

Enzymes Market by Product Type (Industrial Enzymes and Specialty Enzymes), Source (Microorganism, Plant, and Animal), Type, Industrial Enzyme Application, Specialty Enzymes Application, Reaction Type and Region - Global Forecast to 2029

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Report description:

According to MarketsandMarkets, the enzymes market is projected to reach USD 20.4 billion by 2029 from USD 14.0 billion by 2024, at a CAGR of 7.8% during the forecast period in terms of value. In the food and beverage sector, carbohydrases are crucial for enhancing product quality and process efficiency. For instance, amylases are vital in starch hydrolysis during brewing and baking, while lactases facilitate lactose breakdown in dairy products for lactose-intolerant consumers. Moreover, carbohydrases play a significant role in the production of biofuels by converting biomass into fermentable sugars, supporting sustainable energy initiatives. In the animal feed industry, these enzymes improve nutrient absorption and digestion, optimizing feed efficiency and animal health. Their application extends to textile processing, where they aid in achieving desired fabric textures and finishes. Carbohydrases' ability to address diverse industrial needs effectively underscores their prominence in driving innovation and economic growth within the enzymes market.

"By source, Microorganisms are estimated to dominate the market during the forecast period."

Microorganisms stand out as a prevalent and versatile source due to their ability to produce a wide range of enzymes efficiently. In the enzymes market is the production of proteases, a type of enzyme crucial for various industrial applications such as detergent formulation, food processing, and pharmaceutical manufacturing. Microorganisms, particularly bacteria like *Bacillus* and fungi like *Aspergillus*, are prolific producers of proteases. For instance, *Bacillus subtilis* is renowned for its secretion of proteases suitable for detergent formulations due to its effectiveness in breaking down protein-based stains. Additionally, the advent of genetic engineering techniques has further boosted microbial enzyme production. Through genetic manipulation, scientists can enhance microbial strains to overproduce specific enzymes or modify enzyme properties to meet desired industrial requirements. This capability has significantly expanded the range and efficacy of microbial enzymes, reinforcing their dominance in the market. "Europe will significantly contribute towards market growth during the forecast period."

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Europe's contribution to enzymes market growth during the forecast period will be driven by its leadership in sustainable practices and technological innovation. Specifically, the region's focus on green chemistry and circular economy principles will propel the demand for enzymes in various sectors. For instance, in the detergent industry, European regulations promoting phosphate-free products have led to increased adoption of enzyme-based detergents, which offer superior stain removal without environmental harm. Additionally, Europe's strong emphasis on biofuels and renewable energy sources will boost the use of enzymes in biomass conversion and biofuel production processes. Collaborations between European enzyme manufacturers and research institutions, such as the EU-funded projects fostering enzyme discovery and optimization, will further accelerate market growth by facilitating the development of novel enzyme solutions tailored to specific industrial needs. According to CORDIS - EU research results, starting in December 2023, the EU-funded FuturEnzyme project aims to develop low-cost enzymes for eco-friendly consumer products like textiles, detergents, and cosmetics. Through innovative solutions and collaborative efforts, it will receive approximately USD 6.71 billion for enzyme discovery and optimization until May 2025. Overall, Europe's commitment to sustainability, coupled with its advanced research capabilities and supportive regulatory environment, positions it as a key driver of innovation and market expansion in the enzyme sector.

Break-up of Primaries:

By Company Type: Tier1-40%, Tier 2-32%, Tier 3- 28%

By Designation: C-level-45%, D-level - 33%, and Others- 22%

By Region: North America - 15%, Europe - 20%, Asia Pacific - 40%, South America-12%, RoW - 13%,

Others include sales managers, territory managers, and product managers.

Leading players profiled in this report:

- [] BASF SE (Germany)
- [] International Flavors & Fragrances Inc. (US)
- [] dsm-firmenich (Switzerland)
- [] Associated British Foods plc (England)
- [] Novozymes A/S (Denmark)
- [] Kerry Group plc. (Ireland)
- [] Dyadic International Inc (US)
- [] Advanced Enzyme Technologies (India)
- [] Aumgene Biosciences (India)
- [] Amano Enzyme Inc (Japan)
- [] F. Hoffmann-La Roche Ltd (Switzerland)
- [] Codexis, Inc. (US)
- [] Sanofi (France)
- [] Merck KGaA (Germany)
- [] Adisseo (China)
- [] Lesaffre Corporation (France)
- [] Enzyme Solutions (US)
- [] Enzymatic Deinking Technologies, LLC (US)
- [] Creative Enzymes (US)
- [] Tex Biosciences (P) Ltd. (India)
- [] DENYKEM (UK)
- [] MetGen (Finland)
- [] Biovet S.A. (Spain)
- [] Biocatalysts (UK)
- [] Alltech (US)

The study includes an in-depth competitive analysis of these key players in the enzymes market with their company profiles, recent developments, and key market strategies.

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Research Coverage:

The report segments the enzymes market based on product type, type, source, reaction types, industrial enzyme applications, specialty enzyme applications, and region. In terms of insights, this report has focused on various levels of analyses-the competitive landscape, end-use analysis, and company profiles, which together comprise and discuss views on the emerging & high-growth segments of the global enzymes market, high-growth regions, countries, government initiatives, drivers, restraints, opportunities, and challenges.

Reasons to buy this report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall enzymes market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

- Analysis of key drivers (Growing environmental concerns and increasing demand for biofuel), restraints (Stringent regulatory framework), opportunities (Demand for alternatives to synthetic chemicals), and challenges (Excessive Costs of Raw Materials Limiting enzymes Usage) influencing the growth of the enzymes market.
- Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the enzymes market.
- Market Development: Comprehensive information about lucrative markets - the report analyses the enzymes market across varied regions.
- Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the enzymes market.
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players such as BASF SE (Germany), International Flavors & Fragrances Inc. (US), dsm-firmenich (Switzerland), Associated British Foods plc (England), Novozymes A/S (Denmark), Kerry Group plc. (Ireland), among others in the enzymes market strategies. The report also helps stakeholders understand the enzymes market and provides them with information on key market drivers, restraints, challenges, and opportunities.

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**Enzymes Market by Product Type (Industrial Enzymes and Specialty Enzymes),
Source (Microorganism, Plant, and Animal), Type, Industrial Enzyme Application,
Specialty Enzymes Application, Reaction Type and Region - Global Forecast to 2029**

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