

Global Biocatalytic chiral catalysis Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Biocatalytic chiral catalysis market size was valued at US\$ 432 million in 2025 and is forecast to a readjusted size of US\$ 1059 million by 2032 with a CAGR of 14.8% during review period.

Biocatalytic chiral catalysis refers to the use of natural or engineered enzymes, such as reductases, transaminases, and esterases, to achieve highly enantioselective transformations under mild conditions, enabling the synthesis of chiral molecules through enzyme stereoselectivity, and serving as an important alternative and complement to chemical asymmetric catalysis. Corresponding to a shipment volume of around 700 tons and a nominal capacity of about 1,300 tons, with a CAGR of approximately 15.2%. Structurally, ketoreductases and transaminases dominate the market with a combined share of approximately 75%, while lipases and other oxidoreductases account for about 25%. Pricing is significantly lower than chemical ligands but functionally stratified, with standard industrial enzymes averaging around \$200/kg and engineered enzymes around \$600/kg, resulting in a blended gross margin of approximately 55%. Applications are primarily in pharmaceuticals, accounting for about 70% of demand, mainly in the synthesis of chiral alcohol and amine intermediates and API manufacturing, with the remaining 30% in agrochemicals and fine chemicals, making it fundamentally a biologically driven catalytic tool market for chiral molecule construction.

The upstream includes fermentation media and genetic engineering inputs, the midstream focuses on enzyme screening, directed evolution, and scale-up fermentation, and downstream integration occurs within pharmaceutical and CDMO production

processes. The industry exhibits a structure of platform enzyme companies and engineering-driven firms, with Novozymes and DSM-Firmenich leading in scale production, and companies such as Codexis holding core capabilities in directed evolution. Overall, the industry is in a rapid penetration phase, driven by green chemistry policies, increasing molecular complexity, and substitution of high-pressure hydrogenation routes, with uncertainties mainly related to substrate scope limitations and scale-up stability challenges.

This report is a detailed and comprehensive analysis for global Biocatalytic chiral catalysis market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Biocatalytic chiral catalysis market size and forecasts, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Ton), 2021-2032

Global Biocatalytic chiral catalysis market size and forecasts by region and country, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Ton), 2021-2032

Global Biocatalytic chiral catalysis market size and forecasts, by Type and by Application, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Ton), 2021-2032

Global Biocatalytic chiral catalysis market shares of main players, shipments in revenue (\$ Million), sales quantity (Tons), and ASP (US\$/Ton), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Biocatalytic chiral catalysis

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global Biocatalytic chiral catalysis market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Novozymes, Codexis, DSM-Firmenich, BASF, Amano Enzyme, AB Enzymes, Prozomix, Enzymaster, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Biocatalytic chiral catalysis market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

Ketoreductase (KRED)

Transaminase (TA)

Lipase

Oxidoreductase

Enzyme Cascade

Market segment by Process

Single Enzyme

Enzyme Cascade

Immobilized Enzyme

Whole-cell Catalysis

Market segment by Application

Pharmaceuticals

Agrochemicals

Fine Chemicals

Major players covered

Novozymes

Codexis

DSM-Firmenich

BASF

Amano Enzyme

AB Enzymes

Prozomix

Enzymaster

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Biocatalytic chiral catalysis product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Biocatalytic chiral catalysis, with price, sales quantity, revenue, and global market share of Biocatalytic chiral catalysis from 2021 to 2026.

Chapter 3, the Biocatalytic chiral catalysis competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Biocatalytic chiral catalysis breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026. and Biocatalytic chiral catalysis market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Biocatalytic chiral catalysis.

Chapter 14 and 15, to describe Biocatalytic chiral catalysis sales channel, distributors, customers, research findings and conclusion.

