

Synthesis of Mg/B Containing Compound in a Modified Microwave Oven

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Abstract : Magnesium containing boron compounds with hexagonal structure have been drawn much attention due to their superconductive nature. The main target of this work is new modified microwave oven by on our own has an ability about passing through a gas in the oven medium for attainment of oxygen-free compounds such as c-BN. Mg containing boride was synthesized by modified-microwave method under nitrogen atmosphere using amorphous boron and magnesium source in appropriate molar ratio. Microwave oven with oxygen free environment has been modified to aimed to obtain magnesium boride without oxygen. Characterizations were done by powder X-ray diffraction (XRD), and Fourier transform infrared (FTIR) spectroscopy. Mg containing boride, generally named magnesium boride, with amorphous character without oxygen is obtained via designed microwave oven system.

Keywords : magnesium containing boron compounds, modified microwave synthesis, powder X-ray diffraction, FTIR

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