

ABSTRACT

THE EFFECTIVENESS OF REDUCING COD LEVELS IN LIQUID WASTE USING AERATION AND FILTRATION METHODS WITH VARIATIONS OF TIME IN THE AERATOR

Dicky Fadilla Atiq¹, Hery Koesmantoro, ST.MT², Beny Suyanto, S.Pd. M.Si.³

Indonesian Ministry of Health
Health Polytechnic of the Ministry of Health Surabaya
Sanitation Study Program Campus III Diploma Program
Magetan Department of Environmental Health
Email : dickybro2705@gmail.com

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COD is the amount of oxygen needed to oxidize organic substances in the waste. The higher the level, it indicates that these substances are still in an unnatural amount and are dangerous if they are directly circulated to the free environment. The reduction of COD levels can be done by using aeration and filtration methods. The purpose of this study was to determine the effectiveness of the aeration and filtration methods with variations in the length of time in the aerator in reducing COD levels.

This type of research is a quasi-experimental with descriptive analysis method. The sample of this study was COD levels in wastewater in the Sedep Skin Cracker Manufacturing Industry in Mojopurno Village, Ngariboyo District, Magetan Regency with the subject being variations in the length of time in the aerator for 4 hours, 5 hours and 6 hours. The technique of taking the research sample using the sample grab method.

The results showed that the average percentage decrease in COD levels in the variation of 4 hours of time was 27.25%, the variation of the length of time for 5 hours was 47.45% and the variation of the length of time for 6 hours was 73.62%. The results of the analysis concluded that the variation of the length of time for 6 hours was the most effective in reducing COD levels in the liquid waste of skin crackers to meet the requirements for disposing of liquid waste in water bodies.

It is recommended for other researchers to add media with a higher thickness size, change the volume of the tub size and pay more attention to when washing the sample container and filtration media so that the results are maximized.

Keywords : Skin Cracker Liquid Waste, COD, Aeration, Filtration