

gelling agent. The base electrolytes of this invention are comprised of an aprotic liquid and a dissolved ionizable alkaline metal salt. The preferred radiation curable polymer pre-cursors of this invention include trimethylol propane ethoxy triacrylate (TMPEOTA) and poly(ethylene glycol) diacrylate (PEGDA). The solvent gelling agent should be a solid powder or polymer with high surface area to adsorb the liquid electrolyte. Solid powders that can be used in the gelling agent include inorganic oxygen compounds such as silica (SiO₂), titania (TiO₂), alumina (Al₂O₃), magnesium oxide (MgO), barium oxide (BaO) and the like. Other compounds that can be used in the gelling agent include super absorbent polymers, clays, zeolite and such. The structurally stable gelled electrolyte of this invention is coated onto a suitable substrate, for example a glass plate, metal foil, a battery electrode web and cured, either in place, or can be used as a free standing film for cell assembly.

5648185

ALLYL SILANE MONOMERS AND SOLID ELECTROLYTES DERIVED BY POLYMERIZATION THEREOF

Chaloner-Gill Benjamin; Golovin Nea Santa Clara, CA, UNITED STATES assigned to Valence Technology Inc

This invention is directed to novel allyl silane monomers and to solid electrolytes containing a solid polymeric matrix having incorporated therein allyl silane monomers. The solid electrolytes are used in electrolytic cells.

5648186

POLYMER ELECTROLYTES HAVING A DENDRIMER STRUCTURE

Daroux Mark L; Kurz David W; Litt Morto; Melissaris Anastasios; Pucci Donald G Cleveland Heights, OH, UNITED STATES assigned to Gould Electronics Inc

Polymers, oligomers or copolymers, having a dendrimer structure and containing electronegative heteroatoms, such as etheric oxygens, capable of complexing with

cationic species, for use in ionically-conductive polymeric electrolytes, Relatively high ambient conductivity is a feature of such electrolytes.

LITHIUM BATTERIES

5632784

METHOD OF MANUFACTURING A LITHIUM BATTERY

Yoon Jae-G Seoul, KOREA assigned to Daewoo Electronics Co Ltd

A method of predischarging a novel battery wherein a stable lithiated film is formed at an anode by a small amount of the discharged capacity in order to rapidly recover the open circuit voltage of the battery, is disclosed. The battery includes a cathode using lithium metal as an active material, an anode using manganese dioxide as a main component of an active material, and an electrolyte including an inorganic electrolyte dissolved in a nonaqueous solvent containing at least propylene carbonate. The battery is predischarged by using a pulse current. The amount of discharge is not more than about 2% of the total discharge capacity. A lithiated film which is formed at the anode portion while being partially oxidized to lithium ions, is uniformed. By a small amount of the discharged capacity, a high potential portion can be removed and the gas generation reaction can be suppressed. In addition, the life of the battery is lengthened and the flatness of the battery's voltage is improved.

5635151

CARBON ELECTRODE MATERIALS FOR LITHIUM BATTERY CELLS AND METHOD OF MAKING SAME

Zhang Jinshan; Anani Anaba Duluth, GA, UNITED STATES assigned to Motorola Inc

A method for preparing an amorphous carbon material for use as an electrode, such as the anode of an electrochemical cell. The amorphous carbon is