

Plastics Additives

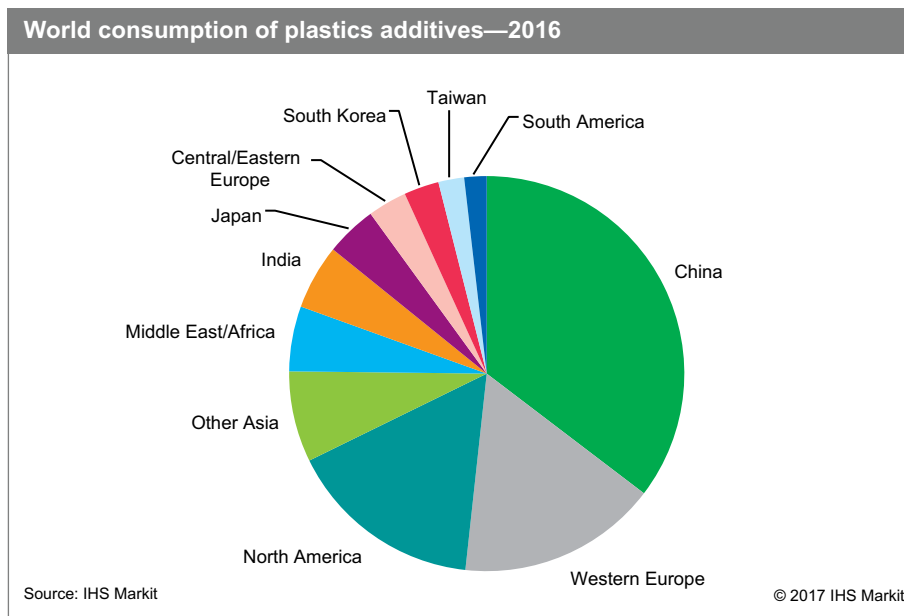
29 December 2017

Abstract

Eight functional classes of specialty plastics additives are described in this IHS Markit report: antioxidants, antistatic agents, chemical blowing agents, flame retardants, heat stabilizers, impact modifiers, light stabilizers, and lubricants/slip additives. (This definition excludes an important additive group, plasticizers. However, these additives can be classified as commodities.) Although the growth in plastics additive consumption parallels consumption growth in plastic resins, some plastics additive consumption rates are growing more rapidly than others. Demand for plastics additives is strongly dependent on production and consumption of plastics, in general, but is obviously influenced by demand/requirements from plastics end-use consumer segments (including automobile, electronics, packaging, and construction) and changes in government regulations.

Plastics end-use industries such as automobiles, electronics, and construction often demand high-performance, safe, and/or eco-friendly plastics additives, reflecting the high quality requirements for advanced plastics applications with environmental safety. Responding to growing demand from end-use industries, the global plastics additive market has been growing, although there have been fluctuations and downturns driven by economic conditions, such as the 2008–09 financial crisis/recession. Nevertheless, in most regions the plastics additive markets have recovered slowly since 2010–11.

The following pie chart shows world consumption of plastics additives:



Asian plastics additive markets were the largest (57% on a volume basis), followed by Europe (19%) and North America (16%). In Asia, the Chinese market is the world's largest, accounting for 35% of the world plastics additive market (volume

Contacts

Koon-Ling Ring · Koon-Ling.ring@ihs.com
Maria deGuzman · Maria.deguzman@ihs.com

basis), followed by India (5%), Japan (4%), and South Korea (3%). The Chinese and Indian plastics additive markets are expected to continue to expand at an accelerating rate over the next six years, from 2016 to 2022.

The Chinese plastics additives market developed quickly in parallel with the expansion of plastics consumption in China. PVC is still the largest consuming market for plastics additives in China; flame retardants, heat stabilizers, and impact modifiers rank as the top three in terms of volume consumed in PVC.

With continued development, most of the demand for plastics additives in China has been met by domestic production. However, the promotion of some high-efficiency additives is still in the very early stages of development. Meanwhile, some additives have been restricted for certain applications because of environmental concerns; this has led to price increases and industry restructuring, especially for flame retardants.

In Western Europe, the market for plastics additives has recovered from the economic crises of 2008–09 and 2012–13. The end-use industries are profiting from the monetary policy and the asset-purchase programs of the European Central Bank. This has increased overall plastics and plastics additives consumption in Europe.

