

Phase Equilibria of CH₄ Hydrate in Electrolyte and Porous Media Solutions

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Methane hydrates exist widely in nature, and they have potentially greater importance not only in relation to environmental issues such as global warming, but as a possible energy resource. In this report, clay and NaCl effects on the formation of methane hydrate were measured. Three-phase equilibria (H-Lw-V) for CH₄ and NaCl solutions containing clay were measured to examine both electrolyte and capillary effects inside interlayer pores. The equilibrium line of 3wt% NaCl and 10wt% clay system was slightly shifted to the left side of 3 wt%.