عنوان مقاله:

Effect of Sintering Atmospheres on Phase Transformation of Hydroxyapatite and Hydroxyapatite-Alumina Nanocomposite

محل انتشار:

اولین همایش نانومواد و نانوتکنولوژی (سال: 1390)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

The present work is based on Le Chatelier's principle which dictates the presence of H2O vapour should impede the release of water vapour from hydroxyapatite (HA), and thus suppresses the decomposition ofHA to unhydrated calcium phosphate phases. After characterizing the first powders using X-ray diffraction (XRD) and scanning electron microscope(SEM), pure nano-HA and nano-HA-20 wt% nano-Al2O3 mixture were pressed and sintered in air, moist, and reduction atmospheres at 1200oC for 2 h. Phase investigations of sintered bodies showed that pure nano-HA isstable in all three atmospheres up to 1200oC. But, moist atmosphere was preferred to suppress the nano-HA .decomposition in HA-Al2O3 nanocomposite

کلمات کلیدی:

Hydroxyapatite, Nanocomposite, Atmosphere, Decomposition