

Integrated application of upflow anaerobic sludge blanket reactor for the treatment of wastewaters

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ABSTRACT

The UASB process among other treatment methods has been recognized as a core method of an advanced technology for environmental protection. This paper highlights the treatment of seven types of wastewaters i.e. palm oil mill effluent (POME), distillery wastewater, slaughterhouse wastewater, piggery wastewater, dairy wastewater, fishery wastewater and municipal wastewater (black and gray) by UASB process. The purpose of this study is to explore the pollution load of these wastewaters and their treatment potential use in upflow anaerobic sludge blanket process. The general characterization of wastewater, treatment in UASB reactor with operational parameters and reactor performance in terms of COD removal and biogas production are thoroughly discussed in the paper. The concrete data illustrates the reactor configuration, thus giving maximum awareness about upflow anaerobic sludge blanket reactor for further research. The future aspects for research needs are also outlined.

KEYWORDS:

UASB reactor; Industrial wastewater; Agro wastewater; Municipal wastewater; COD; Biogas

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