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Heavy metal removal from water by sorption using modified natural clinoptilolite

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Abstract This paper presents the results obtained in the some heavy metal removal by ionic exchange on a natural zeolite - type clinoptilolite. The natural clinoptilolite was chemical modified like Na - clinoptilolite and NH_4 – clinoptilolite. After that the cation exchange capacities of modified clinoptilolite have been investigated. In this purpose it was mixed heavy metal 5.10^{-2} M solutions with 0.5 grams of clinoptilolite in the liquid/solid ratio of 100. At different lapses of time the mixtures were filtered and the heavy metal concentrations were determined in the liquid phase. The calculated ionic exchange capacity of modified clinoptilolite was found to be between 3.8 – 8.3 meq/g for Cu(II), Ni(II) and Pb(II).

Keywords: heavy metal,clinoptilolite, sorption, ion-exchange capacity.

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