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Biodegradable studies of rice husk - wheat husk as activated carbons in the remediation of heavy metals from oil refinery wastewater

Dr.S.B.Ronald¹, D.suresh^{2*}, Dr .B.Ananda Kumar³, Ch.R.V.R Prasad⁴, Ch.Udayabhaskararao⁵,
Ch Srinivasarao⁶

Department of chemistry, Sri Y.N. College (Autonomous), Narasapur, India-534275

*Corresponding Author E-mail:khayathisuresh1@gmail.com, Mobile: (+91) 9989227370

Abstract

Using rice husk and wheat husk activated carbon as an adsorbent for effluent treatment, now a day researchers have explored heavy metal adsorption from refinery effluent. Activated carbon has wide range of applications including the removal of different contaminants from water and wastewater. This was utilized to investigate a batch adsorption approach in which six different heavy metals (Cd, Cr, Cu, Pd, Ni, and Zn) were adsorbing at the same time. At different pyrolysis and impregnation proportions, actuated carbons were created. On the surface of both rice husk and wheat husk, the architect displayed a well-defined pore space. For rice husk and wheat husk, the Freundlich and Langmuir designs were also used, also with order of adsorption being Cu>Pb>Cr>Zn>Ni>Cd and Ni>Cr>Pb>Zn>Cu>Cd, respectively. The sorption data where the R² known determination coefficient approaches unity is represented by the Freundlich and Langmuir isotherms. For example, the percentage of heavy metals removed was maximized, reaching 100%. SEM, XRD and EDX investigations were used to characterize the adsorbent surface. According to the findings, rice husk and wheat husk activated carbon can be effectively used for pollutant remediation in the aqua state. Overall, it was found that rice husk - wheat husk activated carbon has great potential for different applications which can be further explored at real scales, i.e., for industrial applications in the future.

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Address for Correspondence :

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P. G. Dept. of Chemistry,

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Cell Nos; 7382799166, 9948683323

E-mail ID: svkpchemistry@gmail.com

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CERTIFICATE

This is to certify that Prof. / Mr. / Ms. / Mrs. /Dr. S.B. Ronald
Professor / Associate/Assistant Professor / Student of Sri. Y.N. College (A), Narasapur.
has participated / presented a paper entitled Biodegradable studies
of rice husk-wheat husk as activated carbons in the remediation of heavy metals in the National Seminar on
from oil refinery waste water
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