

D-Amino Acids: Market Research Report

<https://marketpublishers.com/r/D015C3C4DC9EN.html>

Date: January 2019

Pages: 175

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

ID: D015C3C4DC9EN

Abstracts

This report analyzes the worldwide markets for D-Amino Acids in US\$ Thousand by the following End-Use Applications: Industrial, Pharmaceutical, and Others.

The report provides separate comprehensive analytics for the US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa, and Latin America. Annual estimates and forecasts are provided for the period 2016 through 2024.

Also, a five-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 31 companies including many key and niche players such as -

Adisseo France S.A.S

Ajinomoto Co., Inc.

AnaSpec, Inc.

Evonik Industries AG

IRIS Biotech GmbH

LifeSpan Biosciences, Inc.

Contents

1. INTRODUCTION, METHODOLOGY & PRODUCT DEFINITIONS

Study Reliability and Reporting Limitations

Data Interpretation & Reporting Level

Quantitative Techniques & Analytics

Product Definitions and Scope of Study

2. MARKET OVERVIEW

D-Amino Acids: A Compound with Promising Applications

Developing Regions – At the Forefront of Growth in D-Amino Acids Market

Pharmaceuticals: D-Amino Acids Hold Edge as Essential Raw Material

Table 1. Increasing Pharmaceutical Spending Augurs Well for D-Amino Acids Market: Global Medicine Spending in US\$ Billion by Geographic Region/ Country for 2010 and 2020 (includes corresponding Graph/Chart)

Rising Prominence of Artificial Amino Acids Augurs Well for Market Growth

3. MARKET TRENDS, DRIVERS & ISSUES

Aging World Population – A Major Growth Influencing Factor for D-Amino Acids

Table 2. Global Aging Population in Select Regions/Countries: Population of 60+ Individuals in '000s and as a Percentage of Total Population for 2015 & 2050 (includes corresponding Graph/Chart)

Table 3. Life Expectancy at Birth in Years of People in Select Countries (2017) (includes corresponding Graph/Chart)

Growing Importance of D-Amino Acids in Pharmaceutical Industry

Peptide-based Drugs: A Promising Area for D-Amino Acids

Growing Interest in Peptide Research Drives D-Amino Acids Market

Pharmaceutical Intermediates Market Challenged by Drug Development

A Review of Select Research Studies on D-Amino Acids

Research Finds Support for Potential Use of D-Amino Acids as Biomarkers for CKD
D-Amino Acids and Small Molecule Inhibitors: Potential Role in Eliminating Infections
Researchers Develop New Approach to Switch Chirality in Amino Acids
Generating Stable D-Amino Acid Analogs Using Mirror Image Version of PDB
Ajinomoto Develops Ajiphase and Corynex Amino Acid Synthesis Technologies
Harvard University's Scientists Discover New Biofilm Disrupting Bacteria
Study Reveals that D-Amino Acids Amass in EMCs
Research Studies Suggest that Replacement of One L-Amino Acid with Analogous D-enantiomer Results in High Therapeutic Index
ARCA: A Breakthrough Chiral Converting Agent for Amino Acids
Commercial Development of ARCA
Genetic Engineering and Advances in Research Enable DAAO Use in Multiple Arenas
DL-Methionine: An Eco-Friendly Option for Animal Nutrition

Table 4. Global DL-Methionine Market (2015): Percentage Breakdown of Production Output for Evonik and Others (includes corresponding Graph/Chart)

4. AMINO ACIDS – AN OVERVIEW

Amino Acids – Essential Building Blocks of Proteins

Table 5. Global Amino Acids Market (2018): Percentage Breakdown of Value Sales by End-Use Segment (includes corresponding Graph/Chart)

Table 6. Global Amino Acids Market by Product (2018): Percentage Breakdown of Consumption (Volume) for L-Glutamate, Lysine, Methionine and Others (includes corresponding Graph/Chart)

Lysine & Methionine Rule the Roost among Amino Acids in Animal Feed

Table 7. Global Lysine Market by Geographic Region/Country (2018): Percentage Breakdown of Consumption (Volume) for Asia (China and Others), Canada, Europe, Japan, Latin America, Middle East & Africa and the US (includes corresponding Graph/Chart)

