Water Treatment in China

Industry Study with Forecasts to 2010 & 2015

Study #2062 | June 2006 | $4900 | 238 pages
Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT

General ........................................... 4
Economic Overview ............................ 5
Demographic Overview ....................... 8
Population ...................................... 8
Urbanization .................................... 11
Households ..................................... 11
Industrialization & Manufacturing Trends .... 12
Personal Income Trends ....................... 14
The Eleventh Five-Year Plan ............... 16
Water Use ....................................... 18
International Activity & Foreign Trade ...... 20

MARKETS

General ........................................... 22
Industrial ....................................... 24
Pulp & Paper .................................... 26
Food & Beverage Processing ............... 32
Electric Power Generation ................. 38
Petroleum ...................................... 43
Metals .......................................... 48
Electronics .................................... 53
Chemicals & Pharmaceuticals ............. 55
Other ........................................... 61
Municipal ........................................ 65
Municipal Water Supply ...................... 67
Municipal Wastewater Treatment .......... 70
Residential & Commercial ................. 73

PRODUCTS

General ........................................... 76
Chemical ........................................ 79
Corrosion Inhibitors ......................... 82
Coagulants & Flocculants .................. 86
Oxidizers & Biocides ....................... 90
pH Adjusters & Softeners ............... 99
Other .......................................... 104
Defoamers .................................... 105
Chelating Agents ......................... 107
Nonchemical .................................. 110
Filtration & Separation .................... 112
Equipment & Systems ...................... 113
Consumables ................................. 126
Disinfection .................................. 138
Ultraviolet (UV) Equipment .............. 140
Ozone Equipment ............................. 142
Other ........................................... 144
Other Equipment .............................. 145

INDUSTRY STRUCTURE

General ........................................... 148
Market Share .................................. 151
Industry Composition & Restructuring .... 153
Competitive Strategies ..................... 156
Marketing & Distribution .................. 158
Cooperative Agreements ................... 159

COMPANY PROFILES

Arch Chemicals ............................... 163
Ashland Incorporated ....................... 165
Bayer AG ....................................... 168
Buckman Laboratories ..................... 169
Calgon Carbon ............................... 171
Changzhou Qingliu Water Treatment Chemicals .... 174
Chemtreat Incorporated .................... 175
Chemtura Corporation ....................... 177
Christ Water Technology .................... 179
Ciba Specialty Chemicals ................... 181
Cytec Industries ............................... 183
Dow Chemical ................................ 184
Ebara Corporation ............................. 188
General Electric ............................... 190
Hercules Incorporated ....................... 196
ITT Industries ................................ 198
Kemira Oyj ...................................... 201
Kurita Water Industries ..................... 202
LANXESS AG ................................ 204
Nalco Holdings ............................... 207
Nitto Denko .................................... 210
Occidental Petroleum ....................... 212
Pall Corporation ............................... 214
Rohm and Haas ............................... 217
Severn Trent .................................. 220
Shanghai Duojia Water Treatment Science & Technology .... 223
Siemens AG .................................... 224
SNF Floerger SAS ............................. 230
3M Company ................................... 231
Veolia Environnement ....................... 234
Wujin Fine Chemical Factory .............. 237
Zibo Water Purification Agent Factory .... 238

Order now, click here!
List of Tables & Charts

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

MARKET ENVIRONMENT
1 Gross Domestic Product of China...........8
2 Population of China...........................10
3 Households in China by Age............10
4 Manufacturing Overview......................14
5 Per Capita GDP in China
   by Region........................................16
6 Water Withdrawal in China...............20

MARKETS
1 Water Treatment Markets in China.............23
2 Industrial Water Treatment Markets in China, 2005.............23
4 Food & Beverage Processing Market for Water Treatment in China.............34
5 Electric Power Generation Market for Water Treatment in China..........40
6 Petroleum Market for Water Treatment in China.............45
7 Metals Processing Market for Water Treatment in China..........49
8 Electronics Market for Water Treatment in China.............55
9 Chemical & Pharmaceutical Market for Water Treatment in China...............57
10 Other Industrial Markets for Water Treatment in China...........62
11 Municipal Water Treatment Market in China..........................67
12 Municipal Supply Market for Water Treatment in China..........70
13 Municipal Wastewater Treatment Market in China..........73
14 Residential & Commercial Water Treatment Market in China....................75

