

Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> ****Industry:**** Battery Materials & Critical Minerals (Chemicals & Materials)
> ****Source:**** https://www.mordorintelligence.com/industry-reports/lithium-manganese-iron-phosphate-lmfp-battery-materials-market
> ****Scraped Date:**** 2026-09-17

Executive Market Summary

Market Metric	Details
Base Market Size	USD 0.52 billion
Projected Forecast (2031)	USD 0.52 billion
Growth Rate (CAGR)	23.78 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

!Major players in Lithium Manganese Iron Phosphate (LMFP) Battery Materials industry(images/chart_2.png)

!Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market Size(images/chart_3.png)

!Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market Share by Material Type, 2025(images/chart_4.png)

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Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market Overview	Study Period	2021 - 2031
Market Size (2026)		USD 0.52 Billion
Market Size (2031)		USD 1.51 Billion

Growth Rate (2026 - 2031) | 23.78 % |
Fastest Growing Market | Asia-Pacific |
Largest Market | Asia-Pacific |
Market Concentration | High |
Major Players*Disclaimer: Major Players sorted in no particular order

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Market Overview

Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market Analysis by Mordor IntelligenceThe Lithium Manganese Iron Phosphate Battery Materials Market size was valued at USD 0.42 billion in 2025 and is estimated to grow from USD 0.52 billion in 2026 to reach USD 1.51 billion by 2031, at a CAGR of 23.78% during the forecast period (2026-2031). The Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market is shifting from LMFP blends toward dedicated cathode use in mid-range electric vehicles and grid-scale storage. Manganese increases the nominal cell voltage from 3.2 V in conventional Lithium Iron Phosphate (LFP) batteries to 3.7 V to 3.8 V, enabling 15% to 20% higher energy density while maintaining thermal stability, cycle durability, and a cobalt-free composition. Small-batch production of pure-use LMFP cells in 2026 marks a transition from early validation to commercial deployment. China's October 2025 export controls on cathode materials, precursors, and graphite have increased the value of localized manganese and cathode supply chains, while recycling could create a higher-value source of cathode material. The Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market, therefore, provides a pathway to improve battery performance without shifting to nickel-rich chemistries, although material durability and battery management requirements remain important considerations.

Key Report Takeaways* By material type, LMFP Cathode Materials held 69.45% of the Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market share in 2025 and are forecast to expand at a 26.13% CAGR through 2031.

* By cell format, Prismatic Cells held 55.17% of the Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market share in 2025, while Cylindrical Cells are forecast to expand at a 25.01% CAGR through 2031.

* By application, Electric Vehicles held 54.28% of the Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market share in 2025, while Battery Energy Storage Systems are forecast to expand at a 27.44% CAGR through 2031.

* By geography, Asia-Pacific held 45.02% of the Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market share in 2025 and is forecast to expand at a 25.83% CAGR through 2031.

Key Market Trends

Market Trends and InsightsDrivers Impact Analysis of Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market*Drivers | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |

EV Adoption and Higher Energy Density at LFP-Like Cost | +3.8% | Global, with China, Europe, and the United States as primary markets | Medium term (2-4 years) |

Expansion of Grid-Scale Battery Energy Storage Systems | +3.2% | Global, led by China and North America | Short term (≤ 2 years) |

Lower Exposure to Cobalt and Nickel Supply-Chain Risk | +2.5% | Global, with stronger relevance in critical-mineral supply-risk regions | Long term (≥ 4 years) |

Localization of Battery Material Manufacturing | +2.0% | North America, Europe, and India | Long term (≥ 4 years) |

Flexible LFP-LMFP Production Lines and Blending Strategies | +1.5% | Asia-Pacific, especially China and South Korea, with expansion into Europe | Medium term (2-4 years) |

Recycling-Derived Manganese and Closed-Loop Material Supply | +1.0% | Asia-Pacific, with early gains in Europe | Long term (≥ 4 years) |
Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

The Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market is consolidated, with Chinese producers accounting for more than 90% of commercial LMFP cathode output. Shenzhen Dynanonic and Ronbay New Energy Technology hold the largest disclosed production positions, followed by Beijing Easpring, Hunan Yuneng, Jiangsu Hengtron Nanotech, and Hunan Reshine New Material. These producers combine long-term supply arrangements with investments in synthesis methods that can reduce manganese dissolution. Ronbay signed a CNY 120 billion (USD 17.6 billion) LFP/LMFP cathode material supply agreement with CATL in January 2026, covering 3.05 million tons of cathode material from 2026 to 2031. Beijing Easpring's 137% year-over-year revenue growth in Q1 2026 indicates that suppliers with established LMFP qualifications are capturing growth.

