

# **Enzymes Market by Type (Proteases, Carbohydrases, Lipases, Polymerases & nucleases), Reaction Type (Hydrolases, Oxidoreductases, Transferases, Lyases) and Source (Microorganisms, Animals, Plants) - Global Opportunity Analysis and Industry Forecast, 2014 - 2020**

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## **Abstracts**

Enzymes have gathered a special attention in the recent years due to its potential application in the several industries such as food & animal feed, textiles and Surfactants, pharmaceuticals & biotechnology R&D and manufacturing and others (paper and pulp processing, leather processing and agriculture). Enzymes are the proteins that act as biocatalysts to accelerate the reaction and produce the desired results in reactions. The use of enzymes in the manufacturing process, results in significant cost reductions due to limited energy (temperature) consumption, and better substrate activity.

The enzymes are widely used in detergents industry, to facilitate the removal of stains from clothes. They are also used in food and beverages industry in wide range of preparations such as baking. In pharmaceutical industry, the enzymes are used for the drug formulation. Such enzyme based pharmaceutical drugs are used for the treatment of conditions such as cancer and AIDS. Enzymes are also been widely used in the biotechnology industry for the research, particularly in the molecular biology. They are used in genetic engineering techniques in order to cut, replicate and attach DNA as per the requirement. Enzymes play major role in the diagnosis of diseases such as cancer, cardiovascular diseases and lysosomal disorder.

The increasing use of functional food and beverages (which contain enzymes), increasing demand for cellulosic and amylase biofuels along with effective pharmaceuticals & cosmetics, are some of the key factors that drive the growth of the

global enzymes market during the analysis period. Furthermore, the increasing adoption of technology such as protein engineering is significantly fueling the demand for the enzyme market. Factors restraining the market growth are high sensitivity of enzymes to temperature and pH and risk of contamination.

The global enzymes market is segmented based on the application, source, type, reaction type and geography. Based on the applications, the market is segmented into food and beverages, household care, bioenergy, pharmaceutical and biotechnology, feed and others. Based on the source, the market is segmented into three types namely microorganisms, animals and plants. Microorganism segment holds the dominant share in the market due to its easy availability, feasibility for large scale production and cost-effectiveness. Based on the product type, the market is segmented into proteases, carbohydrases, lipases, polymerases & nucleases and others. Based on the reaction type, the market is segmented into hydrolases, oxidoreductases, transferases, lyases and others.

Geographically, the global enzyme market is segmented into North America, Europe, Asia-Pacific and LAMEA. North American market is the largest market for the enzymes due to the availability of large manufacturing base and favorable government policies. However, the manufacturing base of almost all sectors such as pharmaceutical and biotechnology sector (diagnostics, drug development, clinical research and as bio-catalysts), food & animal feed, textiles, detergents, agriculture, pulp/paper processing, and leather processing is gradually shifting to the Asia-Pacific region making it more lucrative. The key companies profiled in this report includes Novozymes, DuPont, Roche Holdings AG, BASF, Life technologies, Advance enzyme Technologies Ltd, Affymetrix Inc, and Codexis Inc.

#### KEY MARKET BENEFITS:

The report provides a quantitative analysis of the current market estimations through 2014-2020, which would enable the stakeholders to capitalize on prevailing market opportunities

Extensive analysis of the global enzymes market by type helps in understanding the types of enzymes that are currently used along with the variants that would gain prominence in future

Competitive intelligence highlights the business practices followed by leading market players across various geographies

Comprehensive analysis of factors that drive and restrict the growth of the global

enzymes market is provided

SWOT analysis highlights the internal environment of leading companies for effective strategy formulation

The global enzymes market scenario is comprehensively analyzed in accordance to the key regions

## **KEY MARKET SEGMENTS:THE GLOBAL ENZYMES MARKET IS SEGMENTED AS BELOW:**

### Global Enzymes Market By Application

Food and Beverages

Household Care

Bioenergy

Pharmaceutical and Biotechnology

Feed

Others

### Global Enzymes Market By Source

Microorganisms

Animals

Plants

### Global Enzymes Market By Type

Proteases

Carbohydrases

Lipases

Polymerases & nucleases

Others

#### Global Enzymes Market By Reaction Type

Hydrolases

Oxidoreductases

Transferases

Lyases

Others

#### Global Enzymes Market By Geography

North America

Europe

Asia Pacific

LAMEA

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