

Title (en)
PROCESS FOR ION EXCHANGE ON ZEOLITES

Title (de)
VERFAHREN ZUM IONENAUSTAUSCH MIT ZEOLITHEN

Title (fr)
PROCÉDÉ POUR L'ÉCHANGE D'IONS SUR DES ZÉOLITES

Publication
EP 2780285 A1 20140924 (EN)

Application
EP 12849861 A 20121107

Priority
• EP 11189758 A 20111118
• IB 2012056206 W 20121107
• EP 12849861 A 20121107

Abstract (en)
[origin: WO2013072809A1] The present invention relates to an improved process for exchanging alkali metal or alkaline earth metal ions in zeolites for ammonium ions. For this exchange, aqueous solutions of ammonium salts, for example ammonium sulfate, ammonium nitrate or ammonium chloride, are currently being used. The resulting "ammonium zeolites" are calcined to convert them, with release of ammonia, to the H form of the zeolites suitable as a catalyst. It is proposed in accordance with the invention to use ammonium carbonate instead of the ammonium compounds mentioned. Since excess ammonium carbonate, in contrast to the nitrates, sulfates or chlorides, can be recycled in the form of carbon dioxide and ammonia, the amount of salt which has to be discharged is lowered significantly.

IPC 8 full level
C01B 39/02 (2006.01)

CPC (source: CN EP)
C01B 39/026 (2013.01 - CN EP)

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 2013072809 A1 20130523; BR 112014011299 A2 20170425; CN 103946159 A 20140723; CN 107021503 A 20170808;
EP 2780285 A1 20140924; EP 2780285 A4 20150819; IN 3736CHN2014 A 20150904; JP 2014533649 A 20141215;
KR 20140094009 A 20140729; ZA 201404333 B 20150826

DOCDB simple family (application)
IB 2012056206 W 20121107; BR 112014011299 A 20121107; CN 201280056376 A 20121107; CN 201710061479 A 20121107;
EP 12849861 A 20121107; IN 3736CHN2014 A 20140516; JP 2014541781 A 20121107; KR 20147016478 A 20121107;
ZA 201404333 A 20140613