World Specialty Silicas

Industry Study with Forecasts for 2018 & 2023

Study #3178 | July 2014 | $6300 | 318 pages
Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT
General ................................................. 4
World Population Overview ..................... 5
World Economic Overview ..................... 7
Recent Historical Trends ....................... 8
World Per Capita Gross Domestic Product ... 12
Personal Consumption & Expenditure Trends 14
World Manufacturing Overview ............... 18
Chemical Industry Outlook ................... 20
Food & Beverage Production Outlook ....... 22
World Rubber Outlook .......................... 26
World Tire Industry Outlook ................. 28
Pricing & Product Mix .......................... 30
Technology ..................................... 32
Environmental & Regulatory Issues ........ 35

OVERVIEW
General ............................................. 37
Demand by Region ............................. 38
Demand by Product ......................... 41
Precipitated Silica ......................... 44
Silica Gel .................................. 47
Silica Sol .................................. 51
Fumed Silica ................................ 54
Demand by Market ......................... 58
Rubber ................................... 60
Tire Rubber ................................ 61
Non-Tire Rubber ............................. 65
Chemicals ................................... 68
Food & Feed ................................ 71
Cosmetics & Toiletries ..................... 74
Industrial Processing ..................... 77
Other ....................................... 81
Batteries .................................... 82
Paper ....................................... 83
All Other ................................... 84
World Specialty Silicas Production ....... 86
International Trade Flows ................. 89

NORTH AMERICA
General ............................................ 91
Supply & Demand .......................... 92
Demand by Product & Market ............... 94
United States ................................ 96
Canada ..................................... 103
Mexico ....................................... 109

WESTERN EUROPE
General .......................................... 3116
Supply & Demand .......................... 3117
Demand by Product & Market ............... 3120
Germany .................................... 3122
France ....................................... 3128
Italy ......................................... 3134
Spain ......................................... 3139

ASIA/PACIFIC
General ............................................. 158
Silica & Demand ................................ 159
Demand by Product & Market ............... 162
China ......................................... 164
Japan ......................................... 172
South Korea .................................. 178
India .......................................... 184
Taiwan ........................................ 190
Indonesia ..................................... 196
Other Asia/Pacific ........................... 202

OTHER REGIONS
Central & South America ..................... 209
General ........................................... 209
Supply & Demand ......................... 210
Demand by Product & Market ............... 211
Brazil ......................................... 213
Other Central & South America .......... 219
Eastern Europe ............................... 225
General ........................................... 225
Supply & Demand ......................... 226
Demand by Product & Market ............... 227
Russia ........................................ 229
Other Eastern Europe ..................... 235
Africa/Mideast ............................... 240
General ........................................... 240
Supply & Demand ......................... 242
Demand by Product & Market ............... 243

INDUSTRY STRUCTURE
General ............................................. 246
Industry Composition & Market Share .... 246
Competitive Strategies ..................... 253
Cooperative Agreements ................... 255
Manufacturing ............................... 259
Marketing & Distribution .................. 260

COMPANY PROFILES
Air Products and Chemicals .................. 263
Akzo Nobel .................................... 264
Cabot Corporation ............................ 267
China National Bluestar Group ............. 270
DENTSPLY International .................... 271
Ecobal Incorporated ......................... 273
Evonik Industries ............................ 276
Fuji Silysia Chemicals ....................... 280
Fujimi Incorporated .......................... 282
Fuso Chemical ................................ 283
Glass التاريخ CA ......................... 284
Grace (WR) & Company ...................... 285
Gujarat Multi Gas Base Chemicals ........ 288
Huber (JM) Corporation ..................... 289
Imerys SA .................................... 291
Industrias Quimicas del Ebro ............... 292
Kemira Oyi .................................... 293
Madhu Silica .................................. 294

