

# Industrial Enzymes: Market Research Report

<https://marketpublishers.com/r/I4D86A69283EN.html>

Date: December 2017

Pages: 405

Price: US\$ 5,600.00 (Single User License)

ID: I4D86A69283EN

## Abstracts

This report analyzes the worldwide markets for Industrial Enzymes in US\$ Thousand by the following Product Segments: Carbohydrases, Proteases, Lipases, and Others. The report also analyzes the following End-Use Segments: Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Others. Additionally, the global market for Industrial Enzymes in the Food and Beverage sector is further analyzed by the following End-Use Segments Dairy, Bakery, and Others. The report provides separate comprehensive analytics for the US, Canada, Japan, Europe, Asia-Pacific, Middle East, and Latin America. Annual estimates and forecasts are provided for the period 2013 through 2020. Also, a seven-year historic analysis is provided for these markets. Market data and analytics are derived from primary and secondary research.

Company profiles are primarily based on public domain information including company URLs.

The report profiles 54 companies including many key and niche players such as -

AB Enzymes GmbH

Advanced Enzyme Technologies Ltd.

Amano Enzyme Inc.

BASF SE

BioResource International, Inc.

## Contents

### I. INTRODUCTION, METHODOLOGY & PRODUCT DEFINITIONS

### II. EXECUTIVE SUMMARY

#### 1. INDUSTRY OVERVIEW

Industrial Enzymes: Eco-Friendly Catalysts that Speed Up and Improve the Efficiency of Industrial Processes

Global Industrial Enzymes Market: Fast Facts

Major Enzyme Trends in Industrial Applications

Combination is the Key to Success

Exploring Nature's Abundance of Wealth

Designing One's Own Enzyme

Standardization: Key to Unlock the Potential of Enzymes

Aiming for the Bigger Picture

Growing Need to Replace Harsh Chemical Processes with Eco-Friendly Enzymatic

Processes: Fundamental Catalyst for Market Growth

Advantages of Enzymes Vis-à-vis Chemical Catalysts

Enzymes Replace Various Harsh and Abrasive Chemicals

Enzymes Offer Safer Workplace through Elimination of Harsh Chemical Treatment

Energy Conservation

Enzymes Reduce Toxicity of Effluents during Wastewater Treatment

Surging Demand for Eco-Friendly Enzymes Spurs R&D

Myriad Applications in Various End-use Industries Drives Widespread Adoption

Applications of Enzymes in Various End-Use Industries

Types of Enzymes Used in Key End-use Applications

Market Fortunes Intrinsicly Tied to Performance of the Overall Enzymes Market

Biotechnology: Providing Solutions in an Increasingly Enzyme Dependent World

Advancements in Biotechnology Increase Enzyme Performance

Global Market Outlook

**Table 1.** World Real GDP Growth Rates (%) by Major Region/Country for the Period 2014-2017P (includes corresponding Graph/Chart)

#### 2. COMPETITION

## Industrial Enzymes Marketplace: A Mature Oligopoly

**Table 2.** Leading Industrial Enzymes Companies Worldwide (2016E): Percentage Share Breakdown of Value Sales for DSM, DuPont/Danisco, Novozymes, BASF, and Others (includes corresponding Graph/Chart)

Novozymes: World's Leading Biological Solutions Provider

Leading Vendors in the Global Food Enzymes Market: Snapshot Profiles

Amway

BASF

DuPont Danisco

DSM

Novozymes

AB Enzymes

Aum Enzymes

Roche

Amano Enzyme Inc.

Industry Attracts Investments from Large Multinational Giants....

As Well As Several Start-ups

Would Innovation Continue in the Same Pace in the Coming Years?

DuPont

Novozymes

Lallemand

DSM

BASF to Reinforce Technology Footprint with Acquisitions and Collaborations

Regulatory Scenario Governs Enzyme Production

Innovative Production Techniques: A Major Requisite for Sustaining Competitive Advantage

### 3. MARKET TRENDS, ISSUES AND DRIVERS

Surging Demand for Biofuel Enzymes Drive Healthy Market Growth

**Table 3.** Global Biofuel Enzymes Market by Enzyme Type (2015 & 2022P): Annual Revenues (US\$ Thousand) for Xylanase, Amylase, Cellulase and Others (includes corresponding Graph/Chart)

Biofuel Enzymes in Second Generation Bioethanol and Advanced Biodiesel Production Offers Lucrative Opportunities

