

عنوان مقاله:

BaBiO₃ Assisted Photodegradation of Malachite Green Dye Under Visible Light Irradiation: Adsorption and Degradation Kinetics

محل انتشار:

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نویسندگان:

k sharma - Department of Chemistry, Govt. P.G. College, Kota ۳۲۴۰۰۱, India

s Jain - Department of Chemistry, Govt. P.G. College, Kota ۳۲۴۰۰۱, India

u Chandrawat - Department of Chemistry, Govt. P.G. College, Kota ۳۲۴۰۰۱, India

خلاصه مقاله:

Nano sized BaBiO₃ is prepared through Pechini method and characterized by SEM, XRD, FTIR, DTTGA and UV DRS. The kinetic studies of adsorption and degradation phenomena involved in the photocatalytic degradation of Malachite Green dye using a batch reactor under visible light were investigated. Experiments were performed in a suspended BaBiO₃ photocatalyst system. The effect of catalyst loading, solution pH and initial dye concentration on dye degradation is investigated. In addition, adsorption experiment is also performed which indicates that adsorption pattern follows Langmuir model. The decomposition of Malachite Green dye follows pseudo first order kinetics and the Langmuir-Hinshelwood mechanism is found to be valid. Different kinetic parameters for adsorption and photocatalytic degradation of dye are also determined

کلمات کلیدی:

,BaBiO₃, Malachite Green dye, Pechini Method, Perovskites, Photocatalytic degradation

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