

Title (en)
METHOD FOR THE PRODUCTION OF SPHERICAL COMBUSTIBLE OR FERTILE MATERIAL PARTICLES

Title (de)
VERFAHREN ZUR HERSTELLUNG VON KUGELFÖRMIGEN BRENN- ODER BRUTSTOFFPARTIKELN

Title (fr)
PROCÉDÉ DE PRODUCTION DE PARTICULES SPHÉRIQUES DE COMBUSTIBLE OU DE MATIÈRE FERTILE

Publication
EP 2160358 A1 20100310 (DE)

Application
EP 08759783 A 20080520

Priority
• EP 2008056169 W 20080520
• DE 102007024536 A 20070524
• DE 102007037473 A 20070808

Abstract (en)
[origin: WO2008142072A1] The invention relates to a method for the production of spherical combustible or fertile material particles from an oxide of the group of the heavy metals uranium, thorium, plutonium, or mixtures thereof. For this purpose, the process steps of producing a base solution of the nitrates of the heavy metal(s), adding at least one first reagent in order to adjust the viscosity of the solution, dropping the solution to form microspheres, at least superficially solidifying the microspheres in an atmosphere containing ammonia, collecting the microspheres in a solution containing ammonia, and subsequent washing, drying and thermal treatment are carried out, wherein urea and/or ammonium carbonate and/or ammonium hydrogen carbonate and/or ammonium cyanate and/or biuret are added to the base solution before adding the first reagent, and the solution thus prepared is heated to a temperature T at $80^\circ = T < T_{\text{SUB}} < T_{\text{SUB}} = \text{boiling temperature of the solution}$, and is maintained at said temperature over a time period t where $2 \text{ h} = t = 8 \text{ h}$.

IPC 8 full level
C01G 43/025 (2006.01); **B01J 2/06** (2006.01); **B01J 2/08** (2006.01); **C01F 15/00** (2006.01); **C01G 56/00** (2006.01); **G21C 3/42** (2006.01); **G21C 3/62** (2006.01)

CPC (source: EP KR US)
B01J 2/06 (2013.01 - EP KR US); **C01F 15/00** (2013.01 - EP KR US); **C01G 43/025** (2013.01 - EP KR US); **C01G 56/005** (2013.01 - EP US); **G21C 3/42** (2013.01 - EP US); **G21C 3/62** (2013.01 - EP KR US); **G21C 3/623** (2013.01 - EP US); **Y02E 30/30** (2013.01 - EP US)

Citation (search report)
See references of WO 2008142072A1

Cited by
US11612847B2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
DE 102007037473 A1 20081127; EP 2160358 A1 20100310; JP 2010527884 A 20100819; JP 5657381 B2 20150121; KR 101378729 B1 20140327; KR 20100021486 A 20100224; RU 2009148048 A 20110627; RU 2459766 C2 20120827; US 2010077657 A1 20100401; US 8535579 B2 20130917; WO 2008142072 A1 20081127; ZA 200909029 B 20101124

DOCDB simple family (application)
DE 102007037473 A 20070808; EP 08759783 A 20080520; EP 2008056169 W 20080520; JP 2010508824 A 20080520; KR 20097026931 A 20080520; RU 2009148048 A 20080520; US 60050908 A 20080520; ZA 200909029 A 20091218