Title (en)

PROCESS FOR CONVERTING GASEOUS ALKANES TO LIQUID HYDROCARBONS

Title (de)

VERFAHREN ZUR UMWANDLUNG VON GASFÖRMIGEN ALKANEN IN FLÜSSIGE KOHLENWASSERSTOFFE

Title (fr)

PROCEDE DE CONVERSION D'ALCANES GAZEUX EN HYDROCARBURES LIQUIDES

Publication

EP 1735255 A4 20120104 (EN)

Application

EP 05735925 A 20050415

Priority

- US 2005012655 W 20050415
- US 82688504 A 20040416
- US 10188605 A 20050408

Abstract (en)

[origin: WO2005104689A2] A process for converting gaseous alkanes to liquid hydrocarbons wherein a gaseous feed containing alkanes is reacted with a dry bromine vapor to form alkyl bromides and hydrobromic acid vapor. The mixture of alkyl bromides and hydrobromic acid are then reacted over a synthetic crystalline alumino-silicate catalyst, such as a ZSM-5 zeolite, at a temperature of from about 150° C. to about 450° C. so as to form higher molecular weight hydrocarbons and hydrobromic acid vapor. Propane and butane which comprise a portion of the products may be recovered or recycled back through the process to form additional C5+ hydrocarbons. Various methods are disclosed to remove the hydrobromic acid vapor from the higher molecular weight hydrocarbons and to generate bromine from the hydrobromic acid for use in the process.

IPC 8 full level

C07C 1/00 (2006.01); **C07C 1/20** (2006.01); **C07C 15/00** (2006.01)

CPC (source: EP KR)

C01B 7/093 (2013.01 - EP); **C01B 7/096** (2013.01 - EP); **C01B 9/04** (2013.01 - EP); **C07C 1/20** (2013.01 - KR); **C07C 15/00** (2013.01 - KR); **C07C 17/10** (2013.01 - EP); **C10G 50/00** (2013.01 - EP); B01J 29/40 (2013.01 - EP); C10G 2300/1025 (2013.01 - EP); C10G 2300/202 (2013.01 - EP)

Citation (search report)

- [XYI] US 5276240 A 19940104 - TIMMONS RICHARD B [US], et al
- [XYI] US 4523040 A 19850611 - OLAH GEORGE A [US]
- [XYI] US 4373109 A 19830208 - OLAH GEORGE A [US]
- [XYI] US 4795843 A 19890103 - IMAI TAMOTSU [US], et al
- See references of WO 2005104689A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2005104689 A2 20051110; **WO 2005104689 A3 20060504**; AR 051257 A1 20070103; AU 2005237458 A1 20051110; AU 2005237458 B2 20111013; BR PI0509808 A 20070918; BR PI0509808 B1 20150407; CA 2561133 A1 20051110; CA 2561133 C 20140708; EP 1735255 A2 20061227; EP 1735255 A4 20120104; JP 2007532760 A 20071115; JP 5150249 B2 20130220; KR 101170773 B1 20120803; KR 20070029159 A 20070313; MX PA06011655 A 20070123; NO 20065250 L 20070108

DOCDB simple family (application)

US 2005012655 W 20050415; AR P050101505 A 20050415; AU 2005237458 A 20050415; BR PI0509808 A 20050415; CA 2561133 A 20050415; EP 05735925 A 20050415; JP 2007508523 A 20050415; KR 20067021375 A 20050415; MX PA06011655 A 20050415; NO 20065250 A 20061115