

Title (en)  
HIGHLY CRYSTALLINE SILVER POWDER AND METHOD FOR PRODUCTION THEREOF

Title (de)  
HOCHKRISTALLINES SILBERPULVER UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
POUDRE D'ARGENT TRES CRISTALLINE ET PROCEDE DE PRODUCTION DE CETTE POUDRE

Publication  
**EP 1721690 A1 20061115 (EN)**

Application  
**EP 05709726 A 20050204**

Priority  
• JP 2005001660 W 20050204  
• JP 2004034121 A 20040210

Abstract (en)  
An object of the present invention is to provide highly crystalline silver powder which is characterized in fine particles, showing high dispersibility, it's particle size distribution is not excessively sharp but relatively broad and crystallites are large; and a method for producing the same. In order to achieve the object, a method for producing highly crystalline silver powder is characterized in that mixing a first aqueous solution and a second aqueous solution, wherein the first aqueous solution contains silver nitrate, a dispersing agent and nitric acid, and the second solution contains ascorbic acid. For dispersing agent, polyvinylpyrrolidone or gelatin is preferred. Highly crystalline silver powder produced by the above-described method is preferred to be a crystallite diameter of 300 Å or more, an average particle diameter D<sub>50</sub> in the range from 0.5 μm to 10 μm, and a thermal shrinkage rate for the length direction after heating at 700°C in the range from -3% to 3%. For ratio D<sub>90</sub>/D<sub>10</sub> of the silver powder is preferred to be in the range from 2.1 to 5.0.

IPC 8 full level  
**B22F 9/24** (2006.01); **B22F 1/00** (2006.01)

CPC (source: EP KR US)  
**B22F 1/00** (2013.01 - KR); **B22F 1/07** (2022.01 - EP US); **B22F 9/24** (2013.01 - EP KR US); **Y10T 428/12014** (2015.01 - EP US)

Citation (search report)  
See references of WO 2005075133A1

Cited by  
CN102310200A; KR20180075582A; EP3357608A4; US9737878B2; US9950316B2; US9687811B2; US9719727B2; WO2012030771A1; US10828702B2; US11407030B2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1721690 A1 20061115**; CN 1925941 A 20070307; JP 2005226094 A 20050825; JP 4976642 B2 20120718; KR 101215458 B1 20121226; KR 20070018025 A 20070213; TW 200536636 A 20051116; TW I286090 B 20070901; US 2009023007 A1 20090122; WO 2005075133 A1 20050818

DOCDB simple family (application)  
**EP 05709726 A 20050204**; CN 200580006356 A 20050204; JP 2004034121 A 20040210; JP 2005001660 W 20050204; KR 20067018248 A 20060907; TW 94103609 A 20050204; US 58897005 A 20050204