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Electrochemical Coagulation of Synthetic Textile Dye Wastewater

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Abstract : Dyes are manufactured to have high chemical resistance because they are normally species, very difficult to degrade (reactive dyes). It damages flora and fauna. Furthermore, coloured components are highly hazardous. So removal of dyes becomes a challenge for both textile industry and water treatment facility. Dyeing wastewater is usually treated by conventional methods such as biological oxidation and adsorption but nowadays them becoming in-adequate because of large variability of composition of waste water. In the present investigation, mild steel electrodes of varying surface area were used for treatment of synthetic textile dye. It appears that electro-chemical coagulation could be very effective in removing coloured from wastewater; it could also be used to remove other parameters like chlorides, COD, and solids to some extent. In the present study, coloured removal up to 99% was obtained for surface area of mild steel electrode of 80 cm2 and 96% of surface area of mild steel electrode of 50 cm2. The findings from this study could be used to improve the design of electro-chemical treatment systems and modify existing systems to improve efficiency.

Keywords : electrochemical coagulation, mild steel, colour, environmental engineering
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