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KINETIC STUDIES ON FLUIDIZED BED REACTOR FOR TREATING TEXTILE DYE EFFLUENT BY WHITE ROT FUNGI

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ABSTRACT

In the present study consortium of White Rot Fungal (WRF) species employed for the decolourization and biodegradation of synthetic textile dye effluent in a designed Fluidized Bed Reactor (FBR). Kinetic study was carried out with the results got from the operation of FBR to the varying Hydraulic loading rate (HLR) and Organic loading rate (OLR). Decolourization of 95%and 89% of Chemical oxygen demand (COD) removal were achieved through the study using the designed FBR. Kinetic study was carried out for the substrate removal using Modified Stover-kincannon model and First order substrate removal model to determine the constants and the correlation value for the effective treatment technology. From the result, it was observed that the Modified Stover-kincannon model fits to the satisfactory level when compared to First order model.

KEYWORDS: COD, FBR.HLR, OLR, Synthetic Dye Effluent, WRF

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