**Table 4.** Global Second Generation Ethanol Production Capacity by Country/Region (2016): Percentage Breakdown of Installed Capacity for Brazil, Canada, China, Europe, US and Others (includes corresponding Graph/Chart)

Development Trends in Protein Engineering Sustain Demand in the Largest Application Area of Food & Beverages

**Table 5.** World Recent Past, Current & Future Analysis for Industrial Enzymes in Food & Beverage Applications by Segment – Dairy, Bakery and Others Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 6.** World Historic Review for Industrial Enzymes in Food & Beverage Applications by Segment - Dairy, Bakery and Others Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 7.** World 14-Year Perspective for Industrial Enzymes in Food & Beverage Applications by Segment - Percentage Breakdown of Dollar Sales for Dairy, Bakery and Others Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

Major Application Areas for Enzymes in the Food and Beverage Industry  
Growing Popularity of Fermentation Process Sustain Demand for Dairy Enzymes  
Increasing Demand for Beer Drives Focus on Brewing Enzymes

**Table 8.** Global Beer Production by Geographic Region (2014): Percentage Share Breakdown of Volume Production for China, The US, Brazil, Mexico, Germany, Spain, Russia and Other Countries (includes corresponding Graph/Chart)

Food Enzymes: A Great Source of Product Innovation in the Baking Sector  
Demand for Digestive Enzymes on the Rise  
Alkaline Phosphatase (ALP): A Key Diagnostic Enzyme in the Food Industry  
Increasing Applications as Processing Aid and Ingredient Catapult Carbohydrases to

the Dominant Position

Broad Spectrum of Functionalities Drive Steady Demand for Proteases

Microbial Proteases Score over Animal and Plant Proteases

Industrial and Health Benefits Drive Fastest Growth in Demand for Lipases

Multiple Benefits Drive Strong Demand for Feed Enzymes in the Animal Feed Sector

Principle Functions of Enzymes in Animal Feed

Major Enzymes in Feed Applications

Development of Candidates for Feed Enzyme: A Challenging Task?

Feed Enzymes and the Effect on Environment

Effectiveness in Dirt Elimination Boosts Demand for Detergent Enzymes

Enzyme Based Detergent Versus Conventional Synthetic Detergent

Removal of Stains

Grease Removal

Contact Lens Cleaning

Pollution Reduction Attributes Spur Demand for Enzymes in Textile Processing

De-Starching Agents

Stonewashing Denim

Yarn Bleaching

Cosmetics: A Niche Yet Growing End-use Segment

Modern Farm Practices Promote Use of Agricultural Enzymes

Beneficial Nature of Laccases Intensifies Research Activity

Recent Advancements in Industrial Scale Production of Enzymes Augurs Well for Market Penetration

Genetically Engineered Enzymes

Directed Evolution

Enzyme Production from Extremophile Organisms

Immobilized Enzymes

Enzymes in Starch Processing Generate Better Yield of Glucose

Enzymes Replace High-Chlorinated Products in the Pulp and Paper Industry

Enzymes Used for Processing, Dehairing, Bating, and Degreasing in Leather Industry

Developing Countries Continue to Offer Significant Growth Opportunities

**Table 9.** Global Market for Industrial Enzymes - Countries/Regions Ranked on the Basis of Estimated Compounded Annual Growth Rate over the Period 2015-2022 (includes corresponding Graph/Chart)

