



>>Entry Name: Aluminium(III) iodide (AlI₃)

Synonym(s): Aluminium triiodide

CAS Registry Number: 7784-23-8

AlI₃

Molecular Formula: AlI₃

Molecular Weight: 407.695

Accurate Mass: 407.694958

Percentage Composition: Al 6.62%; I 93.38%

Use/Importance: Lewis acid. Friedel-Crafts catalyst. Commercially available

Physical Description: White moisture sensitive cryst.

Melting Point: Mp 179-189°

Other Data: $\Delta H_f^\circ \text{AlI}_3(\text{s}) = -280.4 \text{ kJ mol}^{-1}$, $S_{298}^\circ = 219.9 \text{ J K}^{-1} \text{ mol}^{-1}$. Many complexes descr.

Hazard & Toxicity: Reacts violently with H₂O

Aldrich: 40932-4

>>Derivative: Tris-Py complex

Molecular Formula: C₁₅H₁₅AlI₃N₃

Molecular Weight: 644.999

Accurate Mass: 644.821555

Percentage Composition: C 27.93%; H 2.34%; Al 4.18%; I 59.03%; N 6.51%

Physical Description: White moisture-sensitive solid

Melting Point: Mp 195-198 dec.°

Solubility: Sol. MeOH; spar. sol. most org. solvs.

References:

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Beattie, I.R. *et al.*, *J.C.S.(A)*, 1968, 813; 1969, 2655, (*ir, Raman*)
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