Extraction of Interlayer K from Phlogopite Specific Effects of Cations Role of Na and H Concentrations in Extraction Solutions

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Abstract: The accurate optical observation of alteration fringes developing in phlogopite flakes, shows that the morphology of the fringes is specific for some cations, such as Na, Mg and Ca, replacing K.

A careful chemical study of the exchange kinetics of interlayer K shows that, beside the classical effect of blocking the exchange reaction with cations such as K, Rb, Cs, NH_4, it is possible to induce an increase of the rate of K exchange when adding to a concentrated solution of one cation, a very small amount of other cation such as Na or H. The effects of mixtures such as Ca-Na and Ca-H are reported here in detail. Attention is drawn to the decisive part played by the impurities which may be contained in the reagents used.

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