

根据所选机器学习模型排名 39

锂离子电池 - 负极（锂金属电极除外）

机器排名专利家族数量 67

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文献	机器评分	专利ID 发布日期	细节
1	137 高度相关	CN 109997263 A 09-07-2019 EPO 参考 关注 不相关	标题 NEGATIVE ELECTRODE OF NONAQUEOUS ELECTROLYTE SECONDARY BATTERY, AND NONAQUEOUS ELECTROLYTE SECONDARY BATTERY 非水电解质二次电池负极及非水电解质二次电池 摘要 显示 The present invention provides: a negative electrode of a nonaqueous electrolyte secondary battery, which is able to be produced by a simple aqueous process that places little burden on the environment and does not require a thermosetting treatment or the like; and a nonaqueous electrolyte secondary battery which has an excellent cycle life. A negative electrode of a nonaqueous electrolyte secondary battery, which is provided with a collector and a negative electrode active material layer that is formed on the collector, and which is characterized in that: the negative electrode active material layer contains a carbon-based negative electrode active material, a silicon-based negative electrode active material, a conductive agent and a predetermined carboxy methylcellulose or a salt thereof; the content of the carboxy methylcellulose or a salt thereof is from 4% by mass to 15% by mass (inclusive) relative to the total mass of the negative electrode active material layer; and the content of the silicon-based negative electrode active material relative to the total content of the carbon-based negative electrode active material and the silicon-based negative electrode active material is from 3% by mass to 19% by mass (inclusive).

本发明提供一种非水电解质二次电池负极以及具有优异的循环寿命的非水电解质二次电池，该非水电解质二次电池负极为环境负荷少的水系的配方，且为简易的配方，并且能够利用无需热固化处理等的工序来制造。一种非水电解质二次电池负极，其具备集电体及形成在集电体上的负极活性物质层，该非水电解质二次电池负极的特征在于：上述负极活性物质层含有碳系负极活性物质、硅系负极活性物质、导电剂以及规定的羧甲基纤维素或其盐，相对于所述负极活性物质层的总质量，羧甲基纤维素或其盐的含量为4质量%以上且15质量%以下，相对于所述碳系负极活性物质与硅系负极活性物质的合计含量，硅系负极活性物质的含量为3质量%以上且19质量%以下。

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JP WO2018096838 A1, Pub. Date: 2019-10-17, [EPO 参考](#)
US 2019312258 A1, Pub. Date: 2019-10-10, [EPO 参考](#)
EP 3528325 A1, Pub. Date: 2019-08-21, [EPO 参考](#)
KR 20190083333 A, Pub. Date: 2019-07-11, [EPO 参考](#)
TW 201836194 A, Pub. Date: 2018-10-01, [EPO 参考](#)
WO 2018096838 A1, Pub. Date: 2018-05-31, [EPO 参考](#)

2	92	JP 2019061914 A 18-04-2019 EPO 参考 关注 不相关	标题 NEGATIVE ELECTRODE ACTIVE SUBSTANCE COATING MATERIAL, NEGATIVE ELECTRODE AND SECONDARY BATTERY 負極活物質塗料、負極および二次電池 摘要 显示 To provide a negative electrode active substance coating material which can achieve a low-cost and high-capacity secondary battery superior in battery characteristics, a negative electrode and a secondary battery.SOLUTION: A negative electrode active substance coating material comprises: a negative electrode active substance; a conducting agent; an aqueous binder; water; and a solvent. The solvent has
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a boiling point of 200°C or higher and 300°C or under, and an aqueous solubility of 20 g/L or more. The content of the solvent is 0.1 mass% or more and 10 mass% or less to 100 mass% of the negative electrode active substance coating material.SELECTED DRAWING: None

【課題】低コストで高容量かつ電池特性に優れた二次電池を供することが出来る負極活物質塗料、負極、および二次電池を提供すること。【解決手段】負極活物質、導電剤、水系バインダー、水、および溶媒を含有する負極活物質塗料であって、上記溶媒の沸点が200°C以上300°C以下、かつ水溶解度が20g/L以上であり、上記溶媒の含有量が、負極活物質塗料100質量%に対し0.1質量%以上10質量%以下であることを特徴とする負極活物質塗料【選択図】なし

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TW 201916437 A, Pub. Date: 2019-04-16, [EPO 参考](#)
WO 2019065930 A1, Pub. Date: 2019-04-04, [EPO 参考](#)

3 73 JP 2015023027
A
02-02-2015
[EPO 参考](#)

相关

关注

不相关

标题

BINDING AGENT FOR LITHIUM SECONDARY
BATTERY NEGATIVE ELECTRODE
リチウム二次電池の負極用結着剤

摘要 显示

PROBLEM TO BE SOLVED: To provide a binding agent which is used in forming an electrode layer using silicon solely or a composite thereof as a negative electrode active material, and which can maintain its binding property despite volume expansion and contraction of the active material during charge and discharge.SOLUTION: A binding agent for a lithium secondary battery negative electrode comprises polyurethane water dispersion. The polyurethane water dispersion includes at least a hydrophilic group-

containing polyurethane produced by use of an organic polyisocyanate and a compound having one or more active hydrogen groups. A content of the organic polyisocyanate is 50-80 mass% to the hydrophilic group-containing polyurethane. The compound having one or more active hydrogen groups includes a compound having two or more active hydrogen groups, and a compound having one or more active hydrogen groups and one or more ionic hydrophilic groups. The negative electrode is formed by using a silicon-containing material solely or a composite thereof as a negative electrode active material. The hydrophilic group-containing polyurethane includes an aromatic ring structure or an alicyclic structure, in which a content of the aromatic ring structure or alicyclic structure is 40 mass% or more.

【課題】負極活物質にケイ素を含む物質を単独または複合化した負極層の形成において、充放電時に活物質の体積膨張及び収縮に対して結着性を持続することのできる結着剤を提供する。【解決手段】ポリウレタン水分散体含有リチウム二次電池の負極用結着剤であって、ポリウレタン水分散体が、少なくとも有機ポリイソシアネート及び1以上の活性水素基を有する化合物を用いて得られる親水基含有ポリウレタンを含有し、有機ポリイソシアネートの含有量が、親水基含有ポリウレタンに対して50以上80質量%以下であり、1以上の活性水素基を有する化合物が、2以上の活性水素基を有する化合物及び1以上の活性水素基と1以上のイオン性親水基を有する化合物を含有し、負極活物質にケイ素を含む物質を単独または複合化したものであり、親水基含有ポリウレタンが、芳香環構造または脂環構造を含み、芳香環構造または脂環構造の含有割合が40質量%以上である。【選択図】なし

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关注
不相关

COATING LIQUID, POWER STORAGE DEVICE
ELECTRODE MANUFACTURED USING ELECTRODE
COATING LIQUID COMPOSITION INCLUDING
DISPERSANT FOR ELECTRODE COATING LIQUID,
AND POWER STORAGE DEVICE COMPRISING
POWER STORAGE DEVICE ELECTRODE
MANUFACTURED USING ELECTRODE COATING
LIQUID COMPOSITION INCLUDING DISPERSANT
FOR ELECTRODE COATING LIQUID

電極塗工液用分散剤、該電極塗工液用分散剤を含む
電極塗工液組成物、該電極塗工液組成物を用いて作
製された蓄電デバイス用電極、および該電極を備え
る蓄電デバイス

摘要 显示

Provided is a composition that includes a dispersion stabilizer for an electrode coating liquid for a power storage device, has superior ability to stably disperse an electrode active material and a conductive material, and makes it possible to manufacture a uniform electrode, even when a dispersion device that has weak shear force is used. A dispersant for an electrode coating liquid for a power storage device, the dispersant being characterized by containing cellulose fibers that satisfy (a)-(c). (a) Have a short width number average width of 2-200 nm. (b) Have an aspect ratio of 7.5-250. (c) Include cellulose I crystals that have a crystallinity of 70%-95%.

