Titanium Dioxide (TiO₂) – A Global Market Overview

*The report reviews, analyzes and projects the global market for Titanium Dioxide (TiO₂) for the period 2012-2022*

Published: August 2016
Report Code: CP040
Pages: 322
Charts: 242
Price: $4050 Single User License, $6750 Enterprise License

**SUMMARY**

Stringent automobile emission control norms worldwide and concerns regarding fuel efficiency have compelled manufacturers to take measures for reducing vehicle weight considerably, thereby propelling demand for lightweight vehicles. One method of reducing vehicle weight is incorporating polycarbonates as replacement for part of the steel structures used in auto manufacturing. However, polycarbonates suffer from some drawbacks, such as low scratch resistance, which brings titanium dioxide into play. This material is used for coating polycarbonate structures that are further utilized in the auto manufacturing process. Using polycarbonates enables in reducing the weight of a vehicle and consequently enhancing fuel efficiency. Other applications of titanium dioxide in plastics include improving color, strength and opacity.

An expansion being witnessed in the construction industry constitutes a major factor that is bolstering demand for titanium dioxide. The use of this material in paints and coatings, its largest application area, is being supported by a simultaneous surge in construction activity, which has been more evident in the developing economies of Asia-Pacific and South America. China leads the global demand for titanium dioxide in the construction sector, with other regions, such as India, Southeast Asia, Brazil and Mexico not far behind.

On a negative note, strict environmental regulations constitute a detrimental factor that restrains demand for titanium dioxide. The process of producing this material causes a number of harmful solid and acid wastes to be produced and several regulations are now in place, more so in developed regions, for controlling the emission and disposal of these wastes. Among the two processes used for manufacturing titanium dioxide, the sulfate process, predominantly used in China, leads to large amounts of solid waste being produced. This has led Chinese manufacturers to change tack and implement a slew of alternatives aimed at lowering the pollution caused by production of titanium dioxide.

Worldwide market for Titanium Dioxide applications analyzed in this study include Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications. The global markets for the above mentioned applications are analyzed in terms of both in metric tons and USD. Global volume consumption of Titanium Dioxide is projected to reach 7.8 million metric tons by 2022 from a forecast 6.1 million metric tons in 2016 at a CAGR of 4.1% between 2016 and 2022.

This report reviews, analyses and projects the Titanium Dioxide market for the period 2012-2022 globally and the regional markets including North America, Europe, Asia-Pacific, South America and Rest of World. The regional markets further analyzed for 14 independent countries across North America – The United States, Canada and Mexico; Europe – France, Germany, Italy, Spain and the United Kingdom; Asia-Pacific – China, India, Japan and South Korea; South America – Argentina and Brazil.

This 322 page global market research report includes 242 charts (includes a data table and graphical representation for each chart), supported with meaningful and easy to understand graphical presentation, of market numbers. This report profiles 10 key global players and 30 major players across North America – 6; Europe – 3; Asia-Pacific – 20; and Rest of World – 1. The research also provides the listing of the companies engaged in manufacturing and supply of titanium dioxide. The global list of companies covers the address, contact numbers and the website addresses of 100 companies.
THE NATIONAL TITANIUM DIOXIDE COMPANY LIMITED (CRISTAL) (SAUDI ARABIA)

Malik Road, King’s Road Tower, King Abdulaziz Road, 16th Floor P.O. Box 13586 Jeddah 21414
Kingdom of Saudi Arabia

Phone: 966.12.224.8000, Fax: 966.12.606.9087
Email: info@cristal.com
Website: www.cristal.com

Business Profile

The National Titanium Dioxide Company Limited (Cristal) based in Jeddah, Saudi Arabia ranks among the largest manufacturers of titanium dioxide in the world. The company is also a leading manufacturer of titanium chemicals, mineral sands, and titanium metal powder; and a global leading supplier of ultrafine titanium dioxide products and titanium chemicals. The company is engaged in the manufacture and supply of titanium dioxide (TiO2), titanium chemicals, mineral sands, and titanium metal powder to various industries including paint, paper, plastics, and ink. Besides headquarters, the company has manufacturing locations in Ashtabula, Ohio; Baltimore, Maryland; Salvador, Bahia; Stallingborough, UK; Thann, France; Yanbu, Saudi Arabia; and Bunbury, Australia; and a mine site in Paraiba, Brazil as well.

