



>>Entry Name: Aluminium(III) chloride (AlCl₃)

Synonym(s): Aluminium trichloride. Aluminium chloride, USAN

CAS Registry Number: 7446-70-0

Extra CAS Registry Numbers(s): 13845-12-0

AlCl₃

Molecular Formula: AlCl₃

Molecular Weight: 133.34

Accurate Mass: 131.888095

Percentage Composition: Al 20.24%; Cl 79.76%

in vapour

Source/Synthesis: Synth. from Al and Cl₂, or from Al and HCl at 500°

Use/Importance: Lewis acid. Friedel Crafts catalyst. Intermed. in one process for manuf. of Al. Commercially available

Physical Description: V. moisture-sensitive colourless hexagonal plates

Melting Point: Mp 192° (2.5 atm)

Boiling Point: Subl. 180°

Other Data: $\Delta H_f^\circ(s)$ -705.8 kJ mol⁻¹; S° 109.2 J K⁻¹ mol⁻¹. Many complexes descr.

Hazard & Toxicity: Reacts violently with H₂O. Forms explosive mixt. with PhNO₂ in the presence of an oxidisable org. compd., e.g. diphenylacetylene, phenol

Aldrich: 29471-3

Fluka: 6230

Sigma: A7178

>>Derivative: Hydrate

Synonym(s): Aluminium chloride hydrate

CAS Registry Number: 10124-27-3

Use/Importance: Commercially available

Other Data: A mixt. of hydrated species AlCl₃.x H₂O

Aldrich: 22939-3