

Title (en)

REFORMER GAS-BASED REDUCING METHOD WITH REDUCED NO_x EMISSION

Title (de)

REFORMERGASBASIERTES REDUKTIONSVERFAHREN MIT VERMINDERTEM NO_x-AUSSTOSS

Title (fr)

PROCÉDÉ DE RÉDUCTION À BASE D'UN GAZ REFORMÉ AVEC PRODUCTION RÉDUITE DE NO_x

Publication

EP 2480691 A1 20120801 (DE)

Application

EP 10737309 A 20100715

Priority

- AT 12152009 A 20090731
- EP 2010060174 W 20100715

Abstract (en)

[origin: WO2011012452A1] The present invention relates to a method for reducing metal oxides (3) to metallised material through contact with hot reducing gas, which is produced at least partly by catalytic reforming of a mixture of a gas, containing carbon dioxide (CO₂) and/or water vapour (H₂O), with gaseous hydrocarbons, wherein the heat for the endothermic reforming processes occurring during the reforming is supplied at least partly by combusting a combustion gas. The present invention further relates to a device for carrying out the method.

IPC 8 full level

C21B 13/02 (2006.01); **C21B 13/14** (2006.01)

CPC (source: EP KR US)

C01B 3/384 (2013.01 - EP KR US); **C21B 13/0073** (2013.01 - KR); **C21B 13/02** (2013.01 - EP KR US); **C21B 13/143** (2013.01 - EP KR US); **C22B 5/12** (2013.01 - KR US); **F27D 17/002** (2013.01 - EP KR US); **C01B 2203/06** (2013.01 - EP US); **C01B 2203/0816** (2013.01 - EP US); **C01B 2203/0827** (2013.01 - EP US); **C01B 2203/148** (2013.01 - EP US); **C21B 2100/20** (2017.04 - KR); **C21B 2100/22** (2017.04 - EP US); **C21B 2100/44** (2017.04 - EP US); **C21B 2100/64** (2017.04 - EP US); **C21C 2100/06** (2013.01 - EP KR US); **Y02P 10/122** (2015.11 - EP US); **Y02P 10/134** (2015.11 - EP US); **Y02P 10/143** (2015.11 - EP US)

Citation (search report)

See references of WO 2011012452A1

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 SE SI SK SM TR

DOCDB simple family (publication)

WO 2011012452 A1 20110203; AT 508522 A1 20110215; AT 508522 B1 20110415; AU 2010278187 A1 20120301; CA 2769460 A1 20110203; CA 2769460 C 20190219; CN 102471811 A 20120523; EP 2480691 A1 20120801; JP 2013501138 A 20130110; KR 101679288 B1 20161124; KR 20120056260 A 20120601; MX 2012001205 A 20120326; RU 2012107293 A 20130910; RU 2532757 C2 20141110; SA 110310621 B1 20140604; US 10030911 B2 20180724; US 2012160062 A1 20120628; US 2015345869 A1 20151203; US 9181595 B2 20151110

DOCDB simple family (application)

EP 2010060174 W 20100715; AT 12152009 A 20090731; AU 2010278187 A 20100715; CA 2769460 A 20100715; CN 201080033343 A 20100715; EP 10737309 A 20100715; JP 2012522089 A 20100715; KR 20127005363 A 20100715; MX 2012001205 A 20100715; RU 2012107293 A 20100715; SA 110310621 A 20110727; US 201013388141 A 20100715; US 201514810580 A 20150728