Expanding Middle Class Population Promotes Demand for Food and Feed Enzymes

Manufacturers in Developed Countries Move Production Base to Developing Markets

#### **4. INNOVATIONS AND ADVANCEMENTS**

Extremozymes: The Next Big Thing in Industrial Enzyme Technology

Cold Extremozymes

Hot Extremozymes

Extremozymes Production for Industrial Applications: Major Challenges

Innovative Ultra-Stable Enzymes for Industrial Applications

Novel Enzymes from Microbes in the Arctic Region

Enzymes and New Yeasts to Advance the Brewing Process

Ongoing Trials

Enzyme Innovations in Ethanol Production

Novozymes' 3D Modelling for Enzyme Optimization

Enzyme Innovations Aid in Acrylamide Reduction in Baked Goods

#### **5. PRODUCT OVERVIEW**

#### **6. PRODUCT INTRODUCTIONS/INNOVATIONS**

Danisco Introduces New Phytase Enzyme

Novozymes Introduces Enzyme for Biological Foam Control

BASF Unveils New Line of Enzymes

DuPont Industrial Biosciences Unveils New Enzyme for the Biogas Sector

Bio-Systems Introduces New Feed Enzymes

DSM Introduces New Enzyme to Help Digest Residual Gluten

DuPont Introduces New Wheat Processing Enzyme

Novozymes Introduces New Biofuel Enzyme

#### **7. RECENT INDUSTRY ACTIVITY**

DuPont Inks Supply Agreement with MIAVIT

Novozymes to Expand Industrial Enzymes Capacity in India

Advanced Enzyme Technologies to Acquire Majority Stake in JC Biotech

BRI Inks Marketing & Distribution Agreement with CBC

BRI Receives Regulatory Approval for Xylamax in Peru and Brazil

Codexis Extends Agreement with Merck Sharp & Dohme

DuPont to Take Over Dyadic's Biotechnology Assets

DuPont Inks Multi-year Enzyme Supply Contract with Quad County Corn Processors

Univar Signs Distribution Agreement with DuPont

AB Enzymes Selects Behn Meyer Chemicals as its Enzyme Distributor  
Qiagen Takes Over Enzymatics's Enzyme Solutions Business Unit

## 8. FOCUS ON SELECT PLAYERS

AB Enzymes GmbH (Germany)  
Advanced Enzyme Technologies Ltd. (India)  
Amano Enzyme Inc. (Japan)  
Asahi Kasei Pharma Corporation (Japan)  
Aumgene Biosciences (India)  
BASF SE (Germany)  
BioResource International, Inc. (USA)  
Chr. Hansen A/S (Denmark)  
Codexis, Inc. (USA)  
DuPont Nutrition and Health (USA)  
Direvo Biotech AG (Germany)  
Enzymatic Deinking Technologies LLC (USA)  
Enzyme Innovation (USA)  
Hayashibara Company (Japan)  
Novozymes A/S (Denmark)  
PAC Bio Fungbact Pvt., Ltd. (India)  
Royal DSM (The Netherlands)  
Thermo Fisher Scientific, Inc. (USA)

## 9. GLOBAL MARKET PERSPECTIVE

**Table 10.** World Recent Past, Current & Future Analysis for Industrial Enzymes by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 11.** World Historic Review for Industrial Enzymes by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 12.** World 14-Year Perspective for Industrial Enzymes by Geographic Region -

Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

Industrial Enzymes Market by Product Segment

**Table 13.** World Recent Past, Current & Future Analysis for Carbohydrases by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 14.** World Historic Review for Carbohydrases by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 15.** World 14-Year Perspective for Carbohydrases by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 16.** World Recent Past, Current & Future Analysis for Proteases by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 17.** World Historic Review for Proteases by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 18.** World 14-Year Perspective for Proteases by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 19.** World Recent Past, Current & Future Analysis for Lipases by Geographic



Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 20.** World Historic Review for Lipases by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 21.** World 14-Year Perspective for Lipases by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 22.** World Recent Past, Current & Future Analysis for Other Industrial Enzymes by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 23.** World Historic Review for Other Industrial Enzymes by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 24.** World 14-Year Perspective for Other Industrial Enzymes by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

#### Industrial Enzymes Market by End-Use Segment

**Table 25.** World Recent Past, Current & Future Analysis for Industrial Enzymes in Food & Beverage by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 26.** World Historic Review for Industrial Enzymes in Food & Beverage by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 27.** World 14-Year Perspective for Industrial Enzymes in Food & Beverage by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 28.** World Recent Past, Current & Future Analysis for Industrial Enzymes in Detergents & Other Cleaning Products by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 29.** World Historic Review for Industrial Enzymes in Detergents & Other Cleaning Products by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 30.** World 14-Year Perspective for Industrial Enzymes in Detergents & Other Cleaning Products by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 31.** World Recent Past, Current & Future Analysis for Industrial Enzymes in Textiles by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 32.** World Historic Review for Industrial Enzymes in Textiles by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 33.** World 14-Year Perspective for Industrial Enzymes in Textiles by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 34.** World Recent Past, Current & Future Analysis for Industrial Enzymes in Animal Feed by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 35.** World Historic Review for Industrial Enzymes in Animal Feed by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 36.** World 14-Year Perspective for Industrial Enzymes in Animal Feed by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 37.** World Recent Past, Current & Future Analysis for Industrial Enzymes in Ethanol Production by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 38.** World Historic Review for Industrial Enzymes in Ethanol Production by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 39.** World 14-Year Perspective for Industrial Enzymes in Ethanol Production by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 40.** World Recent Past, Current & Future Analysis for Industrial Enzymes in Other

