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Screening and Domestication of High Effective Microorganism Used in Oil Containing Wastewater Remediation

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ABSTRACT

According to the characteristics of oil containing wastewater, four strains of microorganism, named TA-11, TA-17, HA-9, HD-1, were picked out from the oil contaminated soil and activated sludge of biochemical treatment system of an asphalt plant wastewater in Panjin. They can degrade oil and CODCr in oil containing wastewater. The research result showed that each strain of microorganisms can remove oil and CODCr in oil containing wastewater effectively when the pH value was 7.0, the temperature was 30 degree Celsius, the rotation speed was 140r/min and the inoculation amount was 10%. Especially the highest removal ratio of CODCr was 68% after growth of 64 hours. The removal ratio of CODCr in oil containing wastewater of mixed bacilli was much higher than that of unitary bacilli, and mixing a certain amount of domestic sewage with the oil containing wastewater will also improve the removal rate of CODCr.

KEYWORDS

Oil Containing Wastewater, Screening, Domestication, CODCr, Removal Ratio

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