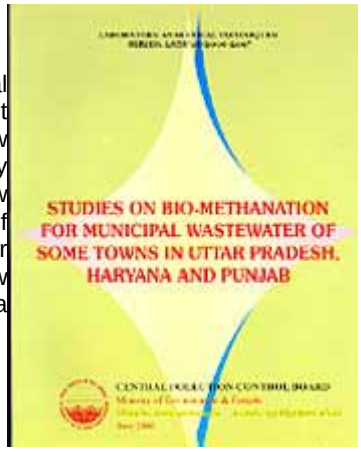
Studies on Bio-Methanation for Municipal Wastewater of Some Towns in Uttar Pradesh, Haryana and Punjab

Foreword



In the last two decades, aerobic processes were popular for biological treatment of wastewater and these require more energy and equipment for transferring oxygen into the wastewater. The scenario has now changed as a result of environmental factors and increasing energy cost. Anaerobic process has now emerged as a potential new technology. Anaerobic treatment of wastewater has a number of advantages over aerobic treatment -no energy for oxygenation, lower production of sludge per unit mass of organic matter stabilized, low nutrient requirement for biological growth and production of bio-gas, a valuable source of renewable energy.

This project on "Studies on bio-methanation for municipal wastewater of some towns in Uttar Pradesh, Haryana and Punjab" has been taken up under the aegis of National River Conservation Directorate (NRCD), Ministry of Environment and Forests to assess the feasibility of treating the municipal wastewater by adopting UASB (Up-flow Anaerobic Sludge Blanket) anaerobic process in twenty towns of Uttar Pradesh, Punjab and Haryana .

In this report, a procedure for the determination of methanogenic activity of wastewater and quantity of methane gas produced under static condition is presented. This treatment procedure is useful as a preliminary study for further treatment by UASB technology.

The present report describes the laboratory test procedure for methanogenic activity and production of methane gas from municipal wastewater. Results of methanogenic activity and physico-chemical characteristics of twenty municipal drain effluents from Uttar Pradesh, Punjab and Haryana states are also presented in this report.

We hope the information contained in this report will be useful for researchers and the persons engaged in the field of wastewater treatment system.

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