MICROBIAL DEGRADATION OF ANIONIC DETERGENT
IN NATURAL WATER

BY

SIWILAI EKACHOTE

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ABSTRACT

Two kinds of anionic detergents, i.e., hard (branched chain alkyl benzene sulphonate, ABS) and soft (linear alkyl benzene sulphonate, LAS) was studied on degradation by microorganisms in the Chao Phraya river water. The standard shake-flask test and methylene blue method were used for determining the biodegradability of the surfactant and assessing the degree of anionic surfactant, respectively. ABS was found to be partially degraded (17.91%), but LAS was almost completely degraded (96.82%). The biodegradation rate did not correlate to the bacterial concentration for both ABS and LAS. However, it depended on the initial bacterial concentration and the type of bacteria. The biodegradation rate of LAS was higher than ABS in the low bacterial dilution, but it was not different in the high bacterial dilution. Moreover, it was found that the dominant group of bacteria that are capable of degrading anionic detergent was *Pseudomonas* species.