

MARKETS & PROFITABILITY

Market Insights: Acrylates - 2018

May 2018

1 King's Arms Yard, London EC2R 7AF, UK
Tel: +44 20 7950 1600 Fax: +44 20 7950 1550



This Report was prepared by Nexant, Inc. ("Nexant"). Except where specifically stated otherwise in this Report, the information contained herein is prepared on the basis of information that is publicly available, and contains no confidential third party technical information to the best knowledge of Nexant. Aforesaid information has not been independently verified or otherwise examined to determine its accuracy, completeness or financial feasibility. Neither Nexant, Subscriber nor any person acting on behalf of either assumes any liabilities with respect to the use of or for damages resulting from the use of any information contained in this Report. Nexant does not represent or warrant that any assumed conditions will come to pass.

The Report is submitted on the understanding that the Subscriber will maintain the contents confidential except for the Subscriber's internal use. The Report should not be reproduced, distributed or used without first obtaining prior written consent by Nexant. Each Subscriber agrees to use reasonable effort to protect the confidential nature of the Report.

Copyright © by Nexant Inc. 2018. All rights reserved.



Contents page

1 Executive Summary	1
2 Introduction	4
2.1 Overview	4
2.2 Key End-Use Markets for Commodity Acrylates	5
2.2.1 Introduction	5
2.2.2 Coatings	5
2.2.2.1 Emulsion Polymers	6
2.2.2.2 Straight Acrylics	6
2.2.2.3 Vinyl Acrylates	6
2.2.2.4 Styrene Acrylates	7
2.2.2.5 Acrylic-based Latex	7
2.2.2.6 Acrylate-based Latex	7
2.2.2.7 Acrylate Polymers in Organic Solutions	7
2.2.3 Adhesives and Sealants	8
2.2.3.1 Emulsion Polymers	8
2.2.3.2 Solution Polymers	9
2.2.4 Textiles and Fibres	9
2.2.5 Polymer Additives/Impact Modifiers	10
2.2.6 Film and Barrier Resin Applications	11
2.2.7 Varnishes and Polishes	11
2.2.8 Printing Inks	11
2.2.9 Miscellaneous Applications	11
3 Market Outlook	13
3.1 Global	13
3.1.1 Market Overview	13
3.1.2 Market Drivers	15
3.1.3 Market Restraints	15
3.1.4 Competitive Landscape	15
3.1.5 Supply and Demand	16
3.1.5.1 Methyl Acrylate	17
3.1.5.2 Ethyl Acrylate	18
3.1.5.3 Butyl Acrylate	19
3.1.5.4 2-Ethylhexyl Acrylate	20
3.2 Asia Pacific (excluding China)	21
3.2.1 Market Overview	21
3.2.2 Market Drivers	21
3.2.3 Market Constraints	21
3.2.4 Competitive Landscape	21
3.2.5 Supply and Demand	23
3.2.5.1 Methyl Acrylate	23



3.2.5.2 Ethyl Acrylate	24
3.2.5.3 Butyl Acrylate	25
3.2.5.4 2-Ethylhexyl Acrylate	26
3.2.6 Imports and Exports	27
3.2.7 Pricing Analysis and Trends.....	27
3.3 China	28
3.3.1 Market Overview	28
3.3.2 Market Drivers	28
3.3.3 Market Constraints	28
3.3.4 Competitive Landscape.....	29
3.3.5 Supply and Demand.....	31
3.3.5.1 Methyl Acrylate	31
3.3.5.2 Ethyl Acrylate	32
3.3.5.3 Butyl Acrylate	33
3.3.5.4 2-Ethylhexyl Acrylate	34
3.3.6 Imports and Exports	35
3.3.7 Pricing Analysis and Trends.....	35
3.4 North America.....	36
3.4.1 Market Overview	36
3.4.2 Market Drivers	36
3.4.3 Market Constraints	36
3.4.4 Competitive Landscape.....	36
3.4.5 Supply and Demand.....	38
3.4.5.1 Methyl Acrylate	39
3.4.5.2 Ethyl Acrylate	40
3.4.5.3 Butyl Acrylate	41
3.4.5.4 2-Ethylhexyl Acrylate	42
3.4.6 Imports and Exports	43
3.4.7 Pricing Analysis and Trends.....	43
3.5 South America	44
3.5.1 Market Overview	44
3.5.2 Market Drivers	44
3.5.3 Market Constraints	44
3.5.4 Competitive Landscape.....	45
3.5.5 Supply and Demand.....	46
3.5.5.1 Methyl Acrylate	46
3.5.5.2 Ethyl Acrylate	47
3.5.5.3 Butyl Acrylate	48
3.5.5.4 2-Ethylhexyl Acrylate	49
3.5.6 Imports and Exports	50
3.5.7 Pricing Analysis and Trends.....	50
3.6 Western Europe.....	51
3.6.1 Market Overview	51
3.6.2 Market Drivers	51



