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Obtaining ultrafine powders of some boron carbide-based nanocomposites using liquid precursors

ABSTRACT. Due to their unique set of physical and chemical properties, boron carbide-based composites have become the hard materials most widely used in current high technologies. However, the range of possible applications of these materials is narrowed because of boron carbide's brittleness and low resistance to cracking. This problem can be resolved by creating nanocrystalline structures from sufficiently finely dispersed starting materials. Several novel technological routes of direct chemical synthesis of finely dispersed boron carbide/metal diboride composite powders from liquid precursors are elaborated.

Keywords: boron carbide-based composite, chemical synthesis, liquid charge

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