

Global Monooxygenase Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Monooxygenase market size is expected to reach \$ 373 million by 2032, rising at a market growth of 11.2% CAGR during the forecast period (2026-2032).

In 2025, global monooxygenase sales volume was approximately 33 tons, with an average global market price of about USD 5,200/kg. The gross margin of major manufacturers in the industry was approximately 45%-65%.

Monooxygenase is a class of oxidoreductase that introduces one oxygen atom from molecular oxygen into a substrate molecule while reducing the other oxygen atom to water. It is an important enzyme category in biocatalytic oxidation. Its reaction functions include hydroxylation, epoxidation, Baeyer-Villiger oxidation, sulfur oxidation, and nitrogen oxidation, enabling the conversion of alkanes, aromatic compounds, alkenes, ketones, sulfur-containing substrates, and nitrogen-containing substrates into higher-value oxidized products. Compared with traditional metal oxidants or strong oxidizing agents, monooxygenase generally offers milder reaction conditions, higher selectivity, fewer side reactions, and lower environmental burden, making it particularly suitable for late-stage functionalization of complex molecules, chiral intermediate synthesis, and green oxidation process development.

The upstream of monooxygenase mainly includes microbial strain resources, enzyme gene sequences, expression vectors, fermentation media, cofactor recycling systems, enzyme engineering technologies, immobilization carriers, and enzyme formulation excipients. The midstream involves enzyme screening, directed evolution, fermentation expression, purification, immobilization treatment, cofactor regeneration system matching, and process scale-up. Downstream applications are mainly concentrated in pharmaceutical biocatalysis, agrochemical intermediate, flavor and fragrance, specialty

fine chemical, and environmental remediation.

This report studies the global Monooxygenase production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Monooxygenase and provides market size (US\$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Monooxygenase that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Monooxygenase total production and demand, 2021-2032, (Tons)

Global Monooxygenase total production value, 2021-2032, (USD Million)

Global Monooxygenase production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Tons), (based on production site)

Global Monooxygenase consumption by region & country, CAGR, 2021-2032 & (Tons)

U.S. VS China: Monooxygenase domestic production, consumption, key domestic manufacturers and share

Global Monooxygenase production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Tons)

Global Monooxygenase production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Tons)

Global Monooxygenase production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Tons)

This report profiles key players in the global Monooxygenase market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Codexis, Almac Group, Prozomix, InnoSyn, Nanjing Predictive Biotechnology, SyncoZymes, Asymchem, WuXi STA, Tianjin Bio-Pharmacn Biotechnology, etc.

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

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Monooxygenase market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US\$ Millions), volume (production, consumption) & (Tons) and average price (US\$/kg) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Monooxygenase Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Monooxygenase Market, Segmentation by Type:

P450 Type

Flavin-dependent Type

Non-heme Iron Type

Global Monooxygenase Market, Segmentation by Reaction Function:

Hydroxylation Type

Epoxidation Type

Baeyer-Villiger Oxidation Type

Heteroatom Oxidation Type

Global Monooxygenase Market, Segmentation by Form:

Free Enzyme Preparation

Immobilized Enzyme Preparation

Whole-cell Catalyst

Global Monooxygenase Market, Segmentation by Application:

Pharmaceutical Biocatalysis

Agrochemical Intermediate

Flavor and Fragrance

Environmental Remediation

Other

Companies Profiled:

Codexis

Almac Group

Prozomix

InnoSyn

Nanjing Predictive Biotechnology

SyncoZymes

Asymchem

WuXi STA

Tianjin Bio-Pharmaceutical Biotechnology

Key Questions Answered:

1. How big is the global Monooxygenase market?
2. What is the demand of the global Monooxygenase market?
3. What is the year over year growth of the global Monooxygenase market?
4. What is the production and production value of the global Monooxygenase market?
5. Who are the key producers in the global Monooxygenase market?
6. What are the growth factors driving the market demand?

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