

عنوان مقاله:

Synthesis of TiC-Al₂O₃ Nanocomposite from Impure TiO₂ by Mechanical Activated Sintering

محل انتشار:

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خلاصه مقاله:

In this research, the production possibility of TiC-Al₂O₃ nanocomposite, as a useful ceramic from commercially pure TiO₂, aluminum powder and carbon black has been investigated. Rutile (TiO₂) with carbon black and aluminum were placed in a high energy ball mill and sampled during different milling times. Then, the activated powders were synthesized at different temperatures in an atmosphere control tube furnace. Our results show that using this method has decreased the synthesizing temperature to ۱۰۰۰-۱۲۵۰ °C by increasing the milling time. Also the width of X-ray patterns peaks, had made it apparent that, the size of produced TiC crystals was in order of nanometer. Furthermore it was detected that the lattice parameter deviated slightly from the standard size.

کلمات کلیدی:

nanocrystal, Mechanical Activated, Titanium Carbide, Rutile

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