

Title (en)

CATALYTIC ACTIVATION OF ISOPENTANE-ENRICHED MIXTURES

Title (de)

KATALYTISCHE AKTIVIERUNG VON MIT ISOPENTAN ANGEREICHERTEN MISCHUNGEN

Title (fr)

ACTIVATION CATALYTIQUE DE MÉLANGES ENRICHIS EN ISOPENTANE

Publication

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Application

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Abstract (en)

[origin: WO2019191113A1] The present disclosure relates generally to processes and systems that produce liquid transportation fuels by converting a hydrocarbon feed stream comprising both isopentane and n- pentane, and optionally, some C6+ hydrocarbons. Isopentane and smaller hydrocarbons are separated to form a first fraction while n-pentane and larger components of the feed stock form a second fraction. The first fraction is then catalytically-activated in a first reactor containing a first activation catalyst, while the second fraction is converted separately in a second reactor containing a second activation catalyst. The conditions maintained in each reactor are selected to maximize the conversion of each fraction to olefins and aromatics, while minimizing the production of C1-C4 light paraffins. In certain embodiments, the first fraction is activated at a lower temperature than the second fraction. Certain embodiments mix at least a portion of the effluents from the first and second activation zones and convert the resulting mixed effluent in either an oligomerization reactor containing an oligomerization catalyst or an oligomerization reactor containing an alkylation catalyst, thereby providing enhanced yields of upgraded hydrocarbon products that are characterized as a liquid transportation fuel or a blend component thereof.

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