

## عنوان مقاله:

Photocatalytic performance of copper oxides synthesized by solution combustion route

## محل انتشار:

دهمین کنفرانس بین المللی مهندسی مواد و متالورژی (iMat2021) (سال: 1400)

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## خلاصه مقاله:

In this research copper oxide (CuO) and copper/copper oxide composites (Cu/Cu<sub>2</sub>O) were synthesized using solution combustion synthesis route. The powders were synthesized using copper nitrate as oxidizing agent and metal source and citric acid and/or mixture of citric acid and urea as fuel. The powder composition was adjusted by tuning citric acid and /or citric acid urea amount. The combustion behavior of the obtained gels was studied using thermal analysis. The synthesized powders were characterized using X-ray diffractometer and electron microscopy. CuO and also Cu/Cu<sub>2</sub>O composites were obtained using citric acid as fuel while CuO was formed by citric acid -urea fuel mixture. SEM images revealed formation of spherical like particles in all samples. The photocatalytic activity of the synthesized powders were evaluated towards degradation of methyl orange under visible light. The results revealed that Cu/Cu<sub>2</sub>O composites has degradation efficiency of 97% to 94% depending on fuel to oxidant ratio of initial precursors while CuO has 78% degradation efficiency.

## کلمات کلیدی:

Copper oxide, Composite, Solution Combustion Synthesis, Photocatalytic Activity

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1388757>

