

Measurements of Hydrate Phase Equilibrium for Guests of Nitrogen, Sulfur Dioxide and Carbon Dioxide

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Data of hydrate phase equilibria for carbon dioxide are important in carbon dioxide sequestration for flow assurance. Some impurities that affect the carbon dioxide hydrate-forming conditions are included in the captured carbon dioxide.

In this work, hydrate phase equilibria for ternary guest of nitrogen, sulfur dioxide and carbon dioxide were experimentally determined in aqueous liquid-hydrate-vapor three phase regions by using indirect method. Dissolution temperatures of formed hydrates were measured at constant pressure with predetermined overall loading compositions. Also, effect as the amount of nitrogen and sulfur dioxide was observed.