

## Market Report

# Global Biocide Market

### 2<sup>nd</sup> Edition

Latest Update: May, 2012

Publisher: Acmite Market Intelligence

Language: English

Pages: 525

Price: from € 1,490

## Abstract

The global demand on biocides for use in industrial and consumer goods was estimated at US\$6.8 billion in 2011, roughly 4.2% up from the previous year. Benefiting from the recovery in chemical industry overall, the global biocide market value is expected to grow by 4.3% this year through 2015. The market will experience quite healthy growth in next two years in the forecast and the growth by 5-6.3% can be expected thereafter.

Significant gains can still be found in a number of key application markets such as personal care & cosmetics, food & beverage and plastics. Demand on greener or higher value specialty biocides also presents strong growth and offers a lot of opportunities for biocides suppliers who value innovation.

Acmite Market Intelligence has finished its latest update of the market report on global biocide market. It is ready for order.

The market report examines the current market structure and application areas, provides extensive market data of 2011, and market forecast through 2015 to 2020. It also outlines the competition landscape, evaluates market chances and risks and anticipates future trends based on a series of influence factors.

- 224 pages analyzing the market
- 60 figure tables
- 270 profiles of leading biocide manufacturers

With a multi-dimensional and in-depth view of world biocide market, this study is ideal help for you with decisions about international market penetration, business expansion or project feasibility analysis.

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## Table of Contents

### Volume I

<b>1. Definition and segmentation .....</b>	<b>1</b>
1.1 Market Definition .....	1
1.2 Market Segmentation .....	2
1.2.1 Classification of biocides .....	2
1.2.2 Products and applications .....	8
<b>2. Macro-environment .....</b>	<b>13</b>
2.1 Trends in the world economy .....	13
2.2 The chemical industry .....	18
2.3 Industry concentration .....	21
2.4 Laws and Regulations .....	24
<b>3 Biocide market overview .....</b>	<b>27</b>
3.1 World biocide market size and forecast .....	27
3.2 Market trends and drivers .....	46
3.3 Market restrains and challenges .....	52
3.4 Innovations in products and technologies .....	56
3.5 Important patents in 2008-2012 .....	64
3.6 Investment, divestiture, M&A .....	75
3.7 Competition analysis .....	83
<b>4 Products .....</b>	<b>89</b>
4.1 Halogenated Biocides .....	89
4.1.1 Products, properties and applications .....	89
4.1.2 Market size and forecast .....	97
4.1.2.1 Halogenated biocides demand by product type .....	97
4.1.2.2 Halogenated biocides demand by region .....	99
4.1.2.3 Halogenated biocides demand by application .....	101
4.1.3 Market trends and chances .....	103

4.2 Metallic biocides .....	105
4.2.1 Products, properties and applications .....	105
4.2.2 Market size and forecast .....	110
4.2.2.1 Metallic compound biocide demand by product type .....	110
4.2.2.2 Metallic compound biocide demand by region .....	112
4.2.2.3 Metallic compound biocide demand by application .....	114
4.2.3 Market trends and chances .....	116
4.3 Nitrogen-based biocides .....	118
4.3.1 Products, properties and applications .....	118
4.3.2 Market size and outlook .....	122
4.3.2.1 Nitrogen-based biocides demand by product type .....	122
4.3.2.2 Nitrogen-based biocides demand by region .....	124
4.3.2.3 Nitrogen-based biocides demand by application .....	126
4.4 Organosulfur .....	130
4.4.1 Products, properties and applications .....	130
4.4.2 Market size and forecast .....	134
4.4.2.1 Organosulfur biocides demand by product type .....	134
4.4.2.2 Organosulfur biocides demand by region .....	136
4.4.2.3 Organosulfur biocides demand by application .....	139
4.4.3 Market trends and chances .....	142
4.5 Phenolics .....	144
4.5.1 Products, properties and applications .....	144
4.5.2 Market size and forecast .....	148
4.5.2.1 Phenolic biocides demand by product type .....	148
4.5.2.2 Phenolic biocides demand by region .....	150
4.5.2.3 Phenolic biocides demand by application .....	152
4.5.3 Market trends and chances .....	154
4.6 Other biocides .....	156
<b>5 Applications .....</b>	<b>157</b>
5.1 Water treatment .....	157
5.1.1 Products and market segments .....	157