List of Tables/Charts

EXECUTIVE SUMMARY
1 Summary Table ................................ 3

MARKET ENVIRONMENT
1 World Population by Region ............... 7
2 World Gross Domestic Product by Region .. 12
3 World Per Capita Gross Domestic Product by Region ........ 14
4 World Personal Consumption Expenditures by Region ........ 17
5 World Manufacturing Value Added by Region .......... 20
6 World Chemical Manufacturing Value Added by Region .... 22
7 World Food & Beverage Manufacturing Value Added by Region .... 25
8 World Rubber Demand by Market & Region 28
9 World Tire Production by Region ........... 30
10 Specialty Silica Pricing ................... 32
Cht Specialty Silicas Production Flow Chart .... 34

OVERVIEW
1 World Specialty Silicas Demand by Region 40
Cht World Specialty Silicas Demand by Region, 2003-2023 .... 41
2 World Specialty Silicas Demand by Region ........ 42
Cht World Specialty Silicas Demand by Region, 2013 .......... 43
3 World Precipitated Silica Demand by Region .......... 47
4 World Silica Gel Demand by Region ............. 51
5 World Silica Sol Demand by Region ............. 54
6 World Fumed Silica Demand by Region .......... 57
7 World Specialty Silicas Demand by Market 59
Cht World Specialty Silicas Demand by Market, 2013 ........ 60
8 World Rubber Market for Specialty Silicas by Application & Region .......... 61
9 World Tire Rubber Market for Specialty Silicas by Region .......... 65

United Kingdom ................................ 145
Other Western Europe ....................... 151

Merck KGaA .................................... 296
Multisorb Technologies .................... 298
Nissan Chemical ................................ 300
Oriental Sorbic Technologies ............... 301
Orisil Limited ................................ 303
PPG Industries ............................... 304
PO Holdings ................................ 306
Qingdao Haiyang Chemical .................. 308
Qingdao Makall ............................... 309
Solvay SA ..................................... 310
Tokuyama Corporation ....................... 313
Tosoh Corporation ........................... 314
Wacker Chemie AG ........................... 315
Zhuzhou Xinglong Chemical ............... 318

Click here to purchase online
List of Tables/Charts

10 World Non-Tire Rubber Market for Specialty Silicas by Region ............... 67
11 World Chemical Market for Specialty Silicas by Application & Region ........... 71
12 World Food & Feed Market for Specialty Silicas by Application & Region .......... 74
13 World Cosmetics & Toiletries Market for Specialty Silicas by Application & Region ... 77
14 World Industrial Processing Market for Specialty Silicas by Application & Region ..... 80
15 Other Markets for Specialty Silicas by Application & Region .................. 82
16 World Specialty Silicas Production by Region .................................. 88
Cht World Specialty Silicas Production by Region, 2003-2023 ...................... 88
17 World Specialty Silicas Net Exports by Region ................................ 90

NORTH AMERICA

1 North America: Specialty Silicas Supply & Demand .................................. 93
2 North America: Specialty Silicas Demand by Product & Market ................ 96
3 United States: Specialty Silicas Supply & Demand .................................. 99
4 United States: Specialty Silicas Demand by Product ................................ 101
5 United States: Specialty Silicas Demand by Market ................................ 103
6 Canada: Specialty Silicas Supply & Demand ........................................ 106
7 Canada: Specialty Silicas Demand by Product ...................................... 107
8 Canada: Specialty Silicas Demand by Market ....................................... 109
9 Mexico: Specialty Silicas Supply & Demand ....................................... 112
10 Mexico: Specialty Silicas Demand by Product ..................................... 113
11 Mexico: Specialty Silicas Demand by Market .................................... 115