3.6.3 Market Constraints	51
3.6.4 Competitive Landscape.....	51
3.6.5 Supply and Demand.....	52
3.6.5.1 Methyl Acrylate	53
3.6.5.2 Ethyl Acrylate	54
3.6.5.3 Butyl Acrylate	55
3.6.5.4 2-Ethylhexyl Acrylate	56
3.6.6 Imports and Exports	57
3.6.7 Pricing Analysis and Trends.....	57
3.7 Central Europe.....	58
3.7.1 Market Overview	58
3.7.2 Market Drivers	58
3.7.3 Market Constraints	58
3.7.4 Competitive Landscape.....	58
3.7.5 Supply and Demand.....	59
3.7.5.1 Methyl Acrylate	59
3.7.5.2 Ethyl Acrylate	60
3.7.5.3 Butyl Acrylate	61
3.7.5.4 2-Ethylhexyl Acrylate	62
3.7.6 Imports and Exports	63
3.7.7 Pricing Analysis and Trends.....	63
3.8 Eastern Europe.....	64
3.8.1 Market Overview	64
3.8.2 Market Drivers	64
3.8.3 Market Constraints	64
3.8.4 Competitive Landscape.....	64
3.8.5 Supply and Demand.....	66
3.8.5.1 Methyl Acrylate	66
3.8.5.2 Ethyl Acrylate	67
3.8.5.3 Butyl Acrylate	68
3.8.5.4 2-Ethylhexyl Acrylate	69
3.8.6 Imports and Exports	70
3.8.7 Pricing Analysis and Trends.....	70
3.9 Middle East.....	71
3.9.1 Market Overview	71
3.9.2 Market Drivers	71
3.9.3 Market Constraints	71
3.9.4 Competitive Landscape.....	71
3.9.5 Supply and Demand.....	73
3.9.5.1 Methyl Acrylate	73
3.9.5.2 Ethyl Acrylate	74
3.9.5.3 Butyl Acrylate	75
3.9.5.4 2-Ethylhexyl Acrylate	76
3.9.6 Imports and Exports	77



3.9.7 Pricing Analysis and Trends.....	77
3.10 Africa.....	78
3.10.1 Market Overview	78
3.10.2 Market Drivers	78
3.10.3 Market Constraints	78
3.10.4 Competitive Landscape.....	79
3.10.5 Supply and Demand.....	80
3.10.5.1 Methyl Acrylate	80
3.10.5.2 Ethyl Acrylate	81
3.10.5.3 Butyl Acrylate	82
3.10.5.4 2-Ethylhexyl Acrylate	83
3.10.6 Imports and Exports	84
3.10.7 Pricing Analysis and Trends.....	84
4 Cost Competitiveness.....	85
4.1 Cost Structure and Assumptions	85
4.1.1 Variable Costs	86
4.1.1.1 Feedstock Costs	86
4.1.1.2 Utility Costs	87
4.1.1.3 Co-product Credits	87
4.1.2 Direct Fixed Costs	87
4.1.3 Allocated Fixed Costs.....	88
4.1.4 Other Considerations	89
4.2 Delivered Cost Assumptions	89
4.2.1 Shipping Costs	89
4.2.2 Tariffs.....	90
4.3 Delivered Cost Competitiveness	91
4.3.1 Methyl Acrylate.....	91
4.3.1.1 Archetype Plant Assumptions	91
4.3.1.2 Regional Competitiveness	91
4.3.2 Ethyl Acrylate	93
4.3.2.1 Archetype Plant Assumptions	93
4.3.2.2 Regional Competitiveness	93
4.3.3 Butyl Acrylate	95
4.3.3.1 Archetype Plant Assumptions	95
4.3.3.2 Regional Competitiveness	95
4.3.4 2-Ethylhexyl Acrylate	97
4.3.4.1 Archetype Plant Assumptions	97
4.3.4.2 Regional Competitiveness	97
5 Acrylates Market Summary	99
5.1 Porters Five Forces	99
Appendices.....	100
A Methodology	101
A.1 Market Dynamic Forecasting Methodology	101



