

ABSTRACT

BIODEGRADABILITY LIPID BY LOCAL ISOLATE BACTERIA

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Oil residues on household waste water that released into environment can decrease quality of the environment. This research was aimed to find microorganisms enable to degrade lipid in waste water. The bacteria was isolated by sequential method dilution. Lipase activity of isolates was tested using Kwon and Rhee method. From several times of isolation activities, an isolate enable generating halozone around its colony was obtained. The isolate in a liquid medium containing 2% olive oil gave the maximum number of cells (OD_{600}) of 3.161 for 3 days cultivation. The result of 16S rDNA analysis showed that the isolate was belong to *Pseudomonas aeruginosa* sp. The unit activity of the enzyme and its specific enzyme are 0.0841 U/mL and 0.0005 U/mg respectively. For 3 days incubation, 0.7119 mg/mL of free fatty acid was released to the culture.

Keywords: Waste water, lipid-degrading bacteria, the enzyme lipase