WESTERN EUROPE

1 Western Europe: Specialty Silicas Supply & Demand ................................ 119
Cht Western Europe: Specialty Silicas Demand by Country, 2013 ................... 120
2 Western Europe: Specialty Silicas Demand by Product & Market ............ 122
3 Germany: Specialty Silicas Supply & Demand ..................................... 125
4 Germany: Specialty Silicas Demand by Product .................................. 126
5 Germany: Specialty Silicas Demand by Market .................................. 128
6 France: Specialty Silicas Supply & Demand ....................................... 130
7 France: Specialty Silicas Demand by Product ...................................... 132
8 France: Specialty Silicas Demand by Market ..................................... 133
9 Italy: Specialty Silicas Demand by Product ...................................... 136
10 Italy: Specialty Silicas Demand by Market ...................................... 137
11 Italy: Specialty Silicas Demand by Market ...................................... 139
12 Spain: Specialty Silicas Supply & Demand ..................................... 142
13 Spain: Specialty Silicas Demand by Product .................................... 143
14 Spain: Specialty Silicas Demand by Market .................................... 145
15 United Kingdom: Specialty Silicas Supply & Demand ....................... 148
16 United Kingdom: Specialty Silicas Demand by Product ...................... 149
17 United Kingdom: Specialty Silicas Demand by Market ...................... 151
18 Other Western Europe: Specialty Silicas Supply & Demand .................. 154
19 Other Western Europe: Specialty Silicas Demand by Product ................ 155
20 Other Western Europe: Specialty Silicas Demand by Market ................ 157

ASIA/PACIFIC

1 Asia/Pacific: Specialty Silicas Supply & Demand ................................ 161
Cht Asia/Pacific: Specialty Silicas Demand by Country, 2013 ..................... 162
2 Asia/Pacific: Specialty Silicas Demand by Product & Market ................ 164
3 China: Specialty Silicas Supply & Demand ....................................... 168
4 China: Specialty Silicas Demand by Product ..................................... 170
5 China: Specialty Silicas Demand by Market ..................................... 172
6 Japan: Specialty Silicas Supply & Demand ....................................... 175
7 Japan: Specialty Silicas Demand by Product ..................................... 176
8 Japan: Specialty Silicas Demand by Market ..................................... 178
9 South Korea: Specialty Silicas Supply & Demand ............................... 181
10 South Korea: Specialty Silicas Demand by Product ............................. 182
11 South Korea: Specialty Silicas Demand by Market ............................. 184
12 India: Specialty Silicas Supply & Demand ............................... 187
13 India: Specialty Silicas Demand by Product ..................................... 188
14 India: Specialty Silicas Demand by Market ..................................... 190
15 Taiwan: Specialty Silicas Supply & Demand ................................ 193
16 Taiwan: Specialty Silicas Demand by Product ................................ 194
17 Taiwan: Specialty Silicas Demand by Market ................................ 196
18 Indonesia: Specialty Silicas Supply & Demand ................................ 199
19 Indonesia: Specialty Silicas Demand by Product ................................ 200
20 Indonesia: Specialty Silicas Demand by Market ................................ 202
21 Other Asia/Pacific: Specialty Silicas Supply & Demand ...................... 205
22 Other Asia/Pacific: Specialty Silicas Demand by Product ...................... 206
23 Other Asia/Pacific: Specialty Silicas Demand by Market ...................... 208

OTHER REGIONS

1 Central & South America: Specialty Silicas Supply & Demand .................. 211
2 Central & South America: Specialty Silicas Demand by Product & Market ... 213
3 Brazil: Specialty Silicas Supply & Demand ....................................... 216
4 Brazil: Specialty Silicas Demand by Product ..................................... 217
5 Brazil: Specialty Silicas Demand by Market ....................................... 219
6 Other Central & South America: Specialty Silicas Supply & Demand .......... 222
7 Other Central & South America: Specialty Silicas Demand by Product ....... 223
8 Other Central & South America: Specialty Silicas Demand by Market ....... 224
9 Eastern Europe: Specialty Silicas Supply & Demand ................................ 227
10 Eastern Europe: Specialty Silicas Demand by Product & Market ............ 229
11 Russia: Specialty Silicas Supply & Demand ...................................... 232
12 Russia: Specialty Silicas Demand by Product ..................................... 233
13 Russia: Specialty Silicas Demand by Market ..................................... 234
14 Other Eastern Europe: Specialty Silicas Supply & Demand ..................... 237
15 Other Eastern Europe: Specialty Silicas Demand by Product ............... 238
16 Other Eastern Europe: Specialty Silicas Demand by Market ................ 240
17 Africa/Mideast: Specialty Silicas Supply & Demand ............................. 243
18 Africa/Mideast: Specialty Silicas Demand by Product & Market ......... 245

