
THE WORLD CASEIN & CASEINATES MARKET

Science Market Regulation

UBIC
CONSULTING

2010



Marketing development Strategy consulting Partnership searches Information systems

Technical & Competitive Scanning - Regulations - Manufacturers

This comprehensive report is based on in-depth interviews with food companies completed by a desk review. It provides for DECISION MAKERS a global understanding of the sector as well as an outlook on its future.

MARKET ANALYSIS

- Trends and outlook
- Use of ingredients: volume-value
- Manufacturers profiles
- Users opinions
- Regulation

FOOD SEGMENTS

- Food industry
- Functional food
- Food supplements
- Sports food
- Industrial markets
- Clinical nutrition

INGREDIENTS

- Casein
- Caseinates
- Casein hydrolysates

COUNTRIES COVERED

- North America
- Western Europe
- Asia
- Australia- New Zealand

THE WORLD CASEIN & CASEINATES MARKET

OBJECTIVES MARKET

Food consumption trends and expectations

Consumer market trends by food segments

Prospective

MANUFACTURERS

Food industry orientations

Applications in food segments

Consumption

RESEARCH

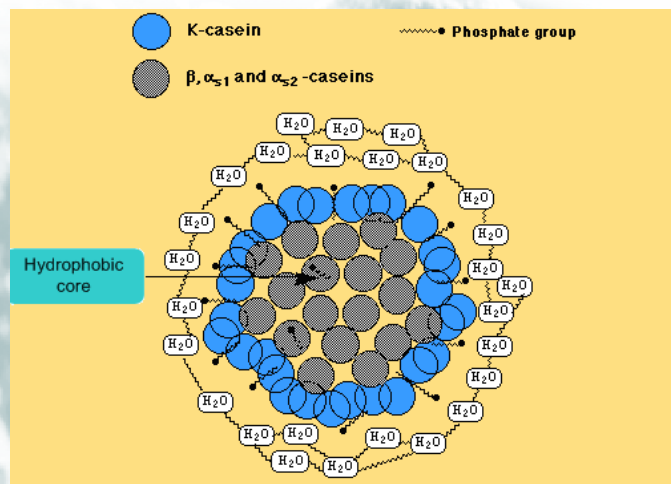
New researches and new developments

INTRODUCTION

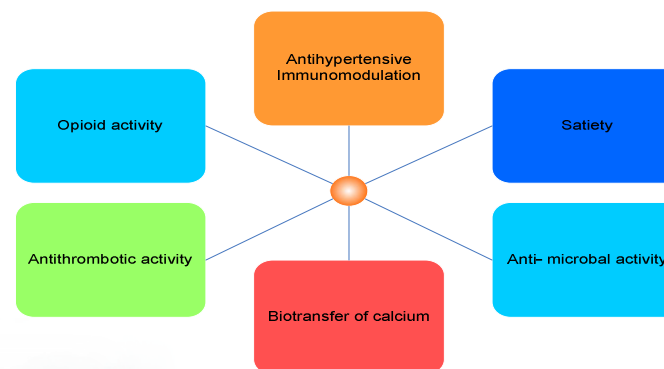
Casein is the main protein found in milk and contains 21 amino acids. It makes up approximately 80 % of the total milk protein.

Above all, casein is a source of several functional peptides with different properties for instance nervous system and body's fortification (see below), behaviour, intestinal comfort, cardiovascular system...

Caseins and caseinates are widely used in the food and non-food industry where they provide functional benefits of structure formation, emulsification, waterbinding, foaming, viscosity and heat stability.



Casein may be processed in view of being transformed at a later stage as caseinates as they are not soluble. As a consequence, casein appears frequently in statistics in place of caseinates. This is the case for applications like sports nutrition, infant formula or even clinical nutrition.



The recent trend away from a high carbohydrate toward high protein diets has offered new opportunities for whey and casein products. Both whey and casein can boost the protein content of the food without a decline in taste. Studies examining the effects of the dairy proteins whey and casein on appetite regulation have been conducted through the National Centre of Excellence in Functional Foods. These studies suggest that both proteins exert appetite suppressant effects compared to an isocaloric glucose load and similar to a low GI carbohydrate (lactose) load.

