Title (en)

METHOD FOR PRODUCING SEED CRYSTAL OF COBALT POWDER

Title (de)

VERFAHREN ZUM HERSTELLEN EINES IMPFKRISTALLS AUS KOBALTPULVER

Title (fr)

PROCÉDÉ DE PRODUCTION DE CRISTAL DE GERME DE COBALT

Publication

EP 3369499 A4 20190320 (EN)

Application

EP 16859622 A 20161017

Priority

- JP 2015210258 A 20151026
- JP 2016080690 W 20161017

Abstract (en)

[origin: EP3369499A1] Provided is a production method for obtaining cobalt powder efficiently by the way for increasing reduction reaction efficiency to produce the cobalt powder from a solution containing a cobalt ammine sulfate complex. The method for producing seed crystals of cobalt powder, sequentially including: a complexing step of adding ammonia, an ammonia compound solution, or both of ammonia and an ammonia compound solution to a cobalt sulfate solution to obtain a solution containing a cobalt ammine sulfate complex; a mixing step of adding a solid to the solution containing the cobalt ammine sulfate complex obtained in the complexing step to form a mixture slurry; a reduction and precipitation step of charging a reaction vessel with the mixture slurry obtained in the mixing step, blowing hydrogen gas into the reaction vessel and reducing cobalt contained in the mixture slurry to obtain a cobalt powder slurry containing cobalt precipitate with a cobalt component precipitated on the surface of the solid as cobalt powder; and a solid-liquid separation step of performing solid-liquid separation on the cobalt powder slurry obtained in the reduction and precipitation step to obtain cobalt precipitate and a solution after reduction.

IPC 8 full level

B22F 9/26 (2006.01); **C22B 3/08** (2006.01); **C22B 23/00** (2006.01)

CPC (source: EP US)

B22F 9/26 (2013.01 - EP US); B22F 2301/15 (2013.01 - US); B22F 2304/10 (2013.01 - US); B22F 2999/00 (2013.01 - EP US); C22C 1/0433 (2013.01 - EP US)

C-Set (source: EP US)

B22F 2999/00 + B22F 9/24 + C22C 1/0433

Citation (search report)

- [A] WO 2015122535 A1 20150820 - KOCHI UNIVERSITY NAT UNIVERSITY CORP [JP], et al & EP 3108986 A1 20161228 - KOCHI UNIV NAT UNIV CORP [JP], et al
- [I] NEEDES C R S ET AL: "Kinetics of reduction of cobalt in aqueous ammoniacal ammonium sulphate solutions by hydrogen", 1 January 1975, LEACHING AND REDUCTION IN HYDROMETALLURGY, INSTITUTION OF MINING AND METALLURGY, LONDON, PAGE(S) 97 - 101, ISBN: 978-0-900488-27-6, XP009511058
- [A] W KUNDA ET AL: "THE REDUCTION OF COBALT FROM ITS AQUEOUS AMMINE AMMO- NIUM SULPHATE SYSTEM USING HYDROGEN UNDER PRESSURE", HYDROMETALLURGY, vol. 4, no. 4, 1 January 1979 (1979-01-01), pages 347 - 375, XP055380158
- See references of WO 2017073392A1

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)

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DOCDB simple family (application)

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