

The Study of Effective Microorganism's Biopreparation for Wastewater Treatment

Authors : Batsukh Chultem, Oyunbileg Natsagdorj, Namsrai Steyrmunkh

Abstract : Many industries, tourist camps and houses, discharge aqueous effluents containing relatively high levels of heavy metals, harmful organic compounds water. Untreated effluent from these manufacturing processes has an adverse impact on the environment. A specific problem associated with waste water in the environment is accumulation in the food chain and persistence in the environment. The screening of microorganisms resistant to pollution and able to detoxification them is essential for the development of clean-up technologies. The purpose of this study is to use advanced microbiological technology products for oxidizing organic and heavy metals pollutants as a biological treatment, to reduce water pollution, which arise as a result of waste water due to day-to-day operations of industries and houses of Ulaanbaatar city and tourist camps located around the lake Hovsgol, in Hovsgol province of Mongolia. By comparing the results from tests of effective microorganism's bio-preparation treated sewage samples and not treated sewage samples shows that the treated sewage samples pollution decreased depending on treatment period and ratio. Treated water analyses show that: the suspended solids 352 mg/l, pH 5.85-7.95, ammonium nitrate 81.25-221.2 mg NH₄/l, nitrite 0.088-0.227 mg NO₂/l, nitrate 8.5-11.5 mg NO₃/l, and orthophosphate 1.06-15.46 mg PO₄/l. Also, heavy metals were decreased and microbiological test results defined parameters, respectively show the waste water pollution was reduced.

Keywords : effective microorganims, environment, pollution, treatment

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