

MARKETS AND PROFITABILITY

Market Analytics: Oxo Alcohols - 2018

June 2018



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

1	Executive Summary	1
1.1	Introduction.....	1
1.2	Propylene Market Outlook.....	2
1.3	<i>n</i> -Butanol.....	9
1.4	2-Ethylhexanol (2-EH).....	12
1.5	<i>i</i> -Butanol.....	15
2	The Propylene and Derivatives Industry.....	18
2.1	Olefins Overview	18
2.2	Current Performance of the Propylene Market	20
2.2.1	Consumption	21
2.2.2	Supply	25
2.2.3	Supply, Demand and Trade	30
2.3	Oxo Alcohol End-Uses	32
2.3.1	2-Ethylhexanol.....	32
2.3.1.1	Diisooctyl Phthalate (DOP)	32
2.3.1.2	2-Ethylhexanol Acrylate (2-EHA)	33
2.3.1.3	Other Plasticisers	33
2.3.1.4	Other Uses	33
2.3.1.5	<i>n</i> -Butanol.....	33
2.3.1.6	<i>n</i> -Butyl Acrylate.....	33
2.3.1.7	<i>n</i> -Butyl Acetate.....	34
2.3.1.8	Glycol Ethers.....	34
2.3.1.9	Direct Solvent Use	35
2.3.1.10	Other Uses	35
2.3.2	Isobutanol.....	35
2.3.2.1	Isobutyl Acetate.....	35
2.3.2.2	Di-isobutyl Phthalate (DIBP)	35
2.4	Market Coverage.....	36
3	2-Ethylhexanol.....	37
3.1	Global	37
3.1.1	Key Developments	37
3.1.2	Consumption	37
3.1.3	Supply	41
3.1.4	Supply, Demand and Trade	43
3.2	North America	45
3.2.1	Key Developments	45
3.2.2	Consumption	45
3.2.3	Supply	47
3.2.4	Supply, Demand and Trade	49
3.3	South America.....	51
3.3.1	Key Developments	51



3.3.2	Consumption	51
3.3.3	Supply	53
3.3.4	Supply, Demand and Trade	54
3.4	Western Europe	55
3.4.1	Key Developments	55
3.4.2	Consumption	55
3.4.3	Supply	57
3.4.4	Supply, Demand and Trade	59
3.5	Central Europe	61
3.5.1	Key Developments	61
3.5.2	Consumption	61
3.5.3	Supply	62
3.5.4	Supply, Demand and Trade	63
3.6	Eastern Europe	65
3.6.1	Key Developments	65
3.6.2	Consumption	65
3.6.2.1	Russia	65
3.6.2.2	Other Eastern Europe	66
3.6.3	Supply	67
3.6.3.1	Russia	67
3.6.3.2	Other Eastern Europe	67
3.6.4	Supply, Demand and Trade	68
3.6.4.1	Russia	68
3.6.4.2	Other Eastern Europe	68
3.7	Middle East.....	72
3.7.1	Key Developments	72
3.7.2	Consumption	72
3.7.3	Supply	74
3.7.4	Supply, Demand and Trade	75
3.8	Africa	76
3.8.1	Key Developments	76
3.8.2	Consumption	76
3.8.3	Supply	77
3.8.4	Supply, Demand and Trade	77
3.9	Asia Pacific.....	78
3.9.1	Key Developments	78
3.9.2	Consumption	78
3.9.2.1	China.....	79
3.9.2.2	North-East Asia	80
3.9.2.3	South-East Asia	81
3.9.2.4	South Asia.....	81
3.9.2.5	Australasia	82
3.9.3	Supply	83
3.9.3.1	China.....	83



