

## عنوان مقاله:

Synthesis, characterization and study of thermal changes of Ni/Fe layered double hydroxides prepared by coprecipitation and hydrothermal methods

## محل انتشار:

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

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## خلاصه مقاله:

In this article we studied synthesis, characteristic and thermal properties of Ni/Fe LDHs by both thermal and hydrothermal coprecipitation methods by nickel(II) nitrate hexahydrate ( $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$  99%) and iron(III) nitrate nonahydrate ( $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$  95%) with molar ratios of 2:1 and 3:1 at the temperature range of 150°C (pH=10 for 24h and 48h) and 90, 120 (at pH=10), 180 °C (pH=10 and pH=6.5) for 24h and purged with nitrogen gas. Samples obtained were characterized by XRD; FT-IR and SEM. These data show that the better crystallinities were gained at hydrothermal at alkali conditions and at lower temperatures no good structure is obtained. At higher temperature and in alkali conditions (pH > 10) there is possibility to form metal oxides. This study offers a simple method to produce Ni/Fe nitrate LDHs under conditions of deionized water without surfactant.

## کلمات کلیدی:

Ni/Fe LDH Layered double hydroxide; Coprecipitation; Hydrothermal

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/613221>

