

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

EP 3774700 A4 20211229 (EN)

Application

EP 19776158 A 20190326

Priority

- US 201862648570 P 20180327
- US 201862648557 P 20180327
- US 201862648592 P 20180327
- US 201862648584 P 20180327
- US 2019024095 W 20190326

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.

IPC 8 full level

C07C 2/02 (2006.01); **C07C 2/06** (2006.01); **C07C 2/08** (2006.01); **C07C 11/10** (2006.01); **C10G 45/68** (2006.01)

CPC (source: EP)

C10G 29/205 (2013.01); **C10G 45/68** (2013.01); **C10G 50/00** (2013.01); **C10G 51/06** (2013.01); **C10G 59/06** (2013.01); **C10G 2300/104** (2013.01); **C10G 2300/1081** (2013.01); **C10G 2400/30** (2013.01)

Citation (search report)

- [A] US 3305476 A 19670221 - YORK EARL D, et al
- [I] US 6143166 A 20001107 - NACAMULI GERALD J [US]
- [A] US 2918422 A 19591222 - EVERING BERNARD L, et al
- See references of WO 2019191113A1

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)

WO 2019191113 A1 20191003; CA 3107128 A1 20191003; EP 3774700 A1 20210217; EP 3774700 A4 20211229

DOCDB simple family (application)

US 2019024095 W 20190326; CA 3107128 A 20190326; EP 19776158 A 20190326