

Abstract

Sawdust is abundantly available from the timber and forest industry and has been studied in recent past as an adsorbent. This paper reviews the reported work on the uptake of dyes and heavy metals by natural and modified sawdust during the last 10 years. Research works examine the performance of isotherm models against the experimental equilibrium data, and an attempt has been made to discuss the kinetics of adsorption of metal ions and dyes on various sawdust materials on the basis of published report. Regeneration of sawdust materials has also been reviewed. It is found that pine, beech and mansonia sawdust are the most extensively studied adsorbents, whereas Pb^{2+} and methylene blue are the most efficiently removed pollutants, the Langmuir and Freundlich adsorption isotherms provide the best fit in most of the cases, and in general, pseudo-second-order kinetics is followed. There are very limited column studies and no report on commercial plant. Sawdust has a great potential in the wastewater treatment due to its abundant and cheap availability