Contents

1 MARKET OVERVIEW

1.1 Product Overview and Scope

1.2 Market Estimation Caveats and Base Year

1.3 Market Analysis by Type

1.3.1 Overview: Global Biocatalytic chiral catalysis Consumption Value by Type: 2021 Versus 2025 Versus 2032

1.3.2 Ketoreductase (KRED)

1.3.3 Transaminase (TA)

1.3.4 Lipase

1.3.5 Oxidoreductase

1.3.6 Enzyme Cascade

1.4 Market Analysis by Process

1.4.1 Overview: Global Biocatalytic chiral catalysis Consumption Value by Process: 2021 Versus 2025 Versus 2032

1.4.2 Single Enzyme

1.4.3 Enzyme Cascade

1.4.4 Immobilized Enzyme

1.4.5 Whole-cell Catalysis

1.5 Market Analysis by Application

1.5.1 Overview: Global Biocatalytic chiral catalysis Consumption Value by Application: 2021 Versus 2025 Versus 2032

1.5.2 Pharmaceuticals

1.5.3 Agrochemicals

1.5.4 Fine Chemicals

1.6 Global Biocatalytic chiral catalysis Market Size & Forecast

1.6.1 Global Biocatalytic chiral catalysis Consumption Value (2021 & 2025 & 2032)

1.6.2 Global Biocatalytic chiral catalysis Sales Quantity (2021-2032)

1.6.3 Global Biocatalytic chiral catalysis Average Price (2021-2032)

2 MANUFACTURERS PROFILES

2.1 Novozymes

2.1.1 Novozymes Details

2.1.2 Novozymes Major Business

2.1.3 Novozymes Biocatalytic chiral catalysis Product and Services

2.1.4 Novozymes Biocatalytic chiral catalysis Sales Quantity, Average Price, Revenue,

Gross Margin and Market Share (2021-2026)

2.1.5 Novozymes Recent Developments/Updates

2.2 Codexis

2.2.1 Codexis Details

2.2.2 Codexis Major Business

2.2.3 Codexis Biocatalytic chiral catalysis Product and Services

2.2.4 Codexis Biocatalytic chiral catalysis Sales Quantity, Average Price, Revenue,

Gross Margin and Market Share (2021-2026)

2.2.5 Codexis Recent Developments/Updates

2.3 DSM-Firmenich

2.3.1 DSM-Firmenich Details

2.3.2 DSM-Firmenich Major Business

2.3.3 DSM-Firmenich Biocatalytic chiral catalysis Product and Services

2.3.4 DSM-Firmenich Biocatalytic chiral catalysis Sales Quantity, Average Price,

Revenue, Gross Margin and Market Share (2021-2026)

2.3.5 DSM-Firmenich Recent Developments/Updates

2.4 BASF

2.4.1 BASF Details

2.4.2 BASF Major Business

2.4.3 BASF Biocatalytic chiral catalysis Product and Services

2.4.4 BASF Biocatalytic chiral catalysis Sales Quantity, Average Price, Revenue,

Gross Margin and Market Share (2021-2026)

2.4.5 BASF Recent Developments/Updates

2.5 Amano Enzyme

2.5.1 Amano Enzyme Details

2.5.2 Amano Enzyme Major Business

2.5.3 Amano Enzyme Biocatalytic chiral catalysis Product and Services

2.5.4 Amano Enzyme Biocatalytic chiral catalysis Sales Quantity, Average Price,

Revenue, Gross Margin and Market Share (2021-2026)

2.5.5 Amano Enzyme Recent Developments/Updates

2.6 AB Enzymes

2.6.1 AB Enzymes Details

2.6.2 AB Enzymes Major Business

2.6.3 AB Enzymes Biocatalytic chiral catalysis Product and Services

2.6.4 AB Enzymes Biocatalytic chiral catalysis Sales Quantity, Average Price,

Revenue, Gross Margin and Market Share (2021-2026)

2.6.5 AB Enzymes Recent Developments/Updates

2.7 Prozomix

2.7.1 Prozomix Details

- 2.7.2 Prozomix Major Business
- 2.7.3 Prozomix Biocatalytic chiral catalysis Product and Services
- 2.7.4 Prozomix Biocatalytic chiral catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
- 2.7.5 Prozomix Recent Developments/Updates
- 2.8 Enzymaster
 - 2.8.1 Enzymaster Details
 - 2.8.2 Enzymaster Major Business
 - 2.8.3 Enzymaster Biocatalytic chiral catalysis Product and Services
 - 2.8.4 Enzymaster Biocatalytic chiral catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
 - 2.8.5 Enzymaster Recent Developments/Updates

