

(12) International Application Status Report

Received at International Bureau: 11 July 2018 (11.07.2018)

Information valid as of: 11 January 2019 (11.01.2019)

Report generated on: 21 March 2019 (21.03.2019)

(10) Publication number:

WO2019/004288

(43) Publication date:

03 January 2019 (03.01.2019)

(26) Publication language:

Japanese (JA)

(21) Application Number:

PCT/JP2018/024386

(22) Filing Date:

27 June 2018 (27.06.2018)

(25) Filing language:

Japanese (JA)

(31) Priority number(s):

2017-129338 (JP)

(31) Priority date(s):

30 June 2017 (30.06.2017)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

H01M 4/38 (2006.01); **H01M 4/36** (2006.01); **H01M 4/48** (2010.01); **H01M 4/485** (2010.01); **H01M 4/58** (2010.01); **H01M 4/62** (2006.01); **H01M 10/052** (2010.01)

(71) Applicant(s):

MURATA MANUFACTURING CO., LTD. [JP/JP]; 10-1, Higashikotari 1-chome, Nagaokakyo-shi, Kyoto 6178555 (JP) (*for all designated states*)

(72) Inventor(s):

OKADA Shigeto; c/o KYUSHU UNIVERSITY, NATIONAL UNIVERSITY CORPORATION, 6-10-1, Hakozaki, Higashi-ku, Fukuoka-shi, Fukuoka 8128581 (JP)

KITAJOU Ayuko; c/o KYUSHU UNIVERSITY, NATIONAL UNIVERSITY CORPORATION, 6-10-1, Hakozaki, Higashi-ku, Fukuoka-shi, Fukuoka 8128581 (JP)

(74) Agent(s):

HIRAI Yasuo; Daihakata Bldg. 10F, 2-20-1, Hakataekimae, Hakata-ku, Fukuoka-shi, Fukuoka 8120011 (JP)

(54) Title (EN): POSITIVE ELECTRODE ACTIVE MATERIAL FOR NONAQUEOUS SECONDARY BATTERIES, AND NONAQUEOUS SECONDARY BATTERY USING SAME

(54) Title (FR): MATÉRIAU ACTIF D'ÉLECTRODE POSITIVE POUR BATTERIES SECONDAIRES NON AQUEUSES, ET BATTERIE SECONDAIRE NON AQUEUSE L'UTILISANT

(54) Title (JA): 非水系二次電池用の正極活物質、およびそれを用いた非水系二次電池

(57) Abstract:

(EN): Provided is an excellent positive electrode active material for nonaqueous secondary batteries, which exhibits cycle characteristics and rate characteristics higher than ever before. This positive electrode active material for nonaqueous secondary batteries is configured from a metal or metal compound that contains a metal element M^1 which undergoes a conversion reaction and/or a reverse conversion reaction and an amorphous metal oxide of a metal element M^2 (M^2 is at least one metal element selected from the group consisting of V, Cr, Mo, Mn, Ti and Ni).

(FR): La présente invention concerne un excellent matériau actif d'électrode positive pour des batteries secondaires non aqueuses, qui présente des caractéristiques de cycle et des caractéristiques de taux plus élevées qu'auparavant. Ce matériau actif d'électrode positive pour batteries secondaires non aqueuses est configuré à partir d'un métal ou d'un composé métallique qui contient un élément métallique M^1 qui subit une réaction de conversion et/ou une réaction de conversion inverse et un oxyde métallique amorphe d'un élément métallique M^2 (M^2 est au moins un élément métallique choisi parmi le groupe constitué de : V, Cr, Mo, Mn, Ti et Ni).

(JA): 従来よりも高いサイクル特性およびレート特性を発揮する優れた非水系二次電池用の正極活物質を提供する。非水系二次電池用の正極活物質は、コンバージョン反応および / または逆コンバージョン反応を示す金属元素

M¹を含む金属もしくは金属化合物と、金属元素M²の非晶質金属酸化物(M²は、V、Cr、Mo、Mn、Ti、およびNiから成る群から少なくとも1つが選択された金属元素)から構成される。

International search report:

Received at International Bureau: 08 October 2018 (08.10.2018) [JP]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM