

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 Dieselmotorkraftstoffen aus leichten ungesättigten und reichen aromatischen BTX-Anteilen

Title (fr)

Procédé de production de carburants kérosène et diesel à partir de coupes insaturées légères 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 distilling 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, distilling 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

C10G 50/00 (2006.01); **C10G 25/02** (2006.01); **C10G 45/00** (2006.01); **C10G 45/02** (2006.01); **C10G 45/32** (2006.01); **C10G 67/06** (2006.01); **C10G 69/04** (2006.01); **C10G 69/08** (2006.01); **C10G 69/12** (2006.01)

CPC (source: EP US)

C10G 25/02 (2013.01 - EP US); **C10G 45/00** (2013.01 - EP US); **C10G 45/02** (2013.01 - EP US); **C10G 45/32** (2013.01 - EP US); **C10G 50/00** (2013.01 - EP US); **C10G 67/06** (2013.01 - EP US); **C10G 69/04** (2013.01 - EP US); **C10G 69/08** (2013.01 - EP US); **C10G 2300/104** (2013.01 - EP US); **C10G 2300/1044** (2013.01 - EP US); **C10G 2300/1096** (2013.01 - EP US); **C10G 2300/301** (2013.01 - EP US); **C10G 2300/4018** (2013.01 - EP US); **C10G 2400/04** (2013.01 - EP US)

Cited by

CN104711022A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 2426189 A1 20120307; **EP 2426189 B1 20130327**; FR 2964389 A1 20120309; US 2012103867 A1 20120503

DOCDB simple family (application)

EP 11290375 A 20110817; FR 1003559 A 20100907; US 201113225589 A 20110906