Ion exchange of natural natrolite in melted salts

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Abstract: In this research the ion exchange potential of natrolite towards K\(^+\), Tl\(^+\), Cs\(^+\), Ca\(^{2+}\), Ni\(^{2+}\), Cu\(^{2+}\), and Co\(^{2+}\) in their melted salts was investigated. The effect of temperature, reaction time and zeolite to salt ratio on the exchange relation was studied. The exchange of Ca\(^{2+}\), Ni\(^{2+}\), Cu\(^{2+}\), and Co\(^{2+}\) was negligible and was equal to 2.59, 6.29, 3.14 and 5.04 percent respectively whereas the exchange of K\(^+\), Tl\(^+\), Cs\(^+\) was relatively high and equal to 82.36, 66.67 and 42.98 percent respectively.

Keywords: Natrolite, Ion exchange, fused salts.