

## Pressure Swing Adsorption Process for High purity Hydrogen Separation from Steam Reforming Gas

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The performance of a pressure swing adsorption process for production of high purity hydrogen from quaternary hydrogen mixture is simulated using a detailed PSA model. A binary adsorbent is used for selective adsorption of CH<sub>4</sub>, CO and CO<sub>2</sub> over H<sub>2</sub>. Adsorption dynamics and PSA process for quaternary (H<sub>2</sub>/CH<sub>4</sub>/CO/CO<sub>2</sub>) system were studied theoretically in layered bed. The process simulation was employed to search the optimal process conditions. The purity and recovery of product were affected by adsorption pressure, feed flow rate and composition on the breakthrough curve were identified carefully. Dual-Site Langmuir model be used to predict the numerical simulation results.