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(54) Title: SLURRY HYDROCARBON SYNTHESIS PROCESS WITH CATALYST REJUVENATION IN EXTERNAL LIFT PIPE

(57) Abstract

A reversibly deactivated hydrocarbon synthesis catalyst in a hydrocarbon synthesis slurry is rejuvenated by passing the slurry into a lift pipe external of the reactor in which it contacts a hydrogen containing rejuvenating gas. The hydrogen rejuvenates the catalyst particles in the slurry and forms a mixture of a rejuvenation offgas which may contain catalyst deactivating species and a rejuvenated catalyst slurry. This mixture is passed into a gas separating and removal vessel in which the offgas is separated and removed from the slurry, which is then returned back into the reactor or elsewhere. The rejuvenating gas also acts as a lift gas to create slurry circulation up through the lift pipe and into the gas removal vessel.