Product Portfolio

Cristal’s titanium business offers pigments, comprising titanium dioxide (TiO2), performance chemicals, CristalACTiV™ specialty titanium dendrites (Ultrafine TiO2), titanium tetrachloride (TiCl4) and related products; mining, including leucoxene, rutile, zircon, and ilmenite; metals, such as CP (Commercially Pure) titanium powder, and Ti 6-4 alloy (6% Aluminum/ 4% Vanadium); and chemicals, covering carbon dioxide, caustic flame, caustic soda, chlorine, copperas, gypsum, hydrochloric acid, hydrogen, hypochlorite, iron chlorosulfate, molten sulfur, sodium silicate, and sulfuric acid.

<table>
<thead>
<tr>
<th>Product</th>
<th>Particulars</th>
</tr>
</thead>
<tbody>
<tr>
<td>TiO2 for Paint &amp; Coatings</td>
<td></td>
</tr>
<tr>
<td>TIONA® 595</td>
<td>Is a high performance, multipurpose chloride-process rutile TiO2 pigment with excellent dispersion, opacity, gloss and durability; used in various interior and exterior, water and solvent based coating applications</td>
</tr>
<tr>
<td>TIONA® 121</td>
<td>Is an alumina / silica modified chloride-process rutile TiO2 pigment used as a multipurpose product in a variety of interior and exterior coatings applications</td>
</tr>
</tbody>
</table>

KEY PLAYERS PROFILED
- CNNC Hua Yuan Titanium Dioxide Co., Ltd.
- Evonik Industries AG
- Guangdong Huiyun Titanium Industry Corporation Limited
- Henan Billions Chemicals Co., Ltd.
- Huntsman International LLC
- Jiangsu Taibai Group Co., Ltd.
- Kronos Worldwide, Inc.
- The Chemours Company
- The National Titanium Dioxide Company Limited (Cristal)
- Tronox Limited

REGIONS COVERED
- North America (United States, Canada and Mexico)
- Europe (France, Germany, Italy, Spain, United Kingdom and Rest of Europe)
- Asia-Pacific (China, India, Japan, South Korea and Rest of Asia-Pacific)
- South America (Argentina, Brazil and Rest of South America)
- Rest of World
TABLE OF CONTENTS