Table 8. Global Threonine Market by Geographic Region/Country (2018): Percentage

Breakdown of Consumption (Volume) for China, Europe, Latin America, US and Others (includes corresponding Graph/Chart)

Table 9. Global Tryptophan Market by Geographic Region/Country (2018): Percentage Breakdown of Consumption (Volume) for China, Europe, US and Others (includes corresponding Graph/Chart)

Methionine: Application in Food & Feed Sectors

Table 10. Global Methionine Market (2018): Percentage Breakdown of Consumption (Volume) by Geographic Region/Country (includes corresponding Graph/Chart)

Oligopoly Characterizes Amino Acids Market

5. PRODUCT OVERVIEW

What do Amino Acids Do?

Key Functions of Amino Acids

Essential Vs Non-Essential Amino Acids

Different Amino Acids and their Biological Functions

Structure and Composition of Amino Acids

Commercial Production of Natural Amino Acids

Fermentation Method (Microbial Process)

Enzymatic Method (Chemical Process)

Extraction Method

What are L and D Amino Acids?

Introduction to D-amino Acids

Commercial Production of D-Amino Acids

Fermentation Process is Not Applicable for Commercial Production of D-Amino Acids

Alternative Methods of Enzymatic Preparation of D-Amino Acids

Use of Immobilized Enzymes

6. D-AMINO ACIDS: AN OVERVIEW OF PRESENT APPLICATIONS AND FUTURE POTENTIAL

D-Amino Acids Applications in the Pharmaceutical Sector

Select D-Amino Acids and their Diverse Applications

Optically Pure D-Amino Acids and their Pharmaceutical Applications

Optically Active Peptides and Neuropeptides Containing D-phenylalanine
Overview of Select D-Amino Acids Used in Pharmaceutical Applications

D-Arginine

D-Glutamine

D-Methionine, D-Leucine, D-Threonine, and D-Alanine

D-Methionine-Pyruvate Transaminase

D-Valine

D-Aspartic Acid

D-alpha-Aminoadipic acid (DAA)

D-Ornithine

(R)-6-Oxo-Pipecolic Acid

A Note on Ionic Liquids

Poly-D-amino Acids

D-Amino Acids Used in Antibiotics Production

D-Amino Acids Use in Peptide Design

D-Amino Acids Applications in the Industrial Sector

D-Amino Acids in Foods

D-Amino Acids in Food Flavorants

D-Amino Acids in Artificial Sweeteners (Alitame)

D-Amino Acids in Deodorants

D-Amino-Acids in Insecticides

7. R&D IN D-AMINO ACIDS MARKET: A REVIEW OF PAST INITIATIVES

D-Amino Acids and DAAO in Immunology and Therapeutics

D-Amino Acids and their Role in Immunity

Potential Therapeutic Role of D-Amino Acid Oxidase in Schizophrenia

Study on In Situ Hybridization and Immunohistochemical Activity of DAAO: A Review

Study on Immunoreactivity and Immunohistochemical Activity of d-Serine: A Review

Observations and Inference

DAAO in Leukocytes: Effective Treatment Against Certain Microorganisms

D-Amino Acids in Biotechnology

Application of Biotechnology to Enable Use of D-amino acid as N-source by Plants

D-Amino Acid Oxidase (DAAO) Selectable Marker System

Positive Selection

Negative Selection

Biosensor for D-Amino Acids

DAAO: The Most Widely Studied D-Amino Acids Associated Enzyme

Occurrence and Distribution

Physiological Role of DAAO in Eukaryotes
Early Studies and Progress in DAAO in the Subsequent Decade
Advances in Genetic Engineering Fueled DAAO Research
Research Unlocks the Potential for DAAO Use in Multiple Arenas
Research Findings for D-Amino Acids in Natural and Processed Foods
Research Findings on Select D-Amino Acids Used in Diet (Data is Based on Animal Studies)
Processed Foods: A Source of D-Amino Acids
What Induces the Formation of D-Amino Acids in Processed Foods?
What is the Impact?
Racemisation of Essential Amino Acids
D-Amino Acids in Milk and Milk Products
Occurrence of D-Amino Acids in Select Natural and Processed Foods