A.1.1 Capacity Availability and Forecasting	101
A.1.2 End-Use Consumption Forecasting	101
A.1.2.1 End-Use Sector Growth	102
A.1.2.2 Penetration (New Application Growth).....	102
A.1.2.3 Downgauging and Recycling	103
A.1.2.4 Chain Inventory.....	103
A.1.2.5 Short-term Influences.....	103
A.1.2.6 Monomer Consumption Forecasting.....	103
A.1.3 Production and Trade Forecasting.....	105
B Global Capacity Listing	106

Figures

Figure 1 End-Use Applications for Commodity Acrylates	5
Figure 2 Global Acrylates Consumption	14
Figure 3 Global Acrylates Capacity by Region	16
Figure 4 Global Methyl Acrylate Supply and Demand	17
Figure 5 Global Ethyl Acrylate Supply and Demand	18
Figure 6 Global Butyl Acrylate Supply and Demand	19
Figure 7 Global 2-Ethylhexyl Acrylate Supply and Demand	20
Figure 8 Asia Pacific Methyl Acrylate Supply and Demand	23
Figure 9 Asia Pacific Ethyl Acrylate Supply and Demand	24
Figure 10 Asia Pacific Butyl Acrylate Supply and Demand	25
Figure 11 Asia Pacific 2-Ethylhexyl Acrylate Supply and Demand	26
Figure 12 Asia Pacific Acrylates Pricing	27
Figure 13 China Methyl Acrylate Supply and Demand	31
Figure 14 China Pacific Ethyl Acrylate Supply and Demand	32
Figure 15 China Butyl Acrylate Supply and Demand	33
Figure 16 China 2-Ethylhexyl Acrylate Supply and Demand	34
Figure 17 China Acrylates Pricing	35
Figure 18 North America Methyl Acrylate Supply and Demand	39
Figure 19 North America Ethyl Acrylate Supply and Demand	40
Figure 20 North America Butyl Acrylate Supply and Demand	41
Figure 21 North America 2-Ethylhexyl Acrylate Supply and Demand	42
Figure 22 North America Acrylates Pricing	43
Figure 23 South America Methyl Acrylate Supply and Demand	46
Figure 24 South America Ethyl Acrylate Supply and Demand	47
Figure 25 South America Butyl Acrylate Supply and Demand	48
Figure 26 South America 2-Ethylhexyl Acrylate Supply and Demand	49
Figure 27 South America Acrylates Pricing	50
Figure 28 Western Europe Methyl Acrylate Supply and Demand	53
Figure 29 Western Europe Ethyl Acrylate Supply and Demand	54
Figure 30 Western Europe Butyl Acrylate Supply and Demand	55
Figure 31 Western Europe 2-Ethylhexyl Acrylate Supply and Demand	56



Figure 32	Western Europe Acrylate Pricing	57
Figure 33	Central Europe Methyl Acrylate Supply and Demand	59
Figure 34	Central Europe Ethyl Acrylate Supply and Demand	60
Figure 35	Central Europe Butyl Acrylate Supply and Demand	61
Figure 36	Central Europe 2-Ethylhexyl Acrylate Supply and Demand	62
Figure 37	Central Europe Acrylate Pricing	63
Figure 38	Eastern Europe Methyl Acrylate Supply and Demand	66
Figure 39	Eastern Europe Ethyl Acrylate Supply and Demand	67
Figure 40	Eastern Europe Butyl Acrylate Supply and Demand	68
Figure 41	Eastern Europe 2-Ethylhexyl Acrylate Supply and Demand	69
Figure 42	Eastern Europe Acrylate Pricing	70
Figure 43	Middle East Methyl Acrylate Supply and Demand	73
Figure 44	Middle East Ethyl Acrylate Supply and Demand	74
Figure 45	Middle East Butyl Acrylate Supply and Demand	75
Figure 46	Middle East 2-Ethylhexyl Acrylate Supply and Demand	76
Figure 47	Middle East Acrylate Pricing	77
Figure 48	Africa Methyl Acrylate Supply and Demand	80
Figure 49	Africa Ethyl Acrylate Supply and Demand	81
Figure 50	Africa Butyl Acrylate Supply and Demand	82
Figure 51	Africa 2-Ethylhexyl Acrylate Supply and Demand	83
Figure 52	Africa Acrylate Pricing	84
Figure 53	Components of Delivered Cost to Market	85
Figure 54	Methyl Acrylate Delivered Cost to China	92
Figure 55	Ethyl Acrylate Delivered Cost to China	94
Figure 56	Butyl Acrylate Delivered Cost to China	96
Figure 57	2EH Acrylate Delivered Cost to China	98



