

Title (en)  
METHOD OF MAKING HIGH-PURITY (>99%) MOO2 POWDERS, PRODUCTS MADE FROM MOO2 POWDERS, DEPOSITION OF MOO2 THIN FILMS, AND METHODS OF USING SUCH MATERIAS

Title (de)  
VERFAHREN ZUR HERSTELLUNG VON HOCHREINEN (>99%) MOO2-PULVERN, AUS MOO2-PULVERN HERGESTELLTE PRODUKTE, ABSCHIEDUNG VON DÜNNEN MOO2-FILMEN UND VERFAHREN ZUR VERWENDUNG DERARTIGER MATERIALIEN

Title (fr)  
PROCEDE D'ELABORATION DE POUDRES DE MOO SB 2 /SB , PRODUITS A BASE DE CES POUDRES, DEPOT DE FILMS MINCES DE MOO SB 2 /SB , ET PROCEDES RELATIFS A L'UTILISATION DE TELS MATERIAUX

Publication  
**EP 1648828 A2 20060426 (EN)**

Application  
**EP 04816761 A 20040629**

Priority  
• US 2004020932 W 20040629  
• US 48921703 P 20030722  
• US 54091104 P 20040130

Abstract (en)  
[origin: WO2005040044A2] The invention relates to high purity MoO<sub>2</sub> powder by reduction of ammonium molybdate or molybdenum trioxide using hydrogen as the reducing agent in a rotary or boat furnace. Consolidation of the powder by press/sintering, hot pressing, and/or HIP is used to make discs, slabs, or plates, which are used as sputtering targets. The MoO<sub>2</sub> disc, slab, or plate form is sputtered on a substrate using a suitable sputtering method or other physical means to provide a thin film having a desired film thickness. The thin films have properties such as electrical, optical, surface roughness, and uniformity comparable or superior to those of indium-tin oxide (ITO) and zinc-doped ITO in terms of transparency, conductivity, work function, uniformity, and surface roughness. The MoO<sub>2</sub> and MoO<sub>2</sub> containing thin films can be used in organic light-emitting diodes (OLED), liquid crystal display (LCD), plasma display panel (PDP), field emission display (FED), thin film solar cell, low resistivity ohmic contacts, and other electronic and semiconductor devices.

IPC 1-7  
**C01G 39/02**

IPC 8 full level  
**C01G 39/02** (2006.01); **H01B 1/08** (2006.01); **H01L 51/52** (2006.01); **H05B 33/14** (2006.01); **H01L 33/42** (2010.01)

CPC (source: EP)  
**B82Y 30/00** (2013.01); **C01G 39/02** (2013.01); **H10K 50/813** (2023.02); **C01P 2002/52** (2013.01); **C01P 2004/20** (2013.01); **C01P 2004/61** (2013.01); **C01P 2004/62** (2013.01); **C01P 2004/64** (2013.01); **C01P 2004/86** (2013.01); **C01P 2006/10** (2013.01); **C01P 2006/40** (2013.01); **C01P 2006/80** (2013.01); **H01L 33/42** (2013.01)

Citation (search report)  
See references of WO 2005040044A2

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

DOCDB simple family (publication)  
**WO 2005040044 A2 20050506; WO 2005040044 A3 20051215**; AU 2004284043 A1 20050506; BR PI0412811 A 20060926; CA 2533110 A1 20050506; EP 1648828 A2 20060426; EP 2072469 A2 20090624; IL 172808 A0 20060611; JP 2007500661 A 20070118; RU 2006105325 A 20060727; RU 2396210 C2 20100810

DOCDB simple family (application)  
**US 2004020932 W 20040629**; AU 2004284043 A 20040629; BR PI0412811 A 20040629; CA 2533110 A 20040629; EP 04816761 A 20040629; EP 09151622 A 20040629; IL 17280805 A 20051226; JP 2006521084 A 20040629; RU 2006105325 A 20040629