Table 11. D-Aspartic Acid Content of Select Milk Products in Comparison to Untreated Milk (includes corresponding Graph/Chart)

Table 12. Comparison of Select Free Amino Acid Composition of Raw Milk with Fermented Milk

Content of Select D-Amino Acids in Select Processed Foods
Cheese

Table 13. Content of Select D-Amino Acids in Different Varieties of Cheese (in millimol/100g): A Comparison (includes corresponding Graph/Chart)

Table 14. Content of Select D-Amino Acids in Different Varieties of Cheese (in %): A Comparison (includes corresponding Graph/Chart)

Table 15. Percentage Content of Select D-Amino Acids in Bread and Toast (includes corresponding Graph/Chart)

Table 16. Percentage Content of Select D-Amino Acids in Soya Bean Meal and Extruded Soya Bean Meal (includes corresponding Graph/Chart)

Table 17. Percentage Content of Select D-Amino Acids in Untreated Soya Protein and Soya Protein (includes corresponding Graph/Chart)

Table 18. Percentage Content of Select D-Amino Acids in Raw Meat and Ham Burger (includes corresponding Graph/Chart)

Table 19. Percentage of Select D-Amino Acids in Raw Chicken and Chicken Muscle (includes corresponding Graph/Chart)

Table 20. Percentage Content of Select D-Amino Acids in Bacon and Heat Treated Bacon (includes corresponding Graph/Chart)

Table 21. Percentage Content of Select D-Amino Acids in Casein and Heat Treated Casein (includes corresponding Graph/Chart)

8. COMPETITIVE LANDSCAPE

8.1 Focus on Select Players

Adisseo France S. A. S (France)
Ajinomoto Co., Inc. (Japan)
AnaSpec, Inc. (USA)
Evonik Industries AG (Germany)
IRIS Biotech GmbH (Germany)
LifeSpan Biosciences, Inc. (USA)
Merck KGaA (Germany)
Sekisui Medical Co., Ltd. (Japan)
Shanghai Hanhong Chemical Co., Ltd. (China)
Sichuan Tongsheng Amino acid Co., Ltd. (China)
Sumitomo Chemical Company Limited (Japan)
TCI America, Inc. (USA)
Tocris Bioscience (UK)
Zhangjiagang Huachang Pharmaceutical Co., Ltd. (China)

8.2 Recent Industry Activity

Merck Acquires Sigma-Aldrich
Evonik to Build Facility for DL-Methionine Production in Singapore
AnaSpec Introduces Glycosylated (GlcNac) Serine and Threonine for Synthesis of PTM Peptides
AnaSpec Rolls Out Two Rabbit Polyclonal Antibodies and Five Tau Peptides
Evonik Industries Develops New Process for Serine Synthesis
Evonik to Open New Production Facilities

9. GLOBAL MARKET PERSPECTIVE

Table 22. World Recent Past, Current & Future Analysis for D-Amino Acids by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 23. World Historic Review for D-Amino Acids by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 24. World 14-Year Perspective for D-Amino Acids by Geographic Region - Percentage Breakdown of Revenues for US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

Table 25. World Recent Past, Current & Future Analysis for D-Amino Acids in Industrial End-Use Applications by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 26. World Historic Review for D-Amino Acids in Industrial End-Use Applications by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 27. World 14-Year Perspective for D-Amino Acids in Industrial End-Use Applications by Geographic Region - Percentage Breakdown of Revenues for US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

Table 28. World Recent Past, Current & Future Analysis for D-Amino Acids in Pharmaceutical End-Use Applications by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 29. World Historic Review for D-Amino Acids in Pharmaceutical End-Use Applications by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 30. World 14-Year Perspective for D-Amino Acids in Pharmaceutical End-Use Applications by Geographic Region - Percentage Breakdown of Revenues for US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

Table 31. World Recent Past, Current & Future Analysis for D-Amino Acids in Other End-Use Applications by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 32. World Historic Review for D-Amino Acids in Other End-Use Applications by Geographic Region - US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 33. World 14-Year Perspective for D-Amino Acids in Other End-Use Applications by Geographic Region - Percentage Breakdown of Revenues for US, Canada, Japan, Europe, Asia-Pacific, Middle East & Africa and Latin America Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10. REGIONAL MARKET PERSPECTIVE

