additive for fluorophosphate and other optical glasses and optical fibres. Reacts with other fluorides to give ternary compds.

Physical Description: Colourless cryst. (by subl.)

Other Data: *n*_D 1.453

Aldrich: 43584-8

>>Derivative: Trihydrate

CAS Registry Number: 14166-78-0

Molecular Formula: F₃H₆InO₃

Molecular Weight: 225.861

Accurate Mass: 225.930784

Percentage Composition: F 25.23%; H 2.68%; In 50.84%; O 21.25%

Physical Description: White cryst. (H₂O)

Aldrich: 43605-4

>>Derivative: Tris-NH₃ complex

CAS Registry Number: 36171-87-6

Molecular Formula: F₃H₉InN₃

Molecular Weight: 222.906

Accurate Mass: 222.978736

Percentage Composition: F 25.57%; H 4.07%; In 51.51%; N 18.85%

Physical Description: Moisture-sensitive white solid

References:

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Avkhutskii, L.M. *et al.*, *Zh. Strukt. Khim.*, 1976, **19**, 949; *J. Struct. Chem. (Engl. Transl.)*, 1976, **19**, 817, (F-19 nmr, cryst struct)
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