New battery electrolyte technology

They discovered a new kind of solid-state electrolyte, the kind of material that could lead to a battery that"s less likely to burst into flames than today"s lithium-ion batteries.

That insolubility is important because it prevents the material from dissolving into the battery electrolyte, as some organic battery materials do, thereby extending its lifetime. "One of the main methods of degradation for ...

A brand new substance, which could reduce lithium use in batteries, has been discovered using artificial intelligence (AI) and supercomputing.

As this exciting new EV battery technology takes shape in 2024, its potential reach into larger EV markets becomes increasingly evident, highlighting its transformative prospects for the future. Key Innovations in New ...

With the FeCl3 cathode, a solid electrolyte, and a lithium metal anode, the cost of their whole battery system is 30-40% of current LIBs. "This could not only make EVs much cheaper than internal combustion cars, but it provides a new and promising form of large-scale energy storage, enhancing the resilience of the electrical grid," Chen said.

At 60°C, 15 degrees above the maximum operating temperature for a Li-ion battery, the new electrolyte-filled cell could undergo twice as many charging cycles before seeing a 20% drop in battery ...

Another defining factor for this battery is its utilization of a unique liquid chemical formula that charges iron with a neutral-pH phosphate-based liquid electrolyte.

Samples of the new solid electrolyte discovered by Microsoft AI and HPC tools ... are "the holy grail" in the lithium-ion battery industry. ... this technology works is by using a new type of AI ...

A conventional (clear) electrolyte on the left and the novel Stanford electrolyte of the right. (Image credit: Zhiao Yu) A new lithium-based electrolyte invented by Stanford University scientists could pave the way for ...

Columbia Engineers develop new powerful battery "fuel" -- an electrolyte that not only lasts longer but is also cheaper to produce. ... East China University of Science and Technology, Shanghai, 200237, China. Department of Chemistry, Columbia ...

IM Motors claims it uses a patented "nano-scale electrolyte" with "high ionic conductivity and

high-temperature resistance." It also says the battery"s cathode is coated with nickel ...

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