

In-Sewer aerobic and anaerobic laboratory-scale degradation study of organic pollutants in sewage

ABSTRACT

The course of the degradation of pollutants in terms of chemical oxygen demand (COD), soluble COD (SCOD), phenols, and anionic surfactants was examined both aerobically and anaerobically in sewer-like conditions. The rates of COD and SCOD degradation under aerobic condition were 0.051 and 0.052 mg/L/h, respectively. COD concentration remained unchanged during anaerobic process. However, SCOD was observed to increase with a production rate of 0.010 mg/L/h. The concentration of phenols was observed to decrease at a rate of 0.0211/h remained constant during the anaerobic process. The same profile was observed in the concentration of anionic surfactants, wherein the rate of degradation was 0.0454/h aerobically, and the concentration profile remained constant.

Keyword: In-sewer; COD; SCOD; Phenol; Anionic surfactants; Aerobic; Anaerobic; Degradation