End-use Sectors by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 41.** World Historic Review for Industrial Enzymes in Other End-use Sectors by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 42.** World 14-Year Perspective for Industrial Enzymes in Other End-use Sectors by Geographic Region - Percentage Breakdown of Dollar Sales for US, Canada, Japan, Europe, Asia-Pacific (excluding Japan), Middle East & Africa and Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

### III. MARKET

#### 1. THE UNITED STATES

##### A. Market Analysis

Development of Novel and Superior Performance Products Drive Steady Market Growth

Emergence of Industry Scale Specialty Enzymes Benefit Market Expansion

Genetically Modified Organisms (GMOs): Caught in the Swamp of Concerns

Competitive Landscape

Food Enzymes Market: Highly Competitive

Ongoing Consolidation Drive Focus on Core Competencies

Product Launches

Strategic Corporate Developments

Select Key Players

##### B. Market Analytics

**Table 43.** US Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 44.** US Historic Review for Industrial Enzymes by Product Segment -

Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets  
Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009  
through 2014 (includes corresponding Graph/Chart)

**Table 45.** US 14-Year Perspective for Industrial Enzymes by Product Segment -  
Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and  
Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes  
corresponding Graph/Chart)

**Table 46.** US Recent Past, Current & Future Analysis for Industrial Enzymes by End-  
Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles,  
Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed  
with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes  
corresponding Graph/Chart)

**Table 47.** US Historic Review for Industrial Enzymes by End-Use Segment - Food &  
Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol  
Production, and Other End-Use Markets Independently Analyzed with Annual Sales  
Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding  
Graph/Chart)

**Table 48.** US 14-Year Perspective for Industrial Enzymes by End-Use Segment -  
Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other  
Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use  
Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 2. CANADA

A. Market Analysis

Product Launches

B. Market Analytics

**Table 49.** Canadian Recent Past, Current & Future Analysis for Industrial Enzymes by  
Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes  
Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years  
2015 through 2022 (includes corresponding Graph/Chart)

**Table 50.** Canadian Historic Review for Industrial Enzymes by Product Segment -

Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets  
Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009  
through 2014 (includes corresponding Graph/Chart)

**Table 51.** Canadian 14-Year Perspective for Industrial Enzymes by Product Segment -  
Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and  
Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes  
corresponding Graph/Chart)

**Table 52.** Canadian Recent Past, Current & Future Analysis for Industrial Enzymes by  
End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles,  
Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed  
with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes  
corresponding Graph/Chart)

**Table 53.** Canadian Historic Review for Industrial Enzymes by End-Use Segment -  
Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed,  
Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual  
Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding  
Graph/Chart)

**Table 54.** Canadian 14-Year Perspective for Industrial Enzymes by End-Use Segment -  
Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other  
Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use  
Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

### 3. JAPAN

A. Market Analysis

Select Key Players

B. Market Analytics

**Table 55.** Japanese Recent Past, Current & Future Analysis for Industrial Enzymes by  
Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes  
Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years  
2015 through 2022 (includes corresponding Graph/Chart)

**Table 56.** Japanese Historic Review for Industrial Enzymes by Product Segment -

Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets  
Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009  
through 2014 (includes corresponding Graph/Chart)

**Table 57.** Japanese 14-Year Perspective for Industrial Enzymes by Product Segment -  
Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and  
Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes  
corresponding Graph/Chart)

**Table 58.** Japanese Recent Past, Current & Future Analysis for Industrial Enzymes by  
End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles,  
Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed  
with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes  
corresponding Graph/Chart)

**Table 59.** Japanese Historic Review for Industrial Enzymes by End-Use Segment -  
Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed,  
Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual  
Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding  
Graph/Chart)

**Table 60.** Japanese 14-Year Perspective for Industrial Enzymes by End-Use Segment -  
Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other  
Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use  
Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 4. EUROPE

### A. Market Analysis

Focus on Reducing Use of Harmful Chemicals Promote Demand for Industrial Enzymes  
Rising Concerns for Food Safety Buoy Sales of Feed Enzymes

### B. Market Analytics

**Table 61.** European Recent Past, Current & Future Analysis for Industrial Enzymes by  
Geographic Region - France, Germany, Italy, UK, Spain, Russia, and Rest of Europe  
Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years  
2015 through 2022 (includes corresponding Graph/Chart)

