
**STUDY OF NEWLY DEVELOPED PHOTOCATALYST FOR DECOLORIZATION OF AZO
DYE AS POLLUTANT IN WATER**

DISHA^{*}, R C MEENA^{}**

^{*}BK Birla Institute of Engineering & Technology, Pilani

^{**}Photo Chemistry laboratory, Department of Chemistry, Jai Narain Vyas University, Jodhpur

ABSTRACT:

Dye sensitized photocatalytic processes have been studied for many years due to their intriguing advantage over using cheap energy source in environmental remediation and in other fields. In this paper, mechanism of the photocatalytic decolorization process discussed. The kinetics of photocatalytic degradation was analyzed and found to be pseudo first order. Spectral changes suggest immobilization of pure resin (Dowex-11) to Methylene blue immobilized resin (MBIR-Dowex-11). By calibration curve favorable condition to obtain maximum degradation were found. Primary parameters that influence the process such as catalyst loading, pH, dye concentration, light intensity and from the inhibitive effect of ethanol it was estimated that hydroxyl radicals played a significant role in photodecolorization of dye by newly developed methylene blue immobilized resin dowex-11. However, it is expected that large-scale applications could be achieved with significant progress by improvement of process performance.

Key words: Photocatalyst, Acid Red-18, Photo Decolorization, Methylene Blue Immobilized resin Dowex -11
