Surfactants

US Industry Study with Forecasts for 2018 & 2023

Study #3247 | January 2015 | $5200 | 246 pages
Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT
General ........................................ 4
Macroeconomic Overview .................. 4
Demographic Trends ...................... 9
Consumer Spending Activity ............. 13
Manufacturing Outlook ................. 17
Environmental, Health, & Regulatory Trends .......... 20
Environmental Concerns ............... 21
Health Concerns ............................ 22

MARKET OVERVIEW
General ........................................ 24
Historical Market Trends ................ 25
Surfactant Demand by Market ........ 27
International Activity & Foreign Trade .... 30
Feedstocks .................................. 32
Pricing Issues ................................ 33

CLEANING PRODUCTS
General ........................................ 35
Household Cleaning Products .......... 36
Household Cleaning Products Overview .... 37
Surfactant Demand ....................... 39
Laundry Detergents ....................... 44
Dishwashing Detergents ............... 45
Other Household Cleaning Products .... 46
Industrial & Institutional
Cleaning Products ........................ 47
Industrial & Institutional Cleaning
Products Overview ....................... 47
Surfactant Demand ....................... 49

PERSONAL CARE PRODUCTS
General ........................................ 53
Personal Care Industry Overview ....... 55
Personal Soaps ............................ 58
Bar Soaps .................................. 59
Liquid Soaps & Body Washes .......... 60
Cosmetics & Toiletries ................. 61
Hair Care Products ........................ 65
Skin Care Products ....................... 66
Other Cosmetic & Toiletry Products .... 66

INDUSTRIAL MARKETS
General ........................................ 67
Cement & Asphalt .......................... 70
Cement & Asphalt Industry Overview .... 70
Surfactant Demand ....................... 71
Lubricant & Fuel Additives ............. 73
Lubricant & Fuel Industry Overview .... 74
Surfactant Demand ....................... 76
Lubricants ................................. 77
Fuel Additives ............................. 78
Food & Beverage Processing .......... 79
Food & Beverage Processing
Industry Overview ....................... 79
Surfactant Demand ....................... 83
Bakery Products ........................... 85
Fats & Oils .................................. 86
Grain Mill Products ....................... 86
Other Food & Beverages ............... 86
Oil & Gas .................................... 87
Oil & Gas Industry Overview ......... 87
Surfactant Demand ....................... 90
Paint & Coatings ......................... 100
Paint & Coatings Industry Overview .... 101
Surfactant Demand ....................... 102
Plastics .................................... 103
Plastics Industry Overview ............ 104
Surfactant Demand ....................... 106
Textiles & Leather ....................... 108
Textile Industry Overview ............. 109
Surfactant Demand ....................... 110
Other Markets ............................ 112
Pulp & Paper .............................. 114
Municipal Water Treatment .......... 115
All Other Markets ....................... 115

PRODUCTS
General ........................................ 117
Anionic Surfactants ...................... 120
Alcohol Ether Sulfates ................. 121
Lignosulfonates ......................... 123
Linear Alkylbenzene Sulfonate ........ 125
Alcohol Sulfates .......................... 127
Natural Soaps ............................ 129
Other Anionic Surfactants .......... 131
Nonionic Surfactants .................. 133
Fatty Amine Oxides .................... 135
Alcohol Ethoxylates .................... 137
Alkylphenol Ethoxylates ............... 139
Sugar-Derived Surfactants .......... 141
Alkyl Polyglycosides ................... 143
Other Sugar-Derived Surfactants .... 143
Fatty Alkanolamides ................... 144
Block Copolymers ....................... 146
Other Nonionic Surfactants .......... 147
Cationic Surfactants .................. 149
Quaternary Ammonium Compounds ... 150
Other Cationics ......................... 152
Other Surfactants ....................... 154
Amphoteric Surfactants ............... 155
Silicone .................................. 157
Fluorosurfactants ..................... 159

INDUSTRY STRUCTURE
General ........................................ 162
Market Share .............................. 165
Competitive Strategies ................ 168
Low-Cost Leadership .................. 168
Vertical Integration .................... 169
Product Differentiation ............... 169
Globalization ............................ 170
Cooperative Agreements .............. 171
Manufacturing ......................... 172
Marketing & Distribution ............ 173
Research & Development .......... 175

