

## عنوان مقاله:

Sonocatalysis degradation of methyl orange using zinc sulfide carbon nanotubes nanocatalyst

## محل انتشار:

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## خلاصه مقاله:

Dye sewage is dangerous problem in our environmental aquatics that cause generation of harmful effects for living organism. In this work, because of simplicity, easy operation, high efficiency and no creating secondary pollutants, ultra sound radiation applied for degradation of a synthetic dye, methyl orange using zinc sulfide nano particles decorated on carbon nanotubes as nanocatalyst. ZnS/CNTs prepared by co-precipitation of carbon nanotubes and zinc aceate. Methyl orange (MO) is a cationic dye that used widely in some medical uses, coloring paper, dyeing cottons, wools, coating for paper stocks and etc. For achieving highest degradation efficiency several parameters such as pH, amount of nanocatalyst, initial dye concentration and time were evaluated and optimized. Results showed that highest degradation efficiency (100%) obtained at 0.3 gr of nanocatalyst while initial dye concentration is 30 mg/L at pH, 2. Comparison of several methods for degradation of methyl orange showed feasibility of applied method. In addition, reusability of nanocatalyst was suitable for degradation of MO in real wastewater samples

## کلمات کلیدی:

nanocatalyst, sonocatalysis, Degradation efficiency, Methyl orange, Zinc sulfide, carbon nanotubes

## لینک ثابت مقاله در پایگاه سیویلیکا:

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