

# Global Ketoreductasese In Chiral Catalysis Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

<https://marketpublishers.com/r/G975E3A4AFD7EN.html>

Date: June 2026

Pages: 102

Price: US\$ 3,480.00 (Single User License)

ID: G975E3A4AFD7EN

## Abstracts

According to our (Global Info Research) latest study, the global Ketoreductasese In Chiral Catalysis market size was valued at US\$ 125 million in 2025 and is forecast to a readjusted size of US\$ 320 million by 2032 with a CAGR of 14.2% during review period.

Ketoreductases in chiral catalysis are enzymes used within chiral catalytic systems to selectively reduce ketone substrates into chiral alcohols with high enantioselectivity. They typically rely on cofactors such as NAD(P)H and operate through a hydride transfer mechanism, transferring a hydride from a donor to the ketone substrate to produce chiral alcohol products. Ketoreductases in chiral catalysis are widely applied in the synthesis of pharmaceuticals, fine chemicals, and natural product derivatives, serving as key biocatalytic tools to enhance product stereochemical purity and process sustainability. Ketoreductases in chiral catalysis serve as key biocatalysts for chiral alcohol synthesis.

Annual reaction throughput is roughly 12 tons, and nominal global enzyme-related capacity is about 50 tons, spanning laboratory to pilot-scale operations. Pricing averages approximately USD 2,500/kg for free or immobilized enzymes and USD 4,000/kg for engineered ketoreductases, with a blended gross margin of around 48%. Downstream demand is dominated by pharmaceuticals (>60%), particularly for chiral drug intermediates and active pharmaceutical ingredients (APIs), which require high stereochemical purity and process reliability. Fine chemicals and natural product derivatives represent secondary markets, where customers prioritize substrate scope and reaction efficiency. Upstream inputs include ketone substrates and cofactors such as NAD(P)H, midstream encompasses enzyme production, engineering, and process development, while downstream focuses on high-value chiral alcohol and intermediate

production. The global industry structure shows parallel innovation and scale-up: US and EU companies lead in protein engineering and methodology development, offering extensive enzyme libraries and high-throughput screening technologies, whereas Chinese companies excel in process scale-up and CDMO services, enabling commercial production and custom solutions. In terms of competition, companies like Codexis, Novozymes, and Evonik hold advantages in protein engineering and commercialization, while domestic players focus on engineering scale-up and rapid process development. Key technological trends include improving enzyme thermal stability, substrate versatility, and scale-up processes. Integration with whole-cell biocatalysis and immobilized enzyme systems can further reduce costs and enhance efficiency. The market is in a growth phase, driven by increasing demand for chiral drugs, advances in protein engineering, and expansion of CDMO services. Key uncertainties include enzyme stability, substrate range, scale-up challenges, and impacts from global raw material prices and regulatory changes on CDMO cost and delivery.

This report is a detailed and comprehensive analysis for global Ketoreductases In 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 Ketoreductases In Chiral Catalysis market size and forecasts, in consumption value (\$ Million), sales quantity (kg), and average selling prices (US\$/kg), 2021-2032

Global Ketoreductases In Chiral Catalysis market size and forecasts by region and country, in consumption value (\$ Million), sales quantity (kg), and average selling prices (US\$/kg), 2021-2032

Global Ketoreductases In Chiral Catalysis market size and forecasts, by Type and by Application, in consumption value (\$ Million), sales quantity (kg), and average selling prices (US\$/kg), 2021-2032

Global Ketoreductases In Chiral Catalysis market shares of main players, shipments in revenue (\$ Million), sales quantity (kg), and ASP (US\$/kg), 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 Ketoreductasese In 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 Ketoreductasese In 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 Codexis, Evonik, Johnson Matthey, BASF, Novozymes, WuXi AppTec, Asymchem, Lonza, etc.

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

## Market Segmentation

Ketoreductasese In 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

NAD(P)H-Dependent Ketoreductase

Engineered Ketoreductase

Biotype Ketonereductase

### Market segment by From

Free Enzyme

Immobilized Enzyme

Whole Cell

Enzyme Cocktails

#### Market segment by Application

Natural Product Derivatives

Pharmaceuticals

Agrochemicals

Fine Chemicals

Others

#### Major players covered

Codexis

Evonik

Johnson Matthey

BASF

Novozymes

WuXi AppTec

Asymchem

Lonza

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 Ketoreductasese In Chiral Catalysis product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Ketoreductasese In Chiral Catalysis, with price, sales quantity, revenue, and global market share of Ketoreductasese In Chiral Catalysis from 2021 to 2026.

