

Molecular Interactions in Gas Hydrate System

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Gas hydrates, a potential future energy resource, are known to exist in permafrost and ocean bottom in abundant quantity. However, the recovery of gas from gas hydrate is not obvious process. Different methodologies current being experimented uses one or combination of de-pressurization or increase in the gas hydrate system. Further, a small increment in pressure/ temperature of the hydrate system could trigger release of gas in huge quantity because of its nature. Thus, a detailed knowledge of phase stability in gas hydrate systems (in pure & simulated ocean bottom conditions) is an important area of research. Some double hydrate systems are prominently alters/ modify the phase stability. These studies not only helps one to gain fundamental understanding of molecular interactions in gas hydrate systems but also useful in engineering the methodologies for gas recovery and/or gas hydrate transportation. Such studies essentially require a high degree of co-operation among likeminded institutions, universities and industry with a focused objective.

Keywords: Gas Hydrates; Phase Stability; Double Hydrates.