

substance: boron compounds with group VIII elements

property: properties of boron-rhodium compounds

The effect of a crystalline electric field on the magnetic transition temperatures of rare-earth rhodium borides [82N]

RhB_{≈1.1}

Semiconducting?; preparation [75S], crystalline structure [75S, 77L], electrical conductivity [75S]

melting point

T_m ~1500 K 91M

Formation enthalpy by high-temperature direct synthesis calorimetry in [91M].

Rh₇B₃

Semiconducting?; preparation [75S], crystalline structure [75S, 77L], electrical conductivity [75S])

Transmission electron microscopy in [87M].

Comparative discussion of the structures of Rh₇B₃ (together with Ru₇B₃ and Re₇B₃) in relation to M₇C₃ carbides in [86B].

Rh₅B₄

Preparation [81T], crystalline structure [81S, 81T]

Structure: hexagonal

Space group: P6₃/mmc

The structure is built up of close-packed layers of rhodium atoms with boron atoms accommodated in octahedral holes between the layers [81N].

lattice parameters

| | | | | |
|-----|-------------|-------------|-------------------|-----|
| a | 3.3058(2) Å | $T = 300$ K | X-ray diffraction | 81N |
| c | 20.394(4) Å | | | |

R-Rh-B (R = rare earth element)

Crystal structures in [97S].

Growth of single crystals [97S].

Structure and superconductivity [86S].

RRh₄B₄ (R = rare earth element)

Crystal structures in Fig. 1[97S].

Low-temperature ordered states of RRh₄B₄ (R= rare earth) due to dipole-dipole and exchange interactions [84M].

Magnetic relaxation in highly anisotropic systems [86F].

Magnetic and superconducting properties of single crystals of rare earth rhodium boride compounds RRh₄B₄ in [85L].

Superconductivity in ternary rhodium borides [81H].

See also special tables in "Ternary borides with group VIII elements".

References:

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Fig. 1.

ErRh_4B_4 . Crystal structure [97S].

