

Title (en)

REPLENISHING COMPOSITIONS AND METHODS OF REPLENISHING PRETREATMENT COMPOSITIONS

Title (de)

REGENERIERUNGSZUSAMMENSETZUNGEN UND VERFAHREN ZUR REGENERIERUNG VON  
VORBEHANDLUNGSZUSAMMENSETZUNGEN

Title (fr)

COMPOSITIONS DE RÉGÉNÉRATEUR ET PROCÉDÉS DE RÉGÉNÉRATION DE COMPOSITIONS DE PRÉTRAITEMENT

Publication

**EP 2817435 A1 20141231 (EN)**

Application

**EP 13708018 A 20130222**

Priority

- US 201213402951 A 20120223
- US 2013027225 W 20130222

Abstract (en)

[origin: WO2013126632A1] Disclosed are replenisher compositions and methods of replenishing pretreatment compositions. The methods include adding a replenisher composition to a pretreatment composition wherein the replenisher composition includes (a) a zirconium complex and also optionally includes: (b) a dissolved complex metal fluoride ion wherein the metal ion comprises a Group IIIA metal, Group IVA metal, Group IVB metal, or combinations thereof; (c) a component comprising an oxide, hydroxide, or carbonate of Group IIIA, Group IVA, Group IVB metals; or combinations thereof; and/or (d) a dissolved metal ion comprising a Group IB metal, Group IIB metal, Group VIIB metal, Group VIII metal, Lanthanide Series metal, or combinations thereof.

IPC 8 full level

**C23C 22/34** (2006.01); **C23C 22/48** (2006.01); **C23C 22/86** (2006.01)

CPC (source: EP)

**C23C 22/34** (2013.01); **C23C 22/48** (2013.01); **C23C 22/86** (2013.01)

Citation (search report)

See references of WO 2013126632A1

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)

**WO 2013126632 A1 20130829**; CA 2864754 A1 20130829; CA 2864754 C 20160816; CN 104145045 A 20141112; CN 104145045 B 20180302; EP 2817435 A1 20141231; EP 2817435 B1 20160217; ES 2564283 T3 20160321; HK 1198660 A1 20150522; HU E027975 T2 20161128; IN 7065DEN2014 A 20150410; KR 101664637 B1 20161010; KR 20140119762 A 20141010; MX 2014010231 A 20141112; PL 2817435 T3 20160831; RU 2014138258 A 20160410

DOCDB simple family (application)

**US 2013027225 W 20130222**; CA 2864754 A 20130222; CN 201380010516 A 20130222; EP 13708018 A 20130222; ES 13708018 T 20130222; HK 14112118 A 20141202; HU E13708018 A 20130222; IN 7065DEN2014 A 20140822; KR 20147023548 A 20130222; MX 2014010231 A 20130222; PL 13708018 T 20130222; RU 2014138258 A 20130222