PART A: GLOBAL MARKET PERSPECTIVE ............. 1

1. INTRODUCTION ................................. 1

1.1 Overview by Global Region ................. 4

1.1.1 Global Market Overview ................. 4

1.1.1.1 Architectural Paints & Coatings ... 4

1.1.1.2 Industrial Paints & Coatings ....... 8

1.1.1.3 Other Applications .................. 17

1.1.1.4 Plastics .................................. 20

1.1.1.5 Other Applications ................. 21

1.1.2 Application Analysis – A Global Snapshot 6

1.1.2.1 Architectural Paints & Coatings ... 6

1.1.2.2 Industrial Paints & Coatings ........ 19

1.1.2.3 Other Applications ................. 26

1.1.2.4 Plastics .................................. 29

1.1.2.5 Other Applications .................. 31

1.1.3 Geographic Region Overview ............ 33

1.1.3.1 Architectural Paints & Coatings ... 33

1.1.3.2 Industrial Paints & Coatings ....... 38

1.1.3.3 Other Applications ................. 40

1.1.3.4 Plastics .................................. 41

1.1.3.5 Other Applications .................. 42

1.1.4 Total Market Overview .................... 45

1.1.4.1 Architectural Paints & Coatings ... 45

1.1.4.2 Industrial Paints & Coatings ....... 49

1.1.4.3 Other Applications .................. 51

1.1.4.4 Plastics .................................. 52

1.1.4.5 Other Applications .................. 54

1.2 Application Analysis – A Global Snapshot 22

1.2.1 Architectural Paints & Coatings ....... 22

1.2.1.1 Architectural Paints & Coatings ... 22

1.2.1.2 Industrial Paints & Coatings ........ 26

1.2.1.3 Other Applications .................. 28

1.2.2 Industrial Paints & Coatings ............ 22

1.2.2.1 Architectural Paints & Coatings ... 22

1.2.2.2 Industrial Paints & Coatings ....... 26

1.2.2.3 Other Applications .................. 28

1.2.3 Key Market Trends ......................... 27

1.2.3.1 Architectural Paints & Coatings ... 27

1.2.3.2 Industrial Paints & Coatings ........ 29

1.2.3.3 Other Applications .................. 31

2. KEY MARKET TRENDS ......................... 27

2.1 Titanium Dioxide-Based Flat Lens Offers Promise to Revolutionize Optical Technology .... 27

2.2 TiO2 Photocatalyst Used in Advanced Single Step Process for Obtaining Liquid Hydrocarbon Fuel from CO2 and Water ........................................ 28

