

ABSTRACT**LITHIUM-INTERCALATED TITANIUM DIOXIDE, LITHIUM TITANATE PARTICLES MADE THEREFROM, AND RELATED METHODS**

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The invention provides a method for preparing lithium-containing particles suitable for use in an electrode of a battery, the method including forming a mixture comprising titanium dioxide precursor particles and an aqueous solution of a lithium compound; and heating the mixture at elevated temperature in a sealed pressure vessel in order to form lithium-inserted titanium dioxide particles, wherein at least one particle size characteristic selected from average primary particle size, particle size distribution, average intra-particle pore size, average inter-particle pore size, pore size distribution, and particle shape of the titanium dioxide particles is substantially unchanged by said heating step. The invention further includes a battery including a first electrode, a second electrode, and a separator including an electrolyte between the first and second electrodes, wherein one of the first and second electrodes comprises lithium-inserted titanium dioxide particles or lithium titanate spinel particles made according to the invention.

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FIG. 1