電極活物質および導電材の分散安定性に優れ、弱いせん断力の分散装置を使用しても均一な電極作製が可能である蓄電デバイスの電極塗工液用分散安定剤を含む組成物を提供すること。下記(a)ないし(c)を満たすセルロース繊維を含有することを特徴とする蓄電デバイスの電極塗工液用分散剤。

(a)短幅の方の数平均幅が2～200nm (b)アスペクト比が7.5以上250以下 (c)セルロースI型結晶を有し、その結晶化度が70%以上95%以下

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JP 2019016457 A, Pub. Date: 2019-01-31, [EPO 参考](#)

5 70 JP 2018156891
A
相关 04-10-2018
[EPO 参考](#)
 关注
 不相关

标题
NEGATIVE ELECTRODE PASTE AND NONAQUEOUS
ELECTROLYTE SECONDARY BATTERY USING THE
SAME
負極ペーストおよびこれを用いた非水電解液二次電池

摘要 显示

PROBLEM TO BE SOLVED: To provide: a negative electrode paste superior in styrene-butadiene rubber dispersibility and stability; a negative electrode having a mixture layer superior in peel strength; and a nonaqueous electrolyte secondary battery including the same.SOLUTION: A negative electrode paste for a nonaqueous electrolyte secondary battery comprises: negative electrode active material particles of 5 μm or larger in average particle diameter; a carboxymethyl cellulose salt; an aqueous emulsion of a styrene-butadiene rubber; and water. In the negative electrode paste, the styrene-butadiene rubber aqueous emulsion is 35 mN/m or more and 70 mN/m or less in static surface tension; and the carboxymethylcellulose salt is 0.80 or more and 2.00 or less in degree of etherification.SELECTED DRAWING: Figure 1

【課題】本発明は、スチレンブタジエンゴムの分散性および安定性に優れた負極ペースト、剥離強度が優れた合材層を有する負極、およびこれを備え非水電解液二次電池を提供すること。【解決手段】平均粒径が5 μm以上の負極活物質粒子、カルボキシメチルセルロース塩、スチレンブタジエンゴムの水系エマルジョン、および水を含む非水電解質二次電池用の負極ペーストであって、上記スチレンブタジエンゴムの水系エマルジョンの静的表面張力が35 mN / m以上70 mN / m以下、上記カルボキシメチルセルロース塩のエーテル化度が0 . 80以上

2.00以下であることを特徴とする負極ペースト。【選択図】図1

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相关

JP 2018156892

A

04-10-2018

[EPO 参考](#)

关注

不相关

标题

NEGATIVE ELECTRODE PASTE AND NONAQUEOUS ELECTROLYTE SECONDARY BATTERY USING THE SAME

負極ペーストおよびこれを用いた非水電解液二次電池

摘要

[显示](#)

PROBLEM TO BE SOLVED: To provide: a negative electrode paste superior in styrene-butadiene rubber dispersibility and stability; a negative electrode having a mixture layer superior in peel strength; and a nonaqueous electrolyte secondary battery including the same.SOLUTION: A negative electrode paste for a nonaqueous electrolyte secondary battery comprises: negative electrode active material particles of 5 μm or larger in average particle diameter; a carboxymethylcellulose salt; an aqueous emulsion of a styrene-butadiene rubber; and water. In the negative electrode paste, the styrene-butadiene rubber aqueous emulsion is 48 mN/m or more and 70 mN/m or less in static surface tension; and the carboxymethyl cellulose salt is 0.45 or more and 0.85 or less in degree of etherification.SELECTED DRAWING: Figure 1

【課題】本発明は、スチレンブタジエンゴムの分散性および安定性に優れた負極ペースト、剥離強度が優れた合材層を有する負極、およびこれを備え非水電解液二次電池を提供すること。【解決手段】平均粒径が5 μm 以上の負極活物質粒子、カルボキシメチルセルローズ塩、スチレンブタジエンゴムの水系エマルジョン、および水を含有する非水電解質二次電池用の負極ペーストであって、上記スチレンブタジエンゴムの水系エマルジョンの静的表面張力が48 mN / m以上70 mN / m以下、上記カルボキシメ

チルセルロース塩のエーテル化度が0.45以上0.85以下であることを特徴とする負極ペースト。【選択図】図1

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7

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中度相关

WO 2015008619
A1
22-01-2015
[EPO 参考](#)

[关注](#)

[不相关](#)

标题

BINDER FOR ELECTRODE OF LITHIUM SECONDARY CELL
LIANT POUR ÉLECTRODE DE PILE RECHARGEABLE AU LITHIUM

摘要

[显示](#)

The present invention addresses the problem of providing a binder such that, when an electrode layer in which silicon or a silicon composite is used is formed in a negative electrode active material, the binder exhibits consistent performance despite fluctuation in the volume of the active material during charging and discharging. A binder for an electrode of a lithium secondary cell containing a polyurethane aqueous dispersion, wherein said binder is characterized in that the polyurethane aqueous dispersion contains a hydrophilic-group-containing polyurethane obtained using at least (A) an organic polyisocyanate and (B) a compound that has at least one active hydrogen group, the amount of (A) being 50-80% by mass in relation to the hydrophilic-group-containing polyurethane, and the compound (B) having at least one active hydrogen group containing a compound (B1) having at least two active hydrogen groups, and a compound (B2) having at least one active hydrogen group and at least one ionic hydrophilic group.

La présente invention concerne un liant qui présente, lorsqu'une couche d'électrode, dans laquelle du silicium ou un composé du silicium est utilisé, est formée en un matériau actif d'électrode négative, une efficacité constante malgré une fluctuation du volume du matériau actif pendant la charge et la décharge. Un

liant, pour une électrode d'une pile rechargeable au lithium contenant une dispersion aqueuse de polyuréthane, est décrit, ledit liant étant caractérisé en ce que la dispersion aqueuse de polyuréthane contient un polyuréthane contenant un groupe hydrophile obtenu en utilisant au moins (A) un polyisocyanate organique et (B) un composé qui possède au moins un groupe hydrogène actif, la quantité de (A) étant de 50 à 80% en masse par rapport au polyuréthane contenant un groupe hydrophile, et le composé (B) qui possède au moins un groupe hydrogène actif contenant un composé (B1) ayant au moins deux groupes hydrogène actifs, et un composé (B2) ayant au moins un groupe hydrogène actif et au moins un groupe hydrophile ionique.

