New electrodes may provide safer, more powerful lithium-ion (Li-ion) batteries

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Researchers in Spain and the United Kingdom are reporting development of a new electrode material that could ease concerns about the safety of those unbiquitous lithium-ion (Li-ion) batteries, while giving Li-ion batteries a power boost, according to a new study. It is scheduled for the March 11 issue of ACS' *Chemistry of Materials*.

Li-ion batteries power an increasing number of laptop computers and portable electronic devices. They are now being eyed for motor vehicles of the future. However, recent recalls of millions of Li-ion batteries due to overheating have raised safety concerns, with researchers seeking new materials to make safer, more powerful batteries.

In the new study, M. Rosa Palacín and colleagues compared the performance of Li-ion batteries made with electrodes composed of lithium nickel nitride (LiNiN) to conventional Li-ion batteries containing carbon electrodes.

The new materials are more efficient than the conventional electrodes and less likely to overheat, the researchers suggest. They note that "further improvements can be envisaged by changing the reaction conditions and the processing of the electrode."

The article is available at dx.doi.org/10.1021/cm7034486

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