PENURUNAN KADAR KROMIUM TOTAL HASIL REDUKSI KROMIUM (VI) LIMBAH CAIR INDUSTRI PELAPISAN LOGAM KROM MENGGUNAKAN ADSORBAN ARANG AKTIF DARI SABUT KELAPA (*Cocos nucifera*) (Studi Kasus : Limbah Cair Industri Elektroplating CV Citra Utama Semarang)

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ABSTRACT

CV Citra Utama which is located in Semarang roles in electroplating industries. It's industrial process produce wastewater which have hexavalent chromium contaminant is 9,117 mg/l and have pollution potential for environment. In the overcome, the hexavalent chromium is reducted into trivalent chromium. In the reduction of hexavalent chromium using ferrosulfat at pH 2 produce 4,00 mg/l total chromium. That consentration is higher than effluent standart in Perda Prop. Jateng No 10 tahun 2004 about effluent standar of wastewater of electroplating industries in which the maximum consentration of total chromium is 0,5 mg/l. Activated charcoal from coconut fiber is one of used medium for adsorption process in wastewater treatment. This research has the aim to know the adsorption ability of the activated charcoal from coconut fiber to reduce the total chromium result from reduction hexavalent chromium in artificial wastewater and it was done with batch and continous experiment. The batch experiment use 1, 2, 3 gram adsorben for each media size variation 30-60mesh and 100-200mesh. It has the highest removal efficiency of total chromium in the weight of 3 gram (100-200mesh) that was 51,75-52,00%. In the continous experiment, it was done in coloumn with 1 inch in diameter, 50 ml.menit and 100 ml/menit influent as variation. It has the highest removal efficiency of total chromium in 50 l/menit influent that was 62-66%. The value of kinetics constanta was 0,00748-0,00917 ml/mg.sec with adsorp capasity (q_o) 0,847-1,368 mg/g.

Keywords *: wastewater of electroplating industries, total chromium, adsorption, activated charcoal from coconut fiber.*