

Title (en)

FILM-FORMING METAL SOLUTION AND METAL FILM-FORMING METHOD

Title (de)

FILMBILDENDE METALLLÖSUNG UND METALLFILMBILDUNGSVERFAHREN

Title (fr)

SOLUTION DE MÉTAL FILMOGÈNE ET PROCÉDÉ DE FORMATION DE FILM MÉTALLIQUE

Publication

**EP 2977488 A1 20160127 (EN)**

Application

**EP 15177944 A 20150722**

Priority

JP 2014148867 A 20140722

Abstract (en)

A film-forming metal solution for supplying metal ions to a solid electrolyte membrane in film formation is provided. In the film formation, the solid electrolyte membrane is disposed between an anode and a substrate as a cathode, and the solid electrolyte membrane is brought into contact with the substrate and a voltage is placed between the anode and the substrate to precipitate a metal on a surface of the substrate from the metal ions contained in the solid electrolyte membrane, so that a metal film of the metal is formed on the surface of the substrate. The film-forming metal solution contains a solvent, and the metal dissolved in the solvent in an ionic state. A hydrogen ion concentration of the film-forming metal solution is within a range of 0 to 10<sup>-7.85</sup> mol/L at 25°C.

IPC 8 full level

**C25D 3/00** (2006.01); **C25D 3/02** (2006.01); **C25D 5/08** (2006.01)

CPC (source: EP US)

**C25D 3/00** (2013.01 - EP US); **C25D 3/02** (2013.01 - EP US); **C25D 3/12** (2013.01 - EP US); **C25D 5/08** (2013.01 - EP US); **C25D 5/627** (2020.08 - EP US)

Citation (applicant)

- JP 2010037622 A 20100218 - NIPPON MINING CO
- WO 2013125643 A1 20130829 - TOYOTA MOTOR CO LTD [JP], et al

Citation (search report)

- [X] JP 2012219362 A 20121112 - TOYOTA MOTOR CORP
- [X] GB 503956 A 19390411 - DEGUSSA
- [X] CN 1772950 A 20060517 - GUILIN POLYTECHNIC COLLEGE [CN]

Cited by

EP3378974A1

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)

**EP 2977488 A1 20160127**; BR 102015017213 A2 20160126; CN 105274584 A 20160127; JP 2016023338 A 20160208; JP 6065886 B2 20170125; KR 20160011594 A 20160201; RU 2015128877 A 20170123; RU 2614655 C2 20170328; US 2016024675 A1 20160128

DOCDB simple family (application)

**EP 15177944 A 20150722**; BR 102015017213 A 20150717; CN 201510426952 A 20150720; JP 2014148867 A 20140722; KR 20150102888 A 20150721; RU 2015128877 A 20150716; US 201514805721 A 20150722