Title (en)

Method for producing kerosene and diesel fuels using light unsaturated cuts and BTX-rich aromatic cuts

Title (de)

Verfahren zur Herstellung von Kerosin- und Dieselkraftstoffen aus leichten ungesättigten und reichen aromatischen BTX-Anteilen

Title (fr)

Procédé de production de carburants kérosène et diesel à partir de coupes insaturées légeres et de coupes aromatiques riches en BTX

Publication

EP 2426189 B1 20130327 (FR)

Application

EP 11290375 A 20110817

Priority

FR 1003559 A 20100907

Abstract (en)

[origin: EP2426189A1] The process comprises performing a selective hydrogenation step to initiate gasoline fraction, treating effluent obtained from the hydrogenation step with zeolite or silica-alumina type acid catalyst or ion exchange resin acid catalyst at a temperature of 40-250[deg] C, a pressure of 10-30 bars and a space velocity of 0.3-2 h-1, and distillating the effluent in a first distillation column for separating an olefin fraction having a final boiling point of 60? and a fraction of boiling point of greater than 150[deg] C. The process comprises performing a selective hydrogenation step to initiate gasoline fraction, treating effluent obtained from the hydrogenation step with zeolite or silica-alumina type acid catalyst or ion exchange resin acid catalyst at a temperature of 40-250[deg] C, a pressure of 10-30 bars and a space velocity of 0.3-2 h-1, distillating the effluent in a first distillation column for separating an olefin fraction having a final boiling point of 60? on its top and a fraction of boiling point of greater than 150[deg] C on its bottom, where the fraction of boiling point of greater than 150[deg] C is sent to a hydrotreatment unit, oligomerizing the olefinic fraction optionally mixed with a liquefied petroleum gas fraction containing olefins, extracting a stream of oligomerized olefins, after distillation, constituting a kerosene fraction, which is sent to a first part towards the hydrotreatment unit and a second part towards total hydrogenation unit (HT), and performing alkylation of stream obtained from the oligomerization step on the BTX fraction rich in aromatics containing 6-9 C. The effluent of the alkylation unit is sent to a second distillation column for extracting fractions consisting of: a gasoline fraction of boiling point of less than 100[deg] C, where the fraction is sent to the gasoline pool; an intermediate fraction of distillation at 100-150[deg] C, where the fraction is constituted of unreacted BTX that is recycled at an inlet of the alkylation unit with the exception of a portion constituting of purge of the alkylation unit and the fraction is sent to the gasoline pool after stabilization; and a heavy fraction of boiling point of greater than 150[deg] C, where the fraction is sent to the total hydrogenation unit of which the desired diesel is extracted. The hydrogenation step is carried out at a temperature of 100-350[deg] C, a pressure of 20-70 bars and a space velocity of 0.5-5 h-1.

IPC 8 full level

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CPC (source: EP US)

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