عنوان مقاله:

Performance improvement of the various kinetic hydrate inhibitors Using 2- butoxyethanol for methane and ethane gas hydrate formationin a flow mini-loop apparatus

محل انتشار:

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خلاصه مقاله:

Current study addresses the effect of 2- butoxyethanol as an additive for methane and ethane gas hydrate formation in the presence of kinetic hydrate inhibitors (KHIs) such as modified starch, poly vinylpyrrolidone (PVP) and Gaffix VC-113 at various conditions in a flow mini-loop apparatus. A laboratory flow mini-loop apparatus has been designed and made up to measure the induction time of C1 & C2 gas hydrate formation. Hydrate former (including C1, C2,) is contacted with water containing dissolved inhibitor in the presence of 2- butoxyethanol as an additive at desired temperature and pressure. The effect of 2- butoxyethanol on the induction time during gas hydrate formation was investigated in the presence and absence of modified starch, PVCap and Gaffix VC713 as kinetic inhibitors. Results show that the induction time is prolonged in the presence of Gaffix VC-113 compared to PVCap and modified starch as inhibitors. Moreover, the induction time in the presence of 2- butoxyethanol is greater than in the absence of this additive for C1 & C2 gas hydrate formation.

کلمات کلیدی:

kinetic hydrate inhibitor, mini flow loop apparatus, experimental data, induction time, 2- butoxyethanol, Enhancement