

REMOVAL OF DIRECT DYES FROM WASTEWATER BY SORPTION ONTO
SMECTITE-CLAY'

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Abstract: Dyes and pigments are important organic pollutants of the water environment. Dyes may be removed from wastewater by using one of the most efficient methods for wastewater treatment-adsorption onto porous (natural and waste) minerals or organogenic substances. Feasibility of using smectite-clay, co-occurring in brown coal deposits, for removal of direct dyes was investigated. The Freundlich linear regression model was better in modeling of sorption direct dyes onto smectite-clay; it yielded better fit of the theoretical isotherm to the experimental data. The electrostatic interactions and hydrogen bonds were shown to play the most important role in adsorption of direct dyes onto smectite-clay.