
(Cr(III))

(Cu(II))

(Ni(II))

pH =

pH

pH =

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(E-mail: Shahbazi@hotmail.com)

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(COOH)

.()

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(H⁺)

()

pH

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- Monochlorotriazin
- Yu & et all. (2001)
- Senqupta (1995)

- Kadirvelu (2003)
- Shukla

pH

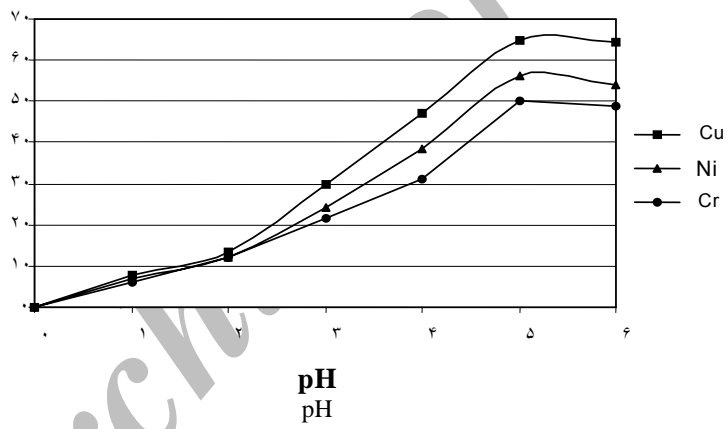
()

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pH =

pH

= pH



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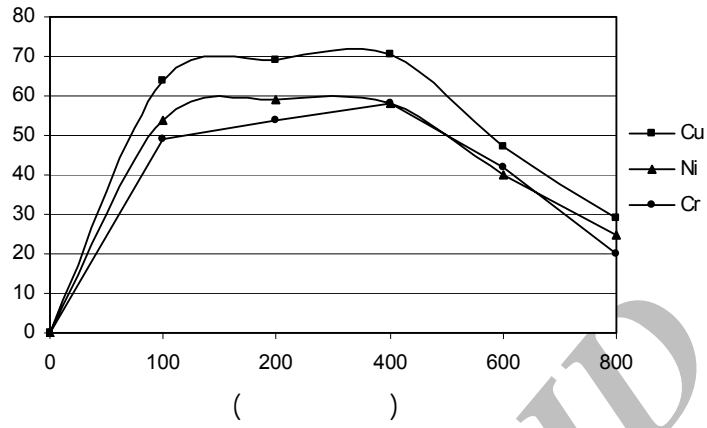
(: pH =)

pH =

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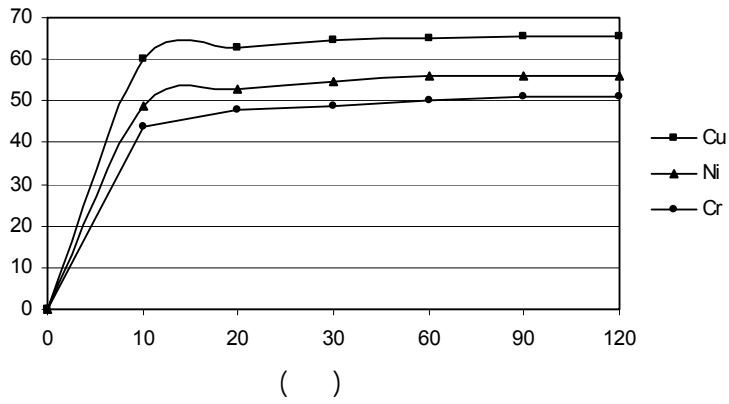
pH =



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¹- Sen Gupta

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Application of organic solid wastes in wastewater treatment

Abstract

Sawdust is an organic solid waste material with high potential adsorbent to remove heavy metal ions from wastewater. It can be useful for treating industrial waste.

In this study; the percent of some heavy metal ion such as copper, chromium and nickel from wastewater, which prepared in laboratory, by sawdust was investigated. Therefore waste water containing heavy metals added to sawdust to evaluate the reaction of the metal ion adsorption in different acidity, contact times and concentrations.

The results showed that the adsorption of these heavy metal ions increased with the pH and reached a maximum at 5 value. In addition the percent of adsorption depended on kind of ions, so that in pH=5 the percent of adsorption for Cu (II), Ni (II) and Cr (III) was 65%, 56% and 50% respectively.

The adsorption increased with the initial concentration of metal ions and then decreased, because sawdust was saturation. Saturation capacity for sawdust per gram for copper, nickel and chrome ion was 28.2, 11.8 and 23.2 ppm respectively. Also adsorption increased with contact time. However, this process was rapid, and in initials 10 minutes, the percent of adsorption was between 45%-65%. And finally the favorable time was 60 minutes.

Key words: Heavy metals, Wastewater, Sawdust

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