World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:9, No:06, 2015

Biological Treatment of Tannery Wastewater Using Pseudomonas Strains

Authors : A. Benhadji, R. Maachi

Abstract : Environmental protection has become a major economic development issues. Indeed, the environment has become both market growth factor and element of competition. It is now an integral part of all industrial strategies. Ecosystem protection is based on the reduction of the pollution load in the treatment of liquid waste. The physicochemical techniques are commonly used which a transfer of pollution is generally found. Alternative to physicochemical methods is the use of microorganisms for cleaning up the waste waters. The objective of this research is the evaluation of the effects of exogenous added Pseudomonas strains on pollutants biodegradation. The influence of the critical parameters such as inoculums concentration and duration treatment are studied. The results show that Pseudomonas putida is found to give a maximum reduction in chemical organic demand (COD) in 4 days of incubation. However, toward to protect biological pollution of environment, the treatment is achieved by electro coagulation process using aluminium electrodes. The results indicate that this process allows disinfecting the water and improving the electro coagulated sludge quality.

Keywords : tannery, pseudomonas, biological treatment, electrocoagulation process, sludge quality
Conference Title : ICBEESE 2015 : International Conference on Biological, Ecological and Environmental Sciences, and Engineering
Conference Location : Istanbul, Türkiye
Conference Dates : June 18-19, 2015