Lithium battery flame retardant diaphragm

Overview

As one of the most popular research directions, the application safety of battery technology has attracted more and more attention, researchers in academia and industry are making efforts to develop safer flame retar. ••Flame retardant modification of electrolyte for improving battery. Battery technology has developed rapidly in recent years, which has become the next generation energy storage technology with the most potential to replace fossil energy. The curre. Electrolyte is the key part of battery, which affects the electrical performance and safety of battery,,. Generally, lithium battery electrolyte is composed of lithi. Separator with excellent performance is a key structure in the battery, which can provide a battery with great capacity, long cycle time and safe performance. The performance of t. In addition to the electrolyte and separator inside the battery, the plastic parts outside the battery are also one of the factors affecting the safety of the battery. The plastic parts of th.

Article Content

CN114050374A

The lithium ion battery diaphragm capable of achieving the flame retardant effect through thermal decomposition is prepared from polyetherimide and ammonium polyphosphate through an …

CN112582693A

The invention discloses a flame retardant treatment method of a polyolefin diaphragm of a lithium battery, which relates to the technical field of lithium battery diaphragms, wherein allyl propyl …

Zinc borate modified multifunctional ceramic diaphragms for lithium …

In this review, varied types of battery flame retardant technology are initially described, including the type of flame-retardants, flame retardant behaviors and flame …

CN117199706A

The invention discloses a lithium battery flame-retardant diaphragm material and a preparation method thereof, belonging to the technical field of lithium batteries, and comprising the …

CN112054151A

The invention has simple operation process and can be produced in batch, can solve the problems of weak flame retardant property of the diaphragm of the existing lithium ion battery …

MOF and its derivative materials modified lithium–sulfur battery ...

MOF has a very high potential for lithium battery diaphragm applications due to its porous nanostructure. In 2011, Demircakan and colleagues initially applied a mesoporous …

CN112531288A

The invention discloses a flame-retardant nanofiber lithium battery diaphragm and a preparation method thereof, and relates to the technical field of lithium battery diaphragms, wherein the …

CN112054151A

The invention discloses a flame-retardant lithium ion battery diaphragm and a preparation process thereof. Compared with the prior art, the modified inorganic flame retardant is safe and …

CN114497887A

The invention discloses a high flame-retardant lithium ion battery diaphragm and a preparation method thereof, and the method comprises the following steps: s1: dissolving a core material in ...

Zinc borate modified multifunctional ceramic diaphragms for ...

The Zn–O polar bond can be used as a Lewis acid site to bind anions and accelerate lithium ion transport. The -BO 3 structure is conducive to melting zinc borate at high ...

CN111370633A

The invention is suitable for the technical field of lithium ion batteries, and provides a heat-resistant flame-retardant composite diaphragm for a lithium ion battery, which ...

CN116190916A

The invention relates to the field of lithium battery diaphragms, and discloses a flame-retardant high-temperature-resistant lithium battery diaphragm and a preparation method thereof, ...

CN104752658A

CN104752658A CN201310732338.1A CN201310732338A CN104752658A CN 104752658 A CN104752658 A CN 104752658A CN 201310732338 A CN201310732338 A CN ...

CN115663403A

The invention relates to the technical field of battery diaphragms, in particular to a high-flame-retardant diaphragm for a lithium ion battery and a preparation process thereof 3 (ii) a ...

The preparation of intrinsic DOPO-Cinnamic flame-retardant cellulose ...

For example, the lithium ion battery separator may trigger fire when encountering the short circuit and overcharging. A lack of safety features may even result in ...

CN104485436A

The invention discloses a fire-retardant ceramic diaphragm for a lithium battery. The ceramic diaphragm comprises a diaphragm substrate which is formed by compounding polypropylene ...

CN117577973A

The flame-retardant diaphragm for the lithium battery comprises a porous diaphragm substrate and a flame-retardant layer formed on the porous diaphragm substrate, wherein the flame ...

CN116231228A

The invention discloses a flame-retardant lithium battery coating diaphragm, a preparation method thereof and a lithium ion battery, and belongs to the technical field of batteries. The flame …

Design strategy towards flame-retardant gel polymer electrolytes …

Similar to nitrile flame retardants, amide flame retardants are also nitrogen-based. When exposed to heat, they generate inert gases such as N 2, effectively mitigating …

CN115241605A

The invention discloses a safe multilayer composite diaphragm for a lithium battery with flame retardant property; modifying magnesium hydroxide by KH550 and ammonia water, and …

CN111211274A

The invention belongs to the technical field of lithium battery diaphragms, and particularly relates to a flame-retardant lithium ion battery diaphragm and a preparation method thereof. The flame …

CN113193302A

The invention relates to a flame-retardant lithium ion battery composite diaphragm and a preparation method and application thereof, and the preparation raw materials of the flame …

Design strategy towards flame-retardant gel polymer …

This electrolyte reportedly combines the advantages of a phosphoric group-based lithium salt electrolyte with a high concentration of lithium salt and a polymer backbone to provide flame retardant, electrochemical …

A novel flame-resistant separator for high performance lithium…

Lithium–sulfur batteries (LSB) offer a high energy density in energy storage systems in the long run, and are of much lower cost than commercially available lithium-ion batteries. The …

Safety Materials in EV Batteries for Improved Protection

Flame-retardant diaphragm for lithium-ion batteries that reduces ignition and explosion risk during thermal runaway. The diaphragm contains an inorganic flame retardant …

Design strategy towards flame-retardant gel polymer electrolytes …

Subsequently, the thermal diffusion stage ensues as the diaphragm of the battery melts at around 130 °C, causing the electrodes to come into contact and leading to …

CN113241501A

The invention discloses a preparation method of a flame-retardant and easily-carbonized lithium ion battery diaphragm, aiming at the defects that the traditional polyolefin diaphragm is ...

MOF and its derivative materials modified lithium–sulfur battery ...

MOF has a very high potential for lithium battery diaphragm applications due to its porous nanostructure. ... Li Z, Zhu Y, Lu J, Wang H, Song L, Kan Y, Hu Y. A flame ...

Safety Protection Measures for Lithium Ion Batteries: An ...

The most common safety problems of lithium-ion batteries mainly exist in electrolyte and diaphragm. Thermal runaway is the main cause of safety accidents of lithium ...

CN117577973A

The lithium metal battery using the flame-retardant diaphragm has high coulombic efficiency, high cycle stability and long cycle life, and has good high-temperature...

CN109273643A

The invention proposes a kind of preparation methods of lithium battery fire-retardant cellulose diaphragm, comprising the following steps: 1) prepares nano-cellulose suspension□2) ...

Zinc borate modified multifunctional ceramic diaphragms for ...

The diaphragm of a lithium-ion battery has important functions, such as preventing a short circuit between the positive and negative electrodes of the battery and ...

CN115000630A

The invention discloses a flame-retardant carbon fiber lithium ion battery diaphragm and a preparation method thereof; according to the invention, the hollow and porous hollow carbon ...

CN210692653U

The utility model relates to an automatic flame-retardant lithium ion battery diaphragm, which mainly solves the problem of poor conductivity of a lithium battery added with a flame retardant ...

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