3 COMPETITIVE ENVIRONMENT: BIOCATALYTIC CHIRAL CATALYSIS BY MANUFACTURER

- 3.1 Global Biocatalytic chiral catalysis Sales Quantity by Manufacturer (2021-2026)
- 3.2 Global Biocatalytic chiral catalysis Revenue by Manufacturer (2021-2026)
- 3.3 Global Biocatalytic chiral catalysis Average Price by Manufacturer (2021-2026)
- 3.4 Market Share Analysis (2025)
 - 3.4.1 Producer Shipments of Biocatalytic chiral catalysis by Manufacturer Revenue (\$MM) and Market Share (%): 2025
 - 3.4.2 Top 3 Biocatalytic chiral catalysis Manufacturer Market Share in 2025
 - 3.4.3 Top 6 Biocatalytic chiral catalysis Manufacturer Market Share in 2025
- 3.5 Biocatalytic chiral catalysis Market: Overall Company Footprint Analysis
 - 3.5.1 Biocatalytic chiral catalysis Market: Region Footprint
 - 3.5.2 Biocatalytic chiral catalysis Market: Company Product Type Footprint
 - 3.5.3 Biocatalytic chiral catalysis Market: Company Product Application Footprint
- 3.6 New Market Entrants and Barriers to Market Entry
- 3.7 Mergers, Acquisition, Agreements, and Collaborations

4 CONSUMPTION ANALYSIS BY REGION

- 4.1 Global Biocatalytic chiral catalysis Market Size by Region
 - 4.1.1 Global Biocatalytic chiral catalysis Sales Quantity by Region (2021-2032)
 - 4.1.2 Global Biocatalytic chiral catalysis Consumption Value by Region (2021-2032)
 - 4.1.3 Global Biocatalytic chiral catalysis Average Price by Region (2021-2032)
- 4.2 North America Biocatalytic chiral catalysis Consumption Value (2021-2032)
- 4.3 Europe Biocatalytic chiral catalysis Consumption Value (2021-2032)

- 4.4 Asia-Pacific Biocatalytic chiral catalysis Consumption Value (2021-2032)
- 4.5 South America Biocatalytic chiral catalysis Consumption Value (2021-2032)
- 4.6 Middle East & Africa Biocatalytic chiral catalysis Consumption Value (2021-2032)

5 MARKET SEGMENT BY TYPE

- 5.1 Global Biocatalytic chiral catalysis Sales Quantity by Type (2021-2032)
- 5.2 Global Biocatalytic chiral catalysis Consumption Value by Type (2021-2032)
- 5.3 Global Biocatalytic chiral catalysis Average Price by Type (2021-2032)

6 MARKET SEGMENT BY APPLICATION

- 6.1 Global Biocatalytic chiral catalysis Sales Quantity by Application (2021-2032)
- 6.2 Global Biocatalytic chiral catalysis Consumption Value by Application (2021-2032)
- 6.3 Global Biocatalytic chiral catalysis Average Price by Application (2021-2032)

7 NORTH AMERICA

- 7.1 North America Biocatalytic chiral catalysis Sales Quantity by Type (2021-2032)
- 7.2 North America Biocatalytic chiral catalysis Sales Quantity by Application (2021-2032)
- 7.3 North America Biocatalytic chiral catalysis Market Size by Country
 - 7.3.1 North America Biocatalytic chiral catalysis Sales Quantity by Country (2021-2032)
 - 7.3.2 North America Biocatalytic chiral catalysis Consumption Value by Country (2021-2032)
 - 7.3.3 United States Market Size and Forecast (2021-2032)
 - 7.3.4 Canada Market Size and Forecast (2021-2032)
 - 7.3.5 Mexico Market Size and Forecast (2021-2032)