COMPANY PROFILES
Air Products and Chemicals .......... 177
Akzo Nobel .................................. 179
Albemarle Corporation ............... 181
Ashland Incorporated ............... 182
BASF SE .................................. 184
Berkshire Hathaway ..................... 186
Chevron Phillips Chemical .......... 188
Clariant International .................. 190
Colgate-Palmolive Company ........ 192
Compañía Española de Petróleos ...... 193
Corda International .................... 194
Cytex Industries ......................... 197
DeFOREST Enterprises ............. 199
Dow Chemical ............................ 202
Dow Corning ............................. 205
DuPont (EI) de Nemours ............ 206
Elementis plc ............................ 207
Evonik Industries ......................... 210
Harcros Chemicals ................. 213
(continued on following page)
### Table of Contents

**COMPANY PROFILES**  
(continued from previous page)  
Huntsman Corporation ........................................ 214  
Jarchem Industries ........................................ 218  
LANXESS AG ............................................. 219  
Lonza Group ............................................. 220  
Momentive Performance Materials .................... 222  
Occidental Petroleum ................................... 224  
Pilot Chemical ........................................... 225  
Procter & Gamble ......................................... 229  
Royal Dutch Shell ......................................... 230  
Sea-Land Chemical ....................................... 232  
SI Group .................................................. 233  
Solvay SA ................................................ 234  
Stepan Company .......................................... 239  
Unilever Group .......................................... 242  
Vantage Specialty Chemicals ......................... 243  
Other Firms Mentioned in the Study .............. 245

**List of Tables**

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

**MARKET ENVIRONMENT**  
1 Macroeconomic Indicators ................................ 9  
2 Demographic Indicators ................................... 13  
3 Personal Consumption Expenditures & Disposable Income .................. 16  
4 Manufacturers’ Shipments ............................ 20

**MARKET OVERVIEW**  
1 Surfactant Market, 2003-2013 ............................ 26  
2 Surfactant Demand by Market ......................... 29  
3 Surfactant Imports & Exports ......................... 32  
4 Selected Surfactant Prices ............................ 34

**CLEANING PRODUCTS**  
1 Cleaning Product Market for Surfactants ............... 36  
2 Selected Household Detergent Shipments ................ 39  
3 Household Cleaning Market for Surfactants ............... 42  
4 Industrial & Institutional Cleaning Product Supply & Demand ............. 48

5 Industrial & Institutional Cleaning Product Market for Surfactants ....... 51

**PERSONAL CARE PRODUCTS**  
1 Personal Care Product Markets for Surfactants .......... 54  
2 Cosmetic & Toiletry Supply & Demand ............... 57  
3 Personal Soap Market for Surfactants ............... 59  
4 Cosmetics & Toiletry Market for Surfactants .......... 64

**INDUSTRIAL MARKETS**  
1 Industrial Markets for Surfactants .............. 68  
2 Cement & Asphalt Indicators ..................... 71  
3 Cement & Asphalt Market for Surfactants .......... 73  
4 Lubricant & Fuel Indicators ....................... 75  
5 Lubricant & Fuel Additive Market for Surfactants .......... 77  
6 Food & Beverage Shipments ......................... 82  
7 Food & Beverage Market for Surfactants .......... 85  
8 Oil & Gas Industry Indicators .................... 90  
9 Oil & Gas Market for Surfactants ............. 92  
10 Agricultural Indicators .............................. 98  
11 Agricultural Chemical Market for Surfactants ........ 100  
12 Paint & Coatings Shipments ....................... 101  
13 Paint & Coatings Market for Surfactants ........... 103  
14 Plastics Supply & Demand ......................... 105  
15 Plastics Market for Surfactants ............ 108  
16 Textile Industry Indicators ..................... 110  
17 Textile & Leather Market for Surfactants .......... 112  
18 Other Markets for Surfactants .................... 113

**PRODUCTS**  
1 Surfactant Demand by Product ..................... 118  
2 Anionic Surfactant Demand ....................... 121  
3 Alcohol Ether Sulfate Surfactant Demand .......... 123  
4 Lignosulfonate Surfactant Demand .................. 125  
5 Linear Alkylbenzene Sulfonate Surfactant Demand .......... 127  
6 Alcohol Sulfate Surfactant Demand ........... 129  
7 Natural Soap Surfactant Demand .................. 131  
8 Other Anionic Surfactant Demand .............. 133  
9 Nonionic Surfactant Demand ..................... 135

