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Treating municipal Solid waste of Ahwaz by upflow anaerobic sludge blanket reactor

A. Alizadeh Shooshtari [1] , M.M .Amin [2], R .Nabizadeh [3],A .Hasanzadeh [4] and N .Jaafarzadeh [5]

1. M.Sc. of Jame Kar Karoon Cosulting Engineers
2. Assistant Prof. of Isfahan University of Medical Sciences
3. Assistant Prof. of Tehran University of Medical Sciences
4. Member of Isfahan University of Medical Sciences
5. Associated Prof. of Ahwaz University of Medical Sciences

This Study was performed with the purpose of determining the efficiency of up-flow anaerobic sludge blanket (UASB) process in treating the municipal solid wastes (MSW) Leachate of Ahwaz city, Iran, under tropical conditions. Organic loading rates of the reactor were between 0.58 g COD/l.d and 15 g COD/l.d, for about 230 days. The maximum of COD removal efficiency, obtained in the OLR=12 g COD/l.d, was 87% . Temperature of reactor during the study was in the range of 34 and 39 ºC. The maximum temperature of reactor was 39 ºC, because of the effect of ambient temperature on reactor. The highest COD removal efficiency, also, obtained in the highest temperature of reactor (37-39 ºC). The results revealed that the UASB reactor, in such a climate of Ahwaz city (by a mid temperature of 40 ºC in about 7-8 months a year), and because of it's potential in reception and treatment of high organic loading rates and obtaining high efficiencies in COD removal (87%), is a feasible reactor for treating MSW leachate. However, an aerobic system must be used after the UASB reactor, for the effluent standards meeting.

Keywords: MSW lechate ,UASB reactor, Anaerobic treatment, Tropical condition

[1] Corresponding author Email: abbas.alizadeh@gmail.com