



Study of Photocatalytic Degradation of Copper Mustard Urea Complex Using ZnO as Semiconductor in Non Aqueous Media

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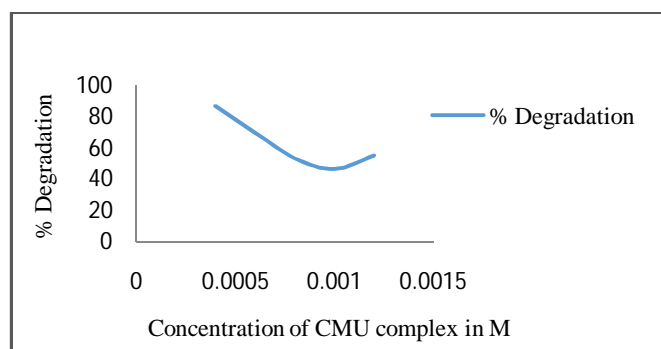
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ABSTRACT

Photocatalytic degradation has been considered to be an efficient and rapid process for degradation for Copper Mustard complex. Heterogeneous catalysis appeared as a new emerging “Advanced oxidation process” (AOP), as illustrated by the many studies. This article recalls and demonstrates the photocatalytic degradation of Copper Mustard Urea complex by heterogeneous photocatalytic process using ZnO as semiconductor. The degradation was studied spectrophotometrically in non-aqueous and non polar solvent benzene. Photo-degradation of copper soap complex increase with increasing concentration of soap complex and further decrease with some extent, similarly amount of semiconductor, light intensity and polarity of solvent are some other factors which were also affect rate of degradation in different manner. Total degradation was calculated and compared with respect to various factors. Tentative mechanism has been also proposed for photo-degradation of copper soap complex.

Graphical Abstract



Percent degradation of CMU complex.

Keywords: Copper(II) Mustard Urea complex, Zinc oxide as semiconductor, Non-aqueous media Photocatalytic degradation,.