

Cobalt free batteries uk

This brings us back to some recent Tesla announcements. The company is placing a huge bet on rechargeable battery technology that doesn't use cobalt. This is one of the main elements making lithium ion batteries so expensive. It's also fraught with political issues, since the mining can be in conflict areas like the Congo, and its production is considered quite polluting of the environment. But cobalt is used because it enables the energy density required in batteries intended to last for hundreds of miles per charge.

In the switch to "greener" energy sources, the demand for rechargeable lithium-ion batteries is surging. However, their cathodes typically contain cobalt -- a metal whose extraction has high environmental and societal costs. Now, researchers in ACS Central Science report evaluating an earth-abundant, carbon-based cathode material that could replace cobalt and other scarce and toxic metals without sacrificing lithium-ion battery performance.

So, Mircea Dinc? and his colleagues wanted to see if other carbon-based cathode materials could be more successful. They may have found a worthy candidate in bis-tetraaminobenzoquinone (TAQ). TAQ molecules form layered solid-state structures than can potentially compete with traditional cobalt-based cathode performance.

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For a long time, we've been hearing that cobalt is terrible. Its mining is linked to child labor, environmental damage, and loss of habitat to local wildlife -- and its use is increasing.

The EV sector uses a combination of lithium-ion battery chemistries, with cobalt-containing cathodes maintaining the largest share. This is due to their energy density and performance -cobalt is particularly important for stability and safety.

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