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US 2016372752 A1, Pub. Date: 2016-12-22, [EPO 参考](#)
KR 20160032017 A, Pub. Date: 2016-03-23, [EPO 参考](#)
CN 105324873 A, Pub. Date: 2016-02-10, [EPO 参考](#)
JP 2015022857 A, Pub. Date: 2015-02-02, [EPO 参考](#)

8	58	WO 2019031208 A1 14-02-2019 EPO 参考 关注 不相关	标题 LITHIUM-ION BATTERY ELECTRODE MATERIAL, LITHIUM-ION CAPACITOR ELECTRODE MATERIAL, ELECTRODE, BATTERY, CAPACITOR, ELECTRIC DEVICE, PRODUCTION METHOD FOR LITHIUM-ION BATTERY ELECTRODE MATERIAL, AND PRODUCTION METHOD FOR LITHIUM-ION CAPACITOR ELECTRODE MATERIAL リチウムイオン電池用電極材料、リチウムイオンキ ャパシタ用電極材料、電極、電池、キャパシタ、電 気機器、リチウムイオン電池用電極材料の製造方 法、およびリチウムイオンキャパシタ用電極材料の 製造方法 摘要 显示 The present invention provides an electrode material which is for a lithium-ion battery or a lithium-ion
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capacitor, and which compensates for the disadvantages of a hydrophobic active material, imparts hydrophilic properties to a hydrophobic active material, and can exhibit excellent dispersibility, without causing a decrease in electrode properties. Specifically provided is an electrode material for a lithium-ion battery or for a lithium-ion capacitor, wherein the electrode material includes a composite powder in which a B component is supported on or coats the surface of an A component, the A component comprises a material capable of electrochemically storing and discharging lithium ions, the B component is sulfur-modified cellulose, and the amount of the B component is at least 0.01 mass% in terms of 100 mass% as the total amount of the A component and the B component.

電極特性を低下させることなく、疎水性の活物質の欠点を補い、疎水性の活物質に親水性を付与し、優れた分散性を発揮できるリチウムイオン電池用またはリチウムイオンキャパシタ用の電極材料を提供する。リチウムイオン電池用またはリチウムイオンキャパシタ用の電極材料であって、前記電極材料は、A成分の表面にB成分が担持または被覆された複合粉末を含み、A成分がリチウムイオンを電気化学的に吸蔵および放出することができる材料からなり、B成分が、硫黄変性セルロースであり、前記A成分および前記B成分の合計量100質量%に対し、前記B成分が0.01質量%以上である、リチウムイオン電池用またはリチウムイオンキャパシタ用の電極材料。

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TW 201911638 A, Pub. Date: 2019-03-16, [EPO 参考](#)

JP 2019032983 A, Pub. Date: 2019-02-28, [EPO 参考](#)

中度相关**标题**

ELECTRODE COATING LIQUID COMPOSITION,
POWER STORAGE DEVICE ELECTRODE
MANUFACTURED USING ELECTRODE COATING
LIQUID COMPOSITION, AND POWER STORAGE
DEVICE COMPRISING SAID ELECTRODE
電極塗工液組成物、該電極塗工液組成物を用いて作
製された蓄電デバイス用電極、および該電極を備え
る蓄電デバイス

摘要 [显示](#)

Provided is a composition that includes a dispersant for an electrode coating liquid for a power storage device, has excellent ability to stably disperse an electrode active material and a conductive material, makes it possible to manufacture a uniform electrode, even when a dispersion device that has weak shear force is used, and has suitable coating properties. An electrode coating liquid composition that contains an electrode active material, a conductive auxiliary, a dispersant, and a binding agent. The electrode coating liquid composition is characterized in that the dispersant contains cellulose fibers that satisfy (a)-(c). The electrode coating liquid composition is also characterized in that the total amount of the dispersant and the binding agent is 0.5-15 mass% relative to 100 mass% of the solid content of the electrode coating liquid composition. (a) Have a short width number average width of 2-200 nm. (b) Have an aspect ratio of 7.5-50. (c) Include cellulose I crystals that have a crystallinity of 70%-95%.

電極活物質および導電材の分散安定性に優れ、弱いせん断力の分散装置を使用しても均一な電極作製が可能であり、適切な塗料物性を有する蓄電デバイスの電極塗工液用分散剤を含む組成物を提供すること。電極活物質、導電助剤、分散剤、および結着剤を含有する電極塗工液組成物であって、分散剤が、下記(a)ないし(c)を満たすセルロース繊維を含有し、分散剤と結着剤の合計量が、電極塗工液組成物の固形分100質量%に対し0.5質量%以上15質量%以下含有することを特徴とする電極塗工液組成物。(a)短幅の方の数平均幅が2nm以上200nm以下(b)アスペクト比が7.5以上50以下(c)セルロースI型結晶を有し、その結晶

化度が70%以上95%以下

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其他家庭成员

JP 2019016456 A, Pub. Date: 2019-01-31, [EPO 参考](#)

10	49	EP 2811561 A1 10-12-2014 EPO 参考 关注 不相关	标题 BINDER FOR ELECTRODES OF LITHIUM SECONDARY BATTERIES, AND LITHIUM SECONDARY BATTERY WHICH USES ELECTRODE PRODUCED USING BINDER FOR ELECTRODES OF LITHIUM SECONDARY BATTERIES BINDER FÜR ELEKTRODEN VON LITHIUMSEKUNDÄRBATTERIEN UND LITHIUMSEKUNDÄRBATTERIE MIT EINER MITHILFE DES BINDERS FÜR ELEKTRODEN VON LITHIUMSEKUNDÄRBATTERIEN HERGESTELLTEN ELEKTRODE 摘要 显示 To provide a binder that has high adhesiveness to a collector, does not cause release in press molding, has high flexibility, and is excellent in binding capability and resistance to an electrolytic solution, and to provide a lithium secondary battery that is excellent in charge and discharge characteristics using an electrode produced with the binder. The binder for an electrode used contains a hydrophilic group-containing polyurethane as a water dispersion that contains (A) a polyisocyanate, (B) a compound that has two or more active hydrogen groups, (C) a compound that has one or more active hydrogen groups and one or more hydrophilic groups, and (D) a
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chain extending agent, or contains an aqueous resin composition containing a polymer of an unsaturated polymerizable monomer that is emulsified with the hydrophilic group-containing polyurethane.

申请人

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EP 2811561 A4, Pub. Date: 2015-10-14, [EPO 参考](#)
JP WO2013114849 A1, Pub. Date: 2015-05-11, [EPO 参考](#)
US 2015017533 A1, Pub. Date: 2015-01-15, [EPO 参考](#)
CN 104115316 A, Pub. Date: 2014-10-22, [EPO 参考](#)
KR 20140116910 A, Pub. Date: 2014-10-06, [EPO 参考](#)
TW 201342699 A, Pub. Date: 2013-10-16, [EPO 参考](#)
WO 2013114849 A1, Pub. Date: 2013-08-08, [EPO 参考](#)

11	48	JP 2014022039 A 03-02-2014 EPO 参考 关注 不相关	标题 NEGATIVE ELECTRODE BINDER FOR LITHIUM SECONDARY BATTERY 摘要 显示 PROBLEM TO BE SOLVED: To provide a binder exhibiting excellent electrochemical stability and excellent lithium secondary battery performance in an electrochemically severe state in the battery, while holding the function as a dispersant or a leveling agent in a step of coating on a collector, dispersing an electrode active material, or the like, into a dispersion medium, such as water or a solvent, in a process for manufacturing a lithium secondary battery.SOLUTION: In the binder for a lithium secondary battery negative electrode containing a carboxymethyl cellulose lithium salt, etherification degree of the carboxymethyl cellulose lithium salt is 0.50-1.00, and 1% viscosity is preferably 300-2500 mPa s. 申请人 DAI ICHI KOGYO SEIYAKU CO LTD
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发明人

