

Performance of Ozone/SnCl₄ Oxidation in Stabilized Landfill Leachate Treatment

ABSTRACT

Landfill leachate is well known as contains a high concentration of pollutants and threatens our environment as well as human life. Therefore, this study investigates the potential of ozonation (O₃) and tin tetrachloride (SnCl₄) in remedying stabilised landfill leachate (SAL). The performance of this treatment is evaluated by measuring the percentage removal of chemical oxygen demand (COD) and colour at different dosages, pH, and reaction times. The optimum percentage removals recorded for colour and COD were 98% and 83.2%, respectively, at an optimum dosage ratio (COD: SnCl₄) 1:1.25, reaction time of 60 min and pH 8.5. Moreover, the biodegradability ratio of the sample also shows an improvement from 0.03 to 0.28, using this treatment. Thus, these data show that the oxidation process has a great potential to remediate recalcitrant pollutants like leachate