THE WORLD CASEIN & CASEINATES MARKET

OBJECTIVES MARKET

Food consumption trends and expectations

Consumer market trends by food segments

Prospective

MANUFACTURERS

Food industry orientations

Applications in food segments

Consumption

RESEARCH

New researches and new developments

OUTLOOK OF THE MARKET

There is great scope for product development in this area but this will require companies to address the technical and marketing issues.

The demand for casein is important in companies of milk products such as powder cream for coffee bleaching and infantile powders. However, the use of "food casein" (lactic casein) in foodstuff has decreased. It is replaced by more recent ingredients (others protein milk derivatives like Total Milk Proteins, vegetal proteins...). Demand for caseins/caseinates diminishes especially in the pork market segment.

This evolution is linked to the use of less expensive casein substitutes (vegetable proteins).

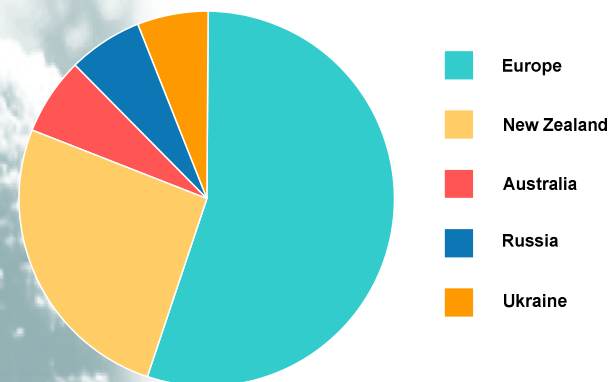
Nevertheless the fall has stabilized today and new prospective is coming with applications as raw material used for functional food or food supplements.

The United States does not produce casein in significant quantities.

The reintroduction of EU export refunds on skim milk powder in January 2009 raises the question of the long-term competitive position of EU casein production if the corresponding production aid is not reintroduced.

So far the outcome has been a gradual reduction in production, with an EU total of 135,000 tonnes being forecast for 2009. This reduction, combined with a reduction in cheese and WMP output, led to heavy EU purchases of skim milk powder into intervention in 2009, with the official maximum of 109,000 tonnes per season being exceeded for the first time since 1990.

World Casein production - 2006



THE WORLD CASEIN & CASEINATES MARKET

OBJECTIVES MARKET

Food consumption trends and expectations

Consumer market trends by food segments

Prospective

MANUFACTURERS

Food industry orientations

Applications in food segments

Consumption

RESEARCH

New researches and new developments

CASEIN HEALTH APPLICATIONS – MARKET SIZE

DAIRY INGREDIENTS	INTENSITY OF RESEARCH ACTIVITY	HEALTH BENEFITS	INTENSITY OF COMMERCIAL APPLICATION	CURRENT AND POTENTIAL APPLICATIONS	MARKETSIZE
Caseinates	+	<ul style="list-style-type: none"> Slow proteins Mineral source highly bioavailable such as calcium High nutritional value 	++++	Dietary preparations Infant formulas	Sport: xxx tons
α and β casein	+	<ul style="list-style-type: none"> High nutritional value Low lactose content Increase bioavailability of calcium 	+++	Dietary preparations Infant formulas	
Casein Hydrolysates		<ul style="list-style-type: none"> Hypoallergenicity Quick absorption for positive nitrogen balance 	++	Hypoallergenic infant formulas Sports and clinical nutrition	Infant formula: xxx tons Clinical nutrition: xxx tons Sports foods: xxx tons
CPP	+++	<ul style="list-style-type: none"> Enhances calcium absorption Anticariogenic effect 	+	Calcium supplements and functional foods , Calcium enriched foods, Infant formulas and weaning foods Oral hygiene	xxx tons
cGMP	+++	<ul style="list-style-type: none"> Probiotic Bacteriostatic Antithrombotic Immunity regulation Suppresses anaphylatic and phenylketoneuric reactions 	0	Infant formulas Hypoallergenic formulas Sports and clinical nutrition	xxx tons
Bioactive Peptides 1. Casomorphin 2. ACE-inhibitor 3. Immunomodulating enzymes 4. Casoxin 5. Casokinin 6. Casoplatenin	+++	<ul style="list-style-type: none"> Opioid activity ACE-inhibitory activities Immunomodulatory activities Antagonist opioid activity Anti-hypertensive activity Anti-thrombotic activity 	0	Treatment of pancreatic deficiency, metabolic disease, distress Mineral proditic supplement	

