

NS6130-12-001536

Quick Facts

Product	:	Lithium Difluorophosphate Nanopowder
Stock No	:	NS6130-12-001536
CAS	:	24389-25-1
Molecular Formula	:	LiPO2F2
Form	:	Powder

LITHIUM DIUFOROPHOSPHATE Nanopowder

Purity
99.9%

Technical Specification

Molecular Weight	Purity	APS
107.9	99.9%	40-60um

Lithium difluorophosphate (LiPO2F2) as a multi-functional additive is added into the carbonate-based electrolyte to enhance the electrochemical performances of 4.4 V LiNi0.5Co0.2Mn0.3O2/graphite lithium ion batteries (LIBs). Compared with the baseline electrolyte, the addition of 2% LiPO2F2 can significantly improve the electrolyte stability and enlarge the electrochemical window of about 1 V. At the room temperature and cutoff voltage of 4.4 V, the capacity retention of the batteries with 2% LiPO2F2 is increased from 55% to 93% after 150 cycles. At the high temperature of 45 °C, the capacity retention of the battery with 2% LiPO2F2 additive still keeps 86% after 150 cycles, while the coulombic efficiency of the battery without additive begins to decline sharply after 30 cycles. These positive effects are also reflected in the low temperature discharging at -20 °C, cycling at -10 °C, and rate capability. The enhanced performances are attributed to the excellent interfacial film promoted by the additive, which can reduce the interfacial impedance, suppress electrolyte decomposition, and alleviate the side reactions. It is indicated that LiPO2F2 is a promising multi-functional electrolyte additive for high-voltage NCM/graphite LIBs.

Applications:

- An Electrolyte Additive to Help Boost Low-Temperature Behaviors for Lithium-Ion Batteries.
- Lithium and its compounds have several industrial applications, including heat-resistant glass and ceramics, lithium grease lubricants, flux additives for iron, steel and aluminium production, lithium metal batteries, and lithium-ion batteries.



LiPO2F2
APS 40-60um



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20ZICE4589C



19ZAZGO1274G



20ZICE4588M

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