8 EUROPE

- 8.1 Europe Biocatalytic chiral catalysis Sales Quantity by Type (2021-2032)
- 8.2 Europe Biocatalytic chiral catalysis Sales Quantity by Application (2021-2032)
- 8.3 Europe Biocatalytic chiral catalysis Market Size by Country
 - 8.3.1 Europe Biocatalytic chiral catalysis Sales Quantity by Country (2021-2032)
 - 8.3.2 Europe Biocatalytic chiral catalysis Consumption Value by Country (2021-2032)
 - 8.3.3 Germany Market Size and Forecast (2021-2032)
 - 8.3.4 France Market Size and Forecast (2021-2032)

8.3.5 United Kingdom Market Size and Forecast (2021-2032)

8.3.6 Russia Market Size and Forecast (2021-2032)

8.3.7 Italy Market Size and Forecast (2021-2032)

9 ASIA-PACIFIC

9.1 Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Type (2021-2032)

9.2 Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Application (2021-2032)

9.3 Asia-Pacific Biocatalytic chiral catalysis Market Size by Region

9.3.1 Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Region (2021-2032)

9.3.2 Asia-Pacific Biocatalytic chiral catalysis Consumption Value by Region
(2021-2032)

9.3.3 China Market Size and Forecast (2021-2032)

9.3.4 Japan Market Size and Forecast (2021-2032)

9.3.5 South Korea Market Size and Forecast (2021-2032)

9.3.6 India Market Size and Forecast (2021-2032)

9.3.7 Southeast Asia Market Size and Forecast (2021-2032)

9.3.8 Australia Market Size and Forecast (2021-2032)

10 SOUTH AMERICA

10.1 South America Biocatalytic chiral catalysis Sales Quantity by Type (2021-2032)

10.2 South America Biocatalytic chiral catalysis Sales Quantity by Application
(2021-2032)

10.3 South America Biocatalytic chiral catalysis Market Size by Country

10.3.1 South America Biocatalytic chiral catalysis Sales Quantity by Country
(2021-2032)

10.3.2 South America Biocatalytic chiral catalysis Consumption Value by Country
(2021-2032)

10.3.3 Brazil Market Size and Forecast (2021-2032)

10.3.4 Argentina Market Size and Forecast (2021-2032)

11 MIDDLE EAST & AFRICA

11.1 Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Type
(2021-2032)

11.2 Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Application
(2021-2032)

11.3 Middle East & Africa Biocatalytic chiral catalysis Market Size by Country

11.3.1 Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Country (2021-2032)

11.3.2 Middle East & Africa Biocatalytic chiral catalysis Consumption Value by Country (2021-2032)

11.3.3 Turkey Market Size and Forecast (2021-2032)

11.3.4 Egypt Market Size and Forecast (2021-2032)

11.3.5 Saudi Arabia Market Size and Forecast (2021-2032)

11.3.6 South Africa Market Size and Forecast (2021-2032)

12 MARKET DYNAMICS

12.1 Biocatalytic chiral catalysis Market Drivers

12.2 Biocatalytic chiral catalysis Market Restraints

12.3 Biocatalytic chiral catalysis Trends Analysis

12.4 Porters Five Forces Analysis

12.4.1 Threat of New Entrants

12.4.2 Bargaining Power of Suppliers

12.4.3 Bargaining Power of Buyers

12.4.4 Threat of Substitutes

12.4.5 Competitive Rivalry

13 RAW MATERIAL AND INDUSTRY CHAIN

13.1 Raw Material of Biocatalytic chiral catalysis and Key Manufacturers

13.2 Manufacturing Costs Percentage of Biocatalytic chiral catalysis

13.3 Biocatalytic chiral catalysis Production Process

13.4 Industry Value Chain Analysis

14 SHIPMENTS BY DISTRIBUTION CHANNEL

14.1 Sales Channel

14.1.1 Direct to End-User

14.1.2 Distributors

14.2 Biocatalytic chiral catalysis Typical Distributors

14.3 Biocatalytic chiral catalysis Typical Customers

15 RESEARCH FINDINGS AND CONCLUSION

16 APPENDIX

16.1 Methodology

16.2 Research Process and Data Source

16.3 Disclaimer

List Of Tables

LIST OF TABLES

Table 1. Global Biocatalytic chiral catalysis Consumption Value by Type, (USD Million), 2021 & 2025 & 2032

