

Title (en)

IMPROVED MEMBRANE-ELECTRODE ASSEMBLIES AND LONG-LIFE FUEL CELLS

Title (de)

VERBESSERTE MEMBRAN-ELEKTRODENEINHEITEN UND BRENNSTOFFZELLEN MIT HOHER LEBENDAUER

Title (fr)

ENSEMBLES MEMBRANE-ELECTRODES AMELIORES ET PILES A COMBUSTIBLE A DUREE DE VIE PLUS LONGUE

Publication

**EP 1955400 A1 20080813 (DE)**

Application

**EP 06806596 A 20061028**

Priority

- EP 2006010389 W 20061028
- DE 102005052378 A 20051031

Abstract (en)

[origin: DE102005052378A1] A method (M1) for the production of high-molecular weight polymers with phosphonic acid groups (A) by radical polymerisation of a composition (I) containing at least 80.0 wt.% ethylenically-unsaturated compounds (II), in which composition (I) contains at least one monomer (III) with phosphonic acid groups. Independent claims are included for (1) a method (M2) for the production of high-molecular weight polymers with sulfonic acid groups (A) by radical polymerisation of a composition (I) as above which contains at least one monomer (IV) with sulfonic acid groups; (2) polymers (A) obtained by M1 or M2, with a degree of polymerisation (weight-average) of more than 300; (3) compositions containing (A) and a different polymer (B); (4) membrane-electrode units (MEU) comprising two electrodes in contact with catalyst layers and separated by a polymer-electrolyte-membrane containing (A); and (5) fuel cells with at least one MEU as above.

IPC 8 full level

**H01M 8/10** (2006.01); **C08J 5/22** (2006.01)

CPC (source: EP KR US)

**C08F 30/02** (2013.01 - EP US); **C08F 130/02** (2013.01 - EP US); **C08F 230/02** (2013.01 - EP US); **C08J 5/22** (2013.01 - KR);  
**H01M 4/86** (2013.01 - KR); **H01M 8/10** (2013.01 - KR); **H01M 8/1023** (2013.01 - EP US); **H01M 8/1039** (2013.01 - EP US);  
**H01M 8/1048** (2013.01 - EP US); **H01M 8/1072** (2013.01 - EP US); **H01M 8/1081** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP);  
**Y02P 70/50** (2015.11 - EP US)

Citation (search report)

See references of WO 2007051570A1

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 NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**DE 102005052378 A1 20070503**; CA 2627168 A1 20070510; CN 101300708 A 20081105; CN 101300708 B 20101229;  
EP 1955400 A1 20080813; JP 2009513756 A 20090402; KR 20080063353 A 20080703; RU 2008121760 A 20091210;  
US 2009098430 A1 20090416; WO 2007051570 A1 20070510

DOCDB simple family (application)

**DE 102005052378 A 20051031**; CA 2627168 A 20061028; CN 200680040756 A 20061028; EP 06806596 A 20061028;  
EP 2006010389 W 20061028; JP 2008537012 A 20061028; KR 20087009652 A 20080422; RU 2008121760 A 20061028;  
US 9202306 A 20061028