

O 17. TEXTILE DYE REMOVAL FROM AQUEOUS SOLUTION BY USING PEANUT AND PISTACHIO SHELLS

Birol Kayranlı¹, Oğuzhan Gök², Gülden Gök², Özgül Çimen Mesutoğlu²

¹*Department of Inspection Board, İLBANK, Ankara, Turkey*

²*Department of Environmental Engineering, Aksaray University, Aksaray, Turkey*

E-mail: bkayranli@gmail.com, oguzgok@gmail.com, gokgulden@gmail.com, ozgulcimen@gmail.com

ABSTRACT: The use of peanut and pistachio shells as an adsorbent for the removal of Brilliant Blue and K-RED 198, Metil Oranj, and Metilen Blue was investigated. The commonly used isotherm models were applied for data obtained from further batch studies. Dye removal capacity is as follows 65% for Brilliant Blue, 73 % for KRED 198. Freundlich isotherm model were found to be the best fitted one and based on Friuendlich isotherm model adsorption capacities were 4,58 mg/g for Brilliant Blue, and 4,33 mg/g for K-RED 198 at peanut shells, and 4,04 mg/g for Brilliant Blue, and 4,64 mg/g for K-RED 198 at pistachio shells. Kinetic examinations were also carried out for two dyes tested and it was found that adsorption kinetic was best described by pseudo first-order kinetic model.

Keywords: Textile dye, removal, peanut and pistachio shells, kinetic, isotherm