

### Ni Nanowire Catalysts Supported on Nickel Metallic Foam for GTL-FPSO process

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The production methods of synthesis gas, which is made up of carbon monoxide and hydrogen, have been attracted significant interest because of recent oil depletion. In order to produce fine quality of synthesis gas, it is important to make a good catalyst. Ni-based structured catalysts widely used on the conversion of methane to synthesis gas in GTL-FPSO. The metal foam is excellent support as a catalyst support with good physical and mechanical properties; low density, high surface area, high heat transfer, high-temperature stability. Besides, the open spaces of between Nanowires also have high surface area and their mesoporous structures develop its reaction. The way to efficiently produce syngas enhances catalytic activity by expanding specific surface area of active metals supported on the metal foam. In order to increase the surface area of the active metals, we produced Ni NWs through a facile and rapid one-pot synthesis. We also fabricated Ni nanowire catalysts supported on a Ni metal foam by using wet chemical coating method. The Ni nanowire catalysts on the metal foam showed high conversion rate of CO<sub>2</sub> and CH<sub>4</sub> during SCR (steam carbon dioxide reforming) of methane in gas-to-liquid process.