Table 2. Global Biocatalytic chiral catalysis Consumption Value by Process, (USD Million), 2021 & 2025 & 2032

Table 3. Global Biocatalytic chiral catalysis Consumption Value by Application, (USD Million), 2021 & 2025 & 2032

Table 4. Novozymes Basic Information, Manufacturing Base and Competitors

Table 5. Novozymes Major Business

Table 6. Novozymes Biocatalytic chiral catalysis Product and Services

Table 7. Novozymes Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 8. Novozymes Recent Developments/Updates

Table 9. Codexis Basic Information, Manufacturing Base and Competitors

Table 10. Codexis Major Business

Table 11. Codexis Biocatalytic chiral catalysis Product and Services

Table 12. Codexis Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 13. Codexis Recent Developments/Updates

Table 14. DSM-Firmenich Basic Information, Manufacturing Base and Competitors

Table 15. DSM-Firmenich Major Business

Table 16. DSM-Firmenich Biocatalytic chiral catalysis Product and Services

Table 17. DSM-Firmenich Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 18. DSM-Firmenich Recent Developments/Updates

Table 19. BASF Basic Information, Manufacturing Base and Competitors

Table 20. BASF Major Business

Table 21. BASF Biocatalytic chiral catalysis Product and Services

Table 22. BASF Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 23. BASF Recent Developments/Updates

Table 24. Amano Enzyme Basic Information, Manufacturing Base and Competitors

Table 25. Amano Enzyme Major Business

Table 26. Amano Enzyme Biocatalytic chiral catalysis Product and Services

Table 27. Amano Enzyme Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

- Table 28. Amano Enzyme Recent Developments/Updates
- Table 29. AB Enzymes Basic Information, Manufacturing Base and Competitors
- Table 30. AB Enzymes Major Business
- Table 31. AB Enzymes Biocatalytic chiral catalysis Product and Services
- Table 32. AB Enzymes Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)
- Table 33. AB Enzymes Recent Developments/Updates
- Table 34. Prozomix Basic Information, Manufacturing Base and Competitors
- Table 35. Prozomix Major Business
- Table 36. Prozomix Biocatalytic chiral catalysis Product and Services
- Table 37. Prozomix Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)
- Table 38. Prozomix Recent Developments/Updates
- Table 39. Enzymaster Basic Information, Manufacturing Base and Competitors
- Table 40. Enzymaster Major Business
- Table 41. Enzymaster Biocatalytic chiral catalysis Product and Services
- Table 42. Enzymaster Biocatalytic chiral catalysis Sales Quantity (Tons), Average Price (US\$/Ton), Revenue (USD Million), Gross Margin and Market Share (2021-2026)
- Table 43. Enzymaster Recent Developments/Updates
- Table 44. Global Biocatalytic chiral catalysis Sales Quantity by Manufacturer (2021-2026) & (Tons)
- Table 45. Global Biocatalytic chiral catalysis Revenue by Manufacturer (2021-2026) & (USD Million)
- Table 46. Global Biocatalytic chiral catalysis Average Price by Manufacturer (2021-2026) & (US\$/Ton)
- Table 47. Market Position of Manufacturers in Biocatalytic chiral catalysis, (Tier 1, Tier 2, and Tier 3), Based on Revenue in 2025
- Table 48. Head Office and Biocatalytic chiral catalysis Production Site of Key Manufacturer
- Table 49. Biocatalytic chiral catalysis Market: Company Product Type Footprint
- Table 50. Biocatalytic chiral catalysis Market: Company Product Application Footprint
- Table 51. Biocatalytic chiral catalysis New Market Entrants and Barriers to Market Entry
- Table 52. Biocatalytic chiral catalysis Mergers, Acquisition, Agreements, and Collaborations
- Table 53. Global Biocatalytic chiral catalysis Consumption Value by Region (2021-2025-2032) & (USD Million) & CAGR
- Table 54. Global Biocatalytic chiral catalysis Sales Quantity by Region (2021-2026) & (Tons)
- Table 55. Global Biocatalytic chiral catalysis Sales Quantity by Region (2027-2032) &