Chapter 3, the Ketoreductasese In Chiral Catalysis competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Ketoreductasese In 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 Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis.

Chapter 14 and 15, to describe Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis Consumption Value by Type: 2021 Versus 2025 Versus 2032

1.3.2 NAD(P)H-Dependent Ketoreductase

1.3.3 Engineered Ketoreductase

1.3.4 Biotype Ketonereductase

1.4 Market Analysis by From

1.4.1 Overview: Global Ketoreductasese In Chiral Catalysis Consumption Value by From: 2021 Versus 2025 Versus 2032

1.4.2 Free Enzyme

1.4.3 Immobilized Enzyme

1.4.4 Whole Cell

1.4.5 Enzyme Cocktails

1.5 Market Analysis by Application

1.5.1 Overview: Global Ketoreductasese In Chiral Catalysis Consumption Value by Application: 2021 Versus 2025 Versus 2032

1.5.2 Natural Product Derivatives

1.5.3 Pharmaceuticals

1.5.4 Agrochemicals

1.5.5 Fine Chemicals

1.5.6 Others

1.6 Global Ketoreductasese In Chiral Catalysis Market Size & Forecast

1.6.1 Global Ketoreductasese In Chiral Catalysis Consumption Value (2021 & 2025 & 2032)

1.6.2 Global Ketoreductasese In Chiral Catalysis Sales Quantity (2021-2032)

1.6.3 Global Ketoreductasese In Chiral Catalysis Average Price (2021-2032)

### 2 MANUFACTURERS PROFILES

2.1 Codexis

2.1.1 Codexis Details

2.1.2 Codexis Major Business

2.1.3 Codexis Ketoreductasese In Chiral Catalysis Product and Services

- 2.1.4 Codexis Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
- 2.1.5 Codexis Recent Developments/Updates
- 2.2 Evonik
  - 2.2.1 Evonik Details
  - 2.2.2 Evonik Major Business
  - 2.2.3 Evonik Ketoreductasese In Chiral Catalysis Product and Services
  - 2.2.4 Evonik Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
  - 2.2.5 Evonik Recent Developments/Updates
- 2.3 Johnson Matthey
  - 2.3.1 Johnson Matthey Details
  - 2.3.2 Johnson Matthey Major Business
  - 2.3.3 Johnson Matthey Ketoreductasese In Chiral Catalysis Product and Services
  - 2.3.4 Johnson Matthey Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
  - 2.3.5 Johnson Matthey Recent Developments/Updates
- 2.4 BASF
  - 2.4.1 BASF Details
  - 2.4.2 BASF Major Business
  - 2.4.3 BASF Ketoreductasese In Chiral Catalysis Product and Services
  - 2.4.4 BASF Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
  - 2.4.5 BASF Recent Developments/Updates
- 2.5 Novozymes
  - 2.5.1 Novozymes Details
  - 2.5.2 Novozymes Major Business
  - 2.5.3 Novozymes Ketoreductasese In Chiral Catalysis Product and Services
  - 2.5.4 Novozymes Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
  - 2.5.5 Novozymes Recent Developments/Updates
- 2.6 WuXi AppTec
  - 2.6.1 WuXi AppTec Details
  - 2.6.2 WuXi AppTec Major Business
  - 2.6.3 WuXi AppTec Ketoreductasese In Chiral Catalysis Product and Services
  - 2.6.4 WuXi AppTec Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
  - 2.6.5 WuXi AppTec Recent Developments/Updates
- 2.7 Asymchem

- 2.7.1 Asymchem Details
- 2.7.2 Asymchem Major Business
- 2.7.3 Asymchem Ketoreductasese In Chiral Catalysis Product and Services
- 2.7.4 Asymchem Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
- 2.7.5 Asymchem Recent Developments/Updates
- 2.8 Lonza
  - 2.8.1 Lonza Details
  - 2.8.2 Lonza Major Business
  - 2.8.3 Lonza Ketoreductasese In Chiral Catalysis Product and Services
  - 2.8.4 Lonza Ketoreductasese In Chiral Catalysis Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2021-2026)
  - 2.8.5 Lonza Recent Developments/Updates

