

## عنوان مقاله:

Synthesis and characterization of NiO-CuO nanocomposite by thermal decomposition method

## محل انتشار:

بیستمین سمینار شیمی معدنی ایران (سال: 1397)

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## خلاصه مقاله:

Mixed metal oxides have found increasing research focus and applications in physics, chemistry, materials science and engineering. The combination of two or more metals in an oxide matrix can produce materials with novel physical and chemical properties leading to relatively higher performance in various technological applications [1]. CuO is a p-type low-band gap (1.2 eV) semiconductor used as high T<sub>c</sub> superconductor, for magnetic storage media, gas sensing, photocatalysis, photovoltaics and battery applications [2]. NiO is p-type with a wide band gap of 3.6 - 4.0 eV and has wide applications in drug delivery, gas sensing, battery electrodes, photoelectrodes and electrochromic windows [3]. In this work, the NiO-CuO nanocomposite is obtained from pyrolysis of Cu(II) complex with N,N-bis(salicylidene)4-bromo-1,2-phenyldiamine at 550 °C for 24h in nickel crucible. The synthesized nanocomposite is characterized and studied with several techniques such as FT-IR spectroscopy, X-ray powder diffraction (XRD) and scanning electron microscopy (SEM).

## کلمات کلیدی:

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