(Tons)

Table 56. Global Biocatalytic chiral catalysis Consumption Value by Region (2021-2026) & (USD Million)

Table 57. Global Biocatalytic chiral catalysis Consumption Value by Region (2027-2032) & (USD Million)

Table 58. Global Biocatalytic chiral catalysis Average Price by Region (2021-2026) & (US\$/Ton)

Table 59. Global Biocatalytic chiral catalysis Average Price by Region (2027-2032) & (US\$/Ton)

Table 60. Global Biocatalytic chiral catalysis Sales Quantity by Type (2021-2026) & (Tons)

Table 61. Global Biocatalytic chiral catalysis Sales Quantity by Type (2027-2032) & (Tons)

Table 62. Global Biocatalytic chiral catalysis Consumption Value by Type (2021-2026) & (USD Million)

Table 63. Global Biocatalytic chiral catalysis Consumption Value by Type (2027-2032) & (USD Million)

Table 64. Global Biocatalytic chiral catalysis Average Price by Type (2021-2026) & (US\$/Ton)

Table 65. Global Biocatalytic chiral catalysis Average Price by Type (2027-2032) & (US\$/Ton)

Table 66. Global Biocatalytic chiral catalysis Sales Quantity by Application (2021-2026) & (Tons)

Table 67. Global Biocatalytic chiral catalysis Sales Quantity by Application (2027-2032) & (Tons)

Table 68. Global Biocatalytic chiral catalysis Consumption Value by Application (2021-2026) & (USD Million)

Table 69. Global Biocatalytic chiral catalysis Consumption Value by Application (2027-2032) & (USD Million)

Table 70. Global Biocatalytic chiral catalysis Average Price by Application (2021-2026) & (US\$/Ton)

Table 71. Global Biocatalytic chiral catalysis Average Price by Application (2027-2032) & (US\$/Ton)

Table 72. North America Biocatalytic chiral catalysis Sales Quantity by Type (2021-2026) & (Tons)

Table 73. North America Biocatalytic chiral catalysis Sales Quantity by Type (2027-2032) & (Tons)

Table 74. North America Biocatalytic chiral catalysis Sales Quantity by Application (2021-2026) & (Tons)

Table 75. North America Biocatalytic chiral catalysis Sales Quantity by Application (2027-2032) & (Tons)

Table 76. North America Biocatalytic chiral catalysis Sales Quantity by Country (2021-2026) & (Tons)

Table 77. North America Biocatalytic chiral catalysis Sales Quantity by Country (2027-2032) & (Tons)

Table 78. North America Biocatalytic chiral catalysis Consumption Value by Country (2021-2026) & (USD Million)

Table 79. North America Biocatalytic chiral catalysis Consumption Value by Country (2027-2032) & (USD Million)

Table 80. Europe Biocatalytic chiral catalysis Sales Quantity by Type (2021-2026) & (Tons)

Table 81. Europe Biocatalytic chiral catalysis Sales Quantity by Type (2027-2032) & (Tons)

Table 82. Europe Biocatalytic chiral catalysis Sales Quantity by Application (2021-2026) & (Tons)

Table 83. Europe Biocatalytic chiral catalysis Sales Quantity by Application (2027-2032) & (Tons)

Table 84. Europe Biocatalytic chiral catalysis Sales Quantity by Country (2021-2026) & (Tons)

Table 85. Europe Biocatalytic chiral catalysis Sales Quantity by Country (2027-2032) & (Tons)

Table 86. Europe Biocatalytic chiral catalysis Consumption Value by Country (2021-2026) & (USD Million)

Table 87. Europe Biocatalytic chiral catalysis Consumption Value by Country (2027-2032) & (USD Million)

Table 88. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Type (2021-2026) & (Tons)

Table 89. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Type (2027-2032) & (Tons)

