

**EFFECTIVENESS OF TIME VARIATION ON REDUCING CROM (Cr)
LEVELS WITH ELECTROCOAGULATION METHOD IN LIQUID
WASTE HOME INDUSTRY BATIK SARIWARNI BALEREJO MADIUN
VILLAGE**

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ABSTRACT

The batik industry is one of the main producers of liquid waste from the dyeing process which is most widely used. The coloring in the batik-making process derived from synthetic dyes contains harmful chemical compounds in the form of heavy metals. One type of high priority pollutant metal found in batik waste is chromium. The presence of chromium in waters with high levels above the quality standard of the Governor of East Java Regulation 72 of 2013 indicates that water pollution has occurred which has resulted in decreased water quality and endangers the climate and living things in the waters. Most small-scale batik companies do not have an WWTP (Wastewater Treatment Plant) to treat waste. The electrocoagulation method used in this research is because it is simple and efficient. The purpose of this study was to determine the effectiveness of time variations on reducing chromium levels in batik waste using the electrocoagulation method.

This type of research uses descriptive research with three variations of contact time, namely 35 minutes, 70 minutes, and 105 minutes with a volume of 3 liters of water, each with 6 replications. The results showed that the use of the electrocoagulation method for 35 minutes was able to reduce chromium levels by (66.20%), 70 minutes (83.93%) and 105 minutes (95.02%) respectively. In this study, the most effective time variation was 105 minutes which was able to reduce the chromium concentration up to 95.02%.

The results of this study indicate that changes in time in the electrocoagulation process affect the process of reducing chromium levels in batik industrial waste.

Keywords : Batik waste, Electrocoagulation, chrome