

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 (LiPF_6) & 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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