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**The feasibility of using Egyptian sand for removal of organic dyes from waste water**

Increasing needs to industry and world population growth led to the accumulation of a wide variety of contaminants in the environment. The effluents of wastewater in some industries such as textiles, leather, paper and plastics contain various kinds of synthetic dyes. Natural molecular sieves as silicate minerals contain tiny pores of precise and uniform size, which could be used as adsorbents, catalyst carriers and desiccants. In the present research, the Egyptian sand was used as adsorbent in the removal of methyl red dye from textiles effluents. The sand was processed by disposal of large sizes by dry sieving and disposal of small sizes by wet sieving. The sand was mechanically treated with grinding to reach the required porosity. The time factor and the effect of the grinding period were studied. X-ray diffraction (XRD), X-ray fluorescence (XRF) and size analysis were done for the sample before grinding. Complete physico-chemical characterizations of the textile effluent as pH, temperature, color, total dissolved solids (TDS), total suspended solids (TSS), chemical oxygen demand (COD), and biochemical oxygen demand (BOD) have been measured before and after treatment. The maximum color removal efficiency was found to be 91.45% of the methyl red dye from waste water.

**Biography**

Rasha Samir El-Tawil has completed her PhD from Cairo University, Egypt. She is a Researcher in Inorganic Chemistry Department at National Research Centre. She has published more than 10 papers in high impact factor scientific journals and has participated in more than six local projects.

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