SATO KEIICHI

12

43

WO 2015019598

A1

12-02-2015

[EPO 参考](#)

[关注](#)

[不相关](#)

中度相关

标题

BINDER FOR ELECTRODE IN LITHIUM SECONDARY CELL, ELECTRODE MANUFACTURED USING SAID BINDER, AND LITHIUM SECONDARY CELL IN WHICH SAID ELECTRODE IS USED
LIANT POUR UNE ÉLECTRODE DANS UNE CELLULE SECONDAIRE AU LITHIUM, ÉLECTRODE FABRIQUÉE EN UTILISANT LEDIT LIANT ET CELLULE SECONDAIRE AU LITHIUM DANS LAQUELLE LADITE ÉLECTRODE EST UTILISÉE

摘要

[显示](#)

Provided is an electrode binder for a lithium secondary cell containing an aqueous dispersion of a polyurethane comprising (A) a polyisocyanate, (B) a compound having two or more active hydrogen groups, (C) a compound having one or more active hydrogen groups and hydrophilic groups, and (D) a chain extender, wherein the binder adheres firmly enough to a current collector to prevent separation during press-working, the binder having high flexibility and excellent bonding and electrolyte resistance. Also provided are an electrode manufactured using said binder, and a lithium secondary cell using said electrode and having excellent charging and discharging performance. There is used an electrode binder containing an aqueous dispersion of a polyurethane in which compound (B) having two or more active hydrogen groups contains an olefinic polyol and/or a carbonate diol having fewer than six carbons between carbonate bonded chains.

L'invention porte sur un liant d'électrode pour une cellule secondaire au lithium contenant une dispersion aqueuse d'un polyuréthane comprenant (A) un polyisocyanate, (B) un composé ayant au moins deux groupes d'hydrogène actif, (C) un composé ayant un ou plusieurs groupes d'hydrogène actif et des groupes hydrophiles, et (D) un allongeur de chaîne, le liant se fixant assez fermement à un collecteur de courant pour empêcher une séparation durant un travail de pressage, le liant ayant une flexibilité élevée et d'excellentes liaison et résistance d'électrolyte. L'invention porte également sur une

électrode fabriquée en utilisant ledit liant, et sur une cellule secondaire au lithium utilisant ladite électrode et ayant d'excellentes performances de charge et de décharge. Il est utilisé un liant d'électrode contenant une dispersion aqueuse d'un polyuréthane dans lequel un composé (B) ayant au moins deux groupes d'hydrogène actif contient un polyol oléfinique et/ou un diol de carbonate ayant moins de six carbones entre des chaînes liées par carbonate.

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US 2018261846 A1, Pub. Date: 2018-09-13, [EPO 参考](#)
JP WO2015019598 A1, Pub. Date: 2017-03-02, [EPO 参考](#)

US 2016181616 A1, Pub. Date: 2016-06-23, [EPO 参考](#)
KR 20160040511 A, Pub. Date: 2016-04-14, [EPO 参考](#)
CN 105378988 A, Pub. Date: 2016-03-02, [EPO 参考](#)
TW 201512356 A, Pub. Date: 2015-04-01, [EPO 参考](#)

13	41	WO 2016132589 A1 25-08-2016 EPO 参考 关注 不相关	标题 BINDER FOR ELECTRODES OF LITHIUM SECONDARY BATTERIES, ELECTRODE PRODUCED USING SAID BINDER, AND LITHIUM SECONDARY BATTERY USING SAID ELECTRODE リチウム二次電池の電極用結着剤、該結着剤を用いて製造された電極、該電極を使用したリチウム二次電池 摘要 显示 To provide a binder which exhibits good adhesion to a collector, while having excellent binding properties and electrolyte solution resistance, and which is capable of suppressing the internal resistance of a battery without being reduced in the content of the binder component; and to provide a lithium secondary battery which uses an electrode that is produced using this binder, and which has excellent charge/discharge characteristics. The present invention relates to a binder for electrodes of lithium
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secondary batteries, which contains at least (A) a polyisocyanate, (B) a compound having one or more active hydrogen groups and a hydrophilic group and (C) an aqueous dispersion of a polyurethane resin (X) obtained using a chain extender, and wherein the acid value or the amine value of the component (X) is 40-200 mgKOH/g.

集電体に対する密着性が高く、結着性、および耐電解液性に優れ、結着剤成分の含有量を低減することなく、電池の内部抵抗を抑えることのできる結着剤を提供すること、また、この結着剤を用いて製造された電極を使用した充放電特性に優れたリチウム二次電池を提供すること。少なくとも (A) ポリイソシアネート、(B) 1 個以上の活性水素基と親水基を有する化合物、および (C) 鎖伸張剤を用いて得られるポリウレタン樹脂 (X) の水分散体を含むリチウム二次電池の電極用結着剤であって、X の酸価またはアミン価が 40 ~ 200 mg KOH / g であるリチウム二次電池の電極用結着剤に関する。

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JP WO2016132589 A1, Pub. Date: 2017-11-30, [EPO 参考](#)
KR 20170118071 A, Pub. Date: 2017-10-24, [EPO 参考](#)
CN 107251288 A, Pub. Date: 2017-10-13, [EPO 参考](#)

14

39

JP 2014191942
A

06-10-2014
[EPO 参考](#)

[关注](#)

[不相关](#)

可能相关

标题

BINDER FOR ELECTRODE OF LITHIUM SECONDARY BATTERY, AND LITHIUM SECONDARY BATTERY USING ELECTRODE MANUFACTURED USING THE BINDER

摘要 [显示](#)

PROBLEM TO BE SOLVED: To provide a binder which improves adhesiveness to a collector, prevents

occurrence of exfoliation during pressing, has high flexibility and is improved in a binding property and electrolyte resistance, and a lithium secondary battery improved in charging/discharging properties employing an electrode manufactured using the binder.SOLUTION: A binder for an electrode of a lithium secondary battery contains a polyurethane water dispersion formed from: polyisocyanate (component A); a chemical compound including two or more active hydrogen groups (component B); a chemical compound including one or more active hydrogen groups and hydrophilic groups (component C); and a chain extension agent (component D). The binder for the electrode of the lithium secondary battery is characterized in that the (component D) contains an alkoxy silane derivative.

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15	38	US 2017256799 A1 07-09-2017 EPO 参考 关注 不相关	标题 MANUFACTURING METHOD OF CARBOXYMETHYL CELLULOSE SALT FOR ELECTRODE OF NONAQUEOUS ELECTROLYTE SECONDARY BATTERY, ELECTRODE FOR NONAQUEOUS ELECTROLYTE SECONDARY BATTERY, AND NONAQUEOUS ELECTROLYTE SECONDARY BATTERY 摘要 显示 A manufacturing method which includes: (1) an alkali cellulose reaction step wherein a mixed solvent having a mixing ratio (a mass ratio) of an alcohol having a carbon number of 3 or less and water of 75:25 to 95:5 is used, and the concentration of the base to the water is 25 to 40 mass %; (2) an etherification reaction step wherein a reaction is carried out under an excess base of 0.2 to 0.5 moles
	可能相关		

per unit of an anhydroglucose of the cellulose; (3) a neutralization step wherein acid is added to adjust the pH of the reaction mixture to 6.0 to 8.0; and (4) a heating step wherein the mixed solvent is removed, and a base is added to adjust the pH of the reaction mixture to 8.0 to 9.0, and then a heat treatment is performed at 40 to 70° C. for 30 to 120 minutes.

