

5506078**METHOD OF FORMING A STABLE FORM OF LiMnO_2 AS CATHODE IN LITHIUM CELL**

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The invention disclosed relates to a new method of forming spinel-related $\lambda\text{-Li}_{2-x}\text{Mn}_2\text{O}_4$, wherein $0 < x < 2$, solely by electrochemical means with air-stable orthorhombic LiMnO_2 as the starting material. This spinel-related material is hygroscopic, metastable and is typically made by chemical means, followed by electrochemical conversion of spinel-type LiMn_2O_4 . Also disclosed are new secondary lithium ion electrochemical cells employing as initial active cathode material a compound of formula LiMnO_2 , having a specific orthorhombic crystal structure.

NICKEL METAL HYDRIDE BATTERIES**5500309****NI/METAL HYDRIDE ACCUMULATOR**

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The positive electrode of a Ni/metal hydride accumulator is formed from a mass mixture of Ni(OH)_2 and an oxidation-resistant graphite. The stable graphite is notable for a high degree of crystallinity and a low ash content. In conventional Ni/metal hydride accumulators, cobalt compounds play an essential part in developing a conductive matrix within their positive nickel hydroxide electrodes, leading to reductive destruction of the matrix by severe high temperature short circuit testing. In contrast, the same accumulators, with positive electrodes produced according to the present invention, survive the test with only a temporary and slight decline in capacity.

5501917**HYDROGEN STORAGE MATERIAL AND NICKEL HYDRIDE BATTERIES USING SAME**

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Improved multicomponent alloys for hydrogen storage and rechargeable hydride electrode applications, and in particular for rechargeable hydride battery applications, according to the formula: AaBbNcDyMxRz , and the hydride thereof, where A is at least one element selected from the group consisting of Ti, Zr, Hf, Y, V, Nb, Pd, Mg, Be, and Ca; B is at least one element selected from the group consisting of Mg, Al, V, Wb, Ta, Cr, Mn, Si, C, B, and Mo; D is at least one element selected from the group consisting of W, Fe, Co, Cu, Zn, Ag, Sb and Sn; M is at least one element selected from the group consisting of Li, Na, K, Rb, Cs, P, S, Sr, and Ba; R is at least one element selected from the group consisting of Sc, Y, La, Ce, Pr, and Yb; and where a, b, c, x, y and z are defined by: $0.10 < a < 0.85$, $0.02 < b < 0.85$, $0.02 < c < 0.85$, $0.01 < x < 0.30$, $0 < y < 0.25$, $0 < z < 0.12$ and $a+b+c+x+y=1.00$. In another aspect, this invention is directed to provide a rechargeable electrochemical cell (battery) using the improved hydrogen storage alloy given in the present invention.

5506069**ELECTROCHEMICAL HYDROGEN STORAGE ALLOYS AND BATTERIES FABRICATED FROM MG CONTAINING BASE ALLOYS**

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An electrochemical hydrogen storage material comprising: (*See Patent for Tabular Presentation*) PS where, Base Alloy is an alloy of Mg and Ni in a ratio of from about 1:2 to about 2:1, preferably 1:1; M represents at least one modifier element chosen from