

electrolyte selected from the group consisting of perfluorocarbon sulfonic acid, polysulfones, perfluorocarbonic acid, styrene-divinylbenzene sulfonic acid cation-exchange resins and styrene-butadiene anion-exchange resins, and 0.01-50% by weight of fine particle silica and/or fibrous silica fiber relative to the weight of the polymer solid electrolyte.

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APPARATUS FOR USE IN A BATTERY

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A battery electrode is provided comprising a porous, pleated metal structure, preferably comprising nickel as its substrate.

5525435

HYDROGEN STORAGE MATERIALS

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A hydrogen storage material for use in various hydrogen absorber devices such as electrochemical cells, hydrogen separator devices, temperature sensors and the like, having the formula: (*See Patent for Tabular Presentation*) PS where R and R' are a rare earth metal; T is cobalt; T' is Ni, Fe, Mn or Cr; X is Ga; X' is Al, Si, Sn, Ge, Cr, In or Mo; x is from 0.0 to 3.6; y is from 0.0 to 9.0; and z is from 0 to 2.

5525436

PROTON CONDUCTING POLYMERS USED AS MEMBRANES

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The subject invention relates to solid polymer electrolyte membranes comprising proton conducting polymers stable at temperatures in excess of 100°C, the polymer

being basic polymer complexed with a strong acid or an acid polymer. The invention further relates to the use of such membranes in electrolytic cells and acid fuel cells. Particularly, the invention relates to the use of polybenzimidazole as a suitable polymer electrolyte membrane.

5527643

CARBONACEOUS ELECTRODE MATERIAL FOR SECONDARY BATTERY AND PROCESS FOR PRODUCTION THEREOF

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A non-aqueous solvent-type secondary battery having a large charge-discharge capacity and exhibiting a high utilization rate of an active substance, such as lithium, and an excellent charge-discharge cycle characteristic, can be constituted by using a carbonaceous electrode material having a specific microtexture. The carbonaceous electrode material is characterized by having an average (002)-plane spacing d_{002} of 0.336-0.375 nm and a crystallite size in c-axis direction $L_c(002)$ of at most 50 nm, respectively, as measured by X-ray diffraction method, and an optically anisotropic texture showing a fine mosaic texture when observed through a polarizing microscope. The carbonaceous material may suitably be produced through a process including the steps of: crosslinking a tar or pitch of a petroleum or coal origin, and carbonizing the crosslinked tar or pitch at a temperature of at least 800°C under a reduced pressure or in an inert gas atmosphere.

5529707

LIGHTWEIGHT COMPOSITE POLYMERIC ELECTROLYTES FOR ELECTROCHEMICAL DEVICES

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Lightweight composite polymeric electrolytes which contain a lightweight inorganic filler, such as oxides of