EFFECT OF VISCOSITY ON THE BIODEGRADABILITY OF AUTOMOTIVE LUBRICATING OILS

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Abstract

Hydrocarbon-utilizing bacteria were isolated by enrichment from water samples collected from the Lagos lagoon and identified as species of Achromobacter, Acinetobacter, Alcaligenes, Arthrobacter, Bacillus, Flavobacterium, Micrococcus and Pseudomonas. The growth potentials of these isolates were evaluated using lubricating oils of different viscosities as substrates. All the organisms grew without lag on oils of low viscosity while they grew with pronounced lag phases on the highly viscous lubricating oil (bright stock). The biodeterioration potential of lubricating oils therefore appears to be closely related to their viscosities.

Keywords: viscosity, Biodegradation, Lubricating Oils

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