Most of the plastics markets in Europe showed solid growth in 2013–16, thereby supporting the growth of the European market. On the downside, some of these markets never really recovered from the recession, especially the market for styrenic polymers—PS, GPPS, and HIPS—which is forecast to continue to decline in Europe.

The North American and Western European plastics additives markets are considered mature, and there has been a substantial continued market shift to Asia (with the exception of Japan, where the market is expected to remain flat in terms of plastics additives consumption in the next six years).

In the Middle East and Africa, the Gulf region, in particular, has built up a significant plastic and polymer production basis around Saudi Arabia. Plastics additive consumption in the Middle East and Africa is forecast to continue to grow above the European average at a rate of 2–4% per year.

In South Korea and Taiwan, consumption of plastics additives will grow at a moderate rate of 1–2% as a result of the countries' mature economies. Conversely, consumption of plastics additives in India and the ASEAN countries is expected to grow at 7–8% and 4–5%, respectively, because of the growing manufacturing industries in these countries. Growth in consumption of antioxidants, antistatic agents, and light stabilizers is higher than that of other additives mainly because of the higher consumption of polyolefins.

Over the next five years, market competition will intensify among foreign-based as well as domestic manufacturers in China and other developing countries. Thus, plastics additives manufacturers will face an increasingly difficult business environment. Alliances, mergers, and acquisitions among plastics additives manufacturers are expected to continue over the next five years.

Contents

Executive summary	8
Summary	9
Introduction	13
Abbreviations	15
Overview of the plastics additives industry	16
North America	16
– Structure of the industry	16
– Company profiles	20
– Albemarle Corporation	20
– Chemtura Corporation (now LANXESS)	23
– Operating characteristics	24
– Research and development	24
– Manufacturing and technology	24
– Marketing	25
– Cost structure and profitability	25
– Government regulations	25
– Trends and opportunities	27
Western Europe	28
– Structure of the industry	28
– Company Profiles	32
– Baerlocher GmbH	32
– BASF (formerly Ciba Specialty Chemicals Inc.)	33
– Clariant International AG	33
– Operating characteristics	35
– Research and development	35
– Manufacturing and technology	36
– Marketing	36
– Cost structure and profitability	37
– Government regulations	37
– Trends and opportunities	38
Japan	40
– Structure of the industry	40
– Company profiles	42
– ADEKA Corporation	42
– Sumitomo Chemical Co., Ltd.	43
– Operating characteristics	43
– Research and development	43
– Manufacturing and technology	44
– Marketing	44
– Cost structure and profitability	45
– Government regulations	47
– Trends and opportunities	48
China	48
– Structure of the industry	48
– Operating characteristics	49

– Research and development	49
– Manufacturing and technology	49
– Government regulations	49
– Trends and opportunities	51
Product types and markets	52
Products and functions	52
– Antioxidants	52
– Aromatic amines	52
– Hindered phenols	52
– Organophosphites/phosphonites	53
– Thioesters	53
– Other	53
– Antistatic agents	53
– Chemical blowing agents	54
– Flame retardants	55
– Aluminum trihydroxide (ATH)	56
– Antimony oxide	56
– Brominated compounds	57
– Chlorinated compounds	57
– Organophosphorus compounds	57
– Other	58
– Heat stabilizers	58
– Lead stabilizers	58
– Mixed metal stabilizers	58
– Organic-based stabilizers	59
– Organotin stabilizers	59
– Secondary heat stabilizers	59
– Impact modifiers/processing aids	59
– Light stabilizers	60
– Lubricants and slip additives	61
– Fatty acid derivatives	61
– Other	62
North America	62
– Product summary	62
– Antioxidants	64
– Consumption and markets	64
– Hindered phenols	64
– Organophosphites	64
– Thioesters	65
– Other	65
– Blends and one packs	65
– Market participants	65
– Prices	66
– Future trends and strategic issues	67
– Antistatic agents	67
– Consumption and markets	67
– Market participants	68
– Prices	69

