

ABSTRACT

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DECREASE OF AMONIA CONDITION (NH_3) LIQUID WASTE USING FLY ASH ADSORBEN IN INDUSTRY OF TANNERY

ix + 46 pages + 11 tables + 7 figures + 9 appendix

The incidence of odor around the waste of the tannery industry is due to the high ammonia (NH_3) content of 3.79 mg/l, so to lower the high levels of ammonia (NH_3) it is necessary to process. The purpose of this research is to reduce ammonia (NH_3) in the wastewater of tannery industry according to environmental quality standard.

The method of this study was experimental, with Pretest-Posttest with control group design comparing ammonia decrease before and after processing, with treatment variation for 2 gram of adsorbent mass; 3 grams; 4 grams and contact time of 60 minutes; 90 minutes; 120 minutes. Measurement of ammonia (NH_3) using a spectrophotometer.

The highest percentage of ammonia (NH_3) decline was 96.83% in a 4 gram treatment variation with 120 minutes contact time, with a decrease in ammonia value of 0.12 mg/l where the environmental quality standard of East Java Governor Regulation No. 52 of 2014 is 0.5 mg / l, so that the results meet the environmental quality standards. The results of statistical analysis showed that the most optimum is the mass of 4 gram adsorbent with contact time of 120 minutes. Suggestions for related industries can use the results of this study in the process of decreasing levels of ammonia (NH_3) and for other researchers is expected to combine with other technologies to optimize the results in reducing levels of ammonia (NH_3).

Key words : Fly ash, ammonia levels of liquid waste
Reading List : 8 Books (1996-2014)
13 Journals (2003-2015)

ABSTRAK

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PENURUNAN KADAR AMONIA (NH_3) LIMBAH CAIR MENGUNAKAN ADSORBEN ABU TERBANG BAGAS DI INDUSTRI PENYAMAKAN KULIT

ix + 46 halaman + 11 tabel + 7 gambar + 9 lampiran

Timbulnya bau yang menyengat di sekitar buangan air limbah industri penyamakan kulit disebabkan kandungan amonia (NH_3) yang tinggi yakni 3,79 mg/l, sehingga untuk menurunkan kadar amonia (NH_3) yang tinggi tersebut perlu dilakukan pengolahan. Tujuan dalam penelitian ini adalah menurunkan amonia (NH_3) dalam limbah cair industri penyamakan kulit sesuai baku mutu lingkungan.

Metode penelitian ini adalah eksperimen, dengan desain *Pretest-Posttest with control group* yang membandingkan antara penurunan kadar amonia sebelum dan sesudah proses pengolahan, dengan variasi perlakuan untuk massa adsorben 2 gram; 3 gram; 4 gram dan waktu kontak 60 menit; 90 menit; 120 menit. Pengukuran kadar amonia (NH_3) menggunakan alat spektrofotometer.

Persentase penurunan amonia (NH_3) yang paling tinggi ialah 96,83% pada variasi perlakuan 4 gram dengan waktu kontak 120 menit, dengan nilai penurunan kandungan amonia sebesar 0,12 mg/l dimana baku mutu lingkungan Peraturan Gubernur Jawa Timur Tahun Nomor 52 Tahun 2014 yakni 0,5 mg/l, sehingga hasil tersebut memenuhi nilai baku mutu lingkungan. Hasil analisis statistik menunjukkan bahwa yang paling optimum ialah massa adsorben 4 gram dengan waktu kontak 120 menit. Saran bagi industri terkait dapat menggunakan hasil penelitian ini dalam proses penurunan kadar amonia (NH_3) dan untuk peneliti lain diharapkan adanya kombinasi dengan teknologi lain agar hasilnya lebih optimal dalam menurunkan kadar amonia (NH_3).

Kata kunci : Abu terbang bagas, kadar amonia limbah cair

Daftar Bacaan : 8 Buku (1996-2014)
13 Jurnal (2003-2015)