

Measurement of biochemical oxygen demand of the leachates

Abstract :

Biochemical oxygen demand (BOD) of the leachates originally from the different types of landfill sites was studied based on the data measured using the two manometric methods. The measurements of BOD using the dilution method were carried out to assess the typical physicochemical and biological characteristics of the leachates together with some other parameters. The linear regression analysis was used to predict rate constants for biochemical reactions and ultimate BOD values of the different leachates. The rate of a biochemical reaction implicated in microbial biodegradation of pollutants depends on the leachate characteristics, mass of contaminant in the leachate, and nature of the leachate. Character of leachate samples for BOD analysis of using the different methods may differ significantly during the experimental period, resulting in different BOD values. This work intends to verify effect of the different dilutions for the manometric method tests on the BOD concentrations of the leachate samples to contribute to the assessment of reaction rate and microbial consumption of oxygen.