Title (en)
FUEL ADDITIVE CONTAINING LATTICE ENGINEERED CERIUM DIOXIDE NANOPARTICLES

Title (de)
BRENNSTOFFADDITIV, ENTHALTEND NANOPARTIKEL AUS GITTERTECHNISCH VERÄNDERTEM CERDIOXID

Title (fr)
ADDITIF POUR CARBURANT CONTENANT DES NANOPARTICULES DE DIOXYDE DE CÉRIUM MODIFIÉ EN TREILLAGE

Publication
EP 2379221 A4 20130515 (EN)

Application
EP 08879024 A 20081217

Priority
US 2008087133 W 20081217

Abstract (en)
[origin: WO2010071641A1] A process for making cerium dioxide nanoparticles containing at least one transition metal (M) utilizing a suspension of cerium hydroxide nanoparticles prepared by mechanical shearing of an aqueous mixture containing an oxidant in an amount effective to enable oxidation of cerous ion to eerie ion, thereby forming a product stream that contains transition metal-containing cerium dioxide nanoparticles, Ce1-xMxO2, wherein "x" has a value from about 0.3 to about 0.8. The nanoparticles thus obtained have a cubic fluorite structure, a mean hydrodynamic diameter in the range of about 1 nm to about 10 nm, and a geometric diameter of less than about 4 run. The transition metal-containing crystalline cerium dioxide nanoparticles can be used to prepare a dispersion of the particles in a nonpolar medium.

IPC 8 full level
B01J 23/00 (2006.01); **B01J 23/10** (2006.01); **B01J 23/22** (2006.01); **B01J 23/24** (2006.01); **B01J 23/34** (2006.01); **B01J 23/72** (2006.01); **B01J 23/74** (2006.01); **B01J 23/745** (2006.01); **B01J 35/00** (2006.01); **B82Y 30/00** (2011.01); **C01F 17/235** (2020.01); **C01G 3/00** (2006.01); **C01G 25/00** (2006.01); **C01G 49/00** (2006.01); **C09K 23/00** (2022.01); **C10L 1/10** (2006.01); **C10L 1/12** (2006.01); **C10L 10/00** (2006.01); **C10L 10/08** (2006.01); **C10M 125/10** (2006.01)

CPC (source: EP KR US)
B01J 23/002 (2013.01 - EP); **B01J 23/10** (2013.01 - EP KR); **B01J 23/22** (2013.01 - EP); **B01J 23/24** (2013.01 - EP); **B01J 23/34** (2013.01 - EP); **B01J 23/72** (2013.01 - EP); **B01J 23/74** (2013.01 - EP); **B01J 23/745** (2013.01 - EP); **B01J 35/23** (2024.01 - EP US); **B82Y 30/00** (2013.01 - EP); **B82Y 40/00** (2013.01 - KR); **C01F 17/10** (2020.01 - KR); **C01F 17/235** (2020.01 - EP KR US); **C01F 17/32** (2020.01 - EP); **C01G 3/00** (2013.01 - EP); **C01G 25/00** (2013.01 - EP); **C01G 49/0054** (2013.01 - EP); **C01G 49/009** (2013.01 - EP); **C08K 5/101** (2013.01 - KR); **C10L 1/10** (2013.01 - EP); **C10L 1/1233** (2013.01 - KR); **C10L 10/00** (2013.01 - EP); **C10L 10/08** (2013.01 - EP); **C10M 125/10** (2013.01 - EP); B01J 37/03 (2013.01 - EP); B01J 2523/00 (2013.01 - EP); C01P 2002/30 (2013.01 - EP); C01P 2002/52 (2013.01 - EP); C01P 2002/70 (2013.01 - EP); C01P 2002/72 (2013.01 - EP); C01P 2004/04 (2013.01 - EP); C01P 2004/51 (2013.01 - EP); C01P 2004/64 (2013.01 - EP KR); C10L 1/1233 (2013.01 - EP); C10L 1/125 (2013.01 - EP); C10L 1/1608 (2013.01 - EP); C10L 1/1616 (2013.01 - EP); C10L 1/1824 (2013.01 - EP); C10L 1/1852 (2013.01 - EP); C10L 1/1881 (2013.01 - EP); C10L 1/1883 (2013.01 - EP); C10L 1/2222 (2013.01 - EP); C10N 2010/06 (2013.01 - EP); C10N 2020/06 (2013.01 - EP); C10N 2030/06 (2013.01 - EP); C10N 2040/25 (2013.01 - EP); C10N 2040/252 (2020.05 - EP)

C-Set (source: EP)
1. B01J 2523/00 + B01J 2523/3712 + B01J 2523/48
2. B01J 2523/00 + B01J 2523/17 + B01J 2523/3712
3. B01J 2523/00 + B01J 2523/3712 + B01J 2523/48 + B01J 2523/842
4. B01J 2523/00 + B01J 2523/3712 + B01J 2523/842

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[X] WO 2008030815 A2 20080313 - CERION TECHNOLOGIES INC [US], et al

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US 2008087133 W 20081217; AU 2008365234 A 20081217; BR PI0823310 A 20081217; CA 2747547 A 20081217; CN 200880132663 A 20081217; EP 08879024 A 20081217; JP 2011542092 A 20081217; KR 20117016496 A 20081217; MX 2011006461 A 20081217; RU 2011129305 A 20081217