



## Removal of organic pollutants from industrial wastewater: performance evaluation of inorganic adsorbents based on pillared clays

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### ABSTRACT

This work reports the application of a natural clay and an alumina-pillared clay as adsorbents for the removal of a basic dye, Methylene Blue, from aqueous solutions. The intercalation and pillaring processes improve the adsorption capacity of the montmorillonite. The adsorption kinetics of the dye has been studied in terms of pseudo-first-order and pseudo-second-order models. The equilibrium data are mathematically modelled using Freundlich, Langmuir and Sips isotherm adsorption models.

*Keywords:* Pillared clay adsorbents; Methylene blue; Dyes adsorption; Wastewaters; Organic pollutants; Kinetics and equilibrium adsorption modeling

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