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EXXON RES & ENG CO *US 4626-552-A
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Start/up of a fischer-tropsch reactor - by using an initially low hydrogen:carbon mono oxide ratio giving improved temp. stability

C86-147055

E(10-J2D) H(4-E5) N(2-B, 2-E, 3-B)

In a method of start-up for a reactor, wherein a feed of carbon monoxide and hydrogen is converted over a hydrocarbon synthesis catalyst (Fischer-Tropsch Reaction), the feed flow rate, pressure and temp. are raised to values approaching their line-out values, while the molar feed ratio of H_2:CO is kept below 90% of its line out value and then gradually increased to its line-out value.

ADVANTAGE

The method reduces risk of temp. runaway, and allows a more rapid start-up than by conventional methods.

EMBODIMENT

Feed is introduced at 70-100% and hydrogen at 50-80% of their line-out values, with H_2:CO ratio not more than 75% of its line-out value. Pressure and temp. are then increased in steps to their line-out values of 140-400 psig, 350-500°F. H_2:CO ratio is then gradually increased to its line-out value of 1:1 to 3:1.

Any conventional Fischer-Tropsch catalyst may be used, esp. a ruthenium-titania or cobalt-titania catalyst.

Start up period may be reduced from the 8-18 days required for a small reactor using conventional methods, to 20 hr. or less. (16pp1644RKMHDwgNo0/4).

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