

[ENV03]

Equilibrium adsorption study of 3-chlorophenol and o-cresol on modified montmorillonite

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In this work, we explored the potential of modified montmorillonite adsorbent for the adsorption of 3-chlorophenol and o-cresol in batch system at initial concentration of 25-200 mg/L, 120 rpm agitation rate and at temperature of 30°C. The results indicated that modified montmorillonite is active and promising adsorbent. It was found that the time required for 3-chlorophenol and o-cresol to reach equilibrium was 2 hours with removal of 97 and 88%, respectively. It was shown that the isotherm data for 3-chlorophenol could be well fitted by both Langmuir and Freundlich models while for o-cresol, the isotherm data was best described by Langmuir model. Finally, the adsorbent performance was compared with commercial activated carbon.