

Direct Lithium Extraction Functional 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/direct-lithium-extraction-functional-materials-market>

> ****Scraped Date:**** 2026-09-17

Executive Market Summary

Market Metric	Details
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Base Market Size	USD 180.23 million
Projected Forecast (2031)	USD 180.23 million
Growth Rate (CAGR)	18.06 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

![Major players in Direct Lithium Extraction Functional Materials industry](images/chart_2.png)

![Direct Lithium Extraction Functional Materials Market Size](images/chart_3.png)

![Direct Lithium Extraction Functional Materials Market Share by Material Type, 2025](images/chart_4.png)

![Direct Lithium Extraction Functional Materials Market Share by Application, 2025](images/chart_5.png)

![Direct Lithium Extraction Functional Materials Market Growth Rate by Region](images/chart_6.png)

![Direct Lithium Extraction Functional Materials Market Concentration](images/chart_7.png)

![Icon](images/chart_8.png)

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![GPTW](images/chart_19.png)

Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market Overview

Study Period | 2021 - 2031 |

Market Size (2026) | USD 180.23 Million |

Market Size (2031) | USD 413.37 Million |
Growth Rate (2026 - 2031) | 18.06 % |
Fastest Growing Market | North America |
Largest Market | Asia-Pacific |
Market Concentration | Low |
Major Players*Disclaimer: Major Players sorted in no particular order

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Market Overview

Direct Lithium Extraction Functional Materials Market Analysis by Mordor IntelligenceThe Direct Lithium Extraction Functional Materials Market size is expected to increase from USD 162.37 million in 2025 to USD 180.23 million in 2026 and reach USD 413.37 million by 2031, at a CAGR of 18.06% over 2026-2031. The direct lithium extraction functional materials market is tied closely to commercial direct lithium extraction (DLE) deployment because sorbents, membranes, ion-exchange resins, and solvent extractants are used throughout the extraction process. Higher lithium prices between January 2025 and April 2026 reflected constrained upstream supply and strong energy-storage demand, which strengthened the case for materials that support higher recovery and product purity. Suppliers that can demonstrate durability across repeated cycles and performance across different brines are likely to receive more attention as procurement becomes more focused on technical specifications. The direct lithium extraction functional materials market also benefits from public financing, as commitments in advanced economies reached USD 65 billion in 2025 and reduced project development risk. Lithium price volatility and the higher capital requirements of commercial projects remain important constraints on purchase timing and project economics.

Key Report Takeaways

- * By material type, lithium-selective sorbents held 26.86% of the direct lithium extraction functional materials market share in 2025, while membranes are forecast to grow at a 20.26% CAGR through 2031.
- * By DLE technology, adsorption-based DLE held 38.35% of the direct lithium extraction functional materials market share in 2025, while membrane-based DLE is forecast to grow at a 20.74% CAGR through 2031.
- * By brine source, salar brines held 36.52% of the direct lithium extraction functional materials market share in 2025, while oilfield produced water is forecast to grow at a 19.11% CAGR through 2031.
- * By application, lithium capture and enrichment held 60.41% of the direct lithium extraction functional materials market share in 2025, while lithium hydroxide production is forecast to grow at a 20.25% CAGR through 2031.
- * By geography, Asia-Pacific held 44.49% of the direct lithium extraction functional materials market share in 2025, while North America is forecast to grow at a 20.43% CAGR through 2031.

Key Market Trends

Global Direct Lithium Extraction Functional Materials Market Trends and Insights Drivers Impact Analysis*

Driver	(~) % Impact on CAGR Forecast	Geographic Relevance	Impact Timeline
Battery-Grade Lithium Supply Deficit	+3.5%	Global	Short term (≤ 2 years)
Domestic Critical-Mineral Policy and Project Financing	+2.8%	North America, Europe, China	Medium term (2–4 years)
Low-Grade and Non-Traditional Brine Monetization	+2.2%	North America, South America	Medium term (2–4 years)

Faster Production Cycles Than Evaporation Ponds | +1.9% | Global | Short term (≤ 2 years) |
Sorbent Durability and Regeneration Innovation | +1.5% | Global, with early gains in North America and APAC core | Medium term (2–4 years) |
Integrated Brine-to-Product Flowsheets | +1.2% | South America, North America | Long term (≥ 4 years) |
Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

The direct lithium extraction functional materials market is highly fragmented, with the top five players including Rio Tinto, Eramet, Sunresin New Materials Co. Ltd., Lilac Solutions, and DuPont. Vertically integrated miners are moving from technology users toward technology ownership. Rio Tinto completed its USD 6.7 billion acquisition of Arcadium Lithium in March 2025, bringing DLE sorbent and resin capabilities into its portfolio. Albemarle submitted an environmental assessment in March 2026 for its Salar de Atacama DLE transition. These moves can shift demand away from generic suppliers and toward materials supported by operating data and project integration.