### **3 COMPETITIVE ENVIRONMENT: KETOREDUCTASESE IN CHIRAL CATALYSIS BY MANUFACTURER**

- 3.1 Global Ketoreductasese In Chiral Catalysis Sales Quantity by Manufacturer (2021-2026)
- 3.2 Global Ketoreductasese In Chiral Catalysis Revenue by Manufacturer (2021-2026)
- 3.3 Global Ketoreductasese In Chiral Catalysis Average Price by Manufacturer (2021-2026)
- 3.4 Market Share Analysis (2025)
  - 3.4.1 Producer Shipments of Ketoreductasese In Chiral Catalysis by Manufacturer Revenue (\$MM) and Market Share (%): 2025
  - 3.4.2 Top 3 Ketoreductasese In Chiral Catalysis Manufacturer Market Share in 2025
  - 3.4.3 Top 6 Ketoreductasese In Chiral Catalysis Manufacturer Market Share in 2025
- 3.5 Ketoreductasese In Chiral Catalysis Market: Overall Company Footprint Analysis
  - 3.5.1 Ketoreductasese In Chiral Catalysis Market: Region Footprint
  - 3.5.2 Ketoreductasese In Chiral Catalysis Market: Company Product Type Footprint
  - 3.5.3 Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis Market Size by Region
  - 4.1.1 Global Ketoreductasese In Chiral Catalysis Sales Quantity by Region

(2021-2032)

4.1.2 Global Ketoreductasese In Chiral Catalysis Consumption Value by Region

(2021-2032)

4.1.3 Global Ketoreductasese In Chiral Catalysis Average Price by Region

(2021-2032)

4.2 North America Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032)

4.3 Europe Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032)

4.4 Asia-Pacific Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032)

4.5 South America Ketoreductasese In Chiral Catalysis Consumption Value

(2021-2032)

4.6 Middle East & Africa Ketoreductasese In Chiral Catalysis Consumption Value

(2021-2032)

## **5 MARKET SEGMENT BY TYPE**

5.1 Global Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2032)

5.2 Global Ketoreductasese In Chiral Catalysis Consumption Value by Type

(2021-2032)

5.3 Global Ketoreductasese In Chiral Catalysis Average Price by Type (2021-2032)

## **6 MARKET SEGMENT BY APPLICATION**

6.1 Global Ketoreductasese In Chiral Catalysis Sales Quantity by Application

(2021-2032)

6.2 Global Ketoreductasese In Chiral Catalysis Consumption Value by Application

(2021-2032)

6.3 Global Ketoreductasese In Chiral Catalysis Average Price by Application

(2021-2032)

## **7 NORTH AMERICA**

7.1 North America Ketoreductasese In Chiral Catalysis Sales Quantity by Type

(2021-2032)

7.2 North America Ketoreductasese In Chiral Catalysis Sales Quantity by Application

(2021-2032)

7.3 North America Ketoreductasese In Chiral Catalysis Market Size by Country

7.3.1 North America Ketoreductasese In Chiral Catalysis Sales Quantity by Country

(2021-2032)

7.3.2 North America Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2032)

8.2 Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2032)

8.3 Europe Ketoreductasese In Chiral Catalysis Market Size by Country

8.3.1 Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Country (2021-2032)

8.3.2 Europe Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2032)

9.2 Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2032)

9.3 Asia-Pacific Ketoreductasese In Chiral Catalysis Market Size by Region

9.3.1 Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity by Region (2021-2032)

9.3.2 Asia-Pacific Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2032)

10.2 South America Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2032)

10.3 South America Ketoreductasese In Chiral Catalysis Market Size by Country

10.3.1 South America Ketoreductasese In Chiral Catalysis Sales Quantity by Country (2021-2032)

10.3.2 South America Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2032)

11.2 Middle East & Africa Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2032)

11.3 Middle East & Africa Ketoreductasese In Chiral Catalysis Market Size by Country

11.3.1 Middle East & Africa Ketoreductasese In Chiral Catalysis Sales Quantity by Country (2021-2032)

11.3.2 Middle East & Africa Ketoreductasese In 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 Ketoreductasese In Chiral Catalysis Market Drivers

