

Title (en)

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

Title (de)

MOLEKULARSIEBKATALYSATORZUSAMMENSETZUNGEN, KATALYTISCHE VERBUNDWERKSTOFFE, SYSTEME UND VERFAHREN

Title (fr)

COMPOSITIONS CATALYTIQUES À TAMIS MOLÉCULAIRE, COMPOSITES CATALYTIQUES, SYSTÈMES ET PROCÉDÉS

Publication

**EP 3157671 A4 20180214 (EN)**

Application

**EP 15808974 A 20150617**

Priority

- US 201462013847 P 20140618
- US 201462081243 P 20141118
- US 201514687097 A 20150415
- US 2015036255 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 H<sub>2</sub>O 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 H<sub>2</sub>O 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

**B01J 29/89** (2006.01); **B01D 53/94** (2006.01); **B01J 29/06** (2006.01); **B01J 29/16** (2006.01); **B01J 29/20** (2006.01); **B01J 37/02** (2006.01)

CPC (source: EP KR RU)

**B01D 53/9418** (2013.01 - EP RU); **B01D 53/9436** (2013.01 - EP RU); **B01J 29/763** (2013.01 - EP KR RU); **B01J 29/89** (2013.01 - EP RU); **B01J 35/19** (2024.01 - RU); **B01J 35/30** (2024.01 - EP KR RU); **B01J 35/40** (2024.01 - EP RU); **B01J 35/56** (2024.01 - EP KR RU); **B01J 37/0215** (2013.01 - EP KR RU); **B01J 37/0246** (2013.01 - EP RU); **B01D 2251/2062** (2013.01 - EP KR); **B01D 2251/2067** (2013.01 - EP KR); **B01D 2255/104** (2013.01 - EP KR); **B01D 2255/2063** (2013.01 - EP KR); **B01D 2255/2065** (2013.01 - EP KR); **B01D 2255/20707** (2013.01 - EP KR); **B01D 2255/20715** (2013.01 - EP KR); **B01D 2255/20723** (2013.01 - EP); **B01D 2255/2073** (2013.01 - EP); **B01D 2255/20738** (2013.01 - EP); **B01D 2255/20746** (2013.01 - EP); **B01D 2255/20753** (2013.01 - EP); **B01D 2255/20761** (2013.01 - EP); **B01D 2255/50** (2013.01 - EP); **B01D 2255/911** (2013.01 - EP); **B01J 35/19** (2024.01 - EP); **B01J 2229/183** (2013.01 - EP); **B01J 2229/186** (2013.01 - EP); **Y02A 50/20** (2018.01 - EP); **Y02T 10/12** (2013.01 - EP)

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- [XAI] WO 9629140 A1 19960926 - OSAKA GAS CO LTD [JP], et al
- [XII] US 2013323164 A1 20131205 - FEYEN MATHIAS [DE], et al
- [A] EINAR ANDRÉ EILERTSEN ET AL: "Synthesis of Titanium Chabazite: A New Shape Selective Oxidation Catalyst with Small Pore Openings and Application in the Production of Methyl Formate from Methanol", CHEMCATCHEM, vol. 3, no. 12, 28 September 2011 (2011-09-28), pages 1869 - 1871, XP055028197, ISSN: 1867-3880, DOI: 10.1002/cctc.201100281
- See also references of WO 2015195819A1

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