

# Hypochlorite Bleaches

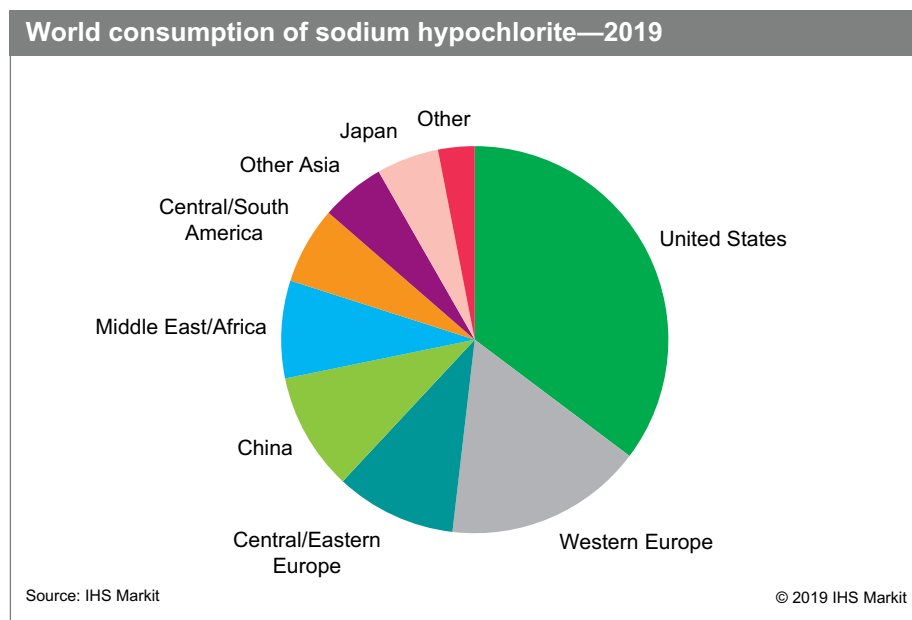
25 September 2019

## Abstract

Sodium, calcium, potassium, and lithium hypochlorite are strong oxidizing agents used for bleaching, sanitation, and disinfection.

The global market for all disinfectants, including chlorine-based disinfectants, is increasing as a result of growing concerns over the spread of infectious diseases. Other reasons underlying market growth are an increasing population and increasing requirements for clean water, the scarcity of freshwater in densely populated areas, mainly in Asia, which make it necessary to recycle used water to drinking water quality, and to desalinate seawater for drinking water supply. As a result, the role played by chlorinated disinfectants is related to health and social issues, and less dependent on the general economy.

The following pie chart shows world consumption of sodium hypochlorite:



Sodium hypochlorite is commonly referred to as liquid chlorine bleach throughout the world. In the United States, it is used principally as a laundry bleach or household cleaner. Use of household bleach has increased during the past few years, with growing concerns over infectious diseases.

Global demand for sodium hypochlorite for household use is projected to grow at about 0.7% annually during 2019–24. In the food industry, sodium hypochlorite is used mainly as a disinfectant to sanitize food preparation equipment; it also finds use in fruit and vegetable processing; pork, beef, and poultry production; fish processing; and in aquaculture, where

## Contacts

**Koon-Ling Ring** • [Koon-Ling.ring@ihsmarkit.com](mailto:Koon-Ling.ring@ihsmarkit.com)  
**Maria deGuzman** • [Maria.deguzman@ihsmarkit.com](mailto:Maria.deguzman@ihsmarkit.com)

it is used for the sanitation of shrimp/fish ponds. Aquaculture production has been growing at 5–6% annually since 2000 and is forecast to continue at that pace for the next 5–10 years. All regions are seeing this growth, but Asia is the largest, accounting for nearly 90% of global production.

Globally, industrial applications for sodium hypochlorite are forecast to grow at a rate of 1.8% annually during 2019–24 but will vary by region. The leading application is municipal/industrial water treatment disinfection.

The largest world market for calcium hypochlorite is swimming pool sanitization, which accounts for about 37% of its total consumption. Use for disinfection and aquaculture applications is forecast to continue to grow rapidly, in particular in Asia.

All regions require increased levels of disinfection because of growing population demands. Global production of fish, crustaceans, and other aquaculture has grown dramatically since 1970.

Lithium hypochlorite finds use primarily as a shock treatment in pools with vinyl liners, fiberglass, painted pools, and spas.

