

Removal of some organic dyes by acid-treated spent bleaching earth

ABSTRACT

Acid treated spent bleaching earth was prepared by treating spent bleaching earth, a waste material from the palm oil industry, with 20% sulphuric acid and heated at 350°C for three hours. This material can efficiently sorb a variety of organic dyes especially reactive and acid dyes, with maximum sorption capacity in the order of 26300 mg g⁻¹. The applicability of both the Langmuir and Freundlich isotherms to the experimental data indicates that both physicosorption and chemisorption were involved in the sorption process.

Keyword: Acid treated spent bleaching earth; Reactive dyes; Acid dyes; Sorption