2.3 Two-Minute Rechargeable and Two-Decade Life Batteries with Titanium Dioxide Anodes ... 29

2.4 Multi-Purpose TiO2 for Multiple Purposes .... 30

2.5 Major Role for Black Titanium Dioxide Nanoparticles in Clean Energy Photocatalysis .... 31

2.6 Controlling Crystalline Structure of Titanium Dioxide through a Novel Technique .... 32

3. KEY GLOBAL PLAYERS ....................... 33

3.1 Global Market Overview .................... 33

3.1.1 Architectural Paints & Coatings ....... 33

3.1.2 Industrial Paints & Coatings .......... 37

3.1.3 Other Applications ...................... 40

3.1.4 Plastics .................................. 42

3.1.5 Other Applications ...................... 44

4. KEY BUSINESS & PRODUCT TRENDS ....... 45

4.1 Global Market Overview .................... 45

4.1.1 Architectural Paints & Coatings ....... 45

4.1.2 Industrial Paints & Coatings .......... 49

4.1.3 Other Applications ...................... 51

4.1.4 Plastics .................................. 53

4.1.5 Other Applications ...................... 55

5. GLOBAL MARKET OVERVIEW .......... 50

5.1 Global Market Overview .................... 50

5.1.1 Architectural Paints & Coatings ....... 50

5.1.2 Industrial Paints & Coatings .......... 54

5.1.3 Other Applications ...................... 57

5.1.4 Plastics .................................. 59

5.1.5 Other Applications ...................... 61

5.2 Global Market Overview .................... 65

5.2.1 Architectural Paints & Coatings ....... 65

5.2.2 Industrial Paints & Coatings .......... 69

5.2.3 Other Applications ...................... 71

5.2.4 Plastics .................................. 73

5.2.5 Other Applications ...................... 75

5.3 Key Market Trends ......................... 76

5.3.1 Architectural Paints & Coatings ....... 76

5.3.2 Industrial Paints & Coatings .......... 79

5.3.3 Other Applications ...................... 81

5.3.4 Plastics .................................. 84

5.3.5 Other Applications ...................... 86

6. KEY GLOBAL PLAYERS ....................... 87

6.1 Global Market Overview .................... 87

6.1.1 Architectural Paints & Coatings ....... 87

6.1.2 Industrial Paints & Coatings .......... 91

6.1.3 Other Applications ...................... 94

6.1.4 Plastics .................................. 97

6.1.5 Other Applications ...................... 99

7. KEY BUSINESS & PRODUCT TRENDS ....... 103

7.1 Global Market Overview .................... 103

7.1.1 Architectural Paints & Coatings ....... 103

7.1.2 Industrial Paints & Coatings .......... 107

7.1.3 Other Applications ...................... 110

7.1.4 Plastics .................................. 113

7.1.5 Other Applications ...................... 116

8. KEY GLOBAL PLAYERS ....................... 117

8.1 Global Market Overview .................... 117

8.1.1 Architectural Paints & Coatings ....... 117

8.1.2 Industrial Paints & Coatings .......... 121

8.1.3 Other Applications ...................... 124

8.1.4 Plastics .................................. 127

8.1.5 Other Applications ...................... 130

9. KEY BUSINESS & PRODUCT TRENDS ....... 131

9.1 Global Market Overview .................... 131

9.1.1 Architectural Paints & Coatings ....... 131

9.1.2 Industrial Paints & Coatings .......... 135

9.1.3 Other Applications ...................... 138

9.1.4 Plastics .................................. 141

9.1.5 Other Applications ...................... 144

10. KEY GLOBAL PLAYERS ..................... 146

10.1 Global Market Overview ................... 146

10.1.1 Architectural Paints & Coatings ....... 146

10.1.2 Industrial Paints & Coatings .......... 150

10.1.3 Other Applications ...................... 153

10.1.4 Plastics .................................. 156

10.1.5 Other Applications ...................... 159

11. KEY BUSINESS & PRODUCT TRENDS ....... 161

11.1 Global Market Overview ................... 161

11.1.1 Architectural Paints & Coatings ....... 161

11.1.2 Industrial Paints & Coatings .......... 165

11.1.3 Other Applications ...................... 168

11.1.4 Plastics .................................. 171

11.1.5 Other Applications ...................... 174

12. KEY GLOBAL PLAYERS ..................... 176

12.1 Global Market Overview ................... 176

12.1.1 Architectural Paints & Coatings ....... 176

12.1.2 Industrial Paints & Coatings .......... 180

12.1.3 Other Applications ...................... 183

12.1.4 Plastics .................................. 186

12.1.5 Other Applications ...................... 189

13. KEY BUSINESS & PRODUCT TRENDS ....... 191

13.1 Global Market Overview ................... 191

13.1.1 Architectural Paints & Coatings ....... 191

13.1.2 Industrial Paints & Coatings .......... 195

13.1.3 Other Applications ...................... 198

13.1.4 Plastics .................................. 201

13.1.5 Other Applications ...................... 204

14. KEY GLOBAL PLAYERS ..................... 206

14.1 Global Market Overview ................... 206

14.1.1 Architectural Paints & Coatings ....... 206

14.1.2 Industrial Paints & Coatings .......... 210

14.1.3 Other Applications ...................... 213

14.1.4 Plastics .................................. 216

14.1.5 Other Applications ...................... 219

15. KEY BUSINESS & PRODUCT TRENDS ....... 221

15.1 Global Market Overview ................... 221

15.1.1 Architectural Paints & Coatings ....... 221

15.1.2 Industrial Paints & Coatings .......... 225

15.1.3 Other Applications ...................... 228

15.1.4 Plastics .................................. 231

15.1.5 Other Applications ...................... 234

16. KEY GLOBAL PLAYERS ..................... 236

16.1 Global Market Overview ................... 236

16.1.1 Architectural Paints & Coatings ....... 236

16.1.2 Industrial Paints & Coatings .......... 240

16.1.3 Other Applications ...................... 243

16.1.4 Plastics .................................. 246

16.1.5 Other Applications ...................... 249

17. SUMMARY ........................................ 251

17.1 Summary ..................................... 251

17.2 Conclusion .................................... 252

17.3 Recommendations .......................... 253

17.4 Future Directions ............................ 254

18. APPENDIX ........................................ 255

18.1 Appendix ..................................... 255

18.2 Data Tables ................................... 257

18.3 Figures ...................................... 259

18.4 Tables ........................................ 261

18.5 Charts ....................................... 263

18.6 Glossary ..................................... 265

18.7 Acronyms ..................................... 267

18.8 List of Figures ................................. 269

18.9 List of Tables ................................. 271

18.10 List of Acronyms ............................. 273
2.2.1 European Titanium Dioxide Volume Market Value Analysis ................................ 134