10 Fatty Amine Oxide Surfactant Demand .......... 137  
11 Alcohol Ethoxylate Surfactant Demand .......... 139  
12 Alkylphenol Ethoxylate Surfactant Demand .......... 141  
13 Sugar-Derived Surfactant Demand .......... 142  
14 Fatty Alkanolamide Surfactant Demand .......... 145  
15 Block Copolymer Surfactant Demand ........... 147  
16 Other Nonionic Surfactant Demand ........... 148  
17 Cationic Surfactant Demand .................... 150  
18 Quaternary Ammonium Compound Surfactant Demand .......... 152  
19 Other Cationic Surfactant Demand .......... 153  
20 Other Surfactant Demand ....................... 155  
21 Amphoteric Surfactant Demand ............. 157  
22 Silicone Surfactant Demand ................... 159  
23 Fluorosurfactant Demand ....................... 161

**INDUSTRY STRUCTURE**  
1 US Surfactant Sales by Company, 2013 .............. 163  
2 Selected Cooperative Agreements .................. 172

**List of Charts**

**MARKET OVERVIEW**  
1 Surfactant Market, 2003-2013 ......................... 27  
2 Surfactant Demand by Market, 2013 ........ 30

**CLEANING PRODUCTS**  
1 Household Cleaning Product Market for Surfactants, 2013 ................ 43  
2 Industrial & Institutional Cleaning Product Market for Surfactants, 2013 .......... 52

**INDUSTRIAL MARKETS**  
1 Industrial Markets for Surfactants, 2013 .......... 69

**PRODUCTS**  
1 Surfactant Demand by Product, 2013 ................... 119

**INDUSTRY STRUCTURE**  
1 US Surfactant Market Share, 2013 ........ 165
Growth will be supported by rising construction expenditures and oil and gas production, rebounds in consumer spending on personal care products, and a shift toward higher value specialty surfactants.

**US demand to rise 3.2% annually through 2018**

Demand for surfactants in the US is expected to rise 3.2 percent per year to 10.9 billion pounds in 2018, valued at $14.4 billion. Growth will be supported by rising construction expenditures and oil and gas production, as well as by rebounds in consumer spending on personal care products. A shift toward higher value specialty surfactants for performance reasons will also promote growth in dollar terms.

**Specialty surfactants to gain market share**

Specialty surfactants will account for a greater share of spending on surfactants in industrial applications, as users favor their improved efficiency, multifunctionality, and greater safety and sustainability. Amphoterics, silicone, fluorosurfactants, quaternary ammonium compounds, and fatty amine oxides are among the surfactants that will show healthy growth going forward.

**Industrial markets to post most significant gains**

Industrial markets are expected to post the most significant gains in surfactant demand in both volume and value terms through 2018. Demand for surfactants used as cement and asphalt additives, particularly lignosulfonates and other anionics, will benefit from a rebound in nonresidential building construction. Favorable growth opportunities for specialty surfactants in paint and coatings and plastics will benefit from a combination of expanding residential construction and increased manufacturing activity. Despite a decline in oil prices in late 2014 and early 2015, demand for surfactants used in oil and natural gas production is expected to rise at an above average pace, though growth will moderate from the double digit annual gains of the 2008-2013 period.

**Cleaning product market to show moderate growth**

Demand for surfactants in the established cleaning products segment is expected to show moderate growth in volume terms, as production of cleaning products is projected to rise at a modest pace. In the household cleaning segment, an increasing share of products are concentrated versions and contain higher levels of surfactants, including specialty surfactants that are more efficient and gentler on the skin. Demand for surfactants in cleaning products will also be supported by greater emphasis on sustainability and multifunctionality. This trend will favor specialty products such as sugar-derived surfactants at the expense of commodity products such as linear alkylbenzene sulfonate (LAS). In the personal care product market, surfactants that are gentle on skin and hair and are also environmentally sustainable will see the best growth prospects in dollar terms.
CLEANING PRODUCTS

Laundry Detergents -- Demand for surfactants in household laundry detergents is expected to increase at an annual rate of 2.2%, reaching 1.7 billion pounds in 2018, valued at $2.2 billion. The rise in demand will be supported by the growth of liquid laundry detergents because washers now tend to be more concentrated and often provide multiple functions (such as fabric softeners) in addition to cleaning, requiring higher levels of surfactants in the formulation of these new surfactants to a single laundry product.