Tables

Table 1	Global Acrylates Consumption by Region	14
Table 2	Global Methyl Acrylate Supply and Demand	17
Table 3	Global Ethyl Acrylate Supply and Demand	18
Table 4	Global Butyl Acrylate Supply and Demand	19
Table 5	Global 2-Ethylhexyl Acrylate Supply and Demand	20
Table 6	Asia Pacific Acrylates Capacity	22
Table 7	Asia Pacific Methyl Acrylate Supply and Demand	23
Table 8	Asia Pacific Ethyl Acrylate Supply and Demand	24
Table 9	Asia Pacific Butyl Acrylate Supply and Demand	25
Table 10	Asia Pacific 2-Ethylhexyl Acrylate Supply and Demand	26
Table 11	China Acrylates Capacity	30
Table 12	China Methyl Acrylate Supply and Demand	31
Table 13	China Pacific Ethyl Acrylate Supply and Demand	32
Table 14	China Butyl Acrylate Supply and Demand	33
Table 15	China 2-Ethylhexyl Acrylate Supply and Demand	34
Table 16	North America Acrylate Capacity	38
Table 17	North America Methyl Acrylate Supply and Demand	39
Table 18	North America Ethyl Acrylate Supply and Demand	40
Table 19	North America Butyl Acrylate Supply and Demand	41
Table 20	North America 2-Ethylhexyl Acrylate Supply and Demand	42
Table 21	South America Acrylate Capacity	45
Table 22	South America Methyl Acrylate Supply and Demand	46
Table 23	South America Ethyl Acrylate Supply and Demand	47
Table 24	South America Butyl Acrylate Supply and Demand	48
Table 25	South America 2-Ethylhexyl Acrylate Supply and Demand	49
Table 26	Western Europe Acrylate Capacity	52
Table 27	Western Europe Methyl Acrylate Supply and Demand	53
Table 28	Western Europe Ethyl Acrylate Supply and Demand	54
Table 29	Western Europe Butyl Acrylate Supply and Demand	55
Table 30	Western Europe 2-Ethylhexyl Acrylate Supply and Demand	56
Table 31	Central Europe Acrylate Capacity	58
Table 32	Central Europe Methyl Acrylate Supply and Demand	59
Table 33	Central Europe Ethyl Acrylate Supply and Demand	60
Table 34	Central Europe Butyl Acrylate Supply and Demand	61
Table 35	Central Europe 2-Ethylhexyl Acrylate Supply and Demand	62
Table 36	Eastern Europe Acrylate Capacity	65
Table 37	Eastern Europe Methyl Acrylate Supply and Demand	66
Table 38	Eastern Europe Ethyl Acrylate Supply and Demand	67
Table 39	Eastern Europe Butyl Acrylate Supply and Demand	68
Table 40	Eastern Europe 2-Ethylhexyl Acrylate Supply and Demand	69
Table 41	Middle East Acrylate Capacity	72
Table 42	Middle East Methyl Acrylate Supply and Demand	73
Table 43	Middle East Ethyl Acrylate Supply and Demand	74



Table 44	Middle East Butyl Acrylate Supply and Demand	75
Table 45	Middle East 2-Ethylhexyl Acrylate Supply and Demand	76
Table 46	Africa Acrylate Capacity	79
Table 47	Africa Methyl Acrylate Supply and Demand	80
Table 48	Africa Ethyl Acrylate Supply and Demand	81
Table 49	Africa Butyl Acrylate Supply and Demand	82
Table 50	Africa 2-Ethylhexyl Acrylate Supply and Demand	83
Table 51	Feedstock Price Assumptions	86
Table 52	Utility Rates	87
Table 53	Wage Assumptions	88
Table 54	Capital Cost Location Factors	88
Table 55	Freight Costs	89
Table 56	Tariffs Due on Imports into China	90
Table 57	Methyl Acrylate Plants Modelled	91
Table 58	Ethyl Acrylate Plants Modelled	93
Table 59	Butyl Acrylate Plants Modelled	95
Table 60	2-Ethylhexyl Acrylate Plants Modelled	97