

ABSTRACT

Liquid waste are generated from industrial activities often contains pollutants that can degrade the quality of the environment if not treated properly. One method that can be done is the advanced oxidation process (AOP) method using microbubbles. This study aims to analyze the increase in dissolved ozone concentration after going through an advanced oxidation process and to determine the time it takes for the ozone concentration level to become stable in ozone solution. The research was carried out using a dielectric barrier discharge (DBD) plasma generator to produce ozone that will be flowed to a water medium with a volume of 6 m³. Micro bubbles are produced using 18 venturi pipes with a size of 1/2 inch. The ozone that is flowed has a capacity of 50.4 gr/hour and a concentration of 70 mg/L. The ozone generator will be switched on for 120 minutes and concentration measurements are taken every 15 minutes at 4 points constantly. Measurements will be continued after the generator is turned off at 2 hours, 5 hours, and 20 hours. It is known that the ozone concentration becomes stable at 90 minutes with an average concentration of 0.05 mg/L during the study and can last up to 20 hours with a final concentration of 0.02 mg/L. This discovery indicates that the ozonation process with this method is effective in treating liquid waste.

Keywords: *Waste liquid, ozonation, dissolved ozone concentration, micro bubble technology.*