

## Phase Equilibrium of SF<sub>6</sub> Hydrate in CsI Electrolyte

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Cesium and iodine are representative radioactive materials. Sulfur hexafluoride (SF<sub>6</sub>) is well-known gas due to its significant global warming potential. Furthermore, the atmospheric lifetime of SF<sub>6</sub> is estimated to be on the order of 3200 years, which is long compared with that of other GHGs. Thus, it is urgently necessary to control their emissions. Gas hydrates are crystalline compounds composed of water and gas molecules. In particular, Hydrate Based Desalination (HBD) technology is regarded as an eco-friendly method because hydrates can be directly formed from seawater. Applying this technology, it can be efficient way to separate CsI and other impurities. In this study, the phase equilibria of SF<sub>6</sub> hydrates in the presence of CsI solutions was monitored. This study will present that it can be useful to be aware of guest behaviors of gas hydrate formed from SF<sub>6</sub> in CsI electrolyte to extend the HBD and purification technology in radioactive waste.