ABSTRAK

Shafira Amatullah, 2022, Penerapan Elektrokoagulasi dalam Menurunkan Kadar COD dan TSS pada Limbah Cair Rumah Potong Hewan. Tugas Akhir, Program Studi: Teknik Lingkungan, Fakultas Teknik, Universitas PGRI Adi Buana Surabaya.
Dosen Pembimbing: Ir. Joko Sutrisno, M.Kom.

Pengukuran awal limbah cair RPH di Dusun Sumput, Kabupaten Lamongan diperoleh data COD sebesar 1894 mg/L dan TSS sebesar 247 mg/L yang menyebabkan Peraturan Gubernur Jawa Timur No. 72 Tahun 2013 tidak terpenuhi. Sehingga perlu dilakukan pengolahan dengan menggunakan teknologi elektrokoagulasi. Tujuan penelitian ini adalah untuk mengetahui efisiensi penurunan kadar COD dan TSS serta pengaruh jarak antar elektroda terhadap penurunan kadar COD dan TSS pada limbah cair RPH. Variabel dalam penelitian ini adalah jarak antar elektroda yaitu 1 cm, 2 cm, dan 3 cm, pada 3 buah reaktor dengan masing-masing berukuran 20 cm x 20 cm x 15 cm. Elektroda alumunium berukuran panjang 12 cm dan lebar 14 cm. Hasil penelitian menunjukkan bahwa elektrokoagulasi mampu menurunkan kadar COD dan TSS. Penurunan kadar COD terbaik terjadi pada jarak antar elektroda 2 cm dengan efisiensi sebesar 63,04% dan penurunan kadar TSS terbaik terjadi pada jarak antar elektroda 3 cm dengan efisiensi sebesar 80,29%. Variasi jarak antar elektroda tidak berpengaruh secara signifikan terhadap penurunan kadar COD dan TSS.

Kata Kunci: Limbah Cair RPH, Elektrokoagulasi, Jarak Elektroda

ABSTRACT

Shafura Amatullah, 2022, Application of Electrocoagulation in Reducing COD and TSS Levels in Slaughterhouse Wastewater. Thesis. Environmental Engginering. Faculty of Engineering. PGRI Adi Buana Surabaya University.
Lecture: Ir. Joko Sutrisno, M.Kom

The measurement of slaughterhouse waste water in Sumput Hamlet, Lamongan Regency obtained COD data of 1894 mg/L and TSS of 247 mg/L wich caused East Java Governer Regulation No. 72 of 2013 to be fulfilled. So it need to be processed using electrocoagulation technology. The purpose of this study to determine the efficiency of reduction COD and TSS levels as well as the effect of the distance between the electrodes on decreasing COD and TSS levels in slaughterhouse wastewater. The variables in this study were the distance between the electrodes, namely 1 cm, 2 cm, and 3 cm, in 3 reactors with each measuring 20 cm x 20 cm x 15 cm. The alumunium electrode is 12 cm long and 14 cm wide. The results showed that electrocoagulation was able to reduce COD and TSS levels. The best decrease in COD levels at a distance between electrodes of 2 cm with an efficiency of 63,04% and the best decrease in TSS levels at a distance between the electrodes of 3 cm with an efficiency of 80,29%. The variation of the distance between the electrodes has no significant effect on the decrease in COD and TSS levels.

Keywords: Slaugterhouse Wastewater, Electrocoagulation, Electrode Distance