	3.9.3.2	North-East Asia	84
	3.9.3.3	South-East Asia	85
	3.9.3.4	South Asia	85
	3.9.3.5	Other Asia and Australasia	85
	3.9.4	Supply, Demand and Trade	90
4	<i>n</i>-Butanol.....		93
4.1	Global		93
4.1.1	Key Developments		93
4.1.2	Consumption		93
4.1.3	Supply		97
4.1.4	Supply, Demand and Trade		99
4.2	North America		101
4.2.1	Key Developments		101
4.2.2	Consumption		101
4.2.3	Supply		103
4.2.4	Supply, Demand and Trade		105
4.3	South America.....		108
4.3.1	Key Developments		108
4.3.2	Consumption		108
4.3.3	Supply		110
4.3.4	Supply, Demand and Trade		111
4.4	Western Europe		113
4.4.1	Key Developments		113
4.4.2	Consumption		113
4.4.3	Supply		115
4.4.4	Supply, Demand and Trade		117
4.5	Central Europe		119
4.5.1	Key Developments		119
4.5.2	Consumption		119
4.5.3	Supply		120
4.5.4	Supply, Demand and Trade		121
4.6	Eastern Europe		123
4.6.1	Key Developments		123
4.6.2	Consumption		123
	4.6.2.1	Russia	123
	4.6.2.2	Other Eastern Europe	124
4.6.3	Supply		125
	4.6.3.1	Russia	125
	4.6.3.2	Other Eastern Europe	125
4.6.4	Supply, Demand and Trade		126
	4.6.4.1	Russia	126
	4.6.4.2	Other Eastern Europe	126
4.7	Middle East.....		130
4.7.1	Key Developments		130



4.7.2	Consumption	130
4.7.3	Supply	132
4.7.4	Supply, Demand and Trade	133
4.8	Africa	135
4.8.1	Key Developments	135
4.8.2	Consumption	135
4.8.3	Supply	137
4.8.4	Supply, Demand and Trade	138
4.9	Asia Pacific.....	139
4.9.1	Key Developments	139
4.9.2	Consumption	139
4.9.2.1	China	139
4.9.2.2	North-East Asia.....	140
4.9.2.3	South-East Asia	140
4.9.2.4	South Asia.....	140
4.9.2.5	Other Asia and Australasia	141
4.9.3	Supply	142
4.9.3.1	China.....	142
4.9.3.2	North-East Asia	142
4.9.3.3	South-East Asia	143
4.9.3.4	South Asia.....	143
4.9.3.5	Other Asia and Australasia	143
4.9.4	Supply, Demand and Trade	147
5	<i>i</i>-Butanol.....	150
5.1	Global	150
5.1.1	Key Developments	150
5.1.2	Consumption	150
5.1.3	Supply	153
5.1.4	Supply, Demand and Trade	155
5.2	North America	157
5.2.1	Key Developments	157
5.2.2	Consumption	157
5.2.3	Supply	159
5.2.4	Supply, Demand and Trade	161
5.3	South America.....	163
5.3.1	Key Developments	163
5.3.2	Consumption	163
5.3.3	Supply	164
5.3.4	Supply, Demand and Trade	166
5.4	Western Europe	167
5.4.1	Key Developments	167
5.4.2	Consumption	167
5.4.3	Supply	168
5.4.4	Supply, Demand and Trade	170



5.5	Central Europe	171
5.5.1	Key Developments	171
5.5.2	Consumption	171
5.5.3	Supply	171
5.5.4	Supply, Demand and Trade	173
5.6	Eastern Europe	174
5.6.1	Key Developments	174
5.6.2	Consumption	174
5.6.2.1	Russia	174
5.6.2.2	Other Eastern Europe	175
5.6.3	Supply	175
5.6.3.1	Russia	175
5.6.3.2	Other Eastern Europe	176
5.6.4	Supply, Demand and Trade	176
5.6.4.1	Russia	176
5.6.4.2	Other Eastern Europe	176
5.7	Middle East.....	180
5.7.1	Key Developments	180
5.7.2	Consumption	180
5.7.3	Supply	181
5.7.4	Supply, Demand and Trade	182
5.8	Africa	183
5.8.1	Key Developments	183
5.8.2	Consumption	183
5.8.3	Supply	184
5.8.4	Supply, Demand and Trade	186
5.9	Asia Pacific.....	187
5.9.1	Key Developments	187
5.9.2	Consumption	187
5.9.2.1	China	187
5.9.2.2	North-East Asia	187
5.9.2.3	South-East Asia	187
5.9.2.4	South Asia.....	187
5.9.2.5	Other Asia and Australasia	188
5.9.3	Supply	189
5.9.3.1	China	189
5.9.3.2	North-East Asia	189
5.9.3.3	South-East Asia	189
5.9.3.4	South Asia.....	189
5.9.3.5	Other Asia and Australasia	189
5.9.4	Supply, Demand and Trade	194