12.2 Ketoreductasese In Chiral Catalysis Market Restraints

12.3 Ketoreductasese In 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 Ketoreductases In Chiral Catalysis and Key Manufacturers
- 13.2 Manufacturing Costs Percentage of Ketoreductases In Chiral Catalysis
- 13.3 Ketoreductases In 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 Ketoreductases In Chiral Catalysis Typical Distributors
- 14.3 Ketoreductases In 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 Ketoreductasese In Chiral Catalysis Consumption Value by Type, (USD Million), 2021 & 2025 & 2032

Table 2. Global Ketoreductasese In Chiral Catalysis Consumption Value by From, (USD Million), 2021 & 2025 & 2032

Table 3. Global Ketoreductasese In Chiral Catalysis Consumption Value by Application, (USD Million), 2021 & 2025 & 2032

Table 4. Codexis Basic Information, Manufacturing Base and Competitors

Table 5. Codexis Major Business

Table 6. Codexis Ketoreductasese In Chiral Catalysis Product and Services

Table 7. Codexis Ketoreductasese In Chiral Catalysis Sales Quantity (kg), Average Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 8. Codexis Recent Developments/Updates

Table 9. Evonik Basic Information, Manufacturing Base and Competitors

Table 10. Evonik Major Business

Table 11. Evonik Ketoreductasese In Chiral Catalysis Product and Services

Table 12. Evonik Ketoreductasese In Chiral Catalysis Sales Quantity (kg), Average Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 13. Evonik Recent Developments/Updates

Table 14. Johnson Matthey Basic Information, Manufacturing Base and Competitors

Table 15. Johnson Matthey Major Business

Table 16. Johnson Matthey Ketoreductasese In Chiral Catalysis Product and Services

Table 17. Johnson Matthey Ketoreductasese In Chiral Catalysis Sales Quantity (kg), Average Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 18. Johnson Matthey Recent Developments/Updates

Table 19. BASF Basic Information, Manufacturing Base and Competitors

Table 20. BASF Major Business

Table 21. BASF Ketoreductasese In Chiral Catalysis Product and Services

Table 22. BASF Ketoreductasese In Chiral Catalysis Sales Quantity (kg), Average Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 23. BASF Recent Developments/Updates

Table 24. Novozymes Basic Information, Manufacturing Base and Competitors

Table 25. Novozymes Major Business

Table 26. Novozymes Ketoreductasese In Chiral Catalysis Product and Services

Table 27. Novozymes Ketoreductasese In Chiral Catalysis Sales Quantity (kg), Average

Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 28. Novozymes Recent Developments/Updates

Table 29. WuXi AppTec Basic Information, Manufacturing Base and Competitors

Table 30. WuXi AppTec Major Business

Table 31. WuXi AppTec Ketoreductases In Chiral Catalysis Product and Services

Table 32. WuXi AppTec Ketoreductases In Chiral Catalysis Sales Quantity (kg), Average Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 33. WuXi AppTec Recent Developments/Updates

Table 34. Asymchem Basic Information, Manufacturing Base and Competitors

Table 35. Asymchem Major Business

Table 36. Asymchem Ketoreductases In Chiral Catalysis Product and Services

Table 37. Asymchem Ketoreductases In Chiral Catalysis Sales Quantity (kg), Average Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 38. Asymchem Recent Developments/Updates

Table 39. Lonza Basic Information, Manufacturing Base and Competitors

Table 40. Lonza Major Business

Table 41. Lonza Ketoreductases In Chiral Catalysis Product and Services

Table 42. Lonza Ketoreductases In Chiral Catalysis Sales Quantity (kg), Average Price (US\$/kg), Revenue (USD Million), Gross Margin and Market Share (2021-2026)

Table 43. Lonza Recent Developments/Updates

Table 44. Global Ketoreductases In Chiral Catalysis Sales Quantity by Manufacturer (2021-2026) & (kg)

Table 45. Global Ketoreductases In Chiral Catalysis Revenue by Manufacturer (2021-2026) & (USD Million)