INDUSTRY STRUCTURE

1 World Specialty Silicas Sales by Company, 2013................................. 247
Cht World Specialty Silicas Market Share, 2013 ..................................... 249
2 Selected Cooperative Agreements ......................................................... 257
Gains will be bolstered by continued economic advances in developing countries, and by improved manufacturing levels and increased use of silica in tire treads in developed countries.

World Specialty Silicas Demand (2.9 million metric tons, 2018)

Precipitated silica to remain key product

Precipitated silica will remain the dominant product through 2018 based on its use in tire rubber, where it accounts for the entirety of specialty silicas demand. Because of the strong gains expected in this market, precipitated silica is forecast to be the fastest growing specialty silica product through 2018. Silica gel is projected to post the slowest advances, reflecting its use in relatively mature applications such as food and beverages and cat litter. Silica sol will benefit from gains in manufacturing applications such as refractories and textiles. Demand for fumed silica will be supported by solid growth in non-tire rubber demand.

World demand to rise 5.0% annually through 2018

Global demand for specialty silicas -- which include precipitated silica, silica gel, silica sol, and fumed silica -- is forecast to grow 5.0 percent per year through 2018 to 2.9 million metric tons, valued at $6.9 billion. This will represent an acceleration from the pace of the 2008-2013 period, as continued economic advances in developing countries such as China and India will bolster gains in demand for specialty silicas. Consumption of specialty silicas will also benefit from improved manufacturing levels in a stronger economic climate in the developed countries of North America and Europe. Increased use of silica in tire treads will further promote growth in specialty silicas demand in these regions.

Rubber market to benefit from high performance tires

Rubber is the largest market for specialty silicas and is also projected to be the fastest growing through 2018. Tire rubber represents the largest portion of the rubber market and the single largest application for specialty silicas worldwide. Rising adoption of green and high performance tire technologies -- which use precipitated silica in tire treads to improve properties such as rolling resistance and traction -- has led to increased use of specialty silicas in this market. Several countries, including Japan, South Korea, and those in the EU, have recently introduced tire labeling regulations that tout higher-end fuel efficient tires. Similar laws could soon be adopted in countries like Brazil and the US.

Copyright 2014 The Freedonia Group, Inc.
Asia/Pacific

China: Demand by Market

Demand for specialty silicas in China is projected to rise 8.4 percent per year through 2018. The most rapid gains are expected to occur in the tire rubber market, which accounted for 23 percent of total demand in China in 2013. Demand in this market will be bolstered by both rapid advances in the volume of tire production and increased intensity of precipitated silica use in tires. Production of tires for export represents a significant portion of China’s tire industry. Rising demand for energy-efficient tires in export markets will lead to increased production of tires with silica in China. Many countries with major tire markets, including Japan, South Korea, the US, and the entirety of the EU, have adopted or are planning to adopt regulations that will likely promote the use of green tires, which consume silica more intensively. In addition, consumption of green tires is expected to rise within China, bolstered by new tire labeling regulations that were introduced in 2014. Green tires hold significant potential for growth in China, as they currently represent a negligible part of the domestic market.

The non-tire rubber market for specialty silicas is especially important in China. Unlike in most countries, where tire rubber is the leading rubber application, non-tire rubber products account for the majority of specialty silica consumption in rubber applications in China. Demand for specialty silicas in the non-tire rubber segment represented 62 percent of the aggregate rubber market in China in 2013. The strength of China’s non-tire rubber market is attributable to both high levels of production of industrial rubber products and massive manufacturing of rubber-soled shoes. China dominates the global footwear industry, producing over 60 percent of all shoes produced in the world. Rising output in footwear and other manufacturing industries will bolster demand for specialty silicas in non-tire rubber through 2018. However, gains will not be as rapid as in the tire rubber market, as use of silicas in non-tire rubber applications tends to be more mature.

