Intan Ayu Pratiwi, 2012, Effect of Varying Concentration of Crude Enzyme Lipase Micrococcus sp. L II 61 and Biosurfactant Acinetobacter sp. P2(1) to the Solubility of Oil Sludge, This Study was under the guidance of Dr. Ni'matuzahroh and Dr. Ir. Tini Surtiningsih, DEA, Department of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

The aims of this study was to determine the variation of the concentration of crude enzyme lipase Micrococcus sp. L II 61 on biosurfactant Acinetobacter sp. P2 (1) to the solubility of oil sludge. This study was experimental laboratory that using a completely randomized design with eight treatments and synthetic surfactant Tween-20 as a control with three replications. Oil sludge solubility test using agitation method and the dissolution achievement were detected by the filtration method. The data results were analyzed statistically by One-way ANOVA followed by Duncan test (p=0.05). The results of this research indicated that the addition biosurfactant and variation of crude enzyme affected significantly to the solubility of oil sludge. Biosurfactant addition of Acinetobacter sp. P2 (1) has a solubility of oil sludge at 40.93 ± 0.42%. The addition of crude enzyme lipase Micrococcus sp. L II 61 in 37.5% (v/v) has a solubility lower than biosurfactant Acinetobacter sp. P2 (1) at 37.58 ± 0.65%. The highest solubility of oil sludge was resulted from the combination of biosurfactant Acinetobacter sp. P2 (1) and crude enzyme lipase Micrococcus sp. L II 61 37.5% (v/v), up to 71.09 ± 1.54%.

Key words: the solubility of oil sludge, biosurfactant Acinetobacter sp. P2 (1), crude enzyme lipase Micrococcus sp. L II 61.