

Title: Sulfide flow battery

Generated on: 2026-04-06 18:51:35

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Aqueous redox flow batteries (RFBs) incorporating polysulfide/iodide chemistries have received considerable attention due to their safety, high scalability, and cost-effectiveness.

To meet this need, PNNL scientists have developed iron-sulfide redox flow battery systems that demonstrate excellent energy conversion efficiency and stability and utilize low-cost materials.

This review aims to provide a detailed overview of the current issues and advancements in sulfide-based AFSSBs. We first discuss the challenges and limitations ...

To address this problem, herein we propose a strategy to reactivate dead sulfide species by reacting them with sulfur powder with stirring and heating (70 °C) to recover the cell capacity, ...

Among them, the sulfide-iron flow battery (SIFB) has recently attracted wide academic and industrial attention because of its abundant raw materials, low cost and environmental ...

Among various electrochemical storage technologies, polysulfide-based redox flow batteries (PSRFBs) have emerged as an up-and-coming candidate due to their high energy ...

All-solid-state battery (ASSB) is the most promising solution for next-generation energy-storage device due to its high energy density, fast charging capability, enhanced ...

A flow battery, or redox flow battery (after reduction-oxidation), is a type of electrochemical cell where chemical energy is provided by two chemical components dissolved in liquids that are ...

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