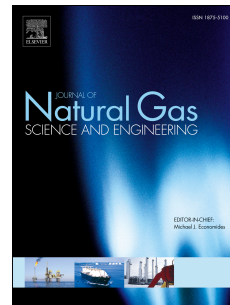


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Performance of mixture of ethylene glycol and glycine in inhibiting methane hydrate formation

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ABSTRACT

This study investigates synergistic hydrate inhibition performance of conventional thermodynamic hydrate inhibitors (THIs) combined with amino acids. For this purpose, hydrate-liquid-vapor equilibrium (HLVE) data for methane were measured in the presence of mixed ethylene glycol and glycine using 1:1 mixtures at concentrations of 1wt% (0.5 wt% ethylene glycol +0.5 wt% glycine), 5 wt% (2.5 wt% ethylene glycol +2.5 wt% glycine), 10 wt% (5 wt% ethylene glycol +5 wt% glycine), 20 wt% (10 wt% ethylene glycol +10 wt% glycine), and 30 wt% (15 wt% ethylene glycol +15 wt% glycine) by the isochoric pressure search method. Thermodynamic inhibition efficiency has been investigated by observing the shifts in the hydrate equilibrium curves and trends of the calculated hydrate suppression temperatures at various

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