Appendices

A	Methodology	197
A.1	Market Dynamics Forecasting Methodology	197
A.1.1	Capacity Availability and Forecasting	197
A.1.2	End-Use Consumption Forecasting	197
A.1.2.1	End-Use Sector Growth	198
A.1.2.2	Penetration (New Application Growth)	198
A.1.2.3	Short-term Influences	199
A.1.2.4	Monomer Consumption Forecasting	199
A.1.3	Production and Trade Forecasting	200
B	The Oxo Alcohols Industry – Technology	201
B.1	Overview	201

Figures

Figure 1	Global Propylene Demand, 2017-e	22
Figure 2	Global GDP Growth vs Propylene Consumption Growth	23
Figure 3	Global Combined Propylene Consumption	25
Figure 4	Global Propylene Capacity Share by Marketer in 2017-e	28
Figure 5	Regional Propylene Capacity Addition	29
Figure 6	Regional Propylene Capacity	29
Figure 7	Global Propylene Supply and Demand	31
Figure 8	Regional Propylene Net Exports/(Imports)	31
Figure 9	Global 2-Ethylhexanol Consumption by End-Use, 2017-e	39
Figure 10	Global GDP Growth vs 2-Ethylhexanol Consumption Growth	39
Figure 11	Global 2-Ethylhexanol Consumption by End-Use, 2017-e	40
Figure 12	Global 2-Ethylhexanol Capacity by Marketer in 2017-e	41
Figure 13	Global 2-Ethylhexanol Capacity Additions	42
Figure 14	Global 2-Ethylhexanol Capacity	42
Figure 15	Global 2-Ethylhexanol Supply, Demand and Trade	43
Figure 16	Global 2-Ethylhexanol Net Exports (Imports)	44
Figure 17	North America 2-Ethylhexanol Consumption, 2017-e	46
Figure 18	Location of 2-Ethylhexanol in North America	48
Figure 19	North America 2-Ethylhexanol Supply, Demand and Trade	49
Figure 20	United States 2-Ethylhexanol Supply, Demand and Trade	50
Figure 21	South America 2-Ethylhexanol Consumption, 2017-e	52
Figure 22	Location of 2-Ethylhexanol in South America	53
Figure 23	South America 2-Ethylhexanol Supply, Demand and Trade	54
Figure 24	Western Europe 2-Ethylhexanol Consumption, 2017-e	56
Figure 25	Location of 2-Ethylhexanol in Western Europe	58
Figure 26	Western Europe 2-Ethylhexanol Supply, Demand and Trade	60
Figure 27	Central Europe 2-Ethylhexanol Consumption, 2017-e	61
Figure 28	Location of 2-Ethylhexanol in Central Europe	63
Figure 29	Central Europe 2-Ethylhexanol Supply, Demand and Trade	64



