

## ABSTRACT

Ministry of Health of the Republic of Indonesia  
Health Polytechnic Kemenkes Surabaya  
Sanitation Study Program Diploma Three  
Environmental Health Department  
Scientific Paper, July 2024

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### **EFFECT OF AERATION ON COD LEVELS OF DIANA LAUNDRY WASTE USING BUBBLE AERATORS AND BIOBALLS**

(xvii + 40 pages, 6 tables, 4 figures, 13 attachments)

Along with the advanced development of services in this era, people's lifestyles are also increasing, one of the most developed services in the community is *laundry*. The existence of a business in the *laundry* sector has a positive impact on the economy of the surrounding community, but this is certainly the opposite because it causes problems that affect nature, especially in water bodies if *laundry* waste treatment is not carried out properly. The purpose of this study was to determine the decrease in COD levels in Diana laundry waste with aeration treatment method with variations in aeration time.

This research includes quantitative research with the type of experimental research using the *one group pretest-posttest* method. *One group pretest-posttest* is a research activity that provides an initial test (*pretest*) before being given treatment, after being given treatment, then gives a final test (*Posttest*). Furthermore, the data was analyzed analytically using the *one way anova test test*.

COD (Chemical Oxygen Demand) levels of Diana Laundry wastewater before treatment with bubble aerator and bioball averaged 198 mg/l. Then after aeration time contact treatment with bubble aerator and bioball for 1 hour decreased by 6.50%, for 2 hours decreased by 9.98%, and for 3 hours decreased by 15.09%.

In this study, researchers used the same type of bubble aerator with time variations of 1, 2, and 3 hours and the addition of bioballs. In this study, the most reduced COD levels were in the 3-hour contact time which could reduce COD up to 15.09%. It is recommended for other researchers to conduct research with the same method with the same tool with different time variations and different parameters.

Keywords: COD Reduction, Laundry Waste, Bioball, Aerator