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EP 3187509 A4, Pub. Date: 2018-03-07, [EPO 参考](#)
EP 3187509 A1, Pub. Date: 2017-07-05, [EPO 参考](#)
JP WO2016031449 A1, Pub. Date: 2017-06-22, [EPO 参考](#)
KR 20170046155 A, Pub. Date: 2017-04-28, [EPO 参考](#)
CN 106573991 A, Pub. Date: 2017-04-19, [EPO 参考](#)
TW 201620941 A, Pub. Date: 2016-06-16, [EPO 参考](#)
WO 2016031449 A1, Pub. Date: 2016-03-03, [EPO 参考](#)

16	38	JP 2010080447 A 08-04-2010 EPO 参考 关注 不相关	标题 LITHIUM POLYMER SECONDARY BATTERY 摘要 显示 PROBLEM TO BE SOLVED: To prevent the decomposition of an ion-conductive compound due to graphite particles. ;SOLUTION: A lithium polymer secondary battery includes a negative electrode containing graphite particles attached with amorphous carbon on the surface, an electrolyte layer, and a positive electrode, and the electrolyte layer is constituted by crosslinking either one of a negative electrode and a positive electrode inside which a precursor of an ion-conductive compound is previously constituted and a fibrous organic compound inside which a precursor of an ion-conductive compound is previously constituted, and the area of the fibrous organic compound is larger than that of each of the negative electrode and the positive electrode. ;COPYRIGHT: (C)2010,JPO&INPIT
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申请人

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SADA TSUTOMU
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17

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JP 2016076302

A

可能相关

12-05-2016

[EPO 参考](#)[关注](#)[不相关](#)**标题**

THICKENING/STABILIZING AGENT FOR POWER STORAGE DEVICE ELECTRODE COATING LIQUID, COATING LIQUID PREPARED BY USE THEREOF, ELECTRODE MANUFACTURED WITH SUCH COATING LIQUID, AND POWER STORAGE DEVICE USING SUCH ELECTRODE

蓄電デバイスの電極塗工液用増粘・安定剤、該増粘・安定剤を用いて調製された塗工液、該塗工液を用いて製造された電極、及び該電極を使用した蓄電デバイス

摘要[显示](#)

PROBLEM TO BE SOLVED: To provide a thickening/stabilizing agent for a power storage device electrode coating liquid, which has superior dispersion stability of an electrode active material and a conductive material, which never causes the reduction in viscosity owing to a stirring shear force in a dispersion step, which is superior in binding property and electrolyte resistance, and which never causes a defect such as a streak or a pin hole in an electrode. SOLUTION: A thickening/stabilizing agent for a power storage device electrode coating liquid comprises: a cellulose fiber. In the thickening/stabilizing agent, substituent groups are introduced into hydroxyl groups of cellulose molecules of the cellulose fiber; the degree of substitution is 0.01-0.5. The cellulose has a crystal structure of I-type and/or II-type. The aspect ratio of the cellulose fiber is 50 or larger. The number average fiber width of the cellulose fiber is 2-500 nm. SELECTED DRAWING: None

【課題】電極活物質や導電材の分散安定性に優れ、かつ、分散工程中に攪拌せん断力による粘度低下を起こさず、かつ結着性及び耐電解液性に優れ、かつ電極にスジ（ストリーク）、ピンホールといった欠陥が生じない、蓄電デバイスの電極塗工液用増粘・安定剤を提供する。【解決手段】セルロース繊維を含有する蓄電デバイスの電極塗工液用増粘・安定剤であって、上記セルロース繊維のセルロース分子中の水酸基に置換基が導入されており、置換度が0.01以上0.5以下であり、上記セルロースがI型及び/又はII型の結晶構造を有し、上記セルロース繊維のアスペクト比が50以上であり、上記セルロース繊維の数平均繊維幅が2nm以上500nm以下である蓄電デバイスの電極塗工液用増粘・安定剤。【選択図】なし

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HANAKI YUSUKE (花木 祐輔)
HASHIMOTO YOSHIYUKI (橋本 賀之)

18	34	CN 108473594 A 31-08-2018	标题 METHOD FOR PREPARING CARBOXYMETHYL CELLULOSE OR SALT THEREOF, AND BINDER FOR ELECTRODE 羧甲基纤维素或其盐的制造方法以及电极粘合剂
	可能相关	EPO 参考 关注 不相关	摘要 显示 Provided is a carboxymethyl cellulose or a salt thereof, wherein, when the carboxymethyl cellulose or a salt thereof is used as a binder for an electrode of a non-aqueous electrolyte secondary battery, defects, such as pinholes, on the surface of the electrode are suppressed and the battery using the binder has an excellent capacity retention rate. Provided is a method for preparing a carboxymethyl cellulose or a salt thereof, the method comprising: an alkali cellulose conversion step (step 1) in which cellulose is reacted with an alkali in the presence of a mixed solvent containing water and an organic solvent; an etherification step (step 2) in which the obtained alkali cellulose is reacted with an etherifying agent for a reaction; a purification step (step 3) in which the

obtained reaction mixture is washed and dried, and a pulverization step (step 4) for pulverizing the obtained purified product, wherein step 1 is performed for a reaction time of 60-120 minutes under the conditionsof a pH of 9 or higher and a reaction temperature of 5-25 DEG C.

本发明提供种羧甲基纤维素或其盐，所述羧甲基纤维素或其盐在用作非水电解质二次电池的电极用粘合剂的情况下，抑制针孔等电极表面的缺陷，并且使用其的电池的容量保持率优异。种羧甲基纤维素或其盐的制造方法，其包括：碱纤维素化工序(工序1)，在含有水及有机溶媒的混合溶媒的存在下，使纤维素与碱进行反应；醚化工序(工序2)，使所获得的碱纤维素与醚化剂进行反应；精制工序(工序3)，对所获得的反应混合物进行清洗及干燥；以及粉碎工序(工序4)，对所获得的精制物进行粉碎；且在pH为9以上及反应温度为5℃以上、25℃以下的条件下，以60分钟以上、120分钟以下的反应时间来进行工序1。

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US 2019055323 A1, Pub. Date: 2019-02-21, [EPO 参考](#)
EP 3421501 A1, Pub. Date: 2019-01-02, [EPO 参考](#)
KR 20180117611 A, Pub. Date: 2018-10-29, [EPO 参考](#)
TW 201800422 A, Pub. Date: 2018-01-01, [EPO 参考](#)
WO 2017145904 A1, Pub. Date: 2017-08-31, [EPO 参考](#)
JP 2017149901 A, Pub. Date: 2017-08-31, [EPO 参考](#)

19	34	JP 2013197055 A 30-09-2013 EPO 参考 关注 不相关	标题 LITHIUM ION SECONDARY BATTERY AND ELECTRICAL EQUIPMENT INCLUDING THE SAME 摘要 显示 PROBLEM TO BE SOLVED: To provide a lithium ion secondary battery excellent in cycle durability and output characteristics.SOLUTION: A lithium ion secondary battery according to the present invention includes a positive electrode and a negative electrode, and contains an electrolyte between the positive
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electrode and the negative electrode. A binder in the negative electrode contains an alginic acid, and a solvent of the electrolyte is an ionic liquid containing bis(fluorosulfonyl)imide anion.