Figure 30	Russia 2-Ethylhexanol Consumption, 2017-e	66
Figure 31	Other Eastern Europe 2-Ethylhexanol Consumption, 2017-e	66
Figure 32	Location of 2-Ethylhexanol in Russia	67
Figure 33	Russia 2-Ethylhexanol Supply, Demand and Trade	69
Figure 34	Other Eastern Europe 2-Ethylhexanol Supply, Demand and Trade	70
Figure 35	Total Eastern Europe 2-Ethylhexanol Supply, Demand and Trade	71
Figure 36	Middle East 2-Ethylhexanol Consumption, 2017-e	73
Figure 37	Location of 2-Ethylhexanol Capacity in the Middle East	74
Figure 38	Africa 2-Ethylhexanol Consumption, 2017-e	76
Figure 39	Africa 2-Ethylhexanol Supply, Demand and Trade	77
Figure 40	Asia Pacific 2-Ethylhexanol Consumption, 2017-e	82
Figure 41	Location of 2-Ethylhexanol in China	87
Figure 42	Location of 2-Ethylhexanol in Japan and South Korea	88
Figure 43	Location of 2-Ethylhexanol in South-East Asia	88
Figure 44	Location of 2-Ethylhexanol in India	89
Figure 45	Asia Pacific 2-Ethylhexanol Supply, Demand and Trade	91
Figure 46	China 2-Ethylhexanol Supply, Demand and Trade	92
Figure 47	Global <i>n</i> -Butanol Consumption by End-Use, 2017-e	94
Figure 48	Global GDP Growth vs <i>n</i> -Butanol Consumption Growth.....	95
Figure 49	Global <i>n</i> -Butanol Consumption by Region	95
Figure 50	Global <i>n</i> -Butanol Capacity by Marketer in 2017-e	97
Figure 51	Global <i>n</i> -Butanol Capacity Additions	98
Figure 52	Global <i>n</i> -Butanol Capacity.....	98
Figure 53	Global <i>n</i> -Butanol Supply, Demand and Trade.....	100
Figure 54	Global <i>n</i> -Butanol Net Exports (Imports)	100
Figure 55	North America <i>n</i> -Butanol Consumption, 2017-e	102
Figure 56	Location of <i>n</i> -Butanol in North America.....	104
Figure 57	North America <i>n</i> -Butanol Supply, Demand and Trade	106
Figure 58	United States <i>n</i> -Butanol Supply, Demand and Trade	107
Figure 59	South America <i>n</i> -Butanol Consumption, 2017-e	109
Figure 60	Location of <i>n</i> -Butanol in South America	110
Figure 61	South America <i>n</i> -Butanol Supply, Demand and Trade	112
Figure 62	Western Europe <i>n</i> -Butanol Consumption, 2017-e	114
Figure 63	Location of <i>n</i> -Butanol in Western Europe.....	116
Figure 64	Western Europe <i>n</i> -Butanol Supply, Demand and Trade.....	118
Figure 65	Central Europe <i>n</i> -Butanol Consumption, 2017-e	119
Figure 66	Location of <i>n</i> -Butanol in Central Europe	121
Figure 67	Central Europe <i>n</i> -Butanol Supply, Demand and Trade.....	122
Figure 68	Russia <i>n</i> -Butanol Consumption, 2017-e.....	123
Figure 69	Location of <i>n</i> -Butanol Capacity in Russia.....	125
Figure 70	Russia <i>n</i> -Butanol Supply, Demand and Trade	127
Figure 71	Other Eastern Europe <i>n</i> -Butanol Supply, Demand and Trade.....	128
Figure 72	Total Eastern Europe <i>n</i> -Butanol Supply, Demand and Trade.....	129
Figure 73	Middle East <i>n</i> -Butanol Consumption, 2017-e.....	131



