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**(54) Title (EN):** POSITIVE ELECTRODE ACTIVE MATERIAL AND SECONDARY BATTERY

**(54) Title (FR):** MATÉRIAU ACTIF D'ÉLECTRODE POSITIVE ET BATTERIE SECONDAIRE

**(54) Title (JA):** 正極活物質、および二次電池

**(57) Abstract:**

**(EN):** Provided is a positive electrode active material for a lithium ion secondary battery having high capacity and excellent charge-discharge cycle characteristics. The positive electrode active material contains lithium, cobalt, and oxygen, wherein the spin density attributable to divalent cobalt ions and tetravalent cobalt ions is within a predetermined range. The positive electrode active material preferably further contains magnesium. A suitable magnesium concentration is expressed as a concentration relative to cobalt. In addition, the positive electrode active material preferably further contains fluorine.

**(FR):** La présente invention concerne un matériau actif d'électrode positive pour une batterie secondaire au lithium-ion ayant une capacité élevée et d'excellentes caractéristiques de cycle de charge-décharge. Le matériau actif d'électrode positive contient du lithium, du cobalt et de l'oxygène, la densité de spin attribuable à des ions de cobalt divalents et à des ions de cobalt tétravalents s'inscrivant dans une plage prédéterminée. De préférence, le matériau actif d'électrode positive contient en outre du magnésium. Une concentration de magnésium appropriée est exprimée en tant que concentration par rapport au cobalt. De plus, le matériau actif d'électrode positive contient également de préférence du fluor.

**(JA):** 高容量、かつ充放電サイクル特性に優れたリチウムイオン二次電池用正極活物質を提供する。リチウムと、コバルトと、酸素と、を有し、2価のコバルトイオン及び4価のコバルトイオンに起因するスピン密度が所定範囲内である正極活物質とする。正極活物質は、さらにマグネシウムを有することが好ましい。適したマグネシウムの濃度は、コバルトに対する濃度であらわされる。また、正極活物質は、さらにフッ素を有することが好ましい。

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