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5.1.2 Market size and forecast .....	160
5.1.2.1 Biocides demand in water treatment by segment .....	162
5.1.2.2 Biocides demand in water treatment by product group .....	163
5.1.2.3 Biocides demand in water treatment by region .....	164
5.2 Wood preservation .....	167
5.2.1 Products and market segmentation .....	167
5.2.2 Market size and forecast .....	170
5.2.2.1 Wood preservatives market by segment .....	172
5.2.2.2 Wood preservatives market by product group .....	173
5.2.2.3 Wood preservatives market by region .....	174
5.2.3 Market trends and chances .....	175
5.3 Paints and coatings .....	177
5.3.1 Products and market segmentation .....	177
5.3.2 Market size and forecast .....	180
5.3.2.1 World market of paints & coatings by application .....	182
5.3.2.2 World market of paints & coatings by region .....	183
5.3.2.3 Biocides demand in paints & coatings by segment .....	184
5.3.2.4 Biocides demand in paints & coatings by product group .....	185
5.3.2.5 Biocides demand in paints & coatings by region .....	186
5.3.3 Market trends and chances .....	187
5.4 Personal care and cosmetics .....	189
5.4.1 Products and market segmentation .....	189
5.4.2 Market size and forecast .....	191
5.4.2.1 Personal care market by sector .....	194
5.4.2.2 Personal care market by region .....	195
5.4.2.3 Biocides demand in personal care & cosmetics by end-user.....	196
5.4.2.4 Biocides demand in personal care & cosmetics by product .....	197
5.4.2.5 Biocides demand in personal care & cosmetics by region .....	198
5.4.3 Market trends and chances .....	199
5.5 Plastics .....	201
5.5.1 Products and market segmentation .....	201
5.5.2 Market size and forecast .....	205

5.5.2.1 Biocides demand in plastics by product group .....	207
5.5.2.2 Biocides demand in plastics by region .....	208
5.5.2.3 Biocides demand in plastics by polymer type .....	209
5.5.3 Market trends and chances .....	210
5.6 Textile and leather .....	212
5.6.1 Products and market segmentation .....	212
5.6.2 Market size and forecast .....	215
5.6.2.1 Biocides demand in textile & leather by product type .....	215
5.6.2.2 Biocides demand in textile & leather by region .....	216
5.6.3 Market trends and chances .....	217
5.7 Food and beverage .....	218
5.7.1 Products and market segmentation .....	218
5.7.2 Market size and forecast .....	221
5.7.2.1 Biocides demand in food & beverage by segment .....	221
5.7.2.2 Biocides demand in food & beverage by product type .....	222
5.7.2.3 Biocides demand in food & beverage by region .....	223
5.7.3 Market trends and chances .....	224

## Volume II

Company profiles (ca. 270).....	1-301
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### Note:

#### Regions:

North America: US, Canada, Mexico (NAFTA region)

Asia Pacific: Countries of Asia, Australia, New Zealand

Asia Pacific\*: Asia Pacific excluding Japan

## 4.2 Metallic biocides

### 4.2.1 Products, properties and applications

Metallic biocides are biocides containing metal compounds, typically copper, zinc, tin, silver and etc. They can take form of organic or inorganic. Metallic biocides are usually slow acting, persistent, and toxic. Heavy metals like chromium and arsenic have undergone close environmental scrutiny due to their toxicity and are being replaced in waterborne systems.

#### **Copper-based biocides**

Copper and its alloys (brasses, bronzes, copper nickels, copper nickel zincs, and others) are inherently antimicrobial materials. The cytotoxic properties of copper have been exploited since ancient civilizations.

Copper is the most commonly used metal compound for biocide. It is used as a water purifier, algacide, fungicide, nematocide, molluscicide, and as an anti-bacterial and anti-fouling agent.

The fungicidal effect of copper compounds as non-systemic fungicides are such as bordeaux mixture, cupric hydroxide, copper arsenate, copper carbonate, cuprous oxide, copper-8-quinolinolate, copper oleate, copper sulfate, or copper oxychloride.

Antifouling coating is another important application for copper compounds, such as copper sulphide. Copper compounds are also used for wood preservation and the use of copper in the fabrics prevents microbial growth.

Copper is considered safe to humans and animals and therefore also commonly used as disinfectants in animal feeds and food industry.