申请人

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菊田 学
村上 賢志

20	32	JP 2013206627 A 07-10-2013 EPO 参考 关注 不相关	标题 BINDING AGENT FOR ELECTRODE OF LITHIUM SECONDARY BATTERY AND LITHIUM SECONDARY BATTERY USING ELECTRODE MANUFACTURED USING BINDING AGENT 摘要 显示 PROBLEM TO BE SOLVED: To provide a binding agent which has high adhesion to a current collector, does not generate exfoliation during press processing, has high flexibility, and also has excellent binding properties and electrolyte resistance, and also to provide a lithium secondary battery having excellent charge-discharge behavior using an electrode manufactured using the binding agent.SOLUTION: A binding agent for an electrode of a lithium secondary battery contains a polyurethane aqueous dispersion comprising (A component) polyisocyanate, (B component) a compound having two or more active hydrogen groups, (C component) a compound having one or more active hydrogen groups and a hydrophilic group, and (D component) a chain extender. The (A
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component) contains polyisocyanate having three or more isocyanate groups.

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宮村 岳志

21

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可能相关

JP 2015125920
A

06-07-2015

[EPO 参考](#)

[关注](#)

[不相关](#)

标题

THICKENING/STABILIZING AGENT FOR
ELECTRODE COATING LIQUID OF ELECTRICITY
STORAGE DEVICE, COATING LIQUID PREPARED
USING THE THICKENING/STABILIZING AGENT,
ELECTRODE MANUFACTURED USING THE COATING
LIQUID, AND ELECTRICITY STORAGE DEVICE USING
THE ELECTRODE

蓄電デバイスの電極塗工液用増粘・安定剤、該増
粘・安定剤を用いて調製された塗工液、該塗工液を
用いて製造された電極、該電極を使用した蓄電デバ
イス

摘要

[显示](#)

申请人

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GOI YOSUKE (後居 洋介)
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22

31

可能相关

JP 2013206626
A

07-10-2013

[EPO 参考](#)

[关注](#)

[不相关](#)

标题

BINDING AGENT FOR ELECTRODE OF LITHIUM
SECONDARY BATTERY AND LITHIUM SECONDARY
BATTERY USING ELECTRODE MANUFACTURED
USING BINDING AGENT

摘要

[显示](#)

PROBLEM TO BE SOLVED: To provide a binding agent which has high adhesion to a current collector, does not generate exfoliation during press processing, has high flexibility, and also has excellent binding properties and electrolyte resistance, and also to provide a lithium secondary battery having excellent charge-discharge behavior using an electrode manufactured using the binding agent.SOLUTION: A binding agent for an electrode of a lithium secondary battery contains a polyurethane aqueous dispersion comprising (A component) a polyisocyanate compound, (B component) a compound having two or more active hydrogen groups, (C component) a compound having one or more active hydrogen groups and a hydrophilic group, and (D component) a chain extender. The (A component) contains polyisocyanate having three or more isocyanate groups, and the (B component) contains polycarbonate polyol, polyester polyol having an aromatic ring and/or polyether polyol having the aromatic ring.

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23

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可能相关

JP 2015149177

A

20-08-2015

[EPO 参考](#)

[关注](#)

[不相关](#)

标题

BONDING AGENT FOR ELECTRODE, ELECTRODE MANUFACTURED USING BONDING AGENT, AND NONAQUEOUS ELECTROLYTE BATTERY UTILIZING THE SAME

電極用結着剤、該結着剤を用いて製造された電極、及びこれを使用した非水電解質電池

摘要

[显示](#)

PROBLEM TO BE SOLVED: To provide a bonding agent that is excellent in bonding properties and electrolyte resistance, an electrode manufactured using this bonding agent, and a nonaqueous

electrolyte battery that is excellent in charge/discharge characteristics utilizing the same.SOLUTION: A copolymer has at least one section (A) obtained by polymerizing a monomer (a) containing vinylpyrrolidone and at least one section (B) obtained by polymerizing a monomer (b) containing an ethylenic unsaturated monomer other than vinylpyrrolidone. A bonding agent for an electrode is used containing a copolymer formed by a living radical polymerization method having a step for forming the section (A) and a step for forming the section (B).

【課題】結着性及び耐電解液性に優れた結着剤、この結着剤を用いて製造された電極、及びこれを使用した充放電特性に優れた非水電解質電池を提供する。【解決手段】ビニルピロリドンを含む単量体（a）を重合してなるセクション（A）と、ビニルピロリドン以外のエチレン性不飽和単量体を含む単量体（b）を重合してなるセクション（B）とを少なくとも一つずつ有し、上記セクション（A）を形成する工程とセクション（B）を形成する工程とを有するリビングラジカル重合法により形成された共重合体を含む電極用結着剤を用いる。【選択図】なし

申請人
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发明人
YOSHIDA YUJI (吉田 裕治)
FUJISE KEIICHI (藤瀬 圭一)

24	29	WO 2017179268 A1 19-10-2017 EPO 参考 关注 不相关	标题 AQUEOUS POLYIMIDE DISPERSION, BINDER FOR ELECTRODES, ELECTRODE, SECONDARY BATTERY AND METHOD FOR PRODUCING AQUEOUS POLYIMIDE DISPERSION ポリイミド水分散体、電極用結着剤、電極、二次電池およびポリイミド水分散体の製造方法 摘要 显示 申請人 DAI-ICHI KOGYO SEIYAKU CO LTD [JP] (第一工業製薬株式会社)
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发明人

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25

26

EP 1265307 B9
03-12-2008

可能相关

[EPO 参考](#)

[关注](#)

[不相关](#)

标题

POLYMER CELL
POLYMERZELLE

申请人

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26

24

TW 201916443 A
16-04-2019

可能相关

[EPO 参考](#)

[关注](#)

[不相关](#)

标题

Positive electrode active material coating material,
positive electrode, and secondary battery

摘要 显示

The purpose of the present invention is to provide a positive electrode active material coating material that can provide a secondary battery having excellent battery characteristics, as well as a positive electrode and a secondary battery. A positive electrode active material coating material according to the present invention comprises a positive electrode active

material, a conductive auxiliary agent, a dispersion medium, and a dispersing agent, and is characterized in that the dispersion medium is N-methylpyrrolidone, the dispersing agent contains a polyvinyl alcohol-polyvinylpyrrolidone graft copolymer, and the content of the polyvinyl alcohol is 10-90 mass% with respect to 100 mass% for the polyvinyl alcohol-polyvinylpyrrolidone graft copolymer.

