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Adsorption Isothermal Studies on the Removal of Bod and Cod of a Leather Tannery Effluent using Clinoptilolite

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Abstract: Biochemical oxygen demand and chemical oxygen demands are two major factors responsible for the existence of life in an aquatic system. Thus, the effluents discharged by industries must have their BOD and COD at prescribed levels. Controlling BOD and COD is a herculean task for industries, for which adsorbents are widely employed. Industries are on the lookout of low cost adsorbents and one such available adsorbent is Clinoptilolite, a form of Zeolite. In this study, leather tannery effluent was treated with Clinoptilolite at different parameters of varying concentrations, pH and time interval. BOD and COD were adsorbed upto 75 % and 65% respectively. Studies on Langmuir and Freundlich isotherms reveal that the experimental data fits best in the Langmuir isotherm.

Keywords : Clinoptilolite, Adsorbent, Leather Tannery Effluent, Freundlich Isotherm, Langmuir Isotherm.

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