Journal of Scientific & Industrial Research

VOLUME 72 **NUMBER 4** **APRIL 2013**

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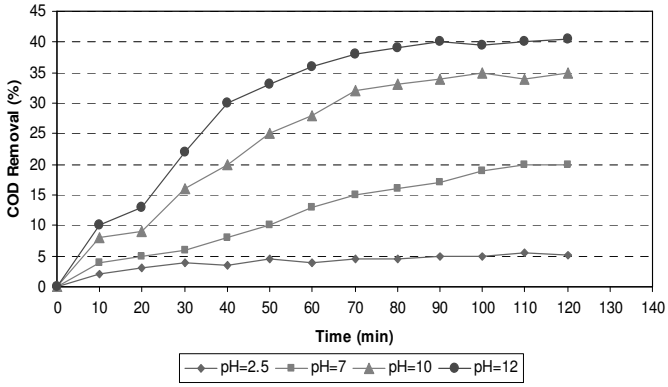
Waste Treatment and Utilization

248 Removal of organic compound from pharmaceutical wastewater using advanced oxidation processes

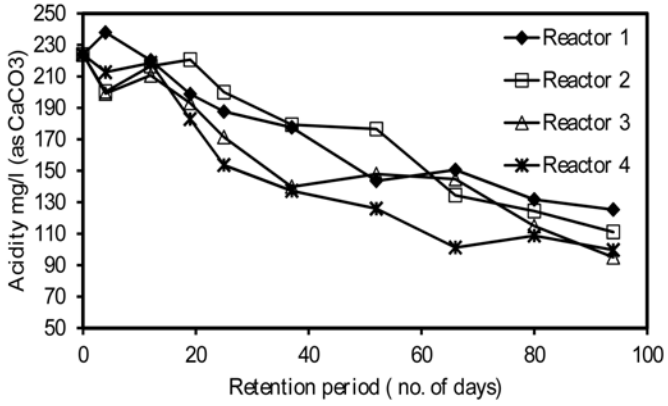
It has been studied for the further polishing of effluent (pharmaceutical wastewater) from an aerobic reactor using different types of advanced oxidation processes (AOPs) were presented and discussed. Four types of processes were evaluated, i.e. ozonation (O_3), hydrogen peroxide (H_2O_2), ultraviolet (UV) and Fenton reagent, and a combination of these AOPs (O_3/UV, H_2O_2/UV, O_3/H_2O_2 and O_3/H_2O_2/UV) for organic compound (as chemical oxygen demand, COD) removal have also been studied. The additional treatment of the activated sludge reactor effluent contributed substantially to overall COD removal of the pharmaceutical wastewater. Among the AOPs used in this study, O_3/H_2O_2/UV alternative resulted in the highest COD removal (59%) from the activated sludge effluent.



Chelliapan, S. & Sallis, P.J

255 Treatment of Industrial Wastewater by Organic Wastes

Performance of the laboratory scale bioreactors containing different organic substrates has been tested for the treatment of acidic industrial wastes in the treatment of acidic industrial wastes in terms of acid neutralization, sulphate and metal removal processes. After incubation period of 17 days at room temperature the jars were introduced with 850 ml acidic industrial wastewater rich in ferric iron characterized by low pH, polluted with presence of metals like cobalt, zinc, copper, lead, manganese, nickel and iron. The experiment was run for three months. After retention period of four, twelve, nineteen, twenty five, thirty seven, fifty two, sixty six, eighty and ninety four days. The main aim of this study is to compare and interpret the best organic substrate for treatment of acidic wastewater in bioreactors and to be applied on commercial scale.



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