PRODUCTS
1 Water Treatment Demand in China by Type.............79
2 Water Treatment Chemical Demand in China by Type .........81
3 Corrosion Inhibitor Demand in Water Treatment in China..........84
4 Coagulant & Flocculant Demand in Water Treatment in China..........89
5 Oxidizer & Biocide Demand in Water Treatment in China..........92
6 pH Adjuster & Softener Demand in Water Treatment in China...............103
7 Other Water Treatment Chemical Demand in China ..........105
8 Nonchemical Water Treatment Demand in China .............111
9 Nonchemical Separation & Filtration Equipment & Supplies Demand in Water Treatment in China...............113
10 Nonchemical Separation & Filtration Equipment Demand in Water Treatment in China.............114
11 Conventional Water Treatment Filtration System Demand in China.............118
12 Deionization System Demand in Water Treatment in China...............120
13 Membrane Separation System Demand in Water Treatment in China...............124
14 Distillation System Demand in Water Treatment in China...............126
15 Filtration & Separation Consumable Demand in Water Treatment in China.............127
16 Water Treatment Membrane Demand in China...............130
17 Water Treatment Filter Demand in China.....................132
18 Ion Exchange Resin Demand in Water Treatment in China.............134
19 Activated Carbon Demand in Water Treatment in China...............136
20 Other Filtration & Separation Consumable Demand in Water Treatment in China.............137
21 Disinfection Equipment Demand in Water Treatment in China.............140
22 Ultraviolet (UV) Disinfection Equipment Demand in Water Treatment in China.............142
23 Ozone Generating Equipment Demand in Water Treatment in China.............144
24 Other Disinfection Equipment Demand in Water Treatment in China.............145
25 Other Nonchemical Water Treatment Equipment Demand in China...............147

INDUSTRY STRUCTURE
1 Water Treatment Product Sales by Company, 2005...............149
2 Selected Acquisitions & Divestitures.....................152
3 Selected Cooperative Agreements.....................155
Water treatment demand in China will see rapid growth even as efficiency gains partially offset water demand increases caused by expanded industrial activity and more municipal water customers.

Chinese water treatment demand to grow 14.1% annually through 2010

Demand for water treatment products -- chemicals, equipment and supplies -- in China is projected to increase 14.1 percent per year to ¥34 billion in 2010. For nearly every product and every market, growth will be faster in China than in any other industrialized nation. This is due in large part to the continued economic expansion in China, which is currently unparalleled elsewhere in the world and creates growth in demand for industrial water treatment chemicals and other products.

Historical neglect, new five-year plan to boost water treatment demand

Water use in China has until recently been fairly indiscriminate and not well-managed by the government. China still uses much more water to produce a ton of paper or steel than do the industrialized nations. Industrial users had generally discarded wastewater in the most expeditious manner without regard for short- or long-term environmental impact. Water supplied by municipal providers has generally been either untreated or undertreated, and water considered “fully treated” is often not safe to drink without first being boiled.

China’s Eleventh Five-Year Plan promotes more efficient use of water, greater rates of water recycling in industrial settings, more aggressive treatment of wastewater, and provision of safe water to a larger number of citizens via municipal water supply facilities. As a result, it is expected that demand for water treatment products will continue to post exceptionally strong gains despite relatively modest changes in industrial and municipal water usage.

Nonchemical treatment equipment to outpace treatment chemicals

Gains for nonchemical treatment equipment and supplies are expected to be somewhat faster than for treatment chemicals due to the overall expansion of the water supply infrastructure in China, which will prompt growth for filtration and separation equipment and supplies.

Improvements in efficiency will offset water demand increases caused by expanded industrial activity and growth in populations served by municipal water suppliers. Nevertheless, water treatment product demand will register outstanding growth as food and beverage processors seek to improve finished product quality; papemakers treat water for reuse; municipalities strive to supply safe, high-quality water to their citizens and improve the treatment for a larger share of wastewater; and consumers look to home filtration supplies to improve the flavor and quality of water in their homes.
**PRODUCTS**

### Corrosion Inhibitors

Demand for corrosion inhibitors in water treatment applications in China is projected to increase 11.7 percent per year to ¥2.6 billion in 2010. Gains in nearly every industrial market will be robust, but most notably in faster growing industries such as petroleum refining and metals processing. Industrial applications will continue to dominate demand, although the much smaller municipal market is projected to register faster growth.

Corrosion inhibitors are used to protect metal equipment and piping from the effects of prolonged contact with water. Other chemicals, such as chlorine and its derivatives, and chemicals used to reduce pH, can greatly exacerbate corrosion problems. Corrosion causes depreciation of capital equipment and can lead to system failures and diminished finished product quality. As a result, the costs associated with the repair or replacement of damaged equipment greatly exceed the cost of using chemical inhibitors such as sodium polyphosphates, which are offered by a number of suppliers to the Chinese water treatment market.