As consumers continue to emphasize environmentally sustainable cleaning solutions in the household, newer laundry machines tend to use smaller volumes of water at cooler temperatures. The emphasis on high efficiency washers has contributed to rising sales of high efficiency detergents. High efficiency washers tend to use tumblers rather than agitators to move the laundry through the water, and the tumbling action can be negatively affected by excess suds, so surfactants in high efficiency detergents must provide enough suds to remove soil from laundry without inhibiting the action of the washing machine. Additionally, high efficiency laundry detergents must be formulated for use in smaller volumes of cooler water. This reformulation includes improvements to a detergent’s dispersing qualities as the detergent must be able to stay in suspension in these modified conditions, without redepositing soil onto the laundry.

Another factor impacting US surfactant demand in the household laundry detergent is consumer demand for gentler, more environmentally sustainable products. Concentrated laundry detergent products are often harsher than less concentrated products and can cause skin irritation for people who may be sensitive to detergent residues on clothing. These considerations have led to producers combining gentler surfactants such as betaines -- other surfactants -- with surfactants to enhance the function of a detergent while improving its mildness. In response to concerns about sustainability and environmental impact, producers of surfactants have been reformulating their products to be more environmentally friendly.

<table>
<thead>
<tr>
<th>TABLE VII-2 ANIONIC SURFACTANT DEMAND (million pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
</tr>
<tr>
<td>Nondurable Goods Shpts (bil 2009$)</td>
</tr>
<tr>
<td>lb anionics/000$ nondurables</td>
</tr>
<tr>
<td>Anionic Surfactant Demand</td>
</tr>
<tr>
<td>Alcohol Ether Sulfates</td>
</tr>
<tr>
<td>Lignosulfonates</td>
</tr>
<tr>
<td>Linear Alkylbenzene Sulfonate</td>
</tr>
<tr>
<td>Alcohol Sulfates</td>
</tr>
<tr>
<td>Natural Soaps</td>
</tr>
<tr>
<td>Other Anionic Surfactants</td>
</tr>
<tr>
<td>$/lb</td>
</tr>
<tr>
<td>Anionic Surfactant Demand (mil $)</td>
</tr>
<tr>
<td>% anionic</td>
</tr>
<tr>
<td>Surfactant Demand (mil $)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHART VIII-1 US SURFACANT MARKET SHARE, 2013 ($11.0 billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Leaders</td>
</tr>
<tr>
<td>32%</td>
</tr>
<tr>
<td>3.6%</td>
</tr>
<tr>
<td>6%</td>
</tr>
<tr>
<td>5.6%</td>
</tr>
<tr>
<td>6.6%</td>
</tr>
</tbody>
</table>
Sample Profile, Table & Forecast

Cytec Industries Incorporated
5 Garret Mountain Plaza
Woodland Park, NJ 07424
973-357-3100
http://www.cytec.com

Sales: $1.9 billion (2013)
Employment: 4,400 (2013)
Key products: sulfosuccinate, docusate sodium, and highly purified diocyl sulfosuccinate


The Company is active in the US surfactants industry through the Additive Technologies segment, which had 2013 sales of $275 million. Of the segment’s 2013 sales, North America accounted for $122 million. The Additive Technologies segment manufactures specialty and polymer additives, and formulated resins for a range of applications. The segment’s specialty additives include sulfosuccinate surfactants as well as docusate sodium (DSS), an anionic surfactant; and COMPLEMIX 100, a specialty surfactant for the food and beverage industry.

