

Title (en)

REFORMER, AND METHOD FOR REACTING FUEL AND OXIDANT TO GASEOUS REFORMATE

Title (de)

REFORMER UND VERFAHREN ZUM UMSETZEN VON BRENNSTOFF UND OXIDATIONSMITTEL ZU GASFÖRMIGEM REFORMAT

Title (fr)

REFORMEUR ET PROCÉDÉ POUR TRANSFORMER UN COMBUSTIBLE ET UN AGENT D'OXYDATION EN REFORMAT GAZEUX

Publication

EP 2041023 A1 20090401 (DE)

Application

EP 07764358 A 20070612

Priority

- DE 2007001038 W 20070612
- DE 102006032956 A 20060717

Abstract (en)

[origin: WO2008009250A1] The invention relates to a reformer for reacting fuel and oxidant to gaseous reformat. Said reformer comprises an oxidation zone (10), an evaporation zone (16), and a catalytic H₂ production zone (20). A gaseous mixture of fuel and oxidant can be fed to the oxidation zone (10) for oxidation purposes, a process during which oxidant-containing exhaust gas is produced; fuel and an evaporator gas can be fed to the evaporation zone (16) so as to produce a fuel-containing evaporator gas mixture; and an ignitable reforming gas mixture containing evaporated fuel and oxidant-containing exhaust gas can be fed to the catalytic H₂ production zone (20) so as to produce the gaseous reformat. In order to reduce the risk of spontaneous ignition in the evaporator zone (16), mixing and feeding means (28) to which oxidant-containing exhaust gas can be fed from the oxidation zone (10) and fuel-containing evaporator gas mixture can be fed from the evaporation zone (16) are disposed upstream of an inlet of the catalytic H₂ production zone (20) so as to produce the reforming gas mixture and feed said reforming gas mixture into the catalytic H₂ production zone (20). Recirculation means (26) are provided for recirculating reformat produced in the catalytic H₂ production zone (20) into the evaporation zone (16) as evaporator gas. The inventive design prevents an ignitable gas mixture from forming in the evaporator zone (16). The invention further relates to a corresponding method for reacting fuel and oxidant to gaseous reformat.

IPC 8 full level

C01B 3/36 (2006.01); **C01B 3/38** (2006.01)

CPC (source: EP KR US)

C01B 3/36 (2013.01 - KR); **C01B 3/38** (2013.01 - KR); **C01B 3/386** (2013.01 - EP US); **C01B 2203/0261** (2013.01 - EP US); **C01B 2203/066** (2013.01 - EP US); **C01B 2203/0811** (2013.01 - EP US); **C01B 2203/1235** (2013.01 - EP US); **C01B 2203/1258** (2013.01 - EP US); **C01B 2203/1276** (2013.01 - EP US); **C01B 2203/1288** (2013.01 - EP US); **C01B 2203/148** (2013.01 - EP US)

Citation (search report)

See references of WO 2008009250A1

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 LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

WO 2008009250 A1 20080124; AU 2007276585 A1 20080124; BR PI0714340 A2 20121225; CA 2657534 A1 20080124; CN 101573289 A 20091104; DE 102006032956 A1 20080207; DE 102006032956 B4 20100701; EA 200970037 A1 20090428; EP 2041023 A1 20090401; JP 2009543753 A 20091210; KR 20090020690 A 20090226; US 2010189639 A1 20100729

DOCDB simple family (application)

DE 2007001038 W 20070612; AU 2007276585 A 20070612; BR PI0714340 A 20070612; CA 2657534 A 20070612; CN 200780026965 A 20070612; DE 102006032956 A 20060717; EA 200970037 A 20070612; EP 07764358 A 20070612; JP 2009519784 A 20070612; KR 20097000651 A 20090113; US 30579007 A 20070612