申请人

DAI ICHI KOGYO SEIYAKU CO LTD [JP]

发明人

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HAMAGUCHI ITSUKO [JP]

NAKAMURA SHIHO [JP]

其他家庭成员

JP 2019067567 A, Pub. Date: 2019-04-25, [EPO 参考](#)

WO 2019065931 A1, Pub. Date: 2019-04-04, [EPO 参考](#)

27

23

可能相关

JP 2017190409

A

19-10-2017

[EPO 参考](#)

关注

不相关

标题

POLYIMIDE WATER DISPERSION, ELECTRODE BINDER, ELECTRODE, SECONDARY BATTERY AND METHOD FOR PRODUCING POLYIMIDE WATER DISPERSION

ポリイミド水分散体、電極用結着剤、電極、二次電池およびポリイミド水分散体の製造方法

摘要

[显示](#)

PROBLEM TO BE SOLVED: To provide a polyimide water dispersion that is a water dispersion and therefore has high environmental compatibility, and eliminates the need for making a use facility have an explosion-proof structure and the like, and also has a performance as an electrode binder. SOLUTION: This invention relates to a polyimide water dispersion obtained by the reaction between (A) acid anhydride, (B) polyisocyanate, and (C) a compound having one or more active hydrogen groups and hydrophilic groups, the polyimide water dispersion having an acid number of 50 mgKOH/g or less, and also relates to a method for producing a polyimide water dispersion that includes the steps of synthesizing a prepolymer by the reaction between (A) acid anhydride, (B) polyisocyanate, and (C) a compound having one or more active hydrogen groups and hydrophilic groups,

and emulsifying the prepolymer
underwater.SELECTED DRAWING: None

【課題】水分散体であることから環境適合性が高く、使用設備を防爆構造等にする必要もない。また、電極用結着剤としての性能も有するポリイミド水分散体を提供することを課題とする。【解決手段】(A)酸無水物、(B)ポリイソシアネート、および(C)1個以上の活性水素基と親水基を有する化合物を反応して得られるポリイミド水分散体であって、酸価が50mg KOH / g以下であるポリイミド水分散体を用いる。また、(A)酸無水物、(B)ポリイソシアネート、および(C)1個以上の活性水素基と親水基を有する化合物を反応させプレポリマーを合成する工程、プレポリマーを水中で乳化する工程、を含むポリイミド水分散体の製造方法に関する。【選択図】なし

申請人

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発明人

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WATANABE SATOYA (渡邊 聡哉)
MIYAMURA TAKASHI (宮村 岳志)
ITO SHUICHI (伊藤 修一)

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JP 6062091 B1, Pub. Date: 2017-01-18, [EPO 参考](#)

28 21 JP 2009026542

可能相关

A
05-02-2009
[EPO 参考](#)

[关注](#)

[不相关](#)

标题

LITHIUM SECONDARY BATTERY

摘要 [显示](#)

PROBLEM TO BE SOLVED: To provide an inconbustible lithium secondary battery having both excellent battery performance and high safety.
;SOLUTION: In the lithium secondary battery consisting of a separator arranged between a positive electrode and a negative electrode and a nonaqueous electrolyte including lithium salt, the negative electrode includes a graphatization retarding carbon, and the nonaqueous electrolyte uses an ionic liquid as a solvent including bis(fluorosulfonyl)imide anion as an anion component. It is preferable that the negative electrode includes the graphatization

retarding carbon of 5-100 wt.%. Furthermore, the ionic liquid includes a cation including a nitrogen atom as a cation component, and it is preferable that the cation including the nitrogen atom is one or a plurality of mixtures selected from alkyl ammonium, imidazolium, pyrrolidinium, and piperidinium.
;COPYRIGHT: (C)2009,JPO&INPIT

申请人
DAI ICHI KOGYO SEIYAKU CO LTD

发明人
KASHIMA MARI
ISHIKO ERIKO
TOUZAKI TETSUYA

29

21

WO 2019198429
A1
17-10-2019
[EPO 参考](#)
关注
不相关

可能相关

标题
REDISPERSIBLE COMPOSITION CONTAINING
CELLULOSE FIBERS AND NON-CELLULOSE POWDER
GRANULES
セルロース繊維と非セルロース粉粒物を含む再分散
可能な組成物

摘要 显示

Provided is a composition which contains cellulose fibers and non-cellulose powder granules and has excellent redispersibility in a polar solvent such as water. A composition according to an embodiment is a redispersible composition which contains at least (A1) cellulose fibers having a number average shorter-width of 2 to 1000 nm inclusive, (B) non-cellulose powder granules and (C) water, wherein the content of the non-cellulose powder granules (B) is 14.0 to 98.4% by mass inclusive relative to the whole mass of the composition, the content of the water (C) is 0.6 to 72.0% by mass inclusive relative to the whole mass of the composition, and the mass ratio of the content of the cellulose fibers (A1) to the content of the non-cellulose powder granules (B), i.e., (A1)/(B), is 1.0/99.0 to 50.0/50.0 inclusive.

セルロース繊維と非セルロース粉粒物とを含有する組成物において、水等の極性溶媒への再分散性に優れた組成物を提供する。実施形態に係る組成物は、
(A 1) 短幅の方の数平均幅が 2 nm以上1 0 0 0 nm以下のセルロース繊維と、 (B) 非セルロース粉粒物と、 (C) 水を少なくとも含有する組成物で

あって、前記（Ｂ）非セルロース粉粒物の含有量は、前記組成物の全質量に対して１４．０質量％以上９８．４質量％以下であり、前記（Ｃ）水の含有量は、前記組成物の全質量に対して０．６質量％以上７２．０質量％以下であり、前記（Ａ１）セルロース繊維の含有量と前記（Ｂ）非セルロース粉粒物の含有量との質量比率（Ａ１）／（Ｂ）が１．０／９９．０以上５０．０／５０．０以下である、再分散可能な組成物である。

申請人

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ITO YOSHIKI [JP] (伊藤 圭樹)
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MATSUMOTO MASAACKI [JP] (松本 真昌)

30 19 JP 2010097922
A
30-04-2010
[EPO 参考](#)
关注
不相关

可能不相关

标题
LITHIUM SECONDARY BATTERY USING IONIC LIQUID

摘要 [显示](#)

申请人

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UNIV KANSAI

发明人

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ISHIKO ERIKO
KONO MICHYUKI
ISHIKAWA MASAJI

31 16 EP 2192650 A1
02-06-2010
[EPO 参考](#)
关注
不相关

可能不相关

标题
PROCESS FOR PRODUCING ELECTROCONDUCTIVE POLYMER ELECTRODE AND DYE-SENSITIZED SOLAR CELL COMPRISING THE ELECTROCONDUCTIVE POLYMER ELECTRODE
VERFAHREN ZUR HERSTELLUNG EINER ELEKTRISCH LEITENDEN POLYMERELEKTRODE UND FARBSTOFFSENSIBILISIERTE SOLARZELLE

摘要 显示

申请人

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JP 5215314 B2, Pub. Date: 2013-06-19, [EPO 参考](#)

EP 2192650 A4, Pub. Date: 2011-07-06, [EPO 参考](#)

JP WO2009041269 A1, Pub. Date: 2011-01-20, [EPO 参考](#)

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CN 101821898 A, Pub. Date: 2010-09-01, [EPO 参考](#)

KR 20100044218 A, Pub. Date: 2010-04-29, [EPO 参考](#)

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TW 200915641 A, Pub. Date: 2009-04-01, [EPO 参考](#)

32

15

EP 2453511 A1
16-05-2012

可能不相关

[EPO 参考](#)

关注

不相关

标题

POLYMER GEL ELECTROLYTE AND POLYMER
SECONDARY BATTERY USING SAME
POLYMERGELELEKTROLYT UND POLYMER-
AKKUMULATOR DAMIT

摘要 显示

申请人

NEC ENERGY DEVICES LTD [JP]

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CN 102473966 A, Pub. Date: 2012-05-23, [EPO 参考](#)
US 2012115037 A1, Pub. Date: 2012-05-10, [EPO 参考](#)
WO 2011004483 A1, Pub. Date: 2011-01-13, [EPO 参考](#)

