

Title (en)
ELECTROCHEMICAL CATALYSIS SYSTEM

Title (de)
ELEKTROCHEMISCHES KATALYSESYSTEM

Title (fr)
SYSTEME DE CATALYSE ELECTROCHIMIQUE

Publication
EP 2582449 A2 20130424 (FR)

Application
EP 11736124 A 20110616

Priority
• FR 1054778 A 20100616
• FR 2011051380 W 20110616

Abstract (en)
[origin: WO2011157963A2] The present invention relates to an electrocatalytic system for concomitant treatment of oxidising polluting species such as NO_x and reducing polluting species such as hydrocarbons (HC) or CO contained in a gas to be purified, in particular exhaust gas from a combustion engine, said system including: a catalyst A for reducing NO_x polluting species; a catalyst B for oxidising hydrocarbon (HC) and CO polluting species; and a compound E that is an electronic and ionic conductor by means of the oxide ions, said catalysts A and B being in contact with the compound E, said compound E consisting of an oxide that is an ionic and electronic conductor and has the following molar formulation: Ce₁-y-z O₂-xMyN_z, where Ce is Cerium; M is an element selected from among: Gd, Y, Se, Sm, La, Pr, Nd, Er, Tb; y is between 0.01 and 0.4; N is an element, having a plurality of valence degrees, selected from among: Ti, V, Cr, Mn, Fe, Co, Ni, Cu; z is lower than 0.4 and x is greater than 0.05.

IPC 8 full level
B01D 53/94 (2006.01); **B01D 53/32** (2006.01); **B01J 23/00** (2006.01); **B01J 23/63** (2006.01); **B01J 35/00** (2006.01); **B01J 35/10** (2006.01); **F01N 3/035** (2006.01)

CPC (source: EP KR US)
B01D 53/32 (2013.01 - KR); **B01D 53/326** (2013.01 - EP US); **B01D 53/86** (2013.01 - KR); **B01D 53/94** (2013.01 - KR); **B01D 53/945** (2013.01 - EP US); **B01J 23/002** (2013.01 - EP US); **B01J 23/10** (2013.01 - KR); **B01J 23/63** (2013.01 - EP KR US); **B01J 35/33** (2024.01 - EP US); **B01J 35/613** (2024.01 - EP US); **B01J 37/0018** (2013.01 - EP US); **B01J 37/03** (2013.01 - KR); **B01J 37/031** (2013.01 - EP US); **C01G 1/00** (2013.01 - EP US); **C01G 55/002** (2013.01 - EP US); **F01N 3/035** (2013.01 - KR); **F01N 3/0892** (2013.01 - EP US); **F01N 3/10** (2013.01 - KR); **F01N 3/28** (2013.01 - US); **B01D 53/86** (2013.01 - EP US); **B01D 2255/1021** (2013.01 - EP US); **B01D 2255/1025** (2013.01 - EP US); **B01D 2255/2065** (2013.01 - EP US); **B01D 2255/20707** (2013.01 - EP US); **B01D 2255/40** (2013.01 - EP US); **B01D 2255/806** (2013.01 - EP US); **B01D 2255/9207** (2013.01 - EP US); **B01D 2258/01** (2013.01 - EP US); **B01J 2523/00** (2013.01 - EP US); **C01P 2002/50** (2013.01 - EP US); **Y02T 10/12** (2013.01 - EP US)

Citation (search report)
See references of WO 2011157963A2

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 2011157963 A2 20111222; **WO 2011157963 A3 20120412**; CN 103153437 A 20130612; CN 103153437 B 20151125; EA 028838 B1 20180131; EA 201291472 A1 20130430; EP 2582449 A2 20130424; FR 2961411 A1 20111223; FR 2961411 B1 20130809; JP 2013530041 A 20130725; KR 20130131215 A 20131203; US 2013142702 A1 20130606; US 8968667 B2 20150303

DOCDB simple family (application)
FR 2011051380 W 20110616; CN 201180029512 A 20110616; EA 201291472 A 20110616; EP 11736124 A 20110616; FR 1054778 A 20100616; JP 2013514774 A 20110616; KR 20127032772 A 20110616; US 201113700528 A 20110616