



>>Entry Name: Barium borides

CAS Registry Number: 97793-30-1

Molecular Formula: [BBa]

General Statement: In addition to the hexaboride, the diboride has been reported, but its existence is in some doubt

>>Variant: Barium boride (BaB₆), 9Cl, 8Cl

Synonym(s): Barium hexaboride

CAS Registry Number: 12046-08-1

Molecular Formula: B₆Ba

Molecular Weight: 202.193

Accurate Mass: 203.961062

Percentage Composition: B 32.08%; Ba 67.92%

General Statement: Possesses the CaB₆ struct.

Source/Synthesis: Synth. from Ba and B under H₂ at 800-1300°; BaCl₂ with Ba₂B₄O₇; BaO + B₄C + B at 1500°

Use/Importance: Good cathode material

Physical Description: Forms dark green cube-shaped single cryst.

Melting Point: Mp *ca.* 2270°

Other Data: Semiconductor

Aldrich: 39479-3

References:

Peshev, P., *Rev. Int. Hautes Temp. Refract.*, 1967, **4**, 289, (*synth*)

Markovskii, L.Ya. *et al.*, *Zh. Prikl. Khim. (Leningrad)*, 1967, **40**, 1824; *J. Appl. Chem. USSR (Engl. Transl.)*, 1967, **40**, 1752, (*synth*)

Serebryakova, T.I. *et al.*, *Poroshk. Metall. (Kiev)*, 1969, **9**, 4; *Sov. Powder Metall. Met. Ceram. (Engl. Transl.)*, 1969, **9**, 608, (*synth*)

Torkar, K. *et al.*, *Monatsh. Chem.*, 1971, **102**, 249; 1972, **103**, 744, (*synth*)

Muranaka, S. *et al.*, *J. Cryst. Growth*, 1974, **26**, 165, (*synth, single cryst*)

Ishii, M. *et al.*, *Solid State Commun.*, 1976, **20**, 437, (*synth, Raman*)

Boron Refract. Borides, (Ed. Matkovich, V.I.), Springer-Verlag, Berlin, 1977, (*rev, bibl*)

Aida, T. *et al.*, *J. Appl. Phys.*, 1981, **52**, 1022, (*synth, props*)

Sears, R.E.J., *J. Chem. Phys.*, 1982, **76**, 5651, (*B-11 nmr*)