10.1 The United States Market Analysis

Table 34. US Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 35. US Historic Review for D-Amino Acids by End-Use Application - Industrial,

Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 36. US 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.2 Canada Market Analysis

Table 37. Canadian Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 38. Canadian Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 39. Canadian 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.3 Japan Market Analysis

Table 40. Japanese Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 41. Japanese Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 42. Japanese 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4 Europe Market Analysis

Table 43. European Recent Past, Current & Future Analysis for D-Amino Acids by Geographic Region - France, Germany, Italy, UK, Spain, Russia and Rest of Europe Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 44. European Historic Review for D-Amino Acids by Geographic Region - France, Germany, Italy, UK, Spain, Russia and Rest of Europe Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 45. European 14-Year Perspective for D-Amino Acids by Geographic Region - Percentage Breakdown of Revenues for France, Germany, Italy, UK, Spain, Russia and Rest of Europe Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

Table 46. European Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 47. European Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 48. European 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4.1 France Market Analysis

Table 49. French Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 50. French Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 51. French 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4.2 Germany Market Analysis

Table 52. German Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 53. German Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 54. German 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4.3 Italy Market Analysis

Table 55. Italian Recent Past, Current & Future Analysis for D-Amino Acids by End-Use

Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 56. Italian Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 57. Italian 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4.4 The United Kingdom Market Analysis

Table 58. UK Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 59. UK Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 60. UK 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4.5 Spain Market Analysis

Table 61. Spanish Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 62. Spanish Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 63. Spanish 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4.6 Russia Market Analysis

Table 64. Russian Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 65. Russian Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 66. Russian 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.4.7 Rest of Europe Market Analysis

Table 67. Rest of Europe Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 68. Rest of Europe Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes

corresponding Graph/Chart)

Table 69. Rest of Europe 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.5 Asia-Pacific Market Analysis

Table 70. Asia-Pacific Recent Past, Current & Future Analysis for D-Amino Acids by Geographic Region - China and Rest of Asia-Pacific Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 71. Asia-Pacific Historic Review for D-Amino Acids by Geographic Region - China and Rest of Asia-Pacific Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 72. Asia-Pacific 14-Year Perspective for D-Amino Acids by Geographic Region - Percentage Breakdown of Revenues for China and Rest of Asia-Pacific Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

Table 73. Asia-Pacific Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 74. Asia-Pacific Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 75. Asia-Pacific 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.5.1 China Market Analysis

Table 76. Chinese Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 77. Chinese Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 78. Chinese 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.5.2 Rest of Asia-Pacific Market Analysis

Table 79. Rest of Asia-Pacific Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 80. Rest of Asia-Pacific Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 81. Rest of Asia-Pacific 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.6 Middle East & Africa Market Analysis

Table 82. Middle East & Africa Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 83. Middle East & Africa Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 84. Middle East & Africa 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

10.7 Latin America Market Analysis

Table 85. Latin American Recent Past, Current & Future Analysis for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2016 through 2024 (includes corresponding Graph/Chart)

Table 86. Latin American Historic Review for D-Amino Acids by End-Use Application - Industrial, Pharmaceutical and Other Application Markets Independently Analyzed with Annual Revenue Figures in US\$ Thousand for Years 2011 through 2015 (includes corresponding Graph/Chart)

Table 87. Latin American 14-Year Perspective for D-Amino Acids by End-Use Application - Percentage Breakdown of Revenues for Industrial, Pharmaceutical and Other Application Markets for Years 2011, 2018 & 2024 (includes corresponding Graph/Chart)

11. COMPANY PROFILES

Total Companies Profiled: 31 (including Divisions/Subsidiaries - 35)

The United States (8)
Japan (6)
Europe (5)
 France (1)
 Germany (3)
 The United Kingdom (1)
Asia-Pacific (Excluding Japan) (16)

I would like to order

Product name: D-Amino Acids: Market Research Report

Product link: <https://marketpublishers.com/r/D015C3C4DC9EN.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

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/D015C3C4DC9EN.html>