



>>Entry Name: Samarium borides

Molecular Formula: [BSm]

Other Data: SmB₁₂ appears not to have been reported

>>Variant: Samarium boride (SmB₄), 9Cl, 8Cl

Synonym(s): Samarium tetraboride

CAS Registry Number: 12007-82-8

Molecular Formula: B₄Sm

Molecular Weight: 193.604

Accurate Mass: 195.956949

Percentage Composition: B 22.34%; Sm 77.66%

Physical Description: Bluish cryst.

Other Data: Antiferromagnetic at low temp. Metallic props. Dissociates *in vacuo* at 1650°

>>Variant: Samarium boride (SmB₆), 9Cl, 8Cl

Synonym(s): Samarium hexaboride

CAS Registry Number: 12008-30-9

Molecular Formula: B₆Sm

Molecular Weight: 215.226

Accurate Mass: 217.975559

Percentage Composition: B 30.14%; Sm 69.86%

Source/Synthesis: Synth. from Sm₂O₃ + B at 1500-1800°

Physical Description: V. thin bluish-black needles or platelets

Melting Point: Mp 2580° (2400°)

Other Data: Semiconductor. Dissoc. completely when heated. Stable to 650-700°, but ignites at 693°

>>Variant: Samarium boride (SmB₆₆), 9Cl

CAS Registry Number: 37322-42-2

Molecular Formula: B₆₆Sm

Molecular Weight: 863.886

Accurate Mass: 878.533859

Percentage Composition: B 82.59%; Sm 17.41%

Source/Synthesis: Synth. from elements

Melting Point: Mp 2150°

Other Data: V. hard and refractory

References:

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