

STUDY OF ABSORPTION AND DESORPTION OF BENALAXYL FROM NATURAL AND ACTIVATED BRARI AND DARDHA CLAY

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ABSTRACT

The aim of this research was to study the adsorption progress of Benalaxyl from natural and activated clays of Brari and Dardha, so that these clays can be used for practical purposes for soil and water purification. The natural clay materials originated from the regions of Brari (Tirana) 41 ° 21'14.49 " N; 19 ° 50'17.74.E and Dardha (Korça) 40 ° 31'16.59 " N; 20 ° 49'33.69 " E. SEM images of Dardha clay show a finer dispersity than Brari clay. Powder XRD analysis of reveal remarkable differences in their composition. Dardha clay shows a higher content of SiO₂, Al₂O₃ and CaO than Brari clay. The adsorption dependence of Benalaxyl on Brari and Dardha clays was studied at t = 20°C and contact time: 12h; 24h; 48h; 72h, considering Benalaxyl concentrations of 0.1 g/l and 0.3 g/l. Based on the time of contact clay-aqueous solution of benalaxyl, 48h to 72h showed significant adsorption of Benalaxyl onto clays, therefore this time interval is presented and oriented further studies in this time interval. Time intervals longer than 72h showed no interest because the rate of hydrolysis increased. Most of Benalaxyl is desorbed from both clays within the first 2 hours. Dardha clay desorbs better than Brari clay.

Keywords: Benalaxyl, clay, brari, dardha, adsorption, desorption