Table 46. Global Ketoreductases In Chiral Catalysis Average Price by Manufacturer (2021-2026) & (US\$/kg)

Table 47. Market Position of Manufacturers in Ketoreductases In Chiral Catalysis, (Tier 1, Tier 2, and Tier 3), Based on Revenue in 2025

Table 48. Head Office and Ketoreductases In Chiral Catalysis Production Site of Key Manufacturer

Table 49. Ketoreductases In Chiral Catalysis Market: Company Product Type Footprint

Table 50. Ketoreductases In Chiral Catalysis Market: Company Product Application Footprint

Table 51. Ketoreductases In Chiral Catalysis New Market Entrants and Barriers to Market Entry

Table 52. Ketoreductases In Chiral Catalysis Mergers, Acquisition, Agreements, and Collaborations

Table 53. Global Ketoreductases In Chiral Catalysis Consumption Value by Region

(2021-2025-2032) & (USD Million) & CAGR

Table 54. Global Ketoreductasese In Chiral Catalysis Sales Quantity by Region (2021-2026) & (kg)

Table 55. Global Ketoreductasese In Chiral Catalysis Sales Quantity by Region (2027-2032) & (kg)

Table 56. Global Ketoreductasese In Chiral Catalysis Consumption Value by Region (2021-2026) & (USD Million)

Table 57. Global Ketoreductasese In Chiral Catalysis Consumption Value by Region (2027-2032) & (USD Million)

Table 58. Global Ketoreductasese In Chiral Catalysis Average Price by Region (2021-2026) & (US\$/kg)

Table 59. Global Ketoreductasese In Chiral Catalysis Average Price by Region (2027-2032) & (US\$/kg)

Table 60. Global Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2026) & (kg)

Table 61. Global Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2027-2032) & (kg)

Table 62. Global Ketoreductasese In Chiral Catalysis Consumption Value by Type (2021-2026) & (USD Million)

Table 63. Global Ketoreductasese In Chiral Catalysis Consumption Value by Type (2027-2032) & (USD Million)

Table 64. Global Ketoreductasese In Chiral Catalysis Average Price by Type (2021-2026) & (US\$/kg)

Table 65. Global Ketoreductasese In Chiral Catalysis Average Price by Type (2027-2032) & (US\$/kg)

Table 66. Global Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2026) & (kg)

Table 67. Global Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2027-2032) & (kg)

Table 68. Global Ketoreductasese In Chiral Catalysis Consumption Value by Application (2021-2026) & (USD Million)

Table 69. Global Ketoreductasese In Chiral Catalysis Consumption Value by Application (2027-2032) & (USD Million)

Table 70. Global Ketoreductasese In Chiral Catalysis Average Price by Application (2021-2026) & (US\$/kg)

Table 71. Global Ketoreductasese In Chiral Catalysis Average Price by Application (2027-2032) & (US\$/kg)

Table 72. North America Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2026) & (kg)

Table 73. North America Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2027-2032) & (kg)

Table 74. North America Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2026) & (kg)

Table 75. North America Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2027-2032) & (kg)

Table 76. North America Ketoreductasese In Chiral Catalysis Sales Quantity by Country (2021-2026) & (kg)

Table 77. North America Ketoreductasese In Chiral Catalysis Sales Quantity by Country (2027-2032) & (kg)

Table 78. North America Ketoreductasese In Chiral Catalysis Consumption Value by Country (2021-2026) & (USD Million)

Table 79. North America Ketoreductasese In Chiral Catalysis Consumption Value by Country (2027-2032) & (USD Million)

Table 80. Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2026) & (kg)

Table 81. Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2027-2032) & (kg)

Table 82. Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2026) & (kg)

Table 83. Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2027-2032) & (kg)

Table 84. Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Country (2021-2026) & (kg)

Table 85. Europe Ketoreductasese In Chiral Catalysis Sales Quantity by Country (2027-2032) & (kg)

Table 86. Europe Ketoreductasese In Chiral Catalysis Consumption Value by Country (2021-2026) & (USD Million)

Table 87. Europe Ketoreductasese In Chiral Catalysis Consumption Value by Country (2027-2032) & (USD Million)

Table 88. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2021-2026) & (kg)

Table 89. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity by Type (2027-2032) & (kg)

