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Ozonation as a solid strategy for removal of herbiside of 2,4 dichlorophenoxyacetic acid and the pH dependence of the reaction

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Most successful methods are required to mineralize the expanding number of contaminants at low focuses on the water environment utilizing advanced oxidation process. Phenols, pesticides, fertilizers, cleansers, and other synthetic items are disposed off straightforwardly into nature, without being treated, by means of releasing, controlled or uncontrolled. The degradation of 2,4 dichlorophenoxyaceticacid, a herbicide has been carried out at room temperature by varying the pH. The ozonation of 2,4 dichlorophenoxyaceticacid(2,4D) in aqueous solution as a function of pH-value(pH-4.5,7,9.2)was investigated. Ozonation is a straight forward for all intents and purposes suitable procedure which can be utilized for the evacuation of the herbicide at the contaminant destinations or even purification of contaminated water sample collected post disposal. Thus this experimental work provide a solution for pre as well as post disposal removal of the contaminant 2,4 dichlorophenoxyaceticacid. The analysis work was completed in a constantly stirred reactor. Uniform flow of ozone gas and uniform stirring was ensured using a polymeric diffuser. The initial pH of the solution was adjusted and ozonation carried out. A sharp decrease in concentration of the substrate was found .The results show that the elimination rate of the initial compound increases with the pH value. The conductivity studies confirm the formation of acidic byproducts. The removal of 2,4-D followed second order at pH 4.5 , first order pH 7 and zero order at 9.2. In order to reach useful conclusion about the process the COD of the process was measured. Maximum reduction in concentration takes place at pH 9.2(87%).

Biography

Shanthi S has completed his PhD at the age of 27 years from Nagpur University and doing postdoctoral studies Under the guidance of Dr.M.K.N. Yenki,Laxminarayan Institute of science,Nagpur. She has more than 12 years of research and teaching experience. Her research area is majorily focused on water and wastewater treatment technologies.

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