Nitrite corrosion inhibitors are easy to formulate and efficient, and do not need oxygen for corrosion control. Nitrites are active in a wide temperature range, and their limitation to a relatively narrow, alkaline pH range means that they are commonly used in conjunction with borate buffers. In addition, nitrites are compatible with numerous other water treatment chemicals. They are often added with other corrosion inhibitors, including azoles and molybdates, in antifreeze, metalworking fluids and recirculating cooling water applications, to help maintain a noncorrosive pH. The most common nitrite corrosion inhibitors are sodium and calcium types. In higher pH environments, nitrites work more effectively than some other corrosion inhibitors. Nitrites are also relatively low-priced, as they are commodity chemicals that can provide effective control.
Wujin Fine Chemical Factory
Hengshanqiao Town
Changzhou, Jiangsu 213119 CHINA
86-519-5133-288
http://www.wfcf.com

Annual Sales: ¥150 million (verified by company, 2/06)
[US$18 million]
Employment: 200 (verified by company, 2/06)

Key Products: phosphonates, polymers, monomers, biocides, preservatives, copper corrosion inhibitors and an oxygen scavenger

International Contact: Zhang Xiaofeng, Foreign Trade Manager
(86-519-5133-288)

Wujin Fine Chemical Factory (WFCF) is a leading water treatment chemicals manufacturer. The privately held company operates a production site in Changzhou, China.

According to WFCF, it is China’s leading water treatment chemical manufacturer. The Company’s water treatment chemicals consist of phosphonates, polymers, monomers, biocides, preservatives, copper corrosion inhibitors and an oxygen scavenger. Among WFCF’s phosphonates is XF-210, a multifunctional chemical that is suitable for use as a corrosion control agent in boiler and cooling water treatment applications. An example of the Company’s polymers is XF-322, an aqueous polymer based on maleic anhydride. This chemical can be used as a scale control agent in various water treatment applications.

The Company’s portfolio of biocides and preservatives includes XF-992, a biofouling control agent for cooling water and swimming pools.
**Corporate Use License**

Now every decision maker in your organization can act on the key intelligence found in all Freedonia studies. For an additional $2300, 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**

**Water Treatment in China** ........................................ $4900

☐ Corporate Use License (add to study price) *

☐ Additional Print Copies @ $500 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 7.75% sales tax)

☐ Bill my company  ☐ American Express  ☐ MasterCard  ☐ Visa

Credit Card #

Expiration

Signature

Name ____________________________

Title ____________________________

Company _________________________

Division _________________________

Street ____________________________

City/State/Zip ______________________

Country __________________________

Phone ____________________________ Fax ______________________

Email ____________________________

* 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 $2300; one additional user, add $500; two additional users, add $1000; three additional users, add $1500.

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 ____________________________
Other Studies

Filters
US filters demand will grow 4.2% yearly through 2011. Gains will be driven by ongoing sales in the dominant aftermarket, pending laws for cleaner air and reduced emissions, as well as increasing penetration of motor vehicle cabin air filters and home air and water filters. Fluid filters will remain the largest segment while air filters will grow the fastest. This study analyzes the $9.8 billion US filter industry to 2011 and 2016 by product and market. It also evaluates market share and profiles leading competitors.
#2164 ................... 04/2007 .................... $4500

World Filters
The global filter industry will expand 5.5% yearly through 2009 based on favorable economic factors and stricter environmental and product purity laws. China will lead gains and top Japan as the second largest national market behind the US. Air purification and fluid filters will outpace the dominant engine filter segment. This study analyzes the $34 billion world filter industry to 2009 and 2014 by product, market, world region and for 23 countries. It also details market share and profiles major players.
#2036 ................... 03/2006 .................... $5500

Pumps
The US market for fluid handling pumps will reach $8.5 billion in 2010. Gains will be supported by an improved outlook for many pump-using industries, continued healthy aftermarket prospects, and the introduction of new and better performing pumps. Process manufacturing will remain the largest market while the utilities segment will see the fastest growth. This study analyzes the US pump industry to 2010 and 2015 by product and market. It also profiles major players and evaluates company market share.
#2026 ................... 02/2006 .................... $4200

World Water Treatment Products
The global market for water treatment products will grow 5.9% annually through 2009. Gains will be driven by an ongoing shortage of safe drinking water and by a strong energy production sector. The best prospects will be found in India, China and Eastern Europe, followed by Latin America and Africa/Mid-east. This study analyzes the $30.2 billion world water treatment product industry to 2006 and 2014 by type, market, world region and for 20 countries. It also profiles major players and details market share.
#2035 ................... 03/2006 .................... $5500

Nonchemical Water Treatment
US demand for nonchemical water treatment supplies and equipment will grow 6.7% annually through 2009. The filtration and separation segment will remain dominant while disinfection equipment will grow the fastest. The industrial market will lead gains, outpacing municipal and residential/commercial uses. This study analyzes the $4.6 billion US nonchemical water treatment industry to 2009 and 2014 by product and market. It also evaluates company market share and profiles major competitors.
#1995 ................... 10/2005 .................... $4100

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, the emerging China market, and other world markets. Industries analyzed by Freedonia include:

- Chemicals
- Plastics
- Life Sciences
- Packaging
- Building Materials
- Security & Electronics
- Industrial Components & Equipment
- Automotive & Transportation Equipment
- Energy/Power Equipment

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.