

## Kongres Container

# Titanium-aluminum energy storage battery



## Overview

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Are nonaqueous rechargeable aluminum batteries safe?

Learn more. Nonaqueous rechargeable aluminum batteries (RABs) attract intense interest due to their low-cost, high-capacity, and high-safety using nonflammable chloroaluminate ionic liquid electrolytes (ILEs). However, Al dendrite growth, interface degradation, and corrosiveness remain challenges in these ILEs.

Are titanium sulfides intercalation-type cathode materials for rechargeable aluminum batteries?

ACS Appl. Mater. Interfaces 11, 41356–41362 (2019). L. Geng, J. P. Scheifers, C. Fu, J. Zhang, B. P. T. Fokwa, J. Guo, Titanium sulfides as intercalation-type cathode materials for rechargeable aluminum batteries.

What is an ultrastable solid-state aluminum battery (SAB)?

Herein, an ultrastable solid-state aluminum battery (SAB) based on a cross-linked polymer solid-state electrolyte (PSE) and a PSE-encapsulated graphite (PG) cathode is constructed via an in situ polymerization strategy, which maintains battery safety and realizes a synergy of interface compatibility between PSE/PG and PSE/Al interfaces.

What is a high-performance rechargeable aluminum battery (Rab)?

The desire to move toward a high-performance rechargeable aluminum battery (RAB) that uses trivalent Al<sup>3+</sup> as a charge carrier is driven by the high capacity (8046 mAh/cm<sup>3</sup>), inherent safety, low cost, and abundance of Al (1 – 3).

Is graphene oxide supported SnS<sub>2</sub> cathode active material for aluminum-ion batteries?

Y. Hu, B. Luo, D. Ye, X. Zhu, M. Lyu, L. Wang, An innovative freeze-dried reduced graphene oxide supported SnS<sub>2</sub> cathode active material for

aluminum-ion batteries. *Adv. Mater.* 29, 1606132 (2017).

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