Figure 74	Location of <i>n</i> -Butanol in the Middle East.....	132
Figure 75	Middle East <i>n</i> -Butanol Supply, Demand and Trade	134
Figure 76	Africa <i>n</i> -Butanol Consumption, 2017-e	136
Figure 77	Location of <i>n</i> -Butanol Africa	137
Figure 78	Africa <i>n</i> -Butanol Supply, Demand and Trade	138
Figure 79	Asia Pacific <i>n</i> -Butanol Consumption, 2017-e	141
Figure 80	Location of <i>n</i> -Butanol in China	145
Figure 81	Location of <i>n</i> -Butanol in Japan and South Korea.....	146
Figure 82	Location of <i>n</i> -Butanol in South-East Asia.....	146
Figure 83	Location of <i>n</i> -Butanol in India.....	147
Figure 84	Asia Pacific <i>n</i> -Butanol Supply, Demand and Trade	148
Figure 85	China <i>n</i> -Butanol Supply, Demand and Trade.....	149
Figure 86	Global <i>i</i> -Butanol Consumption by End-Use, 2017-e	151
Figure 87	Global GDP Growth vs <i>i</i> -Butanol Consumption Growth.....	151
Figure 88	Global <i>i</i> -Butanol Consumption by Region	152
Figure 89	Global <i>i</i> -Butanol Capacity by Marketer in 2017-e.....	153
Figure 90	Global <i>i</i> -Butanol Capacity Additions	154
Figure 91	Global <i>i</i> -Butanol Capacity	154
Figure 92	Global <i>i</i> -Butanol Supply, Demand and Trade	155
Figure 93	Global <i>i</i> -Butanol Net Exports (Imports).....	156
Figure 94	North America <i>i</i> -Butanol Consumption, 2017-e.....	158
Figure 95	Location of <i>i</i> -Butanol in North America.....	160
Figure 96	North America <i>i</i> -Butanol Supply, Demand and Trade	161
Figure 97	United States <i>i</i> -Butanol Supply, Demand and Trade	162
Figure 98	South America <i>i</i> -Butanol Consumption, 2017-e	163
Figure 99	Location of <i>i</i> -Butanol in South America	165
Figure 100	South America <i>i</i> -Butanol Supply, Demand and Trade	166
Figure 101	Western Europe <i>i</i> -Butanol Consumption, 2017-e.....	167
Figure 102	Location of <i>i</i> -Butanol in Western Europe.....	169
Figure 103	Western Europe <i>i</i> -Butanol Supply, Demand and Trade	170
Figure 104	Location of <i>i</i> -Butanol in Central Europe.....	172
Figure 105	Central Europe <i>i</i> -Butanol Supply, Demand and Trade.....	173
Figure 106	Russia <i>i</i> -Butanol Consumption, 2017-e.....	174
Figure 107	Location of <i>i</i> -Butanol Capacity in Russia.....	176
Figure 108	Russia <i>i</i> -Butanol Supply, Demand and Trade	177
Figure 109	Other Eastern Europe <i>i</i> -Butanol Supply, Demand and Trade	178
Figure 110	Total Eastern Europe <i>i</i> -Butanol Supply, Demand and Trade	179
Figure 111	Middle East <i>i</i> -Butanol Consumption, 2017-e	180
Figure 112	Location of <i>i</i> -Butanol in the Middle East.....	181
Figure 113	Middle East <i>i</i> -Butanol Supply, Demand and Trade	182
Figure 114	Africa <i>i</i> -Butanol Consumption, 2017-e.....	183
Figure 115	Location of <i>i</i> -Butanol Africa.....	185
Figure 116	Africa <i>i</i> -Butanol Supply, Demand and Trade	186
Figure 117	Asia Pacific <i>i</i> -Butanol Consumption, 2017-e	188



Figure 118	Location of <i>i</i> -Butanol in China	191
Figure 119	Location of <i>i</i> -Butanol in Japan and South Korea	192
Figure 120	Location of <i>i</i> -Butanol in South-East Asia	192
Figure 121	Location of <i>i</i> -Butanol in India	193
Figure 122	Asia Pacific <i>i</i> -Butanol Supply, Demand and Trade	194
Figure 123	China <i>i</i> -Butanol Supply, Demand and Trade	195
Figure 124	End-Use Consumption Drivers	198
Figure 125	Monomer Consumption Drivers	199
Figure 126	Trade Considerations	200

