

Li-Bx

Fluorinated electrolyte salts for Lithium-ion batteries

Invention

Scientists at the MEET battery research center of the WWU Muenster and the Jacobs University Bremen have invented several new conducting salts for electrolytes. These show remarkable properties when used in lithium-ion batteries. Li-Bx describes several ethanesulfonate fluorinated derivatives, their preparation and use as an electrolyte for lithium-ion batteries or as anions for ionic liquids. In contrast to the widely used electrolyte salt LiPF₆, Li-Bx anions show a higher thermal stability.



Battery symbol

Commercial Opportunities

Lithium ion batteries are widely used as mobile energy storage. The use of Li-Bx provides the ability to run the batteries at higher temperatures, which can be dispensed with elaborate cooling system. At the same time, the salt is less sensitive to moisture and easy to dry, resulting in the reduction of process costs. Furthermore, it is because of its excellent stability, no toxic or corrosive decomposition products in comparison with LiPF₆.

Current Status

The invention is in Germany for a patent registered and can be internationalized worldwide. PROvendis offers on behalf of the Westphalian-Wilhelms University of Münster and the Jacobs University Bremen licenses to manufacture and use of substances.

An invention of the University of Münster.

Competitive Advantages

- Temperature Stability
- Improved safety
- Suitable for long-lasting lithium-ion batteries
- Simple synthesis
- Lab tested

Technology Readiness Level

1 2 3 4 5 6 7 8

Experimental proof of concept

Industries

- Battery Industry
- Chemical Industry

Ref. No.

3066

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