

ABSTRAK

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GAMBARAN PROSES PENGOLAHAN DAN TINJAUAN KUALITAS LIMBAH CAIR DI RUMAH SAKIT UMUM HAJI SURABAYA

xiv + 78 Halaman + 12 Tabel + 8 Gambar + 11 Lampiran

Berdasarkan hasil laboratorium kualitas limbah cair di Rumah Sakit Umum Haji Surabaya pada bulan November 2019 terdapat beberapa parameter yang melebihi baku mutu sesuai Peraturan Gubernur Jawa Timur Nomor 72 Tahun 2013 yaitu parameter PO_4 sebesar 16,402 mg/L, NH_3 sebesar 0,657 mg/L dan MPN *Coliform* sebesar 4×10^7 koloni/100 ml. Limbah cair yang melebihi baku mutu tersebut harus segera dilakukan analisis penyelesaian masalah mengingat limbah cair rumah sakit perlu mendapatkan perhatian khusus.

Penelitian ini bersifat deskriptif observasional dengan cara mengamati langsung, melakukan pengambilan sampel dan data sekunder mengenai gambaran pengolahan limbah cair serta kualitas limbah cair selama 3 bulan, selanjutnya dilakukan analisis mengenai kualitas limbah cair yang masih melebihi baku mutu kemudian dilakukan analisis permasalahan terhadap proses pengolahan.

Hasil penelitian menunjukkan bahwa kapasitas limbah cair di RSUD Haji Surabaya $100 \text{ m}^3/\text{hari}$ dengan debit setiap harinya $75-90 \text{ m}^3/\text{hari}$. Penghitungan rata-rata kualitas limbah cair selama 3 bulan untuk parameter MPN *Coliform* $2,09 \times 10^7$ koloni/100 ml, hal ini diakibatkan kurang efektif pada bak klorinasi, untuk parameter Amoniak (NH_3) 0,599 mg/L, diakibatkan karena kurang efektif pada bak aerasi dan sedimentasi, dan untuk parameter Fosfat (PO_4) 12,52 mg/L, diakibatkan karena proses *pre treatment* pada limbah *laundry* kurang maksimal.

Pengolahan limbah cair di RSUD Haji Surabaya kurang maksimal dalam menurunkan parameter MPN *Coliform*, NH_3 , dan PO_4 , sehingga kualitas limbah cair belum memenuhi persyaratan sesuai PerGub Jatim No.72 Tahun 2013. Saran yang diberikan melakukan perencanaan ulang pada bak klorinasi mengenai kebutuhan disinfektan sebesar $5,24 \text{ kg}/\text{hari}$, melakukan pengawasan pada limbah *laundry*, melakukan penambahan koagulan pada limbah laboratorium serta memberi edukasi dan pelatihan pada pengelola IPAL.

Kata kunci : Pengolahan Limbah Cair, PO_4 , NH_3 , MPN *Coliform*
Daftar Bacaan : 39 Buku (2000 - 2019)

ABSTRACT

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DESCRIPTION OF THE PROCESS OF PROCESSING AND OVERVIEW OF QUALITY OF LIQUID WASTE IN HAJI GENERAL HOSPITAL SURABAYA

xiv + 78 Pages + 14 Tables + 8 Images + 11 Attachments

Based on the results of the laboratory quality of wastewater in Surabaya Haji General Hospital in November 2019 there were several parameters that exceeded the quality standard according to East Java Governor Regulation No. 72 of 2013, namely the PO_4 parameter of 16.402 mg / L, NH_3 of 0.657 mg / L and MPN *Coliform* of 4×10^7 colonies / 100 ml. Liquid waste that exceeds these quality standards must be immediately analyzed in solving the problem, considering that hospital liquid waste needs special attention.

This research is descriptive observasional by observing directly, taking samples and secondary data about the description of wastewater treatment and the quality of wastewater for 3 months, then an analysis of the quality of liquid waste that still exceeds quality standards is then carried out an analysis of the problems with the processing

The results showed that the capacity of liquid waste in RSU Haji Surabaya 100 m³/day with daily discharge 75-90 m³ / day. Calculation of the average quality of liquid waste for 3 months for MPN *Coliform* parameter 2.09×10^7 colonies / 100 ml, this is due to less effective in chlorine bath, for Ammonia (NH_3) parameters 0.599 mg / L, due to lack of effectiveness in the body aeration and sedimentation, and for the Phosphate (PO_4) parameter of 12.52 mg/L, it is caused because the pre-treatment process in laundry waste is not optimal.

Wastewater treatment at RSU Haji Surabaya is less than optimal in reducing the MPN *Coliform*, NH_3 , and PO_4 parameters, so that the quality of liquid waste does not meet the requirements in accordance with East Java Governor Regulation No.72 of 2013. Suggestions given to do re-planning in chlorination baths regarding disinfectant requirements by 5, 24 kg / day, supervising laundry waste, adding coagulant to laboratory waste and providing education and training to the management of WWTP.

Keyword : Waste Water Treatment, PO_4 , NH_3 , MPN *Coliform*
List of References : 39 Books (2000 - 2019)