Montmorillonite-Salt Interactions at 550 ° C

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Abstract: The reactions between montmorillonite and carbonates and hydroxides of Na, K and Li were studied at 550 ° C as a function of salt content and time. The reactions were found to be rapid with a half-time of 20 – 30 minutes. Good agreement was obtained between theoretical and experimental stoichiometric values for the clay-carbonate reaction. The 001 and 02,11 reflections of the products of the clay-salt reactions diminished in intensity and/or disappeared at and above the stoichiometric concentrations of the reactants.

Key Words: Carbonates • Hydroxides • Montmorillonite • Solid-state reaction

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