Cytec Industries’ sulfosuccinate surfactants, which are available under the AEROSOL brand name, are primarily anionic products used in emulsion polymers, paints, paper coatings, and printing inks, among other applications. AEROSOL surfactants encompass diester sulfosuccinates, monoester sulfosuccinates, sulfosuccinamates, and other products. Diester sulfosuccinates are available with varying alkyl chain

TABLE VI-1

<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>Nondurable Goods Shpts (bil 2009$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lb surfactant/mil $ nondurables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surfactants in Industrial Markets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement &amp; Asphalt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubricants &amp; Fuel Additives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food &amp; Beverages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Chemicals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint &amp; Coatings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textiles &amp; Leather</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Markets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$/lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surfactants in Industrial Mkts (mil $)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% industrial markets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surfactant Demand (mil $)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Copyright 2015 The Freedonia Group, Inc.
**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

---

**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.

**Click here to learn more about the Corporate Use License**

---

**ORDER FORM**

**Surfactants** ................................................................. $5200

☐ Corporate Use License (add to study price) *

☐ Additional Print Copies @ $600 each *

☐ 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

Name ____________________________________________________________

Title ____________________________________________________________

Company _______________________________________________________

Division _________________________________________________________

Street ___________________________________________________________

(NO PO Box please)

City/State/Zip __________________________________________________

Country _________________________________________________________

Phone ____________________________ Fax ____________________________

Email __________________________________________________________

Credit Card # ____________________________ Expires mm/yy ____________

Signature ________________________________________________________

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

☐ 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.

Signature ________________________________________________________

☐ 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.

Signature ________________________________________________________

---

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

Tel US: 800.927.5900 or +1 440.684.9600 • Fax: +1 440.646.0484 • Email: info@freedoniagroup.com

Page 7
**Other Studies**

**Enzymes**
This study analyzes the US enzyme industry. It presents historical demand data (2004, 2009 and 2014) and forecasts (2019 and 2024) by product (e.g., carbohydrases, pro tease enzymes, polymerases, nucleases, lipases). The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry players.

#3295 ................... April 2015 ................... $5300

**Waxes**
This study analyzes the US wax industry. It presents historical demand data (2004, 2009 and 2014) and forecasts (2019 and 2024) by product (e.g., paraffin, microcrystalline waxes, polymer waxes, Fischer-Tropsch waxes, vegetable waxes, animal and insect waxes) and market (e.g., industrial, consumer and commercial). The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry players.

#3271 ................... April 2015 ................... $5200

**World Industrial & Institutional (I&I) Cleaning Chemicals**
Global demand for I&I cleaning chemicals is projected to increase 4.3 percent per year to $46.3 billion in 2018. The fastest growth will occur in healthcare, due to a rise in the number of hospital stays and concerns about healthcare-associated infections (HAIs). China and the Asia/Pacific region will be the fastest growing markets. This study analyzes the $37.5 billion world I&I cleaning chemical industry, with forecasts for 2018 and 2023 by product, market, world region, and for 18 countries. The study also evaluates company market share and profiles industry participants.

#3207 ................... November 2014 ................... $6300

**Solvents**
US demand for solvents is expected to increase at a 1.5 percent annual pace through 2018 to 11 billion pounds. Growing environmental concerns and regulatory pressure will drive demand for “green” solvents that are derived from renewable raw materials. The paint and coatings market will replace the transportation market as the largest solvent consumer. This study analyzes the 10.2 billion pound US solvent industry, with forecasts for 2018 and 2023 by product and market. The study also evaluates company market share and profiles industry players.

#3169 ................... June 2014 ................... $5100

**Industrial & Institutional (I&I) Cleaning Chemicals**
Demand for industrial and institutional (I&I) cleaning chemicals in the US is forecast to rise more than three percent per year through 2018 to $11.5 billion. Disinfectants and sanitizers will be the fastest growing product segment. The commercial market will remain dominant while the institutional and government market will see the most rapid gains. This study analyzes the $9.9 billion US I&I cleaning chemical industry, with forecasts for 2018 and 2023 by market, product and raw material. The study also evaluates company market share and profiles industry players.

#3148 ................... April 2014 ................... $5300

---

**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 and other world markets. Industries analyzed by Freedonia include:

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

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.

---

The Freedonia Group, Inc. 767 Beta Drive • Cleveland, OH • 44143-2326 • USA • Website: www.freedoniagroup.com
Tel US: 800.927.5900 or +1 440.684.9600 • Fax: +1 440.646.0484 • Email: info@freedoniagroup.com