Table VI-11

SOUTH KOREA: SPECIALTY SILICAS DEMAND BY MARKET

<table>
<thead>
<tr>
<th>Item</th>
<th>2003</th>
<th>2008</th>
<th>2013</th>
<th>2018</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty Silicas Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tire</td>
<td>54.4</td>
<td>65.6</td>
<td>82.3</td>
<td>101.0</td>
<td>121.0</td>
</tr>
<tr>
<td>Non-Tire</td>
<td>4.2</td>
<td>4.8</td>
<td>5.3</td>
<td>5.8</td>
<td>6.2</td>
</tr>
<tr>
<td>Chemicals</td>
<td>6.8</td>
<td>8.0</td>
<td>10.6</td>
<td>12.0</td>
<td>13.8</td>
</tr>
<tr>
<td>Food &amp; Feed</td>
<td>2.8</td>
<td>3.2</td>
<td>4.0</td>
<td>4.6</td>
<td>5.2</td>
</tr>
<tr>
<td>Cosmetics &amp; Toiletries</td>
<td>2.4</td>
<td>2.8</td>
<td>4.0</td>
<td>4.6</td>
<td>5.2</td>
</tr>
<tr>
<td>Industrial Processing</td>
<td>5.4</td>
<td>7.2</td>
<td>9.4</td>
<td>11.2</td>
<td>13.7</td>
</tr>
<tr>
<td>Other</td>
<td>4.4</td>
<td>5.3</td>
<td>6.3</td>
<td>7.4</td>
<td>8.7</td>
</tr>
<tr>
<td>% South Korea</td>
<td>10.3</td>
<td>8.8</td>
<td>7.8</td>
<td>7.0</td>
<td>6.2</td>
</tr>
<tr>
<td>Asia/Pacific Specialty Silicas Demand</td>
<td>526.9</td>
<td>747.6</td>
<td>1051.0</td>
<td>1447.0</td>
<td>1954.0</td>
</tr>
</tbody>
</table>
Glassven manufactures and markets precipitated silicas, sodium silicates, and synthetic sodium aluminum silicates. The Company is privately held.

The Company competes in the world specialty silicas industry through the manufacture of precipitated silicas, which can be utilized in such applications as tires, other rubber products, oral care products, paints, coatings, inks, food, animal feed, and pharmaceuticals. Among Glassven’s precipitated silicas are RUBBERSIL, DENTSIL, GELSIL, and PIROSIL offerings. RUBBERSIL precipitated silicas are designed for use as reinforcing fillers in rubber products. Glassven’s DENTSIL products are precipitated silicas formulated for use as abrasive and thickening agents in oral care products, including toothpaste. GELSIL precipitated silicas are employed in paints, coatings, and inks, while PIROSIL high-purity precipitated silicas are suitable for use in the food and animal feed markets as anti-caking and free-flowing agents.

In Venezuela, Glassven has a production facility in Barquisimeto and a sales and marketing office at its headquarters location in Aragua.
**Order Information**

Five Convenient Ways to Order

**ONLINE:** www.freedoniagroup.com

**MAIL:** Print out and complete the order form and send to The Freedonia Group (see address at the bottom of this form)

**PHONE:** Call toll free, 800.927.5900 (US) or +1 440.684.9600

**FAX:** +1 440.646.0484 (US)

**EMAIL:** info@freedoniagroup.com

---

**World Specialty Silicas** ........................................... $6300

- Corporate Use License (add to study price) * + $2600
- Additional Print Copies @ $600 each *
  Total (including selected option) $____________________

- Enclosed is my check (5% discount) drawn on a US bank and payable to The Freedonia Group, Inc., in US funds (Ohio residents add 8% sales tax)

- Bill my company [ ] American Express [ ] MasterCard [ ] Visa

- Credit Card # _______________________

- Expiration Date MM    YY

- Signature _______________________

---

**Free Handling & Shipping**

There is NO charge for handling or UPS shipping in the US. Expect delivery in 3 to 5 business days. Outside the US, Freedonia provides free airmail service. Express delivery is available at cost.

