

عنوان مقاله:

SYNTHESIS OF TB2-AL2O3 NANOSTRUCTURE THIROUGH MECHANOCHEMICAL PROCESS

محل انتشار:

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خلاصه مقاله:

The nanostructure composites of TiE2 such as TiB2-Al2O3 are useful in variety of applications such as cutting tools, wear-resistant substrates, and lightweight armor. On the other hand, recently, mechanical activation and mechanical milling have been extensively implemented for synthesizing nanostructure composite powders and advanced materials. In this present research, TiB2-Al2O3 nanostructure composite was produced using mixtures of titanium dioxide, boric acid and pure aluminum as raw materials through mechanochemical process. The milled powders were studied by XRD, SEM analytical techniques. According to the XRD patterns, Synthesis of TiB2-Al2O3 nanostructure was not occurred until 40 h milling process. XRD analyses exhibited that the TiB2-Al2O3 nanostructure was formed after this milling time. The results indicate that increasing milling time up to 80 h had no significant effect other than refining the crystallite sizes of the components specially TiB2.

کلمات کلیدی:

Ceramic-Matrix Composite; crystallite size; mechanical milling; nanostructure; TiBzAl2Ob nanocomposite

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