Table 90. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Application (2021-2026) & (Tons)

Table 91. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Application (2027-2032) & (Tons)

Table 92. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Region (2021-2026) & (Tons)

Table 93. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity by Region (2027-2032) & (Tons)

Table 94. Asia-Pacific Biocatalytic chiral catalysis Consumption Value by Region

(2021-2026) & (USD Million)

Table 95. Asia-Pacific Biocatalytic chiral catalysis Consumption Value by Region

(2027-2032) & (USD Million)

Table 96. South America Biocatalytic chiral catalysis Sales Quantity by Type

(2021-2026) & (Tons)

Table 97. South America Biocatalytic chiral catalysis Sales Quantity by Type

(2027-2032) & (Tons)

Table 98. South America Biocatalytic chiral catalysis Sales Quantity by Application

(2021-2026) & (Tons)

Table 99. South America Biocatalytic chiral catalysis Sales Quantity by Application

(2027-2032) & (Tons)

Table 100. South America Biocatalytic chiral catalysis Sales Quantity by Country

(2021-2026) & (Tons)

Table 101. South America Biocatalytic chiral catalysis Sales Quantity by Country

(2027-2032) & (Tons)

Table 102. South America Biocatalytic chiral catalysis Consumption Value by Country

(2021-2026) & (USD Million)

Table 103. South America Biocatalytic chiral catalysis Consumption Value by Country

(2027-2032) & (USD Million)

Table 104. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Type

(2021-2026) & (Tons)

Table 105. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Type

(2027-2032) & (Tons)

Table 106. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Application (2021-2026) & (Tons)

Table 107. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Application (2027-2032) & (Tons)

Table 108. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Country (2021-2026) & (Tons)

Table 109. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity by Country (2027-2032) & (Tons)

Table 110. Middle East & Africa Biocatalytic chiral catalysis Consumption Value by Country (2021-2026) & (USD Million)

Table 111. Middle East & Africa Biocatalytic chiral catalysis Consumption Value by Country (2027-2032) & (USD Million)

Table 112. Biocatalytic chiral catalysis Raw Material

Table 113. Key Manufacturers of Biocatalytic chiral catalysis Raw Materials

Table 114. Biocatalytic chiral catalysis Typical Distributors

Table 115. Biocatalytic chiral catalysis Typical Customers

List Of Figures

LIST OF FIGURES

- Figure 1. Biocatalytic chiral catalysis Picture
- Figure 2. Global Biocatalytic chiral catalysis Revenue by Type, (USD Million), 2021 & 2025 & 2032
- Figure 3. Global Biocatalytic chiral catalysis Revenue Market Share by Type in 2025
- Figure 4. Ketoreductase (KRED) Examples
- Figure 5. Transaminase (TA) Examples
- Figure 6. Lipase Examples
- Figure 7. Oxidoreductase Examples
- Figure 8. Enzyme Cascade Examples
- Figure 9. Global Biocatalytic chiral catalysis Revenue by Process, (USD Million), 2021 & 2025 & 2032
- Figure 10. Global Biocatalytic chiral catalysis Revenue Market Share by Process in 2025
- Figure 11. Single Enzyme Examples
- Figure 12. Enzyme Cascade Examples
- Figure 13. Immobilized Enzyme Examples
- Figure 14. Whole-cell Catalysis Examples
- Figure 15. Global Biocatalytic chiral catalysis Consumption Value by Application, (USD Million), 2021 & 2025 & 2032
- Figure 16. Global Biocatalytic chiral catalysis Revenue Market Share by Application in 2025
- Figure 17. Pharmaceuticals Examples
- Figure 18. Agrochemicals Examples
- Figure 19. Fine Chemicals Examples
- Figure 20. Global Biocatalytic chiral catalysis Consumption Value, (USD Million): 2021 & 2025 & 2032
- Figure 21. Global Biocatalytic chiral catalysis Consumption Value and Forecast (2021-2032) & (USD Million)
- Figure 22. Global Biocatalytic chiral catalysis Sales Quantity (2021-2032) & (Tons)
- Figure 23. Global Biocatalytic chiral catalysis Price (2021-2032) & (US\$/Ton)
- Figure 24. Global Biocatalytic chiral catalysis Sales Quantity Market Share by Manufacturer in 2025
- Figure 25. Global Biocatalytic chiral catalysis Revenue Market Share by Manufacturer in 2025
- Figure 26. Producer Shipments of Biocatalytic chiral catalysis by Manufacturer Sales

