

Title (en)

COATED LITHIUM ION RECHARGEABLE BATTERY ACTIVE MATERIALS

Title (de)

BESCHICHTETE AKTIVMATERIALIEN FÜR WIEDERAUFLADBARE LITHIUM-IONEN-BATTERIEN

Title (fr)

MATÉRIAUX ACTIFS DE BATTERIE RECHARGEABLE AU LITHIUM-ION REVÊTUS

Publication

EP 3844831 A4 20220629 (EN)

Application

EP 19856341 A 20190829

Priority

- US 201862725060 P 20180830
- US 2019048768 W 20190829

Abstract (en)

[origin: WO2020047228A1] The disclosure provides a coated positive electrode active material particle including an active material having the general chemical formula $A_xM_yE_z(XO_4)_q$, wherein A is an alkali metal or an alkaline earth metal, M includes cobalt, E is a non-electrochemically active metal, a boron group element, or silicon or any alloys or combinations thereof, X is phosphorus or sulfur or a combination thereof, $0 < x \leq 1$, $y > 0$, $z \geq 0$, $q > 0$, and the relative values of x, y, z, and q are such that the general chemical formula is charge balanced. The coated positive electrode active material particle also includes a coating including Al_2O_3 , ZrO_2 , TiO_2 , ZnO , B_2O_3 , MgO , La_2O_3 , LiF and any combinations thereof or $LiM_1P_2O_4$, where M_1 is Fe, Cr, Mn, Ni, V, or any alloys or combinations thereof.

IPC 8 full level

H01M 4/58 (2010.01); **H01M 4/136** (2010.01); **H01M 4/1397** (2010.01); **H01M 4/36** (2006.01); **H01M 4/62** (2006.01); **H01M 10/04** (2006.01); **H01M 10/0525** (2010.01); **H01M 10/0568** (2010.01); **H01M 10/0569** (2010.01)

CPC (source: EP KR)

H01M 4/136 (2013.01 - EP); **H01M 4/1397** (2013.01 - EP); **H01M 4/366** (2013.01 - EP KR); **H01M 4/5825** (2013.01 - EP KR); **H01M 4/62** (2013.01 - EP KR); **H01M 4/625** (2013.01 - KR); **H01M 10/052** (2013.01 - KR); **H01M 10/0566** (2013.01 - KR); **H01M 10/0569** (2013.01 - KR); **H01M 10/058** (2013.01 - KR); **H01M 4/625** (2013.01 - EP); **H01M 10/0468** (2013.01 - EP KR); **H01M 10/0481** (2013.01 - EP KR); **H01M 10/0525** (2013.01 - EP); **H01M 10/0568** (2013.01 - EP); **H01M 10/0569** (2013.01 - EP); **H01M 2300/0025** (2013.01 - EP); **H01M 2300/0045** (2013.01 - EP KR); **Y02E 60/10** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP)

Citation (search report)

- [IAY] EP 2924785 A1 20150930 - NAT INST OF ADVANCED IND SCIEN [JP], et al
- [YA] CN 107681113 A 20180209 - NINGDE CONTEMPORARY AMPEREX TECH CO LTD
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- [YA] EP 2287947 A1 20110223 - GS YUASA INT LTD [JP]
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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)

WO 2020047228 A1 20200305; CA 3109525 A1 20200305; CN 113169328 A 20210723; EP 3844831 A1 20210707; EP 3844831 A4 20220629; JP 2022522559 A 20220420; JP 2023181319 A 20231221; JP 7443340 B2 20240305; KR 20210062021 A 20210528

DOCDB simple family (application)

US 2019048768 W 20190829; CA 3109525 A 20190829; CN 201980070904 A 20190829; EP 19856341 A 20190829; JP 2021512278 A 20190829; JP 2023183376 A 20231025; KR 20217009263 A 20190829