33 14 JP 2015122340
A
02-07-2015
[EPO 参考](#)

关注
不相关

可能不相
关

标题
LITHIUM SECONDARY BATTERY
リチウム二次電池

摘要 显示

申请人
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EP 2495795 B1, Pub. Date: 2017-08-23, [EPO 参考](#)
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34 14 EP 1339128 A4
17-06-2009
[EPO 参考](#)

关注
不相关

可能不相
关

标题
LITHIUM SECONDARY BATTERY
LITHIUM-SEKUNDÄRBATTERIE

申请人
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TW 518788 B, Pub. Date: 2003-01-21, [EPO 参考](#)
JP 2002110243 A, Pub. Date: 2002-04-12, [EPO 参考](#)
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35 13 EP 2113957 B1
15-03-2017
可能不相关 [EPO 参考](#)
关注
不相关

标题
Positive electrode for lithium secondary cell and
lithium secondary cell using the same
Positive Elektrode für Lithiumsekundärzelle und
Lithiumsekundärzelle damit

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JP 2009266400 A, Pub. Date: 2009-11-12, [EPO 参考](#)
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36 10 EP 2684872 A1
15-01-2014
可能不相关 [EPO 参考](#)
关注
不相关

标题
COMPOUND HAVING HEPTAMETHINE STRUCTURE,
SENSITIZING DYE AND PHOTOELECTRIC
CONVERSION ELEMENT
VERBINDUNG MIT EINER
HEPTAMETHINSTRUKTUR, EINEM
SENSIBILISIERUNGSFARBSTOFF UND EINEM
PHOTOELEKTRISCHEN UMWANDLUNGSELEMENT

摘要 显示

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EP 2684872 A4, Pub. Date: 2014-08-06, [EPO 参考](#)
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37 8 EP 2044647 B1
15-01-2014
可能不相关
[EPO 参考](#)
关注
不相关

标题
REDOX COUPLES, COMPOSITIONS AND USES THEREOF
REDOX-KOPPELELEMENTE,
ZUSAMMENSETZUNGEN UND VERWENDUNGEN DAFÜR

申请人
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发明人
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MARSAN BENOIT [CA]
ARMAND MICHEL [FR]
HERSANT GREGORY [CA]

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EP 2044647 A4, Pub. Date: 2012-11-28, [EPO 参考](#)
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38 7 KR 20100132927
A
20-12-2010
可能不相关
[EPO 参考](#)
关注
不相关

标题
LITHIUM SECONDARY BATTERY USING IONIC LIQUID

摘要 显示

申请人
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이시코 에리코
히가시자키 테츠야
코노 미치유키

其他家庭成员

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39 6 WO 2018123458
A1
05-07-2018
[EPO 参考](#)
可能不相关
关注
不相关

标题
PRODUCTION METHOD FOR ELECTROCHEMICAL
DEVICE
電気化学デバイスの製造方法

摘要 显示

申请人

DAI ICHI KOGYO SEIYAKU CO LTD [JP]
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OKUHARA JUNSHI [JP] (奥原 淳史)

40 5 EP 1130671 A4
06-08-2008
[EPO 参考](#)
可能不相关
关注
不相关

标题
POLYELECTROLYTE, NON-AQUEOUS ELECTROLYTE,
AND ELECTRICAL DEVICE CONTAINING THE SAME
POLYELEKTROLYTE, NICHTWÄSSRIGE
ELEKTROLYTE UND ELEKTRISCHE VORRICHTUNG
DIE DIESE ENTHÄLT

申请人

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EP 1130671 B1, Pub. Date: 2010-05-05, [EPO 参考](#)
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41 5 KR 20100134755
A
23-12-2010
[EPO 参考](#)

关注
不相关

可能不相关

标题
PROCESS FOR PRODUCING
BIS(FLUOROSULFONYL)IMIDE ANION COMPOUND,
AND ION-PAIR COMPOUND

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JP 5461401 B2, Pub. Date: 2014-04-02, [EPO 参考](#)
JP WO2010010613 A1, Pub. Date: 2012-01-05, [EPO 参考](#)
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42 5 CN 102067371 A
18-05-2011
[EPO 参考](#)

关注
不相关

可能不相关

标题
Method for preparing an electrochemical cell having a
gel electrolyte

摘要 显示

申请人
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CA 2717503 C, Pub. Date: 2016-08-30, [EPO 参考](#)
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关注

不相关

可能不相
关

标题
Photoelectric conversion device

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CA 2590899 C, Pub. Date: 2012-11-06, [EPO 参考](#)
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44 4 EP 1995817 A4
08-08-2012
[EPO 参考](#)

关注

不相关

可能不相
关

标题
LITHIUM RECHARGEABLE BATTERY USING IONIC LIQUID
WIEDERAUFLADBARE LITHIUMBATTERIE MIT IONISCHER FLÜSSIGKEIT

申请人
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可能不相关

JP 2018107120
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05-07-2018
[EPO 参考](#)

关注
不相关

标题
METHOD OF MANUFACTURING
ELECTROCHEMICAL DEVICE
電気化学デバイスの製造方法

摘要 显示

申请人
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KR 20190097070 A, Pub. Date: 2019-08-20, [EPO 参考](#)
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可能不相关

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关注
不相关

标题
AQUEOUS POLYURETHANE RESIN DISPERSION FOR
SECONDARY BATTERY SEPARATOR, SECONDARY
BATTERY SEPARATOR, AND SECONDARY BATTERY
二次电池隔离件用聚氨酯树脂水分散体、二次电池隔
离件和二次电池

摘要 显示

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DE 19527741 B4
17-01-2013

[EPO 参考](#)

[关注](#)

[不相关](#)

标题

Polymerelektrolyt-Zusammensetzung für elektrochemische Lithium-Polymerelektrolyt-Batterien

摘要

[显示](#)

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DUVAL MICHEL [CA]
BROCHU FERNAND [CA]
KONO MICHİYUKI [JP]
HAYASHI ERIKO [JP]
SADA TSUTOMU [JP]

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JP 4098359 B2, Pub. Date: 2008-06-11, [EPO 参考](#)
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IT MI951615 A1, Pub. Date: 1996-03-06, [EPO 参考](#)

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KR 20130099184
A

05-09-2013

[EPO 参考](#)

[关注](#)

[不相关](#)

标题

PHOTOELECTRIC CONVERSION ELEMENT

申请人

DAI ICHI KOGYO SEIYAKU CO LTD [JP]

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JP WO2012096170 A1, Pub. Date: 2014-06-09, [EPO 参考](#)

JP 5475145 B2, Pub. Date: 2014-04-16, [EPO 参考](#)

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可能不相关

KR 20150082274

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15-07-2015

[EPO 参考](#)[关注](#)[不相关](#)**标题**

REDOX PAIR, AND PHOTOELECTRIC CONVERSION
ELEMENT PRODUCED USING SAME
산화환원쌍 및 이를 사용한 광전변환소자

摘要 [显示](#)**申请人**

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可能不相关

EP 1387430 A4

09-09-2009

[EPO 参考](#)[关注](#)[不相关](#)**标题**

DYE-SENSITIZED SOLAR CELL
MIT FARBSTOFF SENSIBILISIERTE SOLARZELLE

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YAMANAKA RYOHSUKE [JP]

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