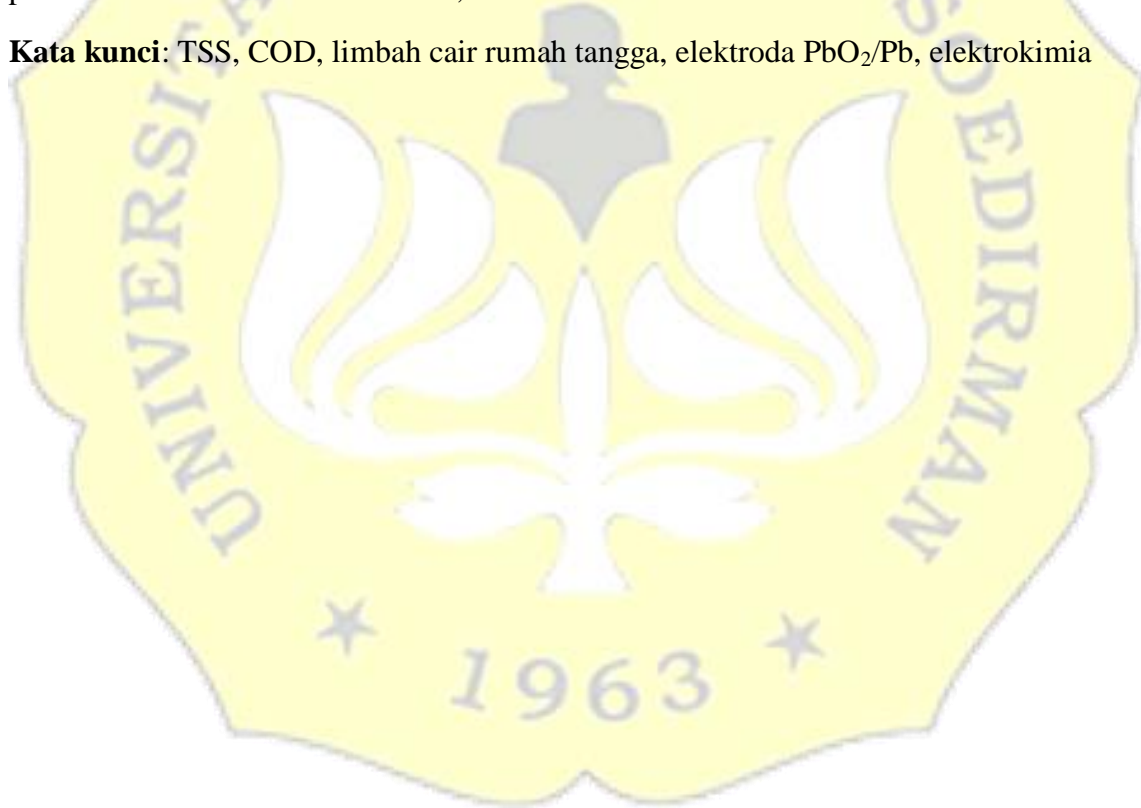


ABSTRAK

Limbah cair rumah tangga merupakan salah satu penyumbang terbesar dalam masalah pencemaran air, karena mengandung bahan pencemar berbahaya, seperti TSS (*Total Suspended Solid*) dan COD (*Chemical Oxygen Demand*). Limbah cair rumah tangga sebelum dibuang ke perairan perlu dilakukan pengolahan terlebih dahulu supaya tidak memberikan dampak buruk terhadap lingkungan. Telah dilakukan penelitian mengenai penurunan kadar TSS dan COD limbah cair rumah tangga menggunakan metode elektrokimia dengan variasi jumlah pasangan elektroda PbO_2/Pb . Penelitian ini bertujuan untuk mengetahui pengaruh dari beberapa parameter elektrolisis (voltase, kuat arus, jarak elektroda, dan waktu terbaik elektrolisis) terhadap penurunan TSS dan COD limbah cair rumah tangga dengan variasi jumlah pasangan elektroda PbO_2/Pb sebanyak 1, 2, dan 3 pasang elektroda. Hasil penelitian menunjukkan penurunan nilai TSS dan COD secara maksimal terjadi pada voltase 12 V, kuat arus 10 A, jarak elektroda 2 cm, dan waktu elektrolisis 2 menit untuk 3 pasang elektroda PbO_2/Pb dengan persentase penurunan berturut-turut adalah 94,326% dan 100%.

Kata kunci: TSS, COD, limbah cair rumah tangga, elektroda PbO_2/Pb , elektrokimia



ABSTRACT

Domestic wastewater is one of the biggest contributors to the problem of water pollution, because it contains dangerous pollutants such as TSS (Total Suspended Solid) and COD (Chemical Oxygen Demand). Domestic wastewater before being discharged into the waters needs to be treated first so that it does not have a negative impact on the environment. Research has been carried out on reducing out on value of TSS and COD in domestic wastewater using electrochemical methods with variations in the number of PbO_2/Pb electrode pairs. This research aims to determine the effect of several electrolysis parameters (voltage, current strength, electrode distance, and the best time of electrolysis) on the reducing of TSS and COD of domestic wastewater with variations in the number of pairs of PbO_2/Pb electrodes as much as 1, 2, and 3 pairs of electrodes. The results showed that the maximum decrease in TSS and COD values occurred at a voltage of 12 V, a current of 10 A, an electrode distance of 2 cm, and an electrolysis time for 3 pairs of PbO_2/Pb electrodes with the percentage reduction being 94,326% and 100% respectively.

Keywords: TSS, COD, domestic wastewater, PbO_2/Pb electrodes, electrochemical

