

ABSTRAK

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**PENGOLAHAN LIMBAH CAIR BATIK TULIS DENGAN PROSES
ELEKTROKOAGULASI UNTUK MENURUNKAN TSS DAN WARNA**

XIII + 1x + 42 Halaman + 4 Tabel + 2 Lampiran

Limbah cair yang mengandung pewarna dan lilin apabila tidak dilakukan pengolahan akan menimbulkan kerusakan serta bahaya bagi lingkungan maupun makhluk hidup. Dampaknya akan menimbulkan gangguan kesehatan seperti gatal-gatal dan gangguan pernafasan karena menghirup udara yang tercemar bau busuk akibat limbah batik yang dibuang langsung ke perairan. Tujuan penelitian untuk mengetahui kemampuan elektrokoagulasi dalam menurunkan kandungan TSS dan warna limbah cair batik

Penelitian ini menggunakan Studi Literatur yaitu serangkaian kegiatan yang berkenaan dengan pengumpulan data pustaka membaca dan mencatat serta mengelolah bahan penelitian dengan menggunakan studi literatur dari 6 jurnal nasional (2010-2019) yaitu milik Andik Yulianto (2009), Titik Darmawanti, dkk (2010) "Pengolahan Limbah Cair Industri Batik dengan Metoda Elektrokoagulasi Menggunakan Besi Bekas Sebagai Elektroda", Taty Hernaningsih (2016) "Tinjauan Teknologi Air Limbah Industri Dengan Proses Elektrokoagulasi", Yonna Yunitasari (2017) " Metode Eleketrokoagulasi untuk Mengolah Limbah Cair Batik di Unit Kegiatan Masyarakat Rumah Batik Andalan PT. Riau Andalan Pulp and Paper (RAPP)", Dewanti, dkk (2019) " Pengolahan Limbah Cair Batik Menggunakan Kombinasi Metode Netralisasi dan Elektrokoagulasi", dan Aditya Nanda, dkk (2019) "Pengolahan Limbah Industri Batik Tulis Dengan Metode Gabungan Adsorpsi dan Elektrokoagulasi". Data penelitian adalah data sekunder menggunakan pengumpulan data pustaka yang telah dipublikasikan, membaca, dan mencatat serta mengolah data tersebut untuk mencapai tujuan penelitian.

Hasil penelitian menunjukkan bahwa proses elektokoagulasi mampu menurunkan kadar TSS dan kadar warna hingga memenuhi standar maksimum yang diperkenankan untuk TSS sebesar 50 mg/L dan standar maksimum Warna sebesar 50 PtCo, TSS berturut – turut sebesar 1,0 mg/L dan 11 mg/L,Warna berturut – turut sebesar 1437,45 PtCo dan 0,0125 PtCo, Hasil efisiensi TSS berturut – turut sebesar 77%, 99,28%, 80,36%, 89,07%, 86,18%, dan 90%,Warna sebesar 98,53%, 98,04%, dan 88,51%.

Diharapkan bahwa masyarakat penghasil limbah batik tidak langsung membuang limbah cairnya ke dalam lingkungan. Proses elektrokoagulasi dapat digunakan sebagai alternatif dalam menurunkan kadar TSS dan warna dalam pengolahan limbah cair.

Kata Kunci: limbah cair batik, *elektrokoagulasi*. TSS, warna

ABSTRACT

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**BATIK TULIS LIQUID WASTE TREATMENT WITH
ELECTROCOAGULATION PROCESS TO LOWER TSS AND COLOR**

XIII + 1x + 42 pages + 4 Tables + 2 Attachment

Liquid waste containing dyes and waxes if not carried out processing will cause damage and danger to the environment and living things. The impact will cause health disorders such as hives and respiratory disturbances due to inhaling air contaminated with foul odor due to batik waste being dumped directly into the water. The purpose of the research to know the ability of electrocoagulation in lowering the content of TSS and the color of batik liquid waste.

This research uses Literature Study which is a series of activities related to the collection of data libraries reading and recording and managing research materials using literature studies from 6 national journals (2010-2019) namely belonging to Andik Yulianto (2009), Titik Darmawanti, et al (2010) "Batik Industrial Liquid Waste Treatment with Electrocoagulation Method Using Used Iron As Electrode", Taty Hernaningsih (2016) "Review of Industrial Wastewater Technology With Electrocoagulation Process", Yonna Yunitasari (2017) "Elektrocoagulation Method for Processing Batik Liquid Waste in The Activity Unit of Batik House Mainstay PT. Riau Andalan Pulp and Paper (RAPP)", Dewanti, et al (2019) " Batik Liquid Waste Treatment Using A Combination of Neutralization and Electrocoagulation Methods", and Aditya Nanda, et al (2019) "Batik Tulis Industrial Waste Treatment With Combined Methods of Adsorbsi and Electrocoagulation". Research data is secondary data using the collection of published library data, reading, and recording and processing such data to achieve research objectives.

The results showed that the electrocoagulation process was able to lower TSS levels and color levels to meet the maximum allowable standard for TSS of 50 mg/L and the maximum color standard by 50 PtCo, TSS consecutively of 1.0 mg/L and 11 mg/L, Color successively of 1437.45 PtCo and 0.0125 PtCo, Successive TSS efficiency results were 77%, 99.28%, 80.36%, 89.07%, 86.18%, and 90%, Color by 98.53%, 98.04%, and 88.51%.

It is hoped that the batik waste producing community does not directly dispose of its liquid waste into the environment. The electrocoagulation process can be used as an alternative in lowering TSS levels and colors in liquid waste treatment.

Keywords: batik liquid waste, electrocoagulation. TSS, color