Title (en)

METHOD AND DEVICE FOR THE CATALYTIC PRESSURELESS DEPOLYMERIZATION OF HYDROCARBON-CONTAINING SUBSTANCES

Title (de)

VERFAHREN UND VORRICHTUNG ZUR KATALYTISCHEN DRUCKLOSEN VERÖLUNG VON KOHLENWASSERSTOFFHALTIGEN SUBSTANZEN

Title (fr)

PROCÉDÉ ET DISPOSITIF D'HUILAGE CATALYTIQUE SANS PRESSION DE SUBSTANCES CONTENANT DES HYDROCARBURES

Publication

EP 3638750 A1 20200422 (DE)

Application

EP 17768341 A 20170613

Priority

DE 2017000165 W 20170613

Abstract (en)

[origin: WO2018228619A1] The invention relates to a method for catalytic compressed air depolymerization of hydrocarbon-containing substances comprising the following steps: providing a hydrocarbon-containing substance and a catalyst oil in a mixing turbine; mixing the catalyst oil with the hydrocarbon-containing substance to form a mixture, the mixing step including generation of heat for catalytic oxidation in the mixing turbine; providing a distillation device downstream of the mixing turbine; conveying liquid components of the mixture into the distillation device; and distilling the liquid components and collecting oil and water. The method is characterized in that the mixing step includes introduction of oxygen into the mixing turbine. The invention further relates to a device with which this method can be applied, having a mixing turbine which comprises a first supply line for a catalyst oil and a hydrocarbon-containing substance, and a discharge line for liquid components following catalytic oxidation. A device of this kind further comprises a distillation device for distilling the liquid components discharged from the mixing turbine and a collecting device for collecting oil and water separated out of the distillation device, wherein the mixing turbine has a second delivery line for oxygen.

IPC 8 full level

C10G 1/02 (2006.01); **C10G 1/08** (2006.01); **C10G 1/10** (2006.01); **C10G 11/22** (2006.01)

CPC (source: EP US)

B01D 3/14 (2013.01 - US); **B01J 10/00** (2013.01 - US); **B01J 19/0053** (2013.01 - US); **B01J 19/18** (2013.01 - US); **C10G 1/002** (2013.01 - US); **C10G 1/02** (2013.01 - EP US); **C10G 1/08** (2013.01 - EP US); **C10G 1/10** (2013.01 - EP); **C10G 11/22** (2013.01 - EP US); C10G 2300/1003 (2013.01 - US); C10G 2300/1011 (2013.01 - US); C10G 2400/04 (2013.01 - EP US)

Citation (search report)

See references of WO 2018228619A1

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2018228619 A1 20181220; AU 2017418924 A1 20190711; CA 3048281 A1 20181220; CN 110770325 A 20200207; EP 3638750 A1 20200422; IL 271234 A 20200130; JP 2020523469 A 20200806; MX 2019014779 A 20200210; RU 2019140309 A 20210609; RU 2019140309 A3 20210609; US 2020095505 A1 20200326

DOCDB simple family (application)

DE 2017000165 W 20170613; AU 2017418924 A 20170613; CA 3048281 A 20170613; CN 201780091980 A 20170613; EP 17768341 A 20170613; IL 27123419 A 20191208; JP 2019569939 A 20170613; MX 2019014779 A 20170613; RU 2019140309 A 20170613; US 201716473040 A 20170613