# Contents

<b>Executive summary</b>	<b>8</b>
<b>Summary</b>	<b>9</b>
Sodium hypochlorite	9
– Household solutions	10
– Industrial solutions	11
– Water treatment	11
– Swimming pool sanitation	12
– Other	13
Calcium hypochlorite	13
Lithium hypochlorite	15
Potassium hypochlorite	15
<b>Sodium hypochlorite</b>	<b>16</b>
Introduction	16
Manufacturing processes	18
Environmental issues	20
Supply and demand by region	21
– United States	21
– Producing companies	21
– Salient statistics	25
– Consumption	26
– Household solutions	27
– Industrial solutions	29
– Price	37
– Trade	39
– Canada	39
– Producing companies	39
– Salient statistics	40
– Consumption	41
– Mexico	42
– Producing companies	42
– Salient statistics	42
– Consumption	43
– Central and South America	44
– Producing companies	44
– Salient statistics	46
– Consumption	48
– Household solutions	48
– Industrial solutions	49
– Price	50
– Trade	50

– Western Europe	50
– Producing companies	50
– Salient statistics	53
– Production	53
– Consumption	53
– Household solutions	54
– Industrial solutions	55
– Price	56
– Trade	56
– Central and Eastern Europe	56
– Producing companies	57
– Salient statistics	59
– Consumption	59
– Household solutions	60
– Industrial solutions	60
– Trade	61
– Middle East and Africa	65
– Producing companies	65
– Salient statistics	66
– Consumption	67
– Household solutions	68
– Industrial solutions	68
– Trade	68
– Japan	69
– Producing companies	69
– Salient statistics	71
– Consumption	72
– Detergent industry	73
– Municipal water treatment	74
– Industrial water treatment	75
– Pulp and paper	75
– Other	75
– Price	76
– Trade	76
– China	77
– Producing companies	77
– Salient statistics	78
– Consumption	79
– Household detergents	81
– Chemical production	81
– Water treatment	82
– Pulp and paper	82
– Other	82

– Price	82
– Trade	82
– Other Asia	82
– Producing companies	82
– Salient statistics	85
– Consumption	86
– Household applications	87
– Industrial solutions	87
– Price	88
– Trade	89
<b>Calcium hypochlorite</b>	<b>90</b>
Introduction	90
Manufacturing processes	90
Environmental issues	91
Supply and demand by region	91
– United States	91
– Producing companies	91
– Salient statistics	92
– Consumption	93
– Swimming pool sanitation	93
– Industrial uses	94
– Price	95
– Trade	96
– Imports	96
– Exports	97
– Canada	98
– Salient statistics	98
– Consumption	99
– Price	99
– Trade	100
– Mexico	100
– Salient statistics	100
– Consumption	101
– Price	101
– Trade	102
– Central and South America	102
– Producing companies	102
– Salient statistics	103
– Consumption	105
– Price	105
– Trade	106
– Western Europe	107
– Producing companies	107

– Salient statistics	107
– Consumption	107
– Price	108
– Trade	108
– Imports	108
– Exports	110
– Central and Eastern Europe	112
– Producing companies	112
– Salient statistics	112
– Consumption	113
– Price	113
– Trade	114
– Middle East and Africa	115
– Producing companies	115
– Salient statistics	116
– Consumption	117
– Price	117
– Trade	117
– Japan	120
– Producing companies	120
– Salient statistics	121
– Consumption	122
– Price	123
– Trade	123
– China	123
– Producing companies	123
– Salient statistics	125
– Consumption	125
– Price	126
– Trade	127
– Other Asia	128
– Producing companies	128
– Salient statistics	130
– Consumption	130
– Price	131
– Trade	131
<b>Lithium hypochlorite</b>	<b>134</b>
Introduction	134
Manufacturing processes	134
Supply and demand by region	134
– United States	134
– Producing companies	134
– Production	134

– Consumption	135
– Swimming pool sanitation	135
– Industrial uses	135
– Western Europe	135
– Japan	136
– China	136
– Producing companies	136
<b>Other hypochlorites</b>	<b>137</b>
<b>Additional resources</b>	<b>138</b>
<b>Revisions</b>	<b>139</b>

## IHS Markit Customer Care

CustomerCare@ihsmarkit.com

Americas: +1 800 IHS CARE (+1 800 447 2273)

Europe, Middle East, and Africa: +44 (0) 1344 328 300

Asia and the Pacific Rim: +604 291 3600

---

### Disclaimer

The information contained in this report is confidential. Any unauthorized use, disclosure, reproduction, or dissemination, in full or in part, in any media or by any means, without the prior written permission of IHS Markit or any of its affiliates ("IHS Markit") is strictly prohibited. IHS Markit owns all IHS Markit logos and trade names contained in this report that are subject to license. Opinions, statements, estimates, and projections in this report (including other media) are solely those of the individual author(s) at the time of writing and do not necessarily reflect the opinions of IHS Markit. Neither IHS Markit nor the author(s) has any obligation to update this report in the event that any content, opinion, statement, estimate, or projection (collectively, "information") changes or subsequently becomes inaccurate. IHS Markit makes no warranty, expressed or implied, as to the accuracy, completeness, or timeliness of any information in this report, and shall not in any way be liable to any recipient for any inaccuracies or omissions. Without limiting the foregoing, IHS Markit shall have no liability whatsoever to any recipient, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by any recipient as a result of or in connection with any information provided, or any course of action determined, by it or any third party, whether or not based on any information provided. The inclusion of a link to an external website by IHS Markit should not be understood to be an endorsement of that website or the site's owners (or their products/services). IHS Markit is not responsible for either the content or output of external websites. Copyright © 2019, IHS Markit®. All rights reserved and all intellectual property rights are retained by IHS Markit.

