



PENGARUH PENAMBAHAN REAGEN FENTON TERHADAP PENURUNAN POLUTAN AIR LIMBAH PENYAMAKAN KULIT

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INTISARI

Industri penyamakan kulit menghasilkan limbah cair yang mengandung bahan polutan organik dan anorganik. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan reagen fenton terhadap kualitas air limbah yang dihasilkan dari industri penyamakan kulit. Materi yang digunakan yaitu air limbah industri penyamakan kulit yang berasal dari PT Jogja Kurnia Leather di Sitimulyo, Piyungan, Bantul. Perlakuan terdiri dari 3 perbedaan konsentrasi penambahan reagen fenton. P0 sebagai kontrol adalah air limbah industri penyamakan kulit tanpa penambahan reagen fenton, P1 penambahan reagen fenton 0,2%, P2 penambahan reagen fenton 0,4% dan P3 penambahan reagen fenton 0,6%. Uji yang dilakukan yaitu meliputi uji BOD, COD, TS, TSS, uji krom (Cr) total dan uji krom (Cr) VI. Data yang diperoleh berupa data kuantitatif yang dianalisis menggunakan analisis statistik RAL pola searah. Hasil penelitian ini menunjukkan bahwa penambahan reagen fenton yang paling efektif yaitu pada P3 (penambahan reagen fenton 0,6%). Penambahan reagen fenton dengan konsentrasi 0,6% mampu menurunkan COD sebesar 67% dari konsentrasi limbah awal dan mampu menurunkan krom (Cr) total sebesar 12% dari konsentrasi limbah awal. Kesimpulan penelitian ini adalah penambahan reagen fenton belum mampu memenuhi standar baku mutu air limbah penyamakan kulit.

Kata kunci: Industri penyamakan kulit, kualitas air limbah, reagen fenton dan bahan organik.



EFFECT OF FENTON REAGENT ADDITION FOR DECREASING TANNING WASTEWATER POLLUTANTS

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ABSTRACT

The tannery industry produced wastewater containing organic and inorganic pollutants. This research aims to determine the effect of the added Fenton reagent for the quality of wastewater produced from the leather tanning industry. The material used in this experiment was tanning industry wastewater from PT Jogja Kurnia Leather in Sitimulyo, Piyungan, Bantul. The treatment consisted of 3 different concentrations of the added Fenton reagent. P0 was a control used industrial tannery wastewater without added of the Fenton reagent, P1 with the added of the 0.2% Fenton reagent, P2 with the added of the 0.4% Fenton reagent and P3 with the added of the 0.6% Fenton reagent. The tests included BOD, COD, TS, TSS, total chrome (Cr) and chrome (Cr) VI. Obtained data in the form of quantitative data were analyzed using one-way statistical analysis of Completely Randomized Design (CRD). The results showed that the added of the Fenton reagent was most effective at P3 (added of the Fenton reagent 0.6%). The added of the Fenton reagent were achieved at 0.6% can reduce COD by 67% from the initial waste concentration and reduce the total chromium (Cr) by 12% from the initial waste concentration. The research was concluded that adding Fenton reagent still unable to fulfill the quality standard for tanning wastewater quality.

Keywords: Leather tanning industry, wastewater quality, fenton reagent and organic matter.