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APPLICATION OF INTERCALARY SORBENTS AND TECHNOLOGY OF THEIR EXTRACTION

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ABSTRACT

In the study, a solution containing Al13 polycation was prepared by hydrolysis of aluminium chloride. AlCl3·6H2O was added dropwise to the solution at room temperature until NaOH [OH-]/[Al3+]=2,4 at pH 4. 3-4. 7. The solution was then incubated at 60 ℃ for 24 h to form the Al13 polyhydroxycomplex. Al30 polycation solution was obtained by hydrothermal processing according to the recipe, Al13 preservative was soaked in the solution for 5 hours at a temperature of 115 ℃. The molar ratio of Al2(OH)5Cl and FeCl3·6H2O in a solution mixture of high-volume Al/Fe polyhydroxycomplex solutions in a high-pressure reactor (at 135 ℃ for 20 hours) by hydrothermal processing is Al: Fe = 15. With respect to Al3 +, the concentration of the solution (x) is x = 2. 5,3. 7,4. 3,5. 1M (in the case of x> 6M a precipitate is formed). 20 g of bentonite was immersed in 1 litre of distilled water and after 24 h the top layer of the suspension was centrifuged. The separated MM (montmorillonite) fraction particles were dried at 60 with an average size of 2 μm. MM Al13, Al30, and Al/Fe polyhydroxycomplex intercalation were performed by adding an intercalating solution (3mol Al3 +/g MM) by ion exchange in a 1% aqueous suspension using a strong magnesium agitator for 2 h at 80 ℃. After 12 h, the suspension was washed with Cl- ions at room temperature. Alkaline and Al/Fe polyhydroxycomplex intercalation were performed by ion exchange in a 1% aqueous suspension by adding an intercalating solution (3mol Al3 +/g MM) and using a powerful magnesium agitator for 2 h at 80 ℃. After 12 h, the suspension was washed with Cl- ions at room temperature. Intercalation of Al30 and Al/Fe polyhydroxocomplexes was performed by ion exchange in a 1% aqueous suspension by adding an intercalating solution (3mol Al3+/g MM) and using a powerful magnesium agitator at 80 ℃ for 2 h. After 12 h, the suspension was washed with Cl- ions at room temperature.

KEYWORDS: *Bentonite, Kaolin, Intercalation, Technological Scheme.*

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