



>>Entry Name: Ytterbium borides

Molecular Formula: [BYb]

>>Variant: Ytterbium boride (YbB₄), 9Cl, 8Cl

Synonym(s): Ytterbium tetraboride

CAS Registry Number: 12007-85-1

Molecular Formula: B₄Yb

Molecular Weight: 216.284

Accurate Mass: 215.972598

Percentage Composition: B 19.99%; Yb 80.01%

Source/Synthesis: Synth. from Yb₂O₃ + B + C at 1500-1800°

>>Variant: Ytterbium boride (YbB₆), 9Cl, 8Cl

Synonym(s): Ytterbium hexaboride

CAS Registry Number: 12008-33-2

Molecular Formula: B₆Yb

Molecular Weight: 237.906

Accurate Mass: 237.991208

Percentage Composition: B 27.27%; Yb 72.73%

Source/Synthesis: Synth. from Yb₂O₃ + B at 1500-1800° or Yb₂O₃ + B₂O₃ + Mg at 1200°

Physical Description: Blue solid

Melting Point: Mp 2370°

Other Data: Stable to hot aq. HCl (1:2); sol. HNO₃ (1:10) at r.t. Dissolves in H₂O at 300° under pressure. Oxid. in air at *ca.* 750°

>>Variant: Ytterbium boride (YbB₁₂), 9Cl, 8Cl

Synonym(s): Ytterbium dodecaboride

CAS Registry Number: 12008-81-0

Molecular Formula: B₁₂Yb

Molecular Weight: 302.772

Accurate Mass: 304.047038

Percentage Composition: B 42.85%; Yb 57.15%

Source/Synthesis: Synth. from Yb₂O₃ + B, or Yb + B at 1400-1500°

Physical Description: Hexagonal platelets

Other Data: Resistant to HCl or H₂SO₄, but attacked by oxidising acids (cold HNO₃, aqua regia)

>>Variant: Ytterbium boride (YbB₆₆), 9Cl

CAS Registry Number: 37322-43-3

Molecular Formula: B₆₆Yb

Molecular Weight: 886.566

Accurate Mass: 898.549508

Percentage Composition: B 80.48%; Yb 19.52%

Source/Synthesis: Synth. from elements

Melting Point: Mp 2150°

Other Data: V. hard and refractory

References: