

# PEMANFAATAN LUMPUR SIDOARJO SEBAGAI ADSORBEN ZAT WARNA TEKSTIL JENIS REAKTIF DAN ION – ION LOGAM ( $\text{Cr}^{6+}$ DAN $\text{Cd}^{2+}$ )

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## ABSTRACT

*The growth of Indonesian textile industry has positive effect for economy, but it also has negative effect for environment by producing waste. Primary characteristic of textile industry is high content of sintetic dyes. Textile dyes are non-biodegradable organic compounds that can potentially make environmental pollution. One of the methods that can be applied for reducing dyes is adsorption. Sidoarjo mud has Illite, Nacrite, Chlorite – serpentine, Albite low dan Quartz mineral compound. This mineral can be used for adsorbent, because of the electricity contents and ability to tie up metal ions and organic compounds. This research had been done adsorption experiment of textile reaktif dyes, metal ion of  $\text{Cr}^{6+}$  and metal ion of  $\text{Cd}^{2+}$  (Case study : textile industry PT.APAC INTI CORPORA) using Sidoarjo mud adsorbent. Adsorption experiment had been done by batch reactor with different mass of mud. From experiment result that the biggest mass has the biggest adsorption efficiency. Adsorption experiment had been done by continue reactor with CMFR method with 50 gr mass of mud. Adsorption efficiency for batch method for textile reaktif dyes reach of 98,07%; metal ion of  $\text{Cr}^{6+}$  reach of 94,38% and metal ion of  $\text{Cd}^{2+}$  reach of 56,72%. Adsorption efficiency for continue method for textile reaktif dyes reach of 95,54%; metal ion of  $\text{Cr}^{6+}$  reach of 92,69% and metal ion of  $\text{Cd}^{2+}$  reach of 63,43%. Adsorption model for batch experiment follow BET isotherm, while adsorption model for continue experiment is follows Thomas isotherm.*

*Keyword :Adsorption, metal ion of  $\text{Cd}^{2+}$ , metal ion of  $\text{Cr}^{6+}$ , Sidoarjo mud, textile dye*