Lithium battery positive electrode material patent in New Zealand

Who makes a lithium ionobell battery?

EnergyX,founded in 2018,specializes in lithium mining. Its patent on solid-state batteries is co-filed with the University of Texas and is related to lithiated metal organic frameworks with a bound solvent for secondary battery applications. Ionobell is an American material and battery manufacturer founded in 2017.

Who makes pure lithium batteries?

Pure Lithium, established in 2019, commercializes lithium metal negative electrodes. Its patents on solid-state batteries are related to lithium deposition and batteries using inorganic molten salts. Auto Motive Power is an American energy management company founded in 2017, which provides charging and battery management systems.

Who has a patent on solid-state batteries?

Toyo Kohan's patent on solid-state batteries is co-filed with Toyota and is related to a sulfide all-solid-state battery. Nippon Denko's patents on solid-state batteries are related to a garnet lithium ion-conductive oxide material with high ionic conductivity.

Are solid-state batteries patentable in Japan?

Even though most Japanese companies had started filing patents on solid-state batteries many years earlier, some of them only joined the IP landscape in 2022, such as material manufacturers (Toyo Kohan, Nippon Denko), battery manufacturers (Prime Planet Energy & Solutions, Vehicle Energy Japan) and OEMs/end users (Futaba, Tripod Design, Softbank).

Why are new companies entering the lithium-ion market?

Numerous new companies have been entering the landscape,attracted by the huge hype surrounding solid-state lithium-ion (Li-ion) batteries and their market potential. In such a thriving competitive landscape,it is important to stay up to date on competitors' strategic choices,newcomers and technological trends.

Are solid-state lithium-ion batteries competitive?

The competitive and technological landscape of solid-state batteries has shifted in recent years. Numerous new companies have been entering the landscape, attracted by the huge hype surrounding solid-state lithium-ion (Li-ion) batteries and their market potential.

Battero Technology is a battery manufacturer founded in 2020, specializing in Li-ion batteries for electric vehicles. Its two patent families on solid-state batteries are related to a composite positive electrode material ...

Provided is a lithium-ion rechargeable battery which combines excellent electrical conductivity and adhesion of the electrode active material with respect to the collector, and which can dramatically improve battery

characteristics compared to the prior art.

Reasonable design and applications of graphene-based materials are supposed to be promising ways to tackle many fundamental problems emerging in lithium batteries, including suppression of electrode/electrolyte side reactions, stabilization of electrode architecture, and improvement of conductive component. Therefore, extensive fundamental ...

With the lithium-ion battery positive electrode material and the cobalt-free nickel manganese positive electrode material having a single crystal structure set forth in the present application, a surface can form a stable solid-state electrolyte membrane during an initial charge/discharge process, and contraction and expansion during later stage...

The present invention relates to a positive electrode active material having improved capacity characteristic and life cycle characteristic, and a method of preparing the same, and specifically, to a positive electrode active material for a lithium secondary battery, wherein the positive electrode active material comprises a compound represented by Formula 1 above and ...

This review focuses on the global innovation & patenting activity by companies in Li-ion battery high-energy positive electrode active materials for large scale, high-energy applications (key application: EVs). Patent families were classified into 5 categories:

Battero Technology is a battery manufacturer founded in 2020, specializing in Li-ion batteries for electric vehicles. Its two patent families on solid-state batteries are related to a composite positive electrode material comprising NASICON/polymer solid electrolyte, its manufacturing method and its use in all-solid-state batteries.

The lithium secondary battery is in the spotlight due to its advantages that the operating voltage is higher and the energy density is far greater as compared to batteries of prior art, such as a Ni ...

The high capacity (3860 mA h g -1 or 2061 mA h cm -3) and lower potential of reduction of -3.04 V vs primary reference electrode (standard hydrogen electrode: SHE) make the anode metal Li as significant compared to other metals [39], [40].But the high reactivity of lithium creates several challenges in the fabrication of safe battery cells which can be ...

Fig. 1 Schematic of a discharging lithium-ion battery with a lithiated-graphite negative electrode (anode) and an iron-phosphate positive electrode (cathode). Since lithium is more weakly bonded in the negative than in the positive electrode, lithium ions flow from the negative to the positive electrode, via the electrolyte (most commonly LiPF 6 in an organic, ...

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Applications but also the worldwide patent collections. This search facility features: flexible search syntax; automatic word stemming and relevance ranking; as well as graphical results.

a positive electrode active material for EV application is a Lithium Nickel Manganese Cobalt Oxide (hereafter referred to as "NMC") based positive electrode materials which has a...

In 1979, a group led by Ned A. Godshall, John B. Goodenough, and Koichi Mizushima demonstrated a lithium rechargeable cell with positive and negative electrodes made of lithium cobalt oxide and lithium metal, respectively. The voltage range was found to 4 V in this work. The cathode material is a crucial component of lithium ions in this system and stable ...

The particle size of the obtained LiFePO4 was about 3 um. The performance of the LiFePO4 as a positive electrode material for rechargeable lithium battery was evaluated in an organic electrolyte ...

In this research, we review the patents pertinent to the usage of graphene-based materials and Fe3O4 nanoparticles in negative electrode of lithium-ion batteries due to the essential roles of the ...

With the lithium-ion battery positive electrode material and the cobalt-free nickel manganese positive electrode material having a single crystal structure set forth in the present application, ...

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