Table 90. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2021-2026) & (kg)

Table 91. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity by Application (2027-2032) & (kg)

Table 92. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity by Region

(2021-2026) & (kg)

Table 93. Asia-Pacific Ketoreductases In Chiral Catalysis Sales Quantity by Region (2027-2032) & (kg)

Table 94. Asia-Pacific Ketoreductases In Chiral Catalysis Consumption Value by Region (2021-2026) & (USD Million)

Table 95. Asia-Pacific Ketoreductases In Chiral Catalysis Consumption Value by Region (2027-2032) & (USD Million)

Table 96. South America Ketoreductases In Chiral Catalysis Sales Quantity by Type (2021-2026) & (kg)

Table 97. South America Ketoreductases In Chiral Catalysis Sales Quantity by Type (2027-2032) & (kg)

Table 98. South America Ketoreductases In Chiral Catalysis Sales Quantity by Application (2021-2026) & (kg)

Table 99. South America Ketoreductases In Chiral Catalysis Sales Quantity by Application (2027-2032) & (kg)

Table 100. South America Ketoreductases In Chiral Catalysis Sales Quantity by Country (2021-2026) & (kg)

Table 101. South America Ketoreductases In Chiral Catalysis Sales Quantity by Country (2027-2032) & (kg)

Table 102. South America Ketoreductases In Chiral Catalysis Consumption Value by Country (2021-2026) & (USD Million)

Table 103. South America Ketoreductases In Chiral Catalysis Consumption Value by Country (2027-2032) & (USD Million)

Table 104. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity by Type (2021-2026) & (kg)

Table 105. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity by Type (2027-2032) & (kg)

Table 106. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity by Application (2021-2026) & (kg)

Table 107. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity by Application (2027-2032) & (kg)

Table 108. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity by Country (2021-2026) & (kg)

Table 109. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity by Country (2027-2032) & (kg)

Table 110. Middle East & Africa Ketoreductases In Chiral Catalysis Consumption Value by Country (2021-2026) & (USD Million)

Table 111. Middle East & Africa Ketoreductases In Chiral Catalysis Consumption Value by Country (2027-2032) & (USD Million)

Table 112. Ketoreductasese In Chiral Catalysis Raw Material

Table 113. Key Manufacturers of Ketoreductasese In Chiral Catalysis Raw Materials

Table 114. Ketoreductasese In Chiral Catalysis Typical Distributors

Table 115. Ketoreductasese In Chiral Catalysis Typical Customers

## List Of Figures

### LIST OF FIGURES

- Figure 1. Ketoreductases In Chiral Catalysis Picture
- Figure 2. Global Ketoreductases In Chiral Catalysis Revenue by Type, (USD Million), 2021 & 2025 & 2032
- Figure 3. Global Ketoreductases In Chiral Catalysis Revenue Market Share by Type in 2025
- Figure 4. NAD(P)H-Dependent Ketoreductase Examples
- Figure 5. Engineered Ketoreductase Examples
- Figure 6. Biotype Ketoreductase Examples
- Figure 7. Global Ketoreductases In Chiral Catalysis Revenue by From, (USD Million), 2021 & 2025 & 2032
- Figure 8. Global Ketoreductases In Chiral Catalysis Revenue Market Share by From in 2025
- Figure 9. Free Enzyme Examples
- Figure 10. Immobilized Enzyme Examples
- Figure 11. Whole Cell Examples
- Figure 12. Enzyme Cocktails Examples
- Figure 13. Global Ketoreductases In Chiral Catalysis Consumption Value by Application, (USD Million), 2021 & 2025 & 2032
- Figure 14. Global Ketoreductases In Chiral Catalysis Revenue Market Share by Application in 2025
- Figure 15. Natural Product Derivatives Examples
- Figure 16. Pharmaceuticals Examples
- Figure 17. Agrochemicals Examples
- Figure 18. Fine Chemicals Examples
- Figure 19. Others Examples
- Figure 20. Global Ketoreductases In Chiral Catalysis Consumption Value, (USD Million): 2021 & 2025 & 2032
- Figure 21. Global Ketoreductases In Chiral Catalysis Consumption Value and Forecast (2021-2032) & (USD Million)
- Figure 22. Global Ketoreductases In Chiral Catalysis Sales Quantity (2021-2032) & (kg)
- Figure 23. Global Ketoreductases In Chiral Catalysis Price (2021-2032) & (US\$/kg)
- Figure 24. Global Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Manufacturer in 2025
- Figure 25. Global Ketoreductases In Chiral Catalysis Revenue Market Share by

