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(54) Title: PRODUCTION OF LINEAR ALKYL BENZENE

(57) **Abstract:** This invention relates to a process for producing linear alkyl benzene, the process including the steps of obtaining a hydrocarbon condensate containing olefins, paraffins and oxygenates from a low temperature Fischer-Tropsch reaction; a) fractionating a desired carbon number distribution from the hydrocarbon condensate to form a fractionated hydrocarbon condensate stream; b) extracting oxygenates from the fractionated hydrocarbon condensate stream from step (a) to form a stream containing olefins and paraffins; c) combining the stream containing olefins and paraffins from step (b) with the feed stream from step (g) to form a combined stream; d) alkylating olefins in the combined stream from step (c) with benzene in the presence of a suitable alkylation catalyst in an alkylation reactor; e) recovering linear alkyl benzene from the alkylation reactor; f) recovering unreacted paraffins from the alkylation reactor; g) dehydrogenating the unreacted paraffins in the presence of a suitable dehydrogenation catalyst to form a feed stream containing olefins and paraffins; and h) sending the feed stream containing olefins and paraffins from step (g) to step (c).



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