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# Montmorillonite-Alkali Halide Interaction: A Possible Mechanism for Illitization

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**Abstract:** The reaction products obtained when montmorillonites react with potassium halide at elevated temperatures, which were described in a previous publication, are further characterized. On the basis of their X-ray powder diffraction patterns, i.r. spectra, CEC and chemical composition they could be regarded as montmorillonite-illite interstratifications. Changes in morphology of various montmorillonites heated with and without K halide are related to the size, charge and position of interlayer cations. Scanning electron-micrographs of samples heated with KBr resemble those of well-crystallized illite. It is speculated that reactions of clay minerals with halides or other proton acceptors may account for some diagenetic processes in nature, e.g. the conversion of montmorillonite to illite on deep burial.

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