

# **Oily Domestic Wastewater Treatment by Using Effective Microorganism Technology**

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**Abstract:** *The management of domestic waste water, particularly the oil containments generated during daily domestic water uses processing, it poses significant environmental challenges. The presence of high oil content in wastewater breaks water quality, damaging aquatic ecosystems and complicating waste treatment processes. This study investigates the effectiveness of an Effective Microorganism (EM) solution in enhancing the degradation of oil content in domestic waste. EM, a integrated mixture of beneficial microbes such as lactic acid bacteria, yeasts, and photosynthetic bacteria, was applied to domestic wastewater under controlled conditions. It is observed that from result that the EM solution significantly reduced the oil contamination in the effluent, with a degradation efficiency of over 65 -70% within a four week period. The microbial containments contributed to the breakdown of oil into simpler, non-toxic compounds, while also improving overall wastewater quality by reducing the presence of other organic pollutants. The findings indicate that EM treatment offers a sustainable and eco-friendly alternative for the remediation of oil-polluted domestic waste water , providing an effective solution for improving water quality in domestic waste water processing environments. Further research is recommended to optimize the application parameters and assess the long-term effects of EM use on domestic waste water management.*

**Keywords:** Effective Microorganism (EM) solution, oil contamination, domestic waste water management

