Status of adsorptive removal of dye from textile industry effluent

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ABSTRACT

Textile industry is the key user of dyes and hence the prime source of water pollution, which risks aquatic as well as human life. There are various physical, chemical, and biological methods for dye removal, but most convincing is adsorption due to its simplicity. The extensive research has been carried out in this field which has brought a wide range of adsorbents in reach of industries. Freshly obtained off beat adsorbents in addition to direct one present have been used. The present paper aims at the broad classification of adsorbents recently introduced to the arena. The division of adsorbents comprises conventional means like activated carbon (commercial and derived), zeolite, and other nonconventional adsorbents as natural material, wastes, or even especially designed adsorbents, which are inexpensive and clean to use. Also, the investigations done regarding adsorption lately have been compared with respect to their results. The efficacy of each operation is under grave discussion. Up to 95\% of the dye removal was observed in many cases with the adsorbent doses in the range of 1–20 g L\textsuperscript{-1}. 

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