**Table 62.** European Historic Review for Industrial Enzymes by Geographic Region - France, Germany, Italy, UK, Spain, Russia, and Rest of Europe Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 63.** European 14-Year Perspective for Industrial Enzymes by Geographic Region - Percentage Breakdown of Dollar Sales for France, Germany, Italy, UK, Spain, Russia, and Rest of Europe Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 64.** European Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 65.** European Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 66.** European 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 67.** European Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 68.** European Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 69.** European 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other



Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

#### **4A. FRANCE**

Market Analysis

**Table 70.** French Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 71.** French Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 72.** French 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 73.** French Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 74.** French Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 75.** French 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 4B. GERMANY

### A. Market Analysis

Product Launch

Select Key Players

### B. Market Analytics

**Table 76.** German Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 77.** German Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 78.** German 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 79.** German Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 80.** German Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 81.** German 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 4C. ITALY

### Market Analysis

**Table 82.** Italian Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 83.** Italian Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 84.** Italian 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 85.** Italian Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 86.** Italian Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 87.** Italian 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 4D. THE UNITED KINGDOM

## Market Analysis

**Table 88.** UK Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 89.** UK Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 90.** UK 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 91.** UK Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 92.** UK Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 93.** UK 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 4E. SPAIN

### Market Analysis

**Table 94.** Spanish Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 95.** Spanish Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 96.** Spanish 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 97.** Spanish Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 98.** Spanish Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 99.** Spanish 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

#### **4F. RUSSIA**

##### Market Analysis

**Table 100.** Russian Recent Past, Current & Future Analysis for Industrial Enzymes by

Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 101.** Russian Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 102.** Russian 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 103.** Russian Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 104.** Russian Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 105.** Russian 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **4G. REST OF EUROPE**

A. Market Analysis

Product Launches

Select Key Players

B. Market Analytics

**Table 106.** Rest of Europe Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 107.** Rest of Europe Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 108.** Rest of Europe 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 109.** Rest of Europe Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 110.** Rest of Europe Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 111.** Rest of Europe 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **5. ASIA-PACIFIC**

### **A. Market Analysis**

**Rising Demand from Various Industries Drive Strong Market Growth**

**Table 112.** Global Market for Industrial Enzymes - Countries/Regions Ranked on the

Basis of Estimated Compounded Annual Growth Rate over the Period 2015-2022  
(includes corresponding Graph/Chart)

Strong Industrial and Economic Growth Add to Market Demand  
Relocation of Production Base to Asian Countries Benefit Market Prospects  
Expanding Middle Class Population Promotes Demand for Food and Feed Enzymes

**Table 113.** Global Middle Class Population (in Millions) by Geographic Region: 2010, 2020P & 2030P (includes corresponding Graph/Chart)

## B. Market Analytics

**Table 114.** Asia-Pacific Recent Past, Current & Future Analysis for Industrial Enzymes by Geographic Region - China, India, South Korea and Rest of Asia-Pacific Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 115.** Asia-Pacific Historic Review for Industrial Enzymes by Geographic Region - China, India, South Korea and Rest of Asia-Pacific Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 116.** Asia-Pacific 14-Year Perspective for Industrial Enzymes by Geographic Region - Percentage Breakdown of Dollar Sales for China, India, South Korea and Rest of Asia-Pacific Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 117.** Asia-Pacific Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 118.** Asia-Pacific Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)



**Table 119.** Asia-Pacific 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 120.** Asia-Pacific Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 121.** Asia-Pacific Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 122.** Asia-Pacific 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 5A. CHINA

### A. Market Analysis

Steady Growth in Consumption and Production Capacity Make China an Important Market for Industrial Enzymes

Market Dominated by Foreign Suppliers

Feed Enzymes Segment Showcases Immense Potential

Chinese Food Enzymes Market to Expand

### B. Market Analytics

**Table 123.** Chinese Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 124.** Chinese Historic Review for Industrial Enzymes by Product Segment -

Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets  
Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009  
through 2014 (includes corresponding Graph/Chart)

**Table 125.** Chinese 14-Year Perspective for Industrial Enzymes by Product Segment -  
Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and  
Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes  
corresponding Graph/Chart)

**Table 126.** Chinese Recent Past, Current & Future Analysis for Industrial Enzymes by  
End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles,  
Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed  
with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes  
corresponding Graph/Chart)

**Table 127.** Chinese Historic Review for Industrial Enzymes by End-Use Segment -  
Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed,  
Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual  
Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding  
Graph/Chart)

**Table 128.** Chinese 14-Year Perspective for Industrial Enzymes by End-Use Segment -  
Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other  
Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use  
Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **5B. INDIA**

