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(54) Title: MICROPOROUS MEMBRANE, AND PREPARATION METHOD THEREFOR AND APPLICATION THEREOF

(54) 发明名称: 一种微孔膜及其制备方法和应用

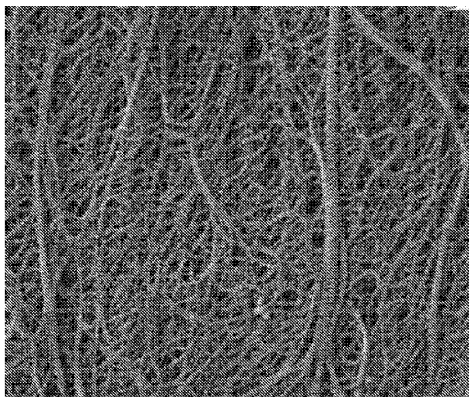


图 1

(57) Abstract: The present application relates to the technical field of separator material preparation, and specifically relates to a microporous membrane, and a preparation method therefor and an application thereof. The microporous membrane comprises a polymer and an ionic liquid. Based on the total mass of the microporous membrane, the microporous membrane comprises 0.01 wt% to 5 wt% of the ionic liquid, optionally 0.1 wt% to 5 wt% of the ionic liquid. In the present application, an appropriate amount of the ionic liquid is introduced into the microporous membrane, and the ionic liquid can be continuously or discontinuously adsorbed on the surfaces of fibers in the microporous membrane. The ionic liquid is adsorbed on the surfaces of the fibers in the microporous membrane by means of a lipophilic end of the ionic liquid, thereby eliminating internal static electricity, also better reducing the reduction of ionic conductivity, increasing the migration speed of ions in an electrolyte, and reducing lithium dendrites. When the microporous membrane of the present

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根据细则4.17的声明:
— 发明人资格(细则4.17(iv))

本国际公布:
— 包括国际检索报告(条约第21条(3))。

application is used as a battery separator, an appropriate amount of the ionic liquid is added into the microporous membrane, so that the problem of electrostatic accumulation of the microporous membrane can be alleviated, and the microporous membrane has relatively low thermal shrinkage, avoiding problems such as affecting battery capacity, electrochemical safety.

(57) 摘要: 本申请属于隔膜材料制备技术领域, 具体涉及一种微孔膜及其制备方法和应用。该微孔膜包括聚合物和离子液体, 以微孔膜总质量计, 微孔膜包括0.01wt% ~ 5wt%的离子液体, 可选为0.1wt% ~ 5wt%离子液体。本申请通过在微孔膜中引入适量的离子液体, 离子液体可以连续或不连续地吸附在微孔膜内部的纤维的表面, 离子液体通过其亲油端吸附在微孔膜内部的纤维的表面, 既能消除内部的静电, 也能更好避免离子电导率的降低, 增加电解液离子迁移速度, 减少锂枝晶。将本申请微孔膜用作电池隔膜时, 在微孔膜中加入适量的离子液体有利于改善其静电积累问题, 同时使得微孔膜具有较低的热收缩, 避免影响电池容量和造成电化学安全性等问题。