



>>Entry Name: Aluminium borides

CAS Registry Number: 37367-77-4

Related CAS Registry Numbers(s): 12250-42-9

Molecular Formula: [AlB]

Use/Importance: AlB₂, AlB₁₂ are commercially available

>>Variant: Aluminium boride (AlB₂), 9Cl, 8Cl

Synonym(s): Aluminium diboride

CAS Registry Number: 12041-50-8

Molecular Formula: AlB₂

Molecular Weight: 48.604

Accurate Mass: 49.000149

Percentage Composition: Al 55.51%; B 44.49%

Source/Synthesis: Synth. from H₃BO₃, (or KBF₄) + Al at 800-1300° or Al + B₂O₃/KCl at 1200°

Physical Description: Black cryst. platelets with metallic lustre, or needles (hexagonal stars)

Melting Point: Mp 1350°

Other Data: Metallic conductor: 333 Ω⁻¹ m⁻¹. When finely divided, begins to oxidise in air at 700-800°. Dec. at *ca.* 1350° → AlB₁₂ + B. Reacts slowly with H₂O, aq. HCl

Aldrich: 39961-2

>>Variant: Aluminium boride (AlB₄)

CAS Registry Number: 111050-36-3

Molecular Formula: AlB₄

Molecular Weight: 70.226

Accurate Mass: 71.018759

Percentage Composition: Al 38.42%; B 61.58%

Physical Description: Dark solid, not well-characterised