Manufacturer in 2025

Figure 26. Producer Shipments of Ketoreductases In Chiral Catalysis by Manufacturer Sales (\$MM) and Market Share (%): 2025

Figure 27. Top 3 Ketoreductases In Chiral Catalysis Manufacturer (Revenue) Market Share in 2025

Figure 28. Top 6 Ketoreductases In Chiral Catalysis Manufacturer (Revenue) Market Share in 2025

Figure 29. Global Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Region (2021-2032)

Figure 30. Global Ketoreductases In Chiral Catalysis Consumption Value Market Share by Region (2021-2032)

Figure 31. North America Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 32. Europe Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 33. Asia-Pacific Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 34. South America Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 35. Middle East & Africa Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 36. Global Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 37. Global Ketoreductases In Chiral Catalysis Consumption Value Market Share by Type (2021-2032)

Figure 38. Global Ketoreductases In Chiral Catalysis Average Price by Type (2021-2032) & (US\$/kg)

Figure 39. Global Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 40. Global Ketoreductases In Chiral Catalysis Revenue Market Share by Application (2021-2032)

Figure 41. Global Ketoreductases In Chiral Catalysis Average Price by Application (2021-2032) & (US\$/kg)

Figure 42. North America Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 43. North America Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 44. North America Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 45. North America Ketoreductasese In Chiral Catalysis Consumption Value Market Share by Country (2021-2032)

Figure 46. United States Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 47. Canada Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 48. Mexico Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 49. Europe Ketoreductasese In Chiral Catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 50. Europe Ketoreductasese In Chiral Catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 51. Europe Ketoreductasese In Chiral Catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 52. Europe Ketoreductasese In Chiral Catalysis Consumption Value Market Share by Country (2021-2032)

Figure 53. Germany Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 54. France Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 55. United Kingdom Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 56. Russia Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 57. Italy Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 58. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 59. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 60. Asia-Pacific Ketoreductasese In Chiral Catalysis Sales Quantity Market Share by Region (2021-2032)

Figure 61. Asia-Pacific Ketoreductasese In Chiral Catalysis Consumption Value Market Share by Region (2021-2032)

Figure 62. China Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 63. Japan Ketoreductasese In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 64. South Korea Ketoreductasese In Chiral Catalysis Consumption Value

(2021-2032) & (USD Million)

Figure 65. India Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 66. Southeast Asia Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 67. Australia Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 68. South America Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 69. South America Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 70. South America Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 71. South America Ketoreductases In Chiral Catalysis Consumption Value Market Share by Country (2021-2032)

Figure 72. Brazil Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 73. Argentina Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 74. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Type (2021-2032)

Figure 75. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Application (2021-2032)

Figure 76. Middle East & Africa Ketoreductases In Chiral Catalysis Sales Quantity Market Share by Country (2021-2032)

Figure 77. Middle East & Africa Ketoreductases In Chiral Catalysis Consumption Value Market Share by Country (2021-2032)

Figure 78. Turkey Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 79. Egypt Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 80. Saudi Arabia Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 81. South Africa Ketoreductases In Chiral Catalysis Consumption Value (2021-2032) & (USD Million)

Figure 82. Ketoreductases In Chiral Catalysis Market Drivers

Figure 83. Ketoreductases In Chiral Catalysis Market Restraints

Figure 84. Ketoreductases In Chiral Catalysis Market Trends

Figure 85. Porters Five Forces Analysis

Figure 86. Manufacturing Cost Structure Analysis of Ketoreductasese In Chiral Catalysis in 2025

Figure 87. Manufacturing Process Analysis of Ketoreductasese In Chiral Catalysis

Figure 88. Ketoreductasese In 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

## I would like to order

Product name: Global Ketoreductasese In Chiral Catalysis Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

Product link: <https://marketpublishers.com/r/G975E3A4AFD7EN.html>

Price: US\$ 3,480.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G975E3A4AFD7EN.html>