Adsorption Behaviour Of Reactive Dye Onto Modified Bentonite From Aqueous Solutions

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Many of synthetic dyes appear in the effluents of wastewaters in various industries including dyestuffs, textiles, leather, paper-making, plastics and foods. Effluents from the dyeing and finishing processes in the textile industry are highly coloured and therefore they can cause to pollute water. The control of this pollution has become increasingly importance due to environmental and toxicological point of view. Nowadays, removal of these kinds of dyes is carried out generally by physical, chemical and biological methods. Adsorption method is widely used in the treatment of wastewaters containing organic dyes which are difficult to eliminate with the conventional processes. Bentonite is widely used as an adsorbent material in adsorption processes. For this manner, bentonite can be modified with a cationic surfactant, which is hexadecyltrimethylammonium (HDTMA) bromide, to increase adsorption efficiency. The modified bentonite may be considered as good candidate for environmental applications for the removal of reactive dyes.