(\$MM) and Market Share (%): 2025

Figure 27. Top 3 Biocatalytic chiral catalysis Manufacturer (Revenue) Market Share in 2025

Figure 28. Top 6 Biocatalytic chiral catalysis Manufacturer (Revenue) Market Share in 2025

Figure 29. Global Biocatalytic chiral catalysis Sales Quantity Market Share by Region (2021-2032)

Figure 30. Global Biocatalytic chiral catalysis Consumption Value Market Share by Region (2021-2032)

Figure 31. North America Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 32. Europe Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 33. Asia-Pacific Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 34. South America Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 35. Middle East & Africa Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 36. Global Biocatalytic chiral catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 37. Global Biocatalytic chiral catalysis Consumption Value Market Share by Type (2021-2032)

Figure 38. Global Biocatalytic chiral catalysis Average Price by Type (2021-2032) & (US\$/Ton)

Figure 39. Global Biocatalytic chiral catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 40. Global Biocatalytic chiral catalysis Revenue Market Share by Application (2021-2032)

Figure 41. Global Biocatalytic chiral catalysis Average Price by Application (2021-2032) & (US\$/Ton)

Figure 42. North America Biocatalytic chiral catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 43. North America Biocatalytic chiral catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 44. North America Biocatalytic chiral catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 45. North America Biocatalytic chiral catalysis Consumption Value Market Share by Country (2021-2032)

Figure 46. United States Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 47. Canada Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 48. Mexico Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 49. Europe Biocatalytic chiral catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 50. Europe Biocatalytic chiral catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 51. Europe Biocatalytic chiral catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 52. Europe Biocatalytic chiral catalysis Consumption Value Market Share by Country (2021-2032)

Figure 53. Germany Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 54. France Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 55. United Kingdom Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 56. Russia Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 57. Italy Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 58. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 59. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 60. Asia-Pacific Biocatalytic chiral catalysis Sales Quantity Market Share by Region (2021-2032)

Figure 61. Asia-Pacific Biocatalytic chiral catalysis Consumption Value Market Share by Region (2021-2032)

Figure 62. China Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 63. Japan Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 64. South Korea Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 65. India Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Million)

Figure 66. Southeast Asia Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 67. Australia Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 68. South America Biocatalytic chiral catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 69. South America Biocatalytic chiral catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 70. South America Biocatalytic chiral catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 71. South America Biocatalytic chiral catalysis Consumption Value Market Share by Country (2021-2032)

Figure 72. Brazil Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 73. Argentina Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 74. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 75. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 76. Middle East & Africa Biocatalytic chiral catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 77. Middle East & Africa Biocatalytic chiral catalysis Consumption Value Market Share by Country (2021-2032)

Figure 78. Turkey Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 79. Egypt Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 80. Saudi Arabia Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 81. South Africa Biocatalytic chiral catalysis Consumption Value (2021-2032) & (USD Million)

Figure 82. Biocatalytic chiral catalysis Market Drivers

Figure 83. Biocatalytic chiral catalysis Market Restraints

Figure 84. Biocatalytic chiral catalysis Market Trends

Figure 85. Porters Five Forces Analysis

Figure 86. Manufacturing Cost Structure Analysis of Biocatalytic chiral catalysis in 2025

Figure 87. Manufacturing Process Analysis of Biocatalytic chiral catalysis

Figure 88. Biocatalytic chiral catalysis Industrial Chain

Figure 89. Sales Channel: Direct to End-User vs Distributors

Figure 90. Direct Channel Pros & Cons

Figure 91. Indirect Channel Pros & Cons

Figure 92. Methodology

Figure 93. Research Process and Data Source

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