Specialty chemical companies, including Evonik Industries and DuPont, compete through performance per cycle and cross-brine adaptability. Their licensing model allows them to serve multiple operators rather than rely on a single owned project. Pure-play firms such as Lilac Solutions, EnergyX, and Sunresin New Materials compete with integrated systems and field-validation records. Lilac's Nevada manufacturing line marked a move from technology licensing toward material production with commercial volumes. EnergyX secured a USD 225 million strategic investment from Eni in July 2026 for Project Black Giant in Chile, which targets 52,500 metric tons LCE per year across its first 2 phases. These examples show how commercial references and capital commitments can support material manufacturing scale.

Intellectual property, durability, and traceability are becoming more important competitive factors. A World Intellectual Property Organization (WIPO) patent publication described a layered double-hydroxide sorbent regeneration method using escalating anionic displacement. The process seeks to extend sorbent life and reduce lifecycle cost. EU Battery Regulation requirements also favor suppliers able to document provenance and carbon intensity. White space remains in brine-agnostic membrane formulations that can treat lithium concentrations below 100 mg/L. This gap is particularly relevant for low-grade and oilfield brines. The direct lithium extraction functional materials market is likely to reward companies that combine material performance with credible commercial qualification.

Direct Lithium Extraction Functional Materials Industry Leaders* Rio Tinto

* Eramet

* Sunresin New Materials Co.Ltd.

* Lilac Solutions

* DuPont

* *Disclaimer: Major Players sorted in no particular order

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Component Component 3 Scope Of The Report Bottom

Global Direct Lithium Extraction Functional Materials Market Report Scope
Direct lithium extraction (DLE) functional materials are specialized materials designed

to selectively capture and recover lithium ions from brine resources with high efficiency and purity. These materials enable faster lithium extraction, lower water consumption, and improved resource utilization compared with conventional evaporation-based methods, supporting the growing demand for battery-grade lithium.

The Direct Lithium Extraction Functional Materials Market is segmented by material type, DLE technology, brine source, application, and geography. By material type, the market is segmented into lithium-selective sorbents, ion-exchange resins, membranes, solvent extractants, and other material types. By DLE technology, the market is segmented into adsorption-based DLE, ion-exchange DLE, membrane-based DLE, solvent extraction DLE, and other DLE technologies. By brine source, the market is segmented into salar brines, geothermal brines, oilfield produced water, seawater and industrial brines, and other brine sources. By application, the market is segmented into lithium capture and enrichment, lithium carbonate production, lithium hydroxide production, impurity removal and polishing, and other applications. The report also covers the market size and forecasts for direct lithium extraction functional materials in 15 countries across major regions. For each segment, the market sizing and forecasts have been done on the basis of value (USD).

By Material TypeLithium-Selective Sorbents |
Ion-Exchange Resins |
Membranes |
Solvent Extractants |
Other Material Types |

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 the size of the direct lithium extraction functional materials market?

The Direct Lithium Extraction Functional Materials Market size is expected to increase from USD 162.37 million in 2025 to USD 180.23 million in 2026 and reach USD 413.37 million by 2031, at a CAGR of 18.06% over 2026-2031.

Which material type is expected to grow fastest through 2031?

Membranes are forecast to grow at a 20.26% CAGR through 2031, supported by advances in lithium selectivity and lower energy use.

Why are oilfield brines important for lithium recovery?

Oilfield produced water can turn a disposal stream into a lithium source, although its high competing-ion content requires specialized materials.

Which DLE technology led demand in 2025?

Adsorption-based DLE held 38.35% of the market share in 2025 because it had commercial readiness and broad brine compatibility.