

Title (en)

MOLECULAR SIEVE CATALYST COMPOSITIONS, CATALYST COMPOSITES, SYSTEMS, AND METHODS

Title (de)

MOLEKULARSIEBKATALYSATORZUSAMMENSETZUNGEN, KATALYSATORVERBUNDSTOFFE, SYSTEME UND VERFAHREN

Title (fr)

COMPOSITIONS DE CATALYSEUR À TAMIS MOLÉCULAIRE, COMPOSITES DE CATALYSEUR, SYSTÈMES, ET PROCÉDÉS

Publication

EP 3157672 A4 20180404 (EN)

Application

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Priority

- US 201462013847 P 20140618
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- US 201514687097 A 20150415
- US 2015036243 W 20150617

Abstract (en)

[origin: WO2015195819A1] Described is a selective catalytic reduction catalyst comprising a zeolitic framework material of silicon and aluminum atoms, wherein a fraction of the silicon atoms are isomorphously substituted with a tetravalent metal. The catalyst can include a promoter metal such that the catalyst effectively promotes the reaction of ammonia with nitrogen oxides to form nitrogen and H₂O selectively over a temperature range of 150 to 650 °C. In another aspect, described is a selective catalytic reduction composite comprising an SCR catalyst material and an ammonia storage material comprising a transition metal having an oxidation state of IV. The SCR catalyst material promotes the reaction of ammonia with nitrogen oxides to form nitrogen and H₂O selectively over a temperature range of 150 °C to 600 °C, and the SCR catalyst material is effective to store ammonia at temperatures of 400 °C and above. A method for selectively reducing nitrogen oxides, and a method for simultaneously selectively reducing nitrogen oxide and storing ammonia are also described. Additionally, an exhaust gas treatment system is also described.

IPC 8 full level

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CPC (source: EP KR RU)

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Citation (search report)

- [X] WO 2011084218 A2 20110714 - PQ CORP [US], et al
- [XI] WO 2009141324 A1 20091126 - BASF SE [DE], et al
- [X] US 2013052125 A1 20130228 - MOINI AHMAD [US], et al
- [A] DE 102010055680 A1 20120628 - SUED CHEMIE AG [DE]
- See also references of WO 2015195809A1

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