Outside China, competition in the Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market remains active, although commercial production is still in its early stages. Integrals Power has an 80% manganese patented LMFP cathode technology, which QinetiQ independently validated in 2025. Its participation as an LMFP cathode supplier in the OLiMPUS project supports European cell production targeted by 2032. Dynanonic's United States patent filing, US 2025/0054947 A1, describes a single-core, multi-shell LMFP cathode structure designed to support high-rate and low-temperature performance. High-purity manganese sulfate monohydrate supply outside China remains limited, with Euro Manganese's Czech Republic facility identified as the anticipated non-Chinese production source.

LMFP-specific battery management software is another limited area, as no supplier currently leads in dual-voltage state-of-charge estimation and cell-balancing algorithms. XTC New Energy Materials combines cathode and recycling operations and could produce recycling-derived LMFP precursors at scale. The Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market depends on qualified production, manganese performance management, and battery systems compatible with dual-voltage operation. Competition may increase as regional supply chains develop and more cell manufacturers adopt pure-use LMFP.

Lithium Manganese Iron Phosphate (LMFP) Battery Materials Industry Leaders* Jiangsu Hengtron Nanotech Co., Ltd.

- * Ronbay New Energy Technology Co., Ltd.
- * Shenzhen Dynanonic Co., Ltd.
- * Hunan Yuneng New Energy Battery Material Co., Ltd.
- * Beijing Easpring Material Technology Co., LTD

* *Disclaimer: Major Players sorted in no particular order
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Component Component 3 Scope Of The Report Bottom

Global Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market Report Scope
Lithium manganese iron phosphate (LMFP) is an advanced cathode material for lithium-ion batteries. Manufacturers produce it by partially replacing iron with manganese in a traditional LFP crystal structure. LMFP delivers 15%-20% higher energy density and a higher nominal voltage than standard LFP while maintaining low cost and high safety.

The lithium manganese iron phosphate (LMFP) battery materials market is segmented by material type, cell format, application, and geography. By material type, the market is segmented into LMFP cathode materials, anode materials, electrolyte materials, separator materials, and others (conductive additives, binders, current collectors). By cell format, the market is segmented into cylindrical cells, prismatic cells, and others (pouch cells). By application, the market is segmented into electric vehicles, battery energy storage systems, consumer electronics, and others (industrial applications). The report also covers market size and forecasts for lithium manganese iron phosphate (LMFP) battery materials across 15 countries in major regions. The market sizes and forecasts are provided in terms of value (USD).

By Material TypeLMFP Cathode Materials |
Anode Materials |
Electrolyte Materials |
Separator Materials |
Others (Conductive Additives, Binders, Current Collectors) |

Segmentation Accordion Item

By GeographyAsia-Pacific | China |
| India |
| Japan |
| South Korea |
| ASEAN Countries |
| Rest of Asia-Pacific |
North America | United States |
| Canada |
| Mexico |
Europe | Germany |
| United Kingdom |
| France |
| Italy |
| NORDIC Countries |
| Rest of Europe |
South America | Brazil |
| Argentina |
| Rest of South America |
Middle-East and Africa | Saudi Arabia |
| South Africa |
| Rest of Middle-East and Africa |

Frequently Asked Questions

What is current market size of Lithium Manganese Iron Phosphate (LMFP) Battery Materials Market?

The Lithium Manganese Iron Phosphate Battery Materials Market size was valued at USD 0.42 billion in 2025 and is estimated to grow from USD 0.52 billion in 2026 to reach USD 1.51 billion by 2031, at a CAGR of 23.78% during the forecast period (2026-2031).

Which material category leads LMFP battery materials?

LMFP Cathode Materials led with a 69.45% share in 2025 and are forecast to grow at a 26.13% CAGR through 2031.

Which battery cell format is growing fast for LMFP?

Cylindrical Cells are forecast to grow at a 25.01% CAGR through 2031, supported by large-format 4680 and 4695 designs.

Why are battery energy storage systems relevant for LMFP?

Battery Energy Storage Systems are the fastest-growing application, with a 27.44 % CAGR through 2031, and offer higher energy density per rack bay while maintaining thermal stability.