#### **Silver-based biocides**

Silver is used as an antibacterial agent in a wide range of consumer products

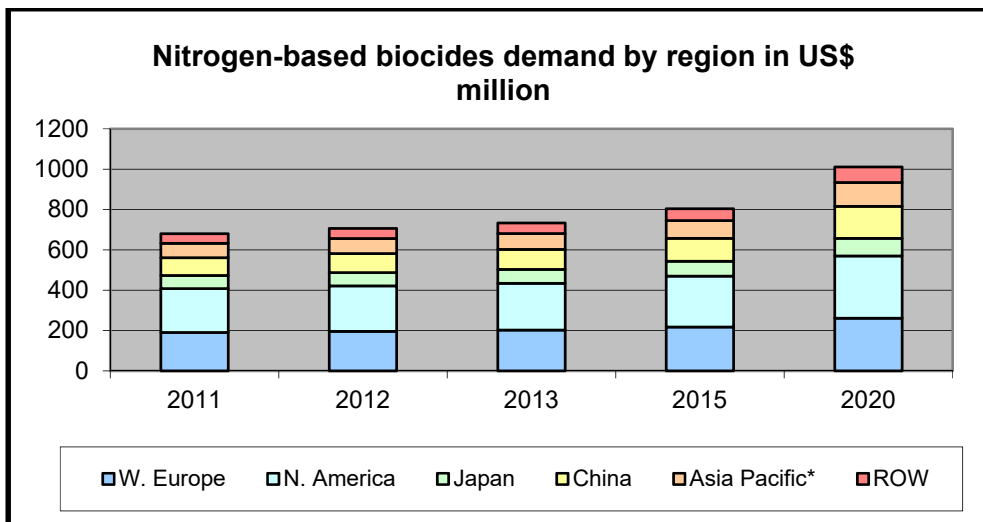
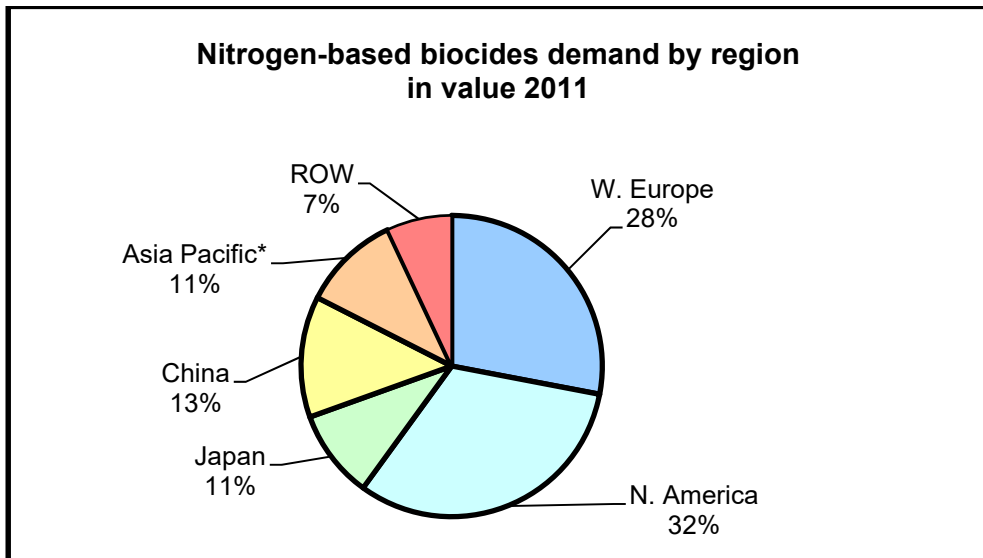
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(Vol. I P. 105)

### 4.3.2.2 Nitrogen-based biocides demand by region

Nitrogen-based biocides demand by region in US\$ million

	2011	2012	2013	AAGR	2015	2020	AAGR
W. Europe	190	196	202	3.0%	218	261	3.8%
N. America	218	225	232	3.3%	252	308	4.2%
Japan	65	67	69	3.0%	74	87	3.6%
China	88	94	99	6.0%	114	159	7.0%
Asia Pacific*	71	75	79	5.0%	88	118	6.0%
ROW	48	50	52	4.8%	59	77	5.8%
<b>Total</b>	<b>680</b>	<b>706</b>	<b>733</b>	<b>3.8%</b>	<b>804</b>	<b>1011</b>	<b>4.7%</b>



(Vol. I P. 124)

### 5.5.3 Market trends and chances

#### **Increase consumer awareness**

The end-use consumers are increasingly concerned with health and hygiene in their daily life. They are now demanding that non-traditional biocides incorporated to the plastic articles to protect them from germs. Increased awareness of health and hygiene create a long-term trend that more new biocide blends will be introduced into the household goods market.

#### **Use of triclosan in plastic consumer products continues to grow**

Triclosan or TCPP has a powerful antimicrobial action even at low concentrations, and is widely used in personal care products such as antimicrobial soap, and increasingly used in plastic consumer goods to protect the plastic articles against microorganism growth.

Triclosan is widely used for its perceived health benefits in applications such as Kitchens, bathrooms and public facilities, etc.

#### **Promising market prospect for silver**

The main advantages of silver based antimicrobial systems over organic systems in plastic are their high thermal stability and health and environmental safety. Silver-based antimicrobials were seldom used in plastics due to its high cost decades ago, but have grown to a significant market share in just past a few years. They are now widely used in Japan, in Western Europe and increasingly in the US. They are preferred primarily for their hygienic benefit in consumer product applications.

The use of silver based antimicrobial systems are expanding rapidly, not only in the currently application market, but also in the new markets, such as food processing equipment, food packaging, plastic medical devices, etc.

#### **Emerging application areas**

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(Vol. I P. 210)



## **Lubrizol Corporation (USA)**

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<http://www.lubrizol.com>

Year of foundation: 1928

Revenue 2011: US\$ 5,4 billion

Number of employees: 7,000

### **Company profile**

Lubrizol is a leading developer and manufacturer and worldwide distributor of a wide range of additive technologies and specialty chemicals for global transportation, industrial and consumer markets. The company's core business is metalworking chemistries.

The company's major product lines include:

- lubricant additives for engine oils
- transportation-related fluids
- industrial lubricants
- fuel additives for gasoline and diesel fuel
- refinery and oilfield chemicals
- ingredients and additives for personal care products and pharmaceuticals
- specialty materials, including plastics technology
- performance coatings in the form of specialty resins and additives

Biocides:

Lubrizol's biocidal active substances are categorized into metalworking fluid preservatives. These substances comprise a comprehensive .....

(Vol. II P. 167)



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