

Title (en)

SPHERICAL COMPOUND COMPRISING HETEROPOLYANIONS WITHIN A MESOSTRUCTURED OXIDIC MATRIX AND THE USE THEREOF AS A CATALYST IN HYDROCARBON REFINING PROCESS

Title (de)

SPHAERISCHES MATERIAL ENTHALTEND HETEROPOLYANIONEN IN EINER MESOSTRUKTURIERTEN OXIDMATRIX UND DESSEN VERWENDUNG ALS KATALYSATOR IN VERFAHREN ZUM RAFFINIEREN VON KOHLENWASSERSTOFFEN

Title (fr)

MATERIAU SPHERIQUE A BASE D'HETEROPOLYANIONS PIEGES DANS UNE MATRICE OXYDE MESOSTRUCTUREE ET SON UTILISATION COMME CATALYSEUR DANS LES PROCEDES DU RAFFINAGE D'HYDROCARBURES

Publication

**EP 2654946 A1 20131030 (FR)**

Application

**EP 11808894 A 20111215**

Priority

- FR 1005030 A 20101222
- FR 2011000654 W 20111215

Abstract (en)

[origin: WO2012085355A1] An inorganic material is described consisting of at least two elementary spherical particles, each of said spherical particles comprising metallic particles in the form of polyoxometalate of formula (X<sub>x</sub>M<sub>m</sub>O<sub>y</sub>H<sub>h</sub>)<sub>q</sub>- where H is hydrogen, O is oxygen, X is an element chosen from phosphorus, silicon, boron, nickel and cobalt and M is one or more elements chosen from vanadium, niobium, tantalum, molybdenum, tungsten, iron, copper, zinc, cobalt and nickel, x being equal to 0, 1, 2 or 4, m being equal to 5, 6, 7, 8, 9, 10, 11, 12 and 18, y being between 17 and 72, h being between 0 and 12 and q being between 1 and 20 (y and q being integers). Said metallic particles are present within a mesostructured matrix based on an oxide of an element Y chosen from the group consisting of silicon, aluminium, titanium, tungsten, zirconium, gallium, germanium, tin, antimony, lead, vanadium, iron, manganese, hafnium, niobium, tantalum, yttrium, cerium, gadolinium, europium and neodymium and the mixture of at least two of these elements. Said matrix has pores with a diameter between 1.5 and 50 nm and amorphous walls with a thickness between 1 and 30 nm, said elementary spherical particles having a maximum diameter of 200 microns.

IPC 8 full level

**B01J 21/12** (2006.01); **B01J 23/20** (2006.01); **B01J 23/24** (2006.01); **B01J 23/882** (2006.01); **B01J 23/883** (2006.01); **B01J 27/188** (2006.01); **B01J 35/00** (2006.01); **B01J 35/10** (2006.01); **B01J 37/00** (2006.01); **C01B 37/00** (2006.01); **C10G 3/00** (2006.01); **C10G 45/04** (2006.01); **C10G 47/12** (2006.01)

CPC (source: EP US)

**B01J 23/882** (2013.01 - US); **B01J 27/186** (2013.01 - EP US); **B01J 27/188** (2013.01 - EP US); **B01J 27/19** (2013.01 - EP US); **B01J 27/199** (2013.01 - US); **B01J 29/0333** (2013.01 - EP US); **B01J 29/0341** (2013.01 - EP US); **B01J 29/041** (2013.01 - EP US); **B01J 29/044** (2013.01 - EP US); **B01J 29/045** (2013.01 - EP US); **B01J 35/30** (2024.01 - EP US); **B01J 35/393** (2024.01 - EP US); **B01J 35/40** (2024.01 - EP US); **B01J 35/615** (2024.01 - EP US); **B01J 35/635** (2024.01 - EP US); **B01J 35/643** (2024.01 - EP US); **B01J 35/647** (2024.01 - EP US); **B01J 37/0045** (2013.01 - EP US); **B01J 37/033** (2013.01 - EP US); **B01J 37/10** (2013.01 - EP US); **B01J 37/20** (2013.01 - EP US); **C01B 37/00** (2013.01 - EP US); **C01B 37/005** (2013.01 - EP US); **C01B 37/02** (2013.01 - EP US); **C01B 39/04** (2013.01 - EP US); **C01B 39/06** (2013.01 - EP US); **C10G 3/45** (2013.01 - EP US); **C10G 3/46** (2013.01 - EP US); **C10G 3/48** (2013.01 - EP US); **C10G 3/49** (2013.01 - EP US); **C10G 3/50** (2013.01 - EP US); **C10G 45/06** (2013.01 - EP US); **C10G 47/12** (2013.01 - EP US); **C10L 1/04** (2013.01 - EP US); **C10L 1/06** (2013.01 - EP US); **C10L 1/08** (2013.01 - EP US); **C10G 2300/1011** (2013.01 - EP US); **C10G 2300/104** (2013.01 - EP US); **C10G 2300/1044** (2013.01 - EP US); **C10G 2300/1055** (2013.01 - EP US); **C10G 2300/202** (2013.01 - EP US); **C10G 2300/301** (2013.01 - EP US); **C10G 2400/02** (2013.01 - EP US); **C10G 2400/04** (2013.01 - EP US); **C10G 2400/06** (2013.01 - EP US); **Y02P 30/00** (2015.11 - EP US); **Y02P 30/20** (2015.11 - EP US)

Citation (search report)

See references of WO 2012085355A1

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 2012085355 A1 20120628**; CN 103501894 A 20140108; CN 103501894 B 20160810; EP 2654946 A1 20131030; FR 2969509 A1 20120629; FR 2969509 B1 20121228; JP 2014510615 A 20140501; JP 5860900 B2 20160216; US 2014005031 A1 20140102; ZA 201304071 B 20140226

DOCDB simple family (application)

**FR 2011000654 W 20111215**; CN 201180068240 A 20111215; EP 11808894 A 20111215; FR 1005030 A 20101222; JP 2013545453 A 20111215; US 201113995508 A 20111215; ZA 201304071 A 20130604