

Jeremia Perdana, 2012. **Resistance and Biodegradation Test of Heavy Metal to (Pb, Zn, dan Hg) by Bacteria Isolated From Kenjeran Shore Mud.** This bachelor degree thesis was in under advisory of Dr. Ni'matuzahroh and Dr. Sucipto Hariyanto, DEA, M.Si, Biology Department, Faculty of Science and Technology, Airlangga University, Surabaya.

Abstract

The aims of the study are to know the resistance of bacteria isolated from Kenjeran shore mud to variety kind of heavy metal Pb, Zn, and Hg concentrations, to know the ability of bacteria growth to do degradation heavy metal Pb, Zn, and Hg, to know percentage of biodegradation heavy metal Pb, Zn, and Hg by chosen bacteria. Resistance test is done by dilution method with blank disc injected with heavy metal concentration 1 ppm, 5 ppm, and 10 ppm put in Nutrient Agar media containing of bacteria with OD value 0,5 and wave length 660 nm. Ability test of chosen bacteria growth using *Mueller Hinton Broth* media given with each heavy metal 10 ppm concentration incubated for 7 days. Biodegradation test done by make the chosen bacteria to *Mueller Hinton Broth* media given by heavy metal 10 ppm concentration incubated for 7 days, percentage of decreasing heavy metal concentrations detected by AAS (*Atomic Absorption Spectrophotometer*)

Data from heavy metal resistance test bacteria is value of mean of diameter halo zone that produced by each bacteria for each metal, data from growth test is log mean of bacteria growth, data from biodegradation test is percentage decreasing concentration each metal by chosen bacteria, the lowest diameter value is isolate 0A1E for metal Pb, isolate MB1C for metal Zn, isolate OA2G for metal Hg, (2) growth test for chosen bacteria isolates 0A1E, MB1C, OA2G in a row 11,98 CFU/mL, 14,17 CFU/mL, 14,43 CFU/mL . (3) Percentage of metal biodegradation by chosen bacteria isolates in a row 31,17 %, 58,17 %, 37,82 %.

Key words : *Heavy metal, resistance, biodegradation*