

# **Fermentation Products Market by Type (Alcohols, Amino Acids, Organic Acids, Biogas, Polymers, Vitamins, Antibiotics, and Industrial Enzymes), Feedstock (Corn, Rice, Wheat, Sugar Cane, Cassava, Barley, Potatoes, Sorghum, Sugar Beet, & Tubers), Process (Batch Fermentation, Continuous Fermentation), and End-user Industry (Food & Beverages; Pharmaceutical; Agriculture; Personal Care; Animal Feed; Textile & Leather) - Global Opportunity Analysis and Industry Forecast, 2017-2023**

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## **Abstracts**

The global fermentation products market was valued at \$149,469 million in 2016, and is expected to grow at a CAGR of 4.7% from 2017 to 2023, to reach \$205,465 million by 2023. Industrial fermentation is a multi-step process that converts starches, sugar, and cellulosic material into feed, fuel, food, and other industrial products. This process employs microorganisms, such as yeasts & algae, or enzymes and usually takes place in fermenters or bioreactors.

Fermentation products are used as active ingredients in production of green bio-based products in numerous end-user industries. These products increase shelf life and add aroma & flavor to various food products. Continuous fermentation, batch fermentation, and anaerobic fermentation are used to manufacture fermentation products, depending upon the characteristics of the final product. Key manufacturers focus on R&D activities to expand their existing product portfolio, which promotes product differentiation. The fermentation products industry is also expected to witness an increase in acquisitions,

mergers, and strategic alliances in the near future.

Ecological concerns, growth of the global bioethanol industry, and increase in demand for antibiotics drive the fermentation products market. In addition, rise in use of fermentation products as raw materials in plastic, textile, leather, rubber, and chemical industries and increase in awareness among consumers about benefits of bio-based products fuel the market growth. Irregular supply of raw materials, such as microorganisms & nutrients, to manufacture fermentation products, stringent government regulations, and high production costs hinder market growth. Moreover, economic viability of fermentation-based chemical industry is dependent on the price levels of substitute feedstocks and comparative product yields. However, increase in demand for fermentation products in emerging economies, such as India, China, and Brazil, and expanding applications and technological innovations in this field present as major opportunities for growth.

The fermentation products market is segmented based on type, feedstock, process, end-user industry, and geography. Based on type, it is classified into alcohols, amino acids, organic acids, biogas, polymers, vitamins, antibiotics, and industrial enzymes. The feedstock segment includes corn, rice, wheat, sugarcane, cassava, barley, potatoes, sorghum, sugar beet, other coarse grains, and other roots & tubers. Other coarse grains include oats, millet, triticale, buckwheat, rye, canary seed, fonio, and quinoa. Other roots & tubers comprise yams, sweet potatoes, yautia and taro. Based on process, the market is classified into batch fermentation, continuous fermentation, and others (aerobic and anaerobic fermentation). Fermentation products are used by various end-user industries such as food & beverages; pharmaceutical; agriculture; personal care; animal feed; textile & leather; and others (paper, bioremediation, environment, and biochemistry). Geographically, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

Major players operating in this market include the following:

AB Enzymes GmbH

Ajinomoto Company Incorporation

Amano Enzyme Inc.

BASF SE

Chr. Hansen A/S

Du Pont Danisco A/S

Evonik Industries AG

Lonza Group Ltd.

Novozymes A/S

The Dow Chemical Company

## KEY BENEFITS FOR STAKEHOLDERS

This report provides a quantitative analysis of the current trends and estimations from 2017 to 2023 of fermentation products market to identify the prevailing market opportunities.

Major countries in each region are mapped according to individual market revenue.

Comprehensive analysis of factors that drive and restrict the growth of the market is provided.

An in-depth analysis of current research and clinical developments within the market is provided with key dynamic factors that highlight the market behavior.

Leading players and their key developments in the recent years are listed.

## KEY MARKET SEGMENTS

### By Type

Alcohols

Amino Acids

Organic Acids

Biogas

Polymers

Vitamins

Antibiotics

Industrial Enzymes

### By Feedstock

Corn

Rice

Wheat

Sugarcane

Cassava

Barley

Potatoes

Sorghum

Sugar Beet

Other Coarse Grains (Oats, Millet, Triticale, Buckwheat, Rye, Canary Seed, Fonio, and Quinoa)

Other Roots & Tubers (Yams, Sweet Potatoes, Yautia, and Taro)

### By Process

Batch Fermentation

Continuous Fermentation

Others (Aerobic and Anaerobic Fermentation)

## By End-user Industry

Food & Beverages

Pharmaceutical

Agriculture

Personal Care

Animal Feed

Textile & Leather

Others (Paper, Bioremediation, Environment, and Biochemistry)

## By Geography

North America

U.S.

Canada

Mexico

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia-Pacific

China

Japan

India

Australia

South Korea

Rest of Asia-Pacific

LAMEA

Brazil

South Africa

Saudi Arabia

Turkey

Rest of LAMEA

## KEY PLAYERS

Koninklijke DSM N.V.

Archer Daniels Midland Company

Cargill Inc.

Alcogroup S.A.

Syngar Technologies Inc.

D?hler Group

CBH Qingdao Co., Ltd.

Hebei Kangdali Pharmaceutical Co., Ltd.

(Companies mentioned above are not profiled in the report, but can be profiled upon client request.)

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