FTMRS SOLAR

Lithium hexafluorophosphate for energy storage batteries

Overview

Should lithium hexafluorophosphate be used as lithium salt?

Fluorine-rich electrolytes hold promise to significantly enhance the energy and the safety of lithium metal batteries (LMBs). However, they generate acidic species, especially when lithium hexafluorophosphate (LiPF 6) is used as the lithium salt. This critical issue impedes their wide-scale utilization but has to date received minimum analysis.

What is lithium hexafluorophosphate?

Lithium hexafluorophosphate ($LiPF_6$) is a lithium-based salt with the chemical formula $LiPF_6$. It is the primary electrolyte salt in nearly all commercial lithium-ion batteries. When dissolved in organic solvents like ethylene carbonate or dimethyl carbonate, $LiPF_6$ dissociates into lithium ions (Li^+) and hexafluorophosphate anions (PF_6^-).

What is lithium hexafluorophosphate (LiPF6) & sodium chloride (NaCl)?

Lithium hexafluorophosphate ($LiPF_6$) and sodium chloride (NaCl) are two compounds revolutionizing the energy storage landscape. $LiPF_6$ has long been the backbone of lithium-ion batteries, powering everything from smartphones to electric vehicles (EVs).

What are lithium metal batteries (LMBS)?

Lithium (Li) metal batteries (LMBs) have emerged as a research focus in energy storage, driven by the global pursuit of higher energy density in secondary batteries.

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