– Future trends and strategic issues	69
– Chemical blowing agents	70
– Consumption and markets	70
– Market participants	70
– Prices	71
– Future trends and strategic issues	71
– Flame retardants	71
– Consumption and markets	71
– Aluminum trihydroxide	72
– Halogenated organophosphorus compounds	73
– Nonhalogenated organophosphorus compounds	74
– Brominated compounds	75
– Magnesium hydroxide	78
– Antimony oxides	78
– Chlorinated compounds	78
– Boron compounds	79
– Other	79
– Market participants	79
– Prices	81
– Future trends and strategic issues	82
– Heat stabilizers	83
– Consumption and markets	83
– Organotin stabilizers	84
– Mixed metal salts	84
– Lead stabilizers	85
– Organic-based stabilizers	85
– Market participants	85
– Prices	85
– Future trends and strategic issues	85
– Impact modifiers and processing aids	86
– Consumption and markets	86
– Market participants	88
– Prices	88
– Future trends and strategic issues	88
– Light stabilizers	89
– Consumption and markets	89
– Market participants	89
– Prices	90
– Future trends and strategic issues	90
– Lubricants and slip additives	90
– Consumption and markets	90
– Market participants	91
– Prices	92
– Future trends and strategic issues	92
South America	93
– Product summary	93
– Market participants	93
Western Europe	96

– Product summary	96
– Antioxidants	96
– Consumption and markets	96
– Market participants	97
– Prices	98
– Future trends and strategic issues	99
– Antistatic agents	99
– Consumption and markets	99
– Market participants	100
– Prices	101
– Future trends and strategic issues	101
– Chemical blowing agents	102
– Consumption and markets	102
– Market participants	103
– Prices	104
– Future trends and strategic issues	104
– Flame retardants	104
– Consumption and markets	104
– Aluminum trihydroxide	105
– Organophosphorus compounds	105
– Brominated compounds	106
– Chlorinated compounds	107
– Antimony trioxide	108
– Other	108
– Market participants	109
– Prices	112
– Future trends and strategic issues	112
– Heat stabilizers	113
– Consumption and markets	113
– Market participants	116
– Price	118
– Future trends and strategic issues	118
– Impact modifiers	119
– Consumption and markets	119
– Market participants	120
– Prices	120
– Future trends and strategic issues	121
– UV light stabilizers	121
– Consumption and markets	121
– Market participants	122
– Prices	122
– Future trends and strategic issues	123
– Lubricants and slip additives	123
– Consumption and markets	123
– Market participants	124
– Prices	126
– Future trends and strategic issues	126
Central and Eastern Europe	127

– Product summary	127
– Market participants	127
Middle East and Africa	128
– Product summary	128
– Market participants	129
Japan	130
– Product summary	130
– Antioxidants	131
– Consumption and markets	131
– Market participants	132
– Prices	133
– Future trends and strategic issues	134
– Antistatic agents	134
– Consumption and markets	134
– Market participants	135
– Prices	136
– Future trends and strategic issues	136
– Chemical blowing agents	137
– Consumption and markets	137
– Market participants	138
– Prices	138
– Future trends and strategic issues	138
– Flame retardants	139
– Consumption and markets	139
– Market participants	141
– Prices	142
– Future trends and strategic issues	143
– Heat stabilizers	143
– Consumption and markets	143
– Market participants	145
– Prices	146
– Future trends and strategic issues	146
– Impact modifiers and processing aids	146
– Consumption and markets	146
– Market participants	147
– Prices	148
– Future trends and strategic issues	149
– Light stabilizers	149
– Consumption and markets	149
– Market participants	150
– Prices	151
– Future trends and strategic issues	151
– Lubricants and slip additives	151
– Consumption and markets	151
– Market participants	152
– Prices	154
– Future trends and strategic issues	154
China	154

– Product summary	154
– Antioxidants	155
– Consumption and markets	155
– Market participants	156
– Prices	157
– Future trends and strategic issues	158
– Antistatic agents	158
– Consumption and markets	158
– Market participants	159
– Prices	159
– Future trends and strategic issues	160
– Chemical blowing agents	160
– Consumption and markets	160
– Market participants	161
– Prices	163
– Future trends and strategic issues	163
– Flame retardants	163
– Consumption and markets	163
– Market participants	165
– Prices	167
– Future trends and strategic issues	167
– Heat stabilizers	168
– Consumption and markets	168
– Market participants	169
– Prices	171
– Future trends and strategic issues	171
– Impact modifiers	171
– Consumption and markets	171
– Market participants	172
– Prices	174
– Future trends and strategic issues	174
– Light stabilizers	174
– Consumption and markets	174
– Market participants	175
– Prices	176
– Future trends and strategic issues	176
– Lubricating and slip additives	177
– Consumption and markets	177
– Market participants	177
– Prices	178
– Future trends and strategic issues	179
Other Asia	179
– India	179
– South Korea	181
– Taiwan	182
– Other Asia	184

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 Ltd. 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 © 2017, IHS Markit™. All rights reserved and all intellectual property rights are retained by IHS Markit.

