

Treatment of Municipal Landfill Leachate by Solar Photocatalytic Method Using Fixed Titanium Dioxide

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Treatment of municipal landfill leachate by fixed TiO_2 photocatalytic method was investigated in the present study using sunlight as light source. Indigenous TiO_2 was immobilized with white cement. The leachate used in the study was collected from Kodungaiyur dumpsite in Chennai. Optimization of pH, catalyst dose and exposure time were carried out. Chemical Oxygen Demand (COD) was used to determine the degradation efficiency. The degradation efficiency of leachate was found to be 85% with a batch flat reactor under optimum condition. Fixed catalyst was found to be reusable for 5 times without any reduction in the efficiency. The degradation process was found to follow pseudo first order kinetics.