

عنوان مقاله:

A highly improved method by synthesis of green nano catalyst recyclable LaMgNiO_4 by microwave co-precipitation techniques

محل انتشار:

دومین کنفرانس بین المللی علوم و مهندسی (سال: 1394)

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خلاصه مقاله:

The synthesis of lanthanide nanoparticles is a research area of big interest, especially since these materials have very interesting optical, magnetic and catalytic properties [1]. Lanthanide particles have been synthesized by different means but in general particles were large and oxides have been obtained. Mixed metal oxides exhibit many interesting and intriguing properties from both the theoretical and the application point of view. Colossal magnetoresistance, ferroelectricity, superconductivity, charge ordering, spin dependent transport, high thermo power and the interplay of structural, magnetic and transport properties are commonly observed features in this family. Lanthanide elements have gained a great attention the last few decades, owing to their unique properties and wide range of application, especially in metallurgy, ceramic industry, and nuclear fuel control [2-4]. There are a several ways to synthesized metal oxide nanocrystals such as sol-gel, hydrothermal, combustion and chemical Co-precipitation [5]. In this work LaMgNiO_4 nanocrystals are synthesized by simple and effective route, namely microwave-assisted co-precipitation methods, using organic surfactant. The phase composition, morphology, lattice parameters and size of nanoparticles in these materials are characterized through Fourier transform infrared (FT-IR) spectroscopy, X-ray diffraction, scanning electron microscopy (XRD), and Scanning electron microscopy (SEM). The synthesized nano particles, yield comparatively pure crystalline phase of LaNiMgO_4 . The results show that the formation time is decrease by microwave irradiation

کلمات کلیدی:

Green catalyst LaNiMgO_4 , recyclable, co-precipitation

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