

What are the basic patents for lithium batteries

This paper provides a comprehensive review of lithium-ion battery recycling, covering topics such as current recycling technologies, technological advancements, policy gaps, design strategies ...

Examples of such high energy battery couples are lithium-air, lithium-water lithium-metal hydride, lithium-metal oxide, and the lithium alloy and lithium-ion variants of these. The cells of the invention may incorporate additional components in their electrolytes (anolytes and catholytes) to enhance cell safety, and may have a variety of configurations, including planar and ...

Lithium chloride can be converted into lithium hydroxide by a strong basic anion exchanger in the hydroxide form. Because of the low atomic mass of lithium (6.94 g mol⁻¹), a large ion exchange capacity is required to prepare 1 kg of lithium hydroxide starting from lithium chloride by using an anion exchanger, implying that this method is not ...

The battery provides more energy and is safer. 1983: Akira Yoshino develops and patents an improved battery. The lithium in the anode ...

The global lithium-ion battery market size is estimated to touch nearly U.S. Dollars 105.0 billion by 2025, owing to the increasing demand from consumer electronics ...

November 17, 2024: Patent filings for battery recycling have increased 45% year-on-year, with a greater focus on extracting lithium, according to latest analysis. ... This innovation focus reflects the relative complexity involved in recycling lithium ion batteries and comparative scarcity of the element, which affects energy security, said the ...

A battery may include an anode, a cathode positioned opposite to the anode, a separator positioned between the anode and the cathode, an electrolyte dispersed throughout the cathode and in contact with the anode, and a dual-pore system. The anode may be configured to release a plurality of lithium ions. The cathode may include a plurality of pathways defined by a ...

Lithium-ion batteries include a positive current collector (e.g., aluminum such as an aluminum foil) having an active material provided thereon (e.g., LiCoO₂) and a negative current...

Moreover, redox flow batteries are emerging as the most exciting new battery technology for grid storage, with patent activity doubling since 2014, to 894 in 2019 (also above). Hence we include notes on ESS Inc. A description of each ...

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Justia Patents US Patent Application for ELECTROLYTES FOR LITHIUM BATTERIES Patent Application (Application #20230246230) ... to include those elements specifically recited and those additional elements that do not materially affect the basic and novel characteristics of the claimed technology. The phrase "consisting of" excludes any ...

The global lithium-ion battery recycling market, a new potential sector for Aqua Metals, is projected to reach \$19.4 billion by 2026, at a CAGR of 38.1% during 2021-2026 (Valuates Report - Nov. 2020). Aqua Metals Files ...

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