Geographic Region ................................................. 130

2.1 European Titanium Dioxide Market Overview by Geographic Region .................. 130

Volume Analysis ..................................................... 130


2.2 European Titanium Dioxide Volume Market Overview by Geographic Region .......... 130

Volume Analysis ..................................................... 130

Chart 82: European Titanium Dioxide Market Analysis (2012-2022) by Geographic Region - France, Germany, Italy, Spain, United Kingdom and Rest of Europe in Thousand Metric Tons ................................................................. 130

Chart 83: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) by Geographic Region - France, Germany, Italy, Spain, United Kingdom and Rest of Europe .......... 131

2.3 European Titanium Dioxide Volume Market Overview by Application .................. 134

Chart 86: European Titanium Dioxide Market Analysis (2012-2022) by Application - Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications in 000' Metric Tons ......................................................... 134


2.2.1.3 Paper ................................................................ 140

Chart 92: European Titanium Dioxide Market Analysis (2012-2022) in Paper Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe in Thousand Metric Tons ................................................................. 140

Chart 93: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Paper Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe ........... 141

2.2.1.4 Plastics ................................................................ 142

Chart 94: European Titanium Dioxide Market Analysis (2012-2022) in Plastics Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe in Thousand Metric Tons ................................................................. 142

Chart 95: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Plastics Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe ........... 143

2.2.1.5 Other Applications .......................................... 144

Chart 96: European Titanium Dioxide Market Analysis (2012-2022) in Other Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe in Thousand Metric Tons ................................................................. 144

Chart 97: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Other Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe ........... 145

2.3.1.1 Architectural Paints & Coatings ......................... 148

Chart 100: European Titanium Dioxide Market Analysis (2012-2022) in Architectural Paints & Coatings Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe in USD Million ......................................................... 148

Chart 101: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Architectural Paints & Coatings Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe .......... 149

2.3.1.2 Industrial Paints & Coatings ............................. 150

Chart 102: European Titanium Dioxide Market Analysis (2012-2022) in Industrial Paints & Coatings Applications by Geographic Region – Italy, Spain, United Kingdom and Rest of Europe in USD Million ......................................................... 150

Chart 103: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Industrial Paints & Coatings Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe .......... 151

2.3.1.3 Paper ................................................................ 152

Chart 104: European Titanium Dioxide Market Analysis (2012-2022) in Paper Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe in USD Million ......................................................... 152

Chart 105: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Paper Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe .......... 153

2.3.1.4 Plastics ......................................................... 154

Chart 106: European Titanium Dioxide Market Analysis (2012-2022) in Plastics Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe in USD Million ......................................................... 154

Chart 107: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Plastics Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe .......... 155

2.3.1.5 Other Applications .......................................... 156

Chart 108: European Titanium Dioxide Market Analysis (2012-2022) in Other Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe in USD Million ......................................................... 156

Chart 109: Glance at 2012, 2017 and 2022 European Titanium Dioxide Volume Market Share (%) in Other Applications by Geographic Region – France, Germany, Italy, Spain, United Kingdom and Rest of Europe .......... 157

2.4 Major Market Players .......................................... 158

Cinkarna, Metalurško Kemijska Induštrija Celje, D.D. (Cinkarna Celje D.D.) (Slovenia) ................................ 158

Evonik Industries AG (Germany) ................................ 159

Grupa Azoty Zakład Chemizne “Police” SA (Grupa Azoty Police) (Poland) ................................ 160

2.5 European Titanium Dioxide Market Overview by Country .................................... 161

2.5.1 France ............................................................. 161

Chart 110: French Titanium Dioxide Market Analysis (2012-2022) in Volume (000' Metric Tons) and Value (USD Million) ......................................................... 161

2.5.1.1 Market Overview by Application .................... 162

Volume Analysis ..................................................... 162

Chart 111: French Titanium Dioxide Market Analysis (2012-2022) by Application – Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications in 000' Metric Tons ......................................................... 162


Value Analysis ......................................................... 164


2.5.2 Germany ......................................................... 166

Chart 115: German Titanium Dioxide Market Analysis (2012-2022) in Volume (000' Metric Tons) and Value (USD Million) ......................................................... 166

