Title (en)

PROCESS FOR PRODUCING NANOPARTICLES AND THEIR USE IN THE PRODUCTION OF HIGH-TEMPERATURE SUPERCONDUCTORS

Title (de)

VERFAHREN ZUR HERSTELLUNG VON NANOTEILCHEN MITTELS EINER NICHT-WÄSSRIGE MIKROEMULSION SOWEI DEREN VERWENDUNG BEI DER HERSTELLUNG VON HOCHTEMPERATURSUPRALEITERN

Title (fr)

PROCÉDÉ DE PRODUCTION DE NANOPARTICULES AINSI QUE LEUR UTILISATION POUR LA PRODUCTION DE SUPRACONDUCTEURS À HAUTE TEMPÉRATURE

Publication

EP 2828220 A2 20150128 (DE)

Application

EP 13710432 A 20130320

Priority

- EP 12160545 A 20120321
- EP 2013055794 W 20130320
- EP 13710432 A 20130320

Abstract (en)

[origin: WO2013139843A2] Known processes for producing nanoparticles of compounds of the transition metals Zr, Ti, Ta, rare earths (RE), Mn and Fe via microemulsions lead to products which contain impurities from the starting materials, in particular water, and these make further use of the nanoparticles, for example in high-temperature superconductors (HTSC), difficult. It is proposed that the nanoparticles be produced via water-free microemulsions comprising an outer phase composed of a nonpolar solvent and an inner phase composed of a polar water-free solvent. The nanoparticles obtained have good monodispersity and can be used in the production of REBa2Cu3O7 superconductors by incorporation into the precursor coating solution.

IPC 8 full level

C04B 35/45 (2006.01); **H10N 60/85** (2023.01); **C01B 13/32** (2006.01); **C01B 13/36** (2006.01); **C01F 17/235** (2020.01); **C04B 35/626** (2006.01); **C04B 35/632** (2006.01); **H10N 60/01** (2023.01)

CPC (source: EP US)

B82Y 30/00 (2013.01 - EP US); **C01B 13/328** (2013.01 - EP US); **C01F 17/235** (2020.01 - EP US); **C01G 1/02** (2013.01 - EP US); **C01G 3/006** (2013.01 - EP US); **C01G 25/02** (2013.01 - EP US); **C01G 27/02** (2013.01 - EP US); **C04B 35/4508** (2013.01 - EP US); **C04B 35/6264** (2013.01 - EP US); **C04B 35/632** (2013.01 - EP US); **H10N 60/0324** (2023.02 - EP US); **H10N 60/857** (2023.02 - US); C01P 2004/52 (2013.01 - EP US); C01P 2004/64 (2013.01 - EP US); C01P 2006/40 (2013.01 - EP US); C01P 2006/82 (2013.01 - EP US); C04B 2235/3215 (2013.01 - EP US); C04B 2235/3225 (2013.01 - EP US); C04B 2235/3229 (2013.01 - EP US); C04B 2235/443 (2013.01 - EP US); C04B 2235/444 (2013.01 - EP US); C04B 2235/445 (2013.01 - EP US); C04B 2235/449 (2013.01 - EP US); C04B 2235/5454 (2013.01 - EP US)

Citation (examination)

- US 5112802 A 19920512 - TAKANO SATOSHI [JP], et al
- EP 0280292 A2 19880831 - SUMITOMO ELECTRIC INDUSTRIES [JP]
- CHHABRA VISHAL ET AL: "Nanophase BaFe12O19 synthesized from a nonaqueous microemulsion with Ba- and Fe-containing surfactants", JOURNAL OF MATERIALS RESEARCH, MATERIALS RESEARCH SOCIETY, WARRENDALE, PA, US, vol. 10, no. 11, 1 November 1995 (1995-11-01), pages 2689 - 2692, XP008161844, ISSN: 0884-2914, [retrieved on 20110303], DOI: 10.1557/JMR.1995.2689
- See also references of WO 2013139843A2

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2013139843 A2 20130926; **WO 2013139843 A3 20140320**; CA 2867942 A1 20130926; CN 104203869 A 20141210; EP 2828220 A2 20150128; JP 2015520093 A 20150716; KR 20140143154 A 20141215; US 2015072863 A1 20150312; US 9257628 B2 20160209

DOCDB simple family (application)

EP 2013055794 W 20130320; CA 2867942 A 20130320; CN 201380014925 A 20130320; EP 13710432 A 20130320; JP 2015500904 A 20130320; KR 20147026057 A 20130320; US 201314386534 A 20130320