

CO₂ hydrate Phase equilibria with
THI(Thermodynamic Hydrate Inhibitors)s

사정훈, 이건홍*
포항공과대학교
(ce20047@postech.ac.kr*)

On the natural gas transportation of oil and gas industry, flow assurance is one of the key issue in the field operations. Flow assurance is most critical task during deep water gas transportation because of the high pressure and low temperature involved. Once gas hydrates formed pipeline blockage, there would be a critical loss in operations. In this respect, THI (Thermodynamic Hydrate Inhibitor)s have an essential role in prevention of field operations from plugging risks. They can change the 3 phase (Water-Hydrate-Vapor) equilibrium conditions to lower temperature and higher pressure with prevention of gas hydrate formation. We found the inhibition effects of a few new organic inhibitors (Glycine, Alanine) for CO₂ hydrate formation with various concentrations with the measurement of phase equilibria. Their eco-friendly features, as distinct from common THIs (Methanol, Ethylene glycol), would be useful to apply our environments.