

**PENURUNAN KADAR COD DENGAN METODE AERASI *BUBBLE*
AERATOR PADA SHOBIL LAUNDRY TAHUN 2025**

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ABSTRAK

Home industri laundry membuang air limbah ke sungai dan saluran pembuangan akan menimbulkan masalah karena mengandung surfaktan sehingga menimbulkan tingginya kadar COD (Chemical Oxygen Demand). Penelitian bertujuan mengetahui apakah terdapat penurunan terhadap COD limbah cair laundry menggunakan metode aerasi buble aerator.

Jenis penelitian Quasi Eksperimen ini dengan aerasi untuk mengolah limbah cair laundry buble aerator, kurun masa 1,5, 2, dan 2,5 jam bertujuan penurunan COD. Teknik pengambilan sampel yang di gunakan adalah grab sample dan pengujian metode anova one way.

Hasil penelitian di ketahui kadar COD limbah laundry sebelum perlakuan 311 mg/l, setelah di lakukan perlakuan variasi waktu 1,5 jam COD turun 3,7%, 2 jam turun 18,8%, dan 2,5 jam mampu menurunkan 25%. Ada indikasi metode aerasi yang menggunakan waktu lebih lama menunjukkan penurunan semakin banyak dan efektif (2,5 jam) serta ada perbedaan yang signifikan penurunan COD dalam waktu yang berbeda. Perlu penelitian lanjutan terkait spesifikasi alat, waktu, debit aerator dan volume limbah yang efektif dan efisien.

Kata kunci: Laundry, COD, Aerasi

REDUCTION OF COD LEVELS WITH BUBBLE AERATOR AERATION METHOD AT SHOBIL LAUNDRY IN 2025

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ABSTRACT

Home laundry industry that dumps its liquid waste into rivers and waterways will cause problems because it contains surfactants which cause high COD (Chemical Oxygen Demand) levels. This study aims to determine whether there is a decrease in COD of laundry liquid waste using the bubble aerator aeration method.

This type of Quasi Experimental research uses aeration to process bubble aerator laundry liquid waste with a period of 1.5, 2, and 2.5 hours which aims to reduce COD. The sampling technique used was grab sample and one way anova method testing.

The results of the study obtained the COD level of laundry waste before processing of 311 mg/l, after processing with a time variation of 1.5 hours COD decreased by 3.7%, 2 hours decreased by 18.8%, and 2.5 hours was able to decrease by 25%. There are indications that the aeration method using a longer time shows a greater and more effective decrease (2.5 hours) and there is a significant difference in COD reduction at different times. Further research is needed on the specifications of equipment, time, aerator discharge and effective and efficient waste volume.

Keywords: Laundry, COD, Aeration