

Abstract

Research Title : ADSORPTION OF CUPPER IN SOLUTION BY SYNTHESIZED-ZEOLITE FROM RICE HUSK

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The adsorption of copper ion (Cu^{2+}) in solution was studied by using the zeolite low silica type X (LSX) as adsorbent. The LSX was prepared from rice husk silica by hydrothermal method. The gel with mole ratio of $5.5 \text{ Na}_2\text{O} : 1.65 \text{ K}_2\text{O} : \text{Al}_2\text{O}_3 : 2.2 \text{ SiO}_2 : 122 \text{ H}_2\text{O}$ was crystallized at 100°C in Teflon-lined autoclave. Then the gel was, filtrated and washed until pH 10. The LSX has 102.88 nm of crystal sizes and $300 \text{ m}^2/\text{g}$ of surface area. The effect of initial concentration of Cu^{2+} and pH of solution was investigated in rang of 2000 ppm to 8000 ppm and 3 to 6, respectively. The final concentration of Cu^{2+} and pH of solution were measured by using UV-Vis spectrophotometer and pH Meter. The results showed that the optimum condition for adsorption of Cu^{2+} was 2000 ppm at pH 5. Moreover, the comparison of adsorption performance between LSX and rice husk silica were study. It seem to be that the LSX adsorb Cu^{2+} in solution better than rice husk silica 3 time.