### A. Market Analysis

Increasing Awareness about the Potential Benefits of Industrial Enzymes Drives Strong  
Market Growth

Novozymes to Strengthen Enzymes Operations in India

Import Dependent Indian Enzymes Market

Strategic Corporate Developments

Select Key Players

### B. Market Analytics

**Table 129.** Indian Recent Past, Current & Future Analysis for Industrial Enzymes by

Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 130.** Indian Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 131.** Indian 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 132.** Indian Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 133.** Indian Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 134.** Indian 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **5C. SOUTH KOREA**

### Market Analysis

**Table 135.** South Korean Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$

Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 136.** South Korean Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 137.** South Korean 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 138.** South Korean Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 139.** South Korean Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 140.** South Korean 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **5D. REST OF ASIA-PACIFIC**

### A. Market Analysis

Multiple Macro Trends Promote Market Demand in Australia

Strategic Corporate Developments

### B. Market Analytics

**Table 141.** Rest of Asia-Pacific Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other

Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 142.** Rest of Asia-Pacific Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 143.** Rest of Asia-Pacific 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 144.** Rest of Asia-Pacific Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 145.** Rest of Asia-Pacific Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 146.** Rest of Asia-Pacific 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **6. THE MIDDLE EAST & AFRICA**

### A. Market Analysis

Research in Industrial Enzymes Gain Momentum in East Africa

Increasing Meat Consumption Drive Demand for Feed Enzymes in the Region

### B. Market Analytics

**Table 147.** Middle East & Africa Recent Past, Current & Future Analysis for Industrial

Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 148.** Middle East & Africa Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 149.** Middle East & Africa 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 150.** Middle East & Africa Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 151.** Middle East & Africa Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 152.** Middle East & Africa 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## 7. LATIN AMERICA

### Market Analysis

**Table 153.** Latin American Recent Past, Current & Future Analysis for Industrial Enzymes by Geographic Region - Brazil and Rest of Latin America Markets

Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 154.** Latin American Historic Review for Industrial Enzymes by Geographic Region - Brazil and Rest of Latin America Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 155.** Latin American 14-Year Perspective for Industrial Enzymes by Geographic Region - Percentage Breakdown of Dollar Sales for Brazil and Rest of Latin America Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 156.** Latin American Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 157.** Latin American Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 158.** Latin American 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 159.** Latin American Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 160.** Latin American Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 161.** Latin American 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **7A. BRAZIL**

### A. Market Analysis

Stable Demand for Swine and Poultry to Drive Brazilian Animal Feed Enzymes Market

### B. Market Analytics

**Table 162.** Brazilian Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 163.** Brazilian Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 164.** Brazilian 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 165.** Brazilian Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 166.** Brazilian Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)



**Table 167.** Brazilian 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

## **7B. REST OF LATIN AMERICA**

A. Market Analysis

Corporate Development

B. Market Analytics

**Table 168.** Rest of Latin America Recent Past, Current & Future Analysis for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 169.** Rest of Latin America Historic Review for Industrial Enzymes by Product Segment - Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 170.** Rest of Latin America 14-Year Perspective for Industrial Enzymes by Product Segment - Percentage Breakdown of Dollar Sales for Carbohydrases, Proteases, Lipases, and Other Industrial Enzymes Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

**Table 171.** Rest of Latin America Recent Past, Current & Future Analysis for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 172.** Rest of Latin America Historic Review for Industrial Enzymes by End-Use Segment - Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets Independently Analyzed with Annual Sales Figures in US\$ Thousand for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 173.** Rest of Latin America 14-Year Perspective for Industrial Enzymes by End-Use Segment - Percentage Breakdown of Dollar Sales for Food & Beverage, Detergents & Other Cleaning Products, Textiles, Animal Feed, Ethanol Production, and Other End-Use Markets for Years 2009, 2016 and 2022 (includes corresponding Graph/Chart)

#### **IV. COMPETITIVE LANDSCAPE**

Total Companies Profiled: 54 (including Divisions/Subsidiaries - 58)

The United States (13)

Canada (2)

Japan (3)

Europe (28)

    France (4)

    Germany (8)

    The United Kingdom (2)

    Spain (1)

    Rest of Europe (13)

Asia-Pacific (Excluding Japan) (11)

Latin America (1)

## I would like to order

Product name: Industrial Enzymes: Market Research Report

Product link: <https://marketpublishers.com/r/l4D86A69283EN.html>

Price: US\$ 5,600.00 (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/l4D86A69283EN.html>