



**C-4-Ethoxy-3-Methoxyphenylcalix[4] Resorcinarene
Triphenylphosphonium Chloride Adsorbent for Anionic
Surfactant Sodium Dodecyl Benzene Sulfonate
(SDBS)Removal**

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Abstract: The removal of Sodium Dodecyl Benzene Sulfonate (SDBS) anionic surfactant from aqueous solution using C-4-ethoxy-3-methoxyphenylcalix[4]resorsinarene triphenylphosphonium chloride (CEMPCRP) was investigated in this study. Adsorption studies were carried out using the batch methods at different acidity, contact time, and initial dye concentration. The initial and final SDBS concentration were determined using UV-Visible spectrophotometer at maximum wavelength 650 nm. The result showed that the optimum condition of SDBS adsorption was at pH 8, contact time 90 min, and concentration of 40 mg/L. The maximum adsorption capacity for the adsorption process is 11.53 mg/g. The rate of adsorption was found to follow the pseudo-second-order kinetic model. SDBS adsorption equilibrium fitted the Langmuir isotherm model most and the mechanism is a chemisorption (Gibb's energy = 23.83 kJ/mol) that occurs in the monolayer.

Key Words: Adsorption, C-4-ethoxy-3-methoxyphenylcalix[4]resorsinarene triphenylphosphonium chloride, SDBS, Chemisorption.

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