5478460

ELECTROLYTE COMPOSITION FOR SCREEN PRINTING AND MINIATURIZED OXYGEN ELECTRODE AND PRODUCTION PROCESS THEREOF

Sugama Akio; Suzuki Hiroaki; Kojima Naomi Kawasaki, JAPAN assigned to Fujitsu Limited

An electrolyte composition for screen printing, comprising: an organic solvent; an inorganic salt in the form of a fine powder able to pass through a screen printing mesh, the salt powder being dispersed in the organic solvent; and polyvinyl pyrrolidone dissolved in the organic solvent. A miniaturized oxygen electrode having an oxygen sensing site filled with the electrolyte composition. A process for producing a miniaturized oxygen electrode, including a step of patterning or selectively removing an oxygen gas-permeable membrane at a pad region by removing or peeling off an underlying cover film formed thereunder.

5478616

HEAT-SEALABLE FILMS AND FILM LAMINATES WITH AN ANTISTATIC COATING

Kochem Karl-Heinz; Schmidt Michael Bingen Dietersheim, GERMANY assigned to Hoechst Aktiengesellschaft

A weldable and/or heat-sealable, single- or multilayer film having at least one weldable and/or heat-sealable layer, the weldable and/or heat-sealable film being provided on at least one side on one outer surface with an antistatic coating, wherein the antistatic coating has a thickness of from about 0.005 to about 0.08μ and comprises at least about 60% by weight of a soluble, intrinsically electroconductive polymer which comprises structural units of the formula (*See Patent for Chemical Structure*) in which R1 is a C1- to C12- or a C6- to C30-alkoxy group, and which has a degree of polymerization of less than about 100, where the polymer or oligomer is in oxidized form and has an appropriate number of anions to compensate for the positive charge. These films are heat-sealable, in spite of their antistatic coating.

5478670

NON-AQUEOUS ELECTROLYTE ELECTROCHEMICAL CELL COMPRISING HIGH NI AUSTENITIC STAINLESS STEEL POSITIVE ELECTRODE CASE

Hayasaka Toyoo; Harada Toyoo; Sakai Tsugio; Ohshida Junko Sendai, JAPAN assigned to Seiko Electronic Components Ltd

A non-aqueous electrolyte electrochemical cell comprises a negative electrode, a positive electrode, a non-aqueous electrolyte, a positive electrode case and a negative electrode case. The positive electrode case comprises a high-grade corrosion resistibility stainless steel having a pitting index between 30.5 and 45, the pitting index being calculated by the formula Cr %+3*Mo %+16*N %. An enhanced pressure sealed electrochemical cell can be manufactured in which the production cost of the positive electrode case is reduced and the productivity of the electrochemical cell improved by suppression of anodic oxidation of the positive electrode case.

5480744

BISMUTH BASED ELECTRODES FOR ELECTROCHEMICAL CELLS

Bai Lijun Vernon Hills, IL, UNITED STATES assigned to Motorola Inc

An electrochemical, bismuth containing charge storage material and electrochemical cells having an electrode comprising the material. The charge storage material has the composition: BixXyMz where Bi is bismuth, M and X are modifiers and x, y, and z represent the relative proportion of each component.

5480745

POROUS FILM AND USE OF THE SAME

Nishiyama Soji; Higuchi Hiroyuk; Matsushita Kiichiro; Matsushima Ryoichi Osaka, JAPAN assigned to Nitto Denko Corporation

A porous film, a process for producing the same, a battery separator comprising the porous film, and a battery having incorporated therein the separator are disclosed. The porous film comprises a polyethylene and a polypropylene as the essential components, wherein the polyethylene content in the total weight of polyethylene and polypropylene is from 2 to 40% by weight and the polyethylene content is changed in the direction of the thickness of the film, and is produced by forming a laminate film comprising at least one polypropylene layer and at least one layer of a mixture of polyethylene and polypropylene as the essential components, the polyethylene content in the film being from 2 to 40% by weight, uniaxially stretching the laminate film at a low-temperature range of from -20 degrees C. to 80 degrees C. and then stretching the film at a high-temperature range of from 90 degrees C. to 150 degrees C.

5480924

CONDUCTIVE POLYMER DOPED BY A SULPHONATED CYCLODEXTRIN SALT AND DEVICE FOR OBTAINING AND/OR SUPPLYING AN ACTIVE SUBSTANCE INCORPORATING SAID POLYMER

Vieil Eric; Bidan Gerard; Gadelle Andree; Mendes-Viegas Maria-Fatima Meylan, FRANCE assigned to Commissariat a l'Energie Atomique

Conductive polymer doped by a sulphonated cyclodextrin salt and device for obtaining and/or supplying an active substance incorporating said polymer. The dopant used has the following formula (I): (*See Patent for Chemical Structure*) (I) in which n is an integer between 2 and 50, M+ is Na+, Li+, K+ Mg+ 1/2 or NH4+ and R represents -SO3-M+ or -OH, whereby R can differ from one cycle to the other. The doped conductive polymer can be used as an active electrode material in an electrochemical device.

5482795

SOLID ELECTROLYTE UTILIZING A POLYMERIC MATRIX OBTAINED BY THE POLYMERIZATION OF A SUBSTITUTED ALLYLIC CHLOROFORMATE

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This invention is directed to a single phase solid solvent-containing electrolyte having recurring units derived from a substituted allylic chloroformate incorporated within the solid polymeric matrix of the solid electrolyte. A novel electrolytic cell that incorporates the subject electrolyte also is provided. The specific molecular structure exhibited by such solid polymeric matrix is believed to advantageously facilitate the positioning of an inorganic ion salt and solvent between adjacent polymeric molecules during service within the solid electrolyte.

LITHIUM BATTERY

5474752

METHOD OF PRODUCING ACTIVE CATHODE MATERIAL FOR LITHIUM SECONDARY BATTERY

Yamamoto Yoshikatsu Fukushima, JAPAN assigned to Sony Corporation

A method of producing active cathode material for lithium secondary battery is provided. In accordance with this invention, a mixture of a lithium salt and a transition metal salt is baked in oxygen atmosphere, wherein the oxygen pressure during baking is about 147.1 kPa or more. The lithium transition metal compound oxides prepared have the composition, LixNiyM1-yO2, wherein M is one kind of transition metal or more, and x and y respectively have the values 0.05< or =x< or =1.10 and 0.5< or =y< or =1.0. The active cathode material for a lithium secondary battery according to this invention, provides lithium transition metal compound oxides which are uniform in composition and characteristic, and exhibit excellent functioning as an active cathode material. Lithium secondary batteries produced therewith exhibit excellent cycle characteristics, high energy densities and low material costs, are of uniform quality and exhibit no unevenness of battery capacity.