Tables

Table 1	Global Propylene Consumption by Region	22
Table 2	Global Combined Propylene Consumption by Derivative	25
Table 3	Global Propylene Supply and Demand	31
Table 4	Global 2-Ethylhexanol Consumption by End-Use	39
Table 5	Global 2-Ethylhexanol Consumption by Region	40
Table 6	Global 2-Ethylhexanol Supply, Demand and Trade	43
Table 7	North America 2-Ethylhexanol Consumption by End-Use	46
Table 8	North America 2-Ethylhexanol Consumption by Country	46
Table 9	2-Ethylhexanol Capacity in North America	47
Table 10	North America 2-Ethylhexanol Supply, Demand and Trade	49
Table 11	United States 2-Ethylhexanol Supply, Demand and Trade	50
Table 12	South America 2-Ethylhexanol Consumption by End-Use	52
Table 13	South America 2-Ethylhexanol Consumption by Country	52
Table 14	2-Ethylhexanol Capacity in South America	53
Table 15	South America 2-Ethylhexanol Supply, Demand and Trade	54
Table 16	Western Europe 2-Ethylhexanol Consumption by End-Use	56
Table 17	2-Ethylhexanol Capacity in Western Europe	57
Table 18	Western Europe 2-Ethylhexanol Supply, Demand and Trade	60
Table 19	Central Europe 2-Ethylhexanol Consumption by End-Use	62
Table 20	2-Ethylhexanol Capacity in Central Europe	62
Table 21	Central Europe 2-Ethylhexanol Supply, Demand and Trade	64
Table 22	Russia 2-Ethylhexanol Consumption	66
Table 23	Other Eastern Europe 2-Ethylhexanol Consumption	66
Table 24	2-Ethylhexanol Capacity in Russia	67
Table 25	Russia 2-Ethylhexanol Supply, Demand and Trade	69
Table 26	Other Eastern Europe 2-Ethylhexanol Supply, Demand and Trade	70
Table 27	Total Eastern Europe 2-Ethylhexanol Supply, Demand and Trade	71
Table 28	Middle East 2-Ethylhexanol Consumption by End-Use	73
Table 29	Middle East 2-Ethylhexanol Consumption by Country	73
Table 30	2-Ethylhexanol Capacity in the Middle East	74
Table 31	Middle East 2-Ethylhexanol Supply, Demand and Trade	75
Table 32	Middle East 2-Ethylhexanol Supply, Demand and Trade	75
Table 33	Africa 2-Ethylhexanol Consumption by End-Use	76



Table 34	Africa 2-Ethylhexanol Consumption by Country.....	76
Table 35	Africa 2-Ethylhexanol Supply, Demand and Trade	77
Table 36	Asia Pacific 2-Ethylhexanol Consumption by End-Use	82
Table 37	Asia Pacific 2-Ethylhexanol Consumption by Country	83
Table 38	2-Ethylhexanol Capacity in Asia Pacific	85
Table 39	Asia Pacific 2-Ethylhexanol Supply, Demand and Trade	91
Table 40	China 2-Ethylhexanol Supply, Demand and Trade	92
Table 41	Global <i>n</i> -Butanol Consumption by End-Use.....	94
Table 42	Global <i>n</i> -Butanol Consumption by Region	96
Table 43	Global <i>n</i> -Butanol Supply, Demand and Trade.....	100
Table 44	North America <i>n</i> -Butanol Consumption by End-Use	102
Table 45	North America <i>n</i> -Butanol Consumption by Country	102
Table 46	<i>n</i> -Butanol Capacity in North America	103
Table 47	North America <i>n</i> -Butanol Supply, Demand and Trade	106
Table 48	United States <i>n</i> -Butanol Supply, Demand and Trade	107
Table 49	South America <i>n</i> -Butanol Consumption by End-Use	109
Table 50	South America <i>n</i> -Butanol Consumption by Country.....	109
Table 51	<i>n</i> -Butanol Capacity in South America.....	110
Table 52	South America <i>n</i> -Butanol Supply, Demand and Trade	112
Table 53	Western Europe <i>n</i> -Butanol Consumption by End-Use	114
Table 54	<i>n</i> -Butanol Capacity in Western Europe	115
Table 55	Western Europe <i>n</i> -Butanol Supply, Demand and Trade	118
Table 56	Central Europe <i>n</i> -Butanol Consumption.....	120
Table 57	<i>n</i> -Butanol Capacity in Central Europe	120
Table 58	Central Europe <i>n</i> -Butanol Supply, Demand and Trade.....	122
Table 59	Russia <i>n</i> -Butanol Consumption.....	124
Table 60	Other Eastern Europe <i>n</i> -Butanol Consumption.....	124
Table 61	Other Eastern Europe <i>n</i> -Butanol Consumption.....	124
Table 62	<i>n</i> -Butanol Capacity in Russia	125
Table 63	Russia <i>n</i> -Butanol Supply, Demand and Trade	127
Table 64	Other Eastern Europe <i>n</i> -Butanol Supply, Demand and Trade.....	128
Table 65	Total Eastern Europe <i>n</i> -Butanol Supply, Demand and Trade.....	129
Table 66	Middle East <i>n</i> -Butanol Consumption by End-Use	131
Table 67	Middle East <i>n</i> -Butanol Consumption by Country.....	131
Table 68	<i>n</i> -Butanol Capacity in the Middle East	132
Table 69	Middle East <i>n</i> -Butanol Supply, Demand and Trade	134
Table 70	Africa <i>n</i> -Butanol Consumption by End-Use.....	136
Table 71	Africa <i>n</i> -Butanol Consumption by Country	136
Table 72	<i>n</i> -Butanol Capacity in Africa	137
Table 73	Africa <i>n</i> -Butanol Supply, Demand and Trade.....	138
Table 74	Asia Pacific <i>n</i> -Butanol Consumption by End-Use	141
Table 75	Asia Pacific <i>n</i> -Butanol Consumption by Country.....	141
Table 76	<i>n</i> -Butanol Capacity in Asia Pacific.....	144
Table 77	Asia Pacific <i>n</i> -Butanol Supply, Demand and Trade	148



