

What is BASF doing with lithium-ion batteries?

In addition to optimizing cathode active materials for lithium-ion batteries as part of our existing portfolio, BASF is also researching next generation battery materials and systems, and augments its in-house research efforts by collaborating with leading scientists, start-ups and universities around the globe.

Which binders are suitable for lithium-ion batteries?

BASF's Licity® product range for lithium-ion battery binders are suitable for pure graphite as well as silicon-containing anodes. Licity® lithium-ion battery binders help to prevent electrode swelling, thus enabling higher battery capacities. Batteries profit from our binders with increased charge cycles and reduced charging times.

What is BASF showcasing at the battery show Europe 2024?

BASF will be showcasing its innovative power solutions at The Battery Show Europe 2024 in Stuttgart, Germany. Taking place between June 18-20, Europe's largest industry event brings together the battery and electric vehicle (EV) community combining real-world commercial and technical aspects.

Are lithium-ion batteries good for e-mobility?

Lithium-ion batteries are the centerpiece of e-mobility. The technology has a lot to offer. But it also comes to its limits. Those limits regarding low temperature performance or cycle stability can be overcome by adding a "secret ingredient" into the anode mix. The secret ingredient Licity®.

Why should you choose BASF?

Since the early 20th century BASF has been driving innovations in products and applications with its unique approach to develop and produce dispersions. Today our products cover several industries such as coatings, construction, adhesives, printing and packaging, electronics and paper.

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BASF has announced that it will invest in the production of waterborne negative adhesives to support the lithium-ion battery industry by transforming two existing dispersion plants in Jiangsu and Guangdong provinces of China. ... SBR is used in 98% of the negative electrode binder of lithium battery. SBR binder solid content is generally 49%-51 %

The active materials in the electrodes of commercial Li-ion batteries are usually graphitized carbons in the negative electrode and LiCoO₂ in the positive electrode. The electrolyte contains LiPF₆ and solvents that consist of mixtures of cyclic and linear carbonates. Electrochemical intercalation is difficult with graphitized carbon in LiClO₄/propylene ...

The present invention pertains to a salified polyamide-imide (PAI-Salt) polymer, a method of making the PAI-Salt, an electrode-forming composition comprising the PAI-Salt, a method of ...

An application of thin film of silicon on copper foil to the negative electrode in lithium-ion batteries is an option. 10 ... Charge and discharge curves of the laminate-type lithium-ion battery consisting of "SiO-carbon composite ...

More and more electric cars are registered worldwide every year. At the same time, the raw materials for the batteries are limited and their mining is associated with negative environmental impact. BASF researchers at the Ludwigshafen site therefore develop a new chemical process to recycle the lithium contained in the battery in high purity.

BASF announced that it will invest in the production of water-based negative electrode adhesives to support the lithium-ion battery industry by renovating two existing ...

dissolved negative electrode current ... Capillary electrophoresis / Copper speciation / Current collector / Lithium ion battery/Transitionmetaldissolution DOI10.1002/elps.202000155 ... EC/EMC= 50:50wt%,BASF).Thepreparedsampleswere storedinself-made polyetheretherketone(PEEK)crimptop

With the accelerating shift towards electric, BASF has decided to invest in the production of waterborne negative adhesives to support the lithium-ion battery industry.

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BASF's Licity product range for lithium-ion battery binders are suitable for pure graphite as well as silicon-containing anodes. Licity lithium-ion battery binders help to prevent electrode swelling, thus enabling higher battery capacities. Batteries profit from our binders with increased charge cycles and reduced charging times. Licity lithium-ion battery binders also enhance ...

Real-time stress evolution in a practical lithium-ion electrode is reported for the first time. Upon electrolyte addition, the electrode rapidly develops compressive stress (ca. 1-2 MPa). During intercalation at a slow rate, compressive stress increases with SOC up to 10-12 MPa. De-intercalation at a slow rate results in a similar decrease in electrode stress. The ...

Constant current charge/discharge cycling experiments were performed in a three-electrode cell set-up (Swagelok) [31].LiNi 1/3 Mn 1/3 Co 1/3 O 2 (NMC111) and TIMREX SFG6 graphite electrodes, purchased by respectively BASF and Imerys, were house made; the detailed preparation process is described elsewhere [17].Lithium metal (Albermarle) was used ...

Double-sided NMC622-based electrodes ($\text{LiNi}_{0.6}\text{Mn}_{0.2}\text{Ni}_{0.2}\text{O}_2$, BASF) ... Negative electrodes were composed of battery-grade lithium metal foil (Honjo Chemical Corporation, 130 μm thickness) and a copper foil current collector (Schlenk, 18 μm thickness). ... Elucidating the lithium deposition behavior in open-porous copper micro-foam ...

Electrode stress significantly impacts the lifespan of lithium batteries. This paper presents a lithium-ion battery model with three-dimensional homogeneous spherical electrode particles. It utilizes electrochemical and mechanical coupled physical fields to analyze the effects of operational factors such as charge and discharge depth, charge and discharge rate, and ...

Lithium Powder Synthesis and Preparation of Powder-Based Composite Electrodes for Application in Lithium Metal Batteries December 2021 Energy Technology 10(2)

Web: <https://www.batteryhqcenturion.co.za>