LIQUID WASTE BIOREMEDIATION OF PETROKIMIA GRESIK COMPANY USING INDIGENOUS BACTERIA

Nama : Mohammad Muhibbul Ibad
NRP : 1509 100 009
Jurusan : Biologi
Dosen Pembimbing : Dr.rer.nat. Ir. Maya Shovitri, M.Si
                Muhammad Ihwan F. SP., M.Si

Abstract

The waste processing technology that friendly used though biological apprachment is by using bioremediation method. Bioremediation can be defined as an effort for environmental recovery by the usage of biological activity of microbe in term to degrade on decrease the pollutant toxicity. Liquid waste of Petrokimia Gresik Company are acid, there fore the aims of this experiment was to obtain several indigenous bacteria that could potentially raise and neutralizing the pH whether individually or consortium with aeration and non aeration condition. The result of this experiment show that there are bacterium indigenous on liquid waste Petrokimia Gresik Company potentially in raising the pH as follows: Isolates bacteria X1 (Nitrifying Bacteria), isolates bacteria X2 ( phosphate solubilizing bacteria ), and isolates bacteria X3 and X4 ( raise the pH ). The bacteria activity shows that those bacteria can raise the pH better in aeration condition compared in non aeration condition. X2 isolate were detected to be the most promising bacteria that can raise the pH from 3,38 to 7,01 after 12 hours of incubation in aeration condition. Those ability were stabil until 72 hours of incubation. On the other hand the X2 isolate was able to raise the pH only up to 5,5 after 72 hours incubation.
Keyword : Indigenous Bacteria, Bioremediation, waste liquid, Aeration, and pH.