2.5.2.1 Market Overview by Application .................... 167

Volume Analysis ..................................................... 167

Chart 116: German Titanium Dioxide Market Analysis (2012-2022) by Application – Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications in 000' Metric Tons ......................................................... 167


Value Analysis ......................................................... 169

Chart 118: German Titanium Dioxide Market Analysis (2012-2022) by Application – Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications in USD Million ......................................................... 169


2.5.3 Italy ............................................................. 171

Chart 120: Italian Titanium Dioxide Market Analysis (2012-2022) in Volume (000' Metric Tons) and Value (USD Million) ......................................................... 171
Volume Analysis


Value Analysis


3.5.4 South Korea

Chart 184: South Korean Titanium Dioxide Market Analysis (2012-2022) in Volume (000' Metric Tons) and Value (USD Million) — 254

Chart 185: South Korean Titanium Dioxide Market Analysis (2012-2022) by Application – Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications in 000' Metric Tons — 255


Value Analysis


3.5.5 Rest of Asia-Pacific

Chart 189: Rest of Asia-Pacific Titanium Dioxide Market Analysis (2012-2022) in Volume (000' Metric Tons) and Value (USD Million) — 259

Chart 190: Rest of Asia-Pacific Titanium Dioxide Market Analysis (2012-2022) by Application – Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications in 000' Metric Tons — 260


Value Analysis

Chart 192: Rest of Asia-Pacific Titanium Dioxide Market Analysis (2012-2022) by Application – Architectural Paints & Coatings, Industrial Paints & Coatings, Paper, Plastics and Other Applications in USD Million — 262


4. SOUTH AMERICA

Chart 194: South American Titanium Dioxide Market Analysis (2012-2022) in Volume (000' Metric Tons) and Value (USD Million) — 264


Value Analysis


4.2.1.5 Other Applications

Chart 209: South American Titanium Dioxide Market Analysis (2012-2022) in Other Applications by Geographic Region – Argentina, Brazil and Rest of South America in Thousand Metric Tons — 279

Chart 210: Glance at 2012, 2017 and 2022 South American Titanium Dioxide Volume Market Share (%) in Other Applications by Geographic Region – Argentina, Brazil and Rest of South America — 280

4.3 South American Titanium Dioxide Value Market Overview by Application


4.3.1 Titanium Dioxide Application Market Volume Overview by South American Region

4.3.1.1 Architectural Paints & Coatings ............... 283
4.3.1.2 Industrial Paints & Coatings ................. 285
4.3.1.3 Paper ............................................... 287
4.3.1.4 Plastics ........................................... 289
4.3.1.5 Other Applications ............................... 291
4.3.2 Brazil ................................................. 298
4.3.3 Rest of South America .............................. 303
4.3.4 Rest of the World .................................... 311
4.4 Argentina ............................................... 293
4.4.1 Market Overview by Application ............... 294
4.4.1.1 Market Overview by Application .......... 294
4.4.2 Brazil ............................................... 299
4.4.3 Rest of South America .............................. 303
4.4.4 Argentina ............................................ 293
4.4.4.1 Market Overview by Application .......... 294
5. REST OF THE WORLD ................................. 308
5.1 Market Overview by Application ................. 309
5.2 The National Titanium Dioxide Company Limited (CRISTAL) (Saudi Arabia) – A Major Player ....... 313

About Industry Experts

Industry Experts values the most updated and accurate market research and industry analysis to provide unique market research reports for a broad range of industry verticals including Automotive, Transportation, Healthcare, Pharmaceuticals, Food & Beverages, Chemicals, Plastics, Materials, Consumer Goods, Retail, Biotechnology, Construction, Manufacturing and Other industries. Our research reports help our clients to identify and resolve topical issues by providing a complete picture of their market in their respective industry sectors. The Company’s rich collection of market research reports enable the companies to explore market drivers; forecast the future market; and to formulate the right strategies at the right time.

Industry Experts’ leading edge publications makes the life easy for corporate strategists, investors, analysts and researchers, start ups, consultants, financial and banking executives, academicians and many more. The company also provides customized research reports to cater the needs of the industry.