Table 78	China <i>n</i> -Butanol Supply, Demand and Trade.....	149
Table 79	Global <i>i</i> -Butanol Consumption by End-Use	151
Table 80	Global <i>i</i> -Butanol Consumption by Region	152
Table 81	Global <i>i</i> -Butanol Supply, Demand and Trade.....	155
Table 82	North America <i>i</i> -Butanol Consumption by End-Use	158
Table 83	North America <i>i</i> -Butanol Consumption by Country	158
Table 84	<i>i</i> -Butanol Capacity in North America	159
Table 85	North America <i>i</i> -Butanol Supply, Demand and Trade	161
Table 86	United States <i>i</i> -Butanol Supply, Demand and Trade	162
Table 87	South America <i>i</i> -Butanol Consumption by End-Use	164
Table 88	South America <i>i</i> -Butanol Consumption by Country	164
Table 89	<i>i</i> -Butanol Capacity in South America	164
Table 90	South America <i>i</i> -Butanol Supply, Demand and Trade	166
Table 91	Western Europe <i>i</i> -Butanol Consumption by End-Use	167
Table 92	<i>i</i> -Butanol Capacity in Western Europe	168
Table 93	Western Europe <i>i</i> -Butanol Supply, Demand and Trade	170
Table 94	Central Europe <i>i</i> -Butanol Consumption.....	171
Table 95	<i>i</i> -Butanol Capacity in Central Europe	171
Table 96	Central Europe <i>i</i> -Butanol Supply, Demand and Trade.....	173
Table 97	Russia <i>i</i> -Butanol Consumption	174
Table 98	Other Eastern Europe <i>i</i> -Butanol Consumption	175
Table 99	<i>i</i> -Butanol Capacity in Russia.....	175
Table 100	Russia <i>i</i> -Butanol Supply, Demand and Trade	177
Table 101	Other Eastern Europe <i>i</i> -Butanol Supply, Demand and Trade	178
Table 102	Total Eastern Europe <i>i</i> -Butanol Supply, Demand and Trade	179
Table 103	Middle East <i>i</i> -Butanol Consumption by End-Use	180
Table 104	Middle East <i>i</i> -Butanol Consumption by Country.....	180
Table 105	<i>i</i> -Butanol Capacity in the Middle East.....	181
Table 106	Middle East <i>i</i> -Butanol Supply, Demand and Trade	182
Table 107	Africa <i>i</i> -Butanol Consumption by End-Use	183
Table 108	Africa <i>i</i> -Butanol Consumption by Country	183
Table 109	<i>i</i> -Butanol Capacity in Africa	184
Table 110	Africa <i>i</i> -Butanol Supply, Demand and Trade	186
Table 111	Asia Pacific <i>i</i> -Butanol Consumption by End-Use	188
Table 112	Asia Pacific <i>i</i> -Butanol Consumption by Country.....	188
Table 113	<i>i</i> -Butanol Capacity in Asia Pacific.....	190
Table 114	Asia Pacific <i>i</i> -Butanol Supply, Demand and Trade	194
Table 115	China <i>i</i> -Butanol Supply, Demand and Trade.....	195