

عنوان مقاله:

STUDY OF TEMPERATURE CHANGES IN HYDROTHERMAL AND COPRECIPITATION METHODS ON
(PROPERTIES OF NAVAL LAYERED DOUBLE HYDROXIDES (LDH

محل انتشار:

سومین کنفرانس بین المللی مواد فوق ریزدانه و نانوساختار (سال: 1390)

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خلاصه مقاله:

In this study we worked on Ni/Al nitrate layered double hydroxides, Ni/Al LDHs were prepared with Nickel(II) nitrate hexahydrate ($Ni(NO_3)_2 \cdot 6H_2O$ 99%) and Aluminium nitrate nonahydrate ($Al(NO_3)_3 \cdot 9H_2O$ 95%) with molar ratios of 2:1 and 3:1 by both coprecipitation and hydrothermal methods with nitrogen gas purged into the solutions at time ranges of 90-120°C (pH=9.5) for 24h and 180°C (pH=6 and pH=9.5) for 24h. Samples obtained were characterized by XRD; FT-IR and SEM. These data show that the temperature increase in both methods enhanced the crystallinity and size of product and the better crystallinities were gained at hydrothermal conditions (180°C) at pH=6.00. This study offers a simple method to produce Ni/Al nitrate form LDHs under conditions of deionized water without surfactant. However when the reaction is conducted at 220°C another phase with boehmite structure emerges. At higher temperature and in alkali conditions (pH > 10) there is possibility to form metal oxides

کلمات کلیدی:

Ni/Al LDH: Layered double hydroxide; Co-precipitation; Hydrothermal

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