**Orders Outside of the US**

Checks must be made payable in US funds, drawn against a US bank and mailed directly to The Freedonia Group. For wire transfers please contact our customer service department at info@freedoniagroup.com. Credit cards accepted.

**Credit Card Orders**

For convenience, Freedonia accepts American Express, MasterCard or Visa. Credit card purchases must include account number, expiration date and authorized signature.

**Save 15%**

If you order three (3) different titles at the same time, you can receive a 15% discount. If your order is accompanied by a check or wire transfer, you may take a 5% cash discount (discounts do not apply to Corporate Use Licenses).

---

**Corporate Use License**

Now every decision maker in your organization can act on the key intelligence found in all Freedonia studies. For an additional $2600, companies receive unlimited use of an electronic version (PDF) of the study. Place it on your intranet, e-mail it to coworkers around the world, or print it as many times as you like.

---

**Individual Use License Agreement**

The undersigned hereby represents that the above captioned study will be used by only ___ individual(s) who are employees of the company and that the study will not be loaded on a network for multiple users. In the event that usage of the study changes, the Company will promptly notify Freedonia of such change and will pay to Freedonia the appropriate fee based on Freedonia’s standard fee schedule then in effect. Note: Entire company corporate use license, add $2600; one additional user, add $600; two additional users, add $1200; three additional users, add $1800.

---

**Corporate Use License Agreement**

The above captioned study may be stored on the company’s intranet or shared directory, available to company employees. Copies of the study may be made, but the undersigned represents that distribution of the study will be limited to employees of the company.

---

* Please check appropriate option and sign below to order an electronic version of the study.

* Signature _______________________

---

The Freedonia Group, Inc. 767 Beta Drive • Cleveland, OH • 44143-2326 • USA • Web site: www.freedoniagroup.com

Tel US: 800.927.5900 or +1 440.684.9600 • Fax: +1 440.646.0484 • e-mail: info@freedoniagroup.com
About The Freedonia Group

The Freedonia Group, Inc., is a leading international industry market research company that provides its clients with information and analysis needed to make informed strategic decisions for their businesses. Studies help clients identify business opportunities, develop strategies, make investment decisions and evaluate opportunities and threats. Freedonia research is designed to deliver unbiased views and reliable outlooks to assist clients in making the right decisions. Freedonia capitalizes on the resources of its proprietary in-house research team of experienced economists, professional analysts, industry researchers and editorial groups. Freedonia covers a diverse group of industries throughout the United States, China and other world markets. Industries analyzed by Freedonia include:

Automotive & Other Transport • Chemicals • Construction & Building Products • Consumer Goods • Energy & Petroleum • Industrial Components • Health Care & Life Sciences • Machinery & Equipment • Metals, Minerals & Glass • Packaging • Plastics & Other Polymers • Security • Services • Textiles & Nonwovens • Water Treatment

Freedonia Custom Research

Freedonia Custom Research delivers the same high quality, thorough and unbiased assessment of an industry or market as an industry study. Since the research initiative is based upon a company’s specific needs, companies harness Freedonia’s research capabilities and resources to answer unique questions. When you leverage the results of a Freedonia Custom Research engagement, you are able to obtain important answers to specific questions and issues associated with: mergers and acquisitions, new product launches/development, geographic expansion, entry into new markets, strategic business planning, and investment and funding decisions.

Freedonia Custom Research is ideal for companies seeking to make a strategic difference in the status quo and focus on future business growth. Working side by side with clients, Freedonia’s team is able to define a research project that is custom-tailored to answer specific questions and provide the basis from which a company can make informed business decisions.