THE WORLD CASEIN & CASEINATES MARKET

OBJECTIVES MARKET

Food consumption trends and expectations

Consumer market trends by food segments

Prospective

MANUFACTURERS

Food industry orientations

Applications in food segments

Consumption

RESEARCH

New researches and new developments

Table of content

General information

Casein manufacturers profiles
Importers

Ingredient consumption by country

Regulation by country

THE WORLD CASEIN & CASEINATES MARKET

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	14		
1.1. CASEINS & CASEINATES: GENERALITIES	15	Immunomodulatory effect.	34
1.2. PRODUCT DESCRIPTION	16	Antimicrobial effect	34
Products	19	Vascular system	34
1.3. NUTRACEUTICAL PROPERTIES	23	Intestinal confort	35
2. CASEIN SCIENTIFIC AND TECHNICAL SCAN	24	Digestive physiology	35
2.1. CASEIN AND CASEINATES TECHNOLOGICAL PROPERTIES	25	Anti cariogenic properties	35
2.1.1. pH stability of caseins and caseinates	25	2.3.2.2. Current and potential applications	36
2.1.2. Coagulation of caseins	25	2.3.2. CPP (Casein Phospho peptide)	36
2.1.2.1. Enzyme Coagulation	25	2.3.2.1. Nutraceutical properties	36
2.1.2.2. Acid coagulation	25	2.3.2.2. Current and potential applications	36
2.1.2.3. Heat	25	3. MARKET DESCRIPTION AND DATA BY SEGMENTS	38
2.1.2.4. Age Gelation	26	3.1. CASEINS	39
2.1.3. Solubility of caseins and caseinates	26	3.1.1. Casein – Caseinates market applications	39
2.1.4 Fat binding of caseins and caseinates	26	3.1.2. Industrial applications	41
2.1.5. Isolation methods	27	3.1.3. Application in the food industry	43
2.2. NUTRITIONAL PROPERTIES	28	3.1.4. Future opportunities for caseins in functional food	45
2.2.1. Nutraceutical properties	28	3.1.5. Nutrition sector	45
2.2.2. Current & potential applications	29	3.1.6. Application in Sportsfoods	46
2.2.3. Industrial applications	29	4. MARKET DATA BY COUNTRY	49
2.2.4. Protected applications	30	4.1. WORLD MARKET	50
2.3. CASEIN FRACTIONS AS BIO-ACTIVE PEPTIDES	31	4.2. UNITED-STATES	53
2.3.1. Bioactive functions	32	4.2.1. Imports of casein	54
Nervous system and behavior	32	4.2.2. Imports of caseinates	56
Intestinal confort	32	4.2.3. Export of casein	57
Body's defense	32	4.2.4. Export of caseinates	58
Antimicrobial effect	33	4.2.5. Industrial casein Import	59
Cardiovascular system	33	4.2.6. Imports from New Zealand	59
Body's fortification	33	4.2.7. Prices of Edible Casein	60
2.3.2. Glycomacropeptide	34	4.3. CANADA	64
2.3.2.1. Nutraceutical properties	34	4.4.1. MEXICO	67
Nervous system and behaviour	34	4.4.2. BRAZIL	70
Body's defense	34	Brazil Imports of Casein/ Caseinates (in Volume)	70
Immunomodulatory effect.	34	4.4.3. Chile	72
		4.4.4. Argentina	74

THE WORLD CASEIN & CASEINATES MARKET

4.4.5. Venezuela	76	5.4. SYNOPSIS OF WORLD TRADES OF CASEIN/ CASEINATES	129
4.5. Europe	77	5.5. SYNOPSIS OF INTRA-EU TRADES OF CASEIN/ CASEINATES	130
European Union: Aid on Skim Milk and Casein	77	6. CASEIN USERS	131
European Prices	79	6.1. Europe	132
Production of casein/caseinates	80	ADAMS FOOD (IRISH DAIRY BOARD- UK)	133
Imports/Exports of casein/caseinates	82	MOLKEREI ALOIS MULLER GmbH (G)	136
European Union: EU Production of Casein/ Caseinates & Share of		BEST FOOD- SLIM FAST FOOD UNILEVER (UK)	138
Ireland	88	DANONE (F)	140
France: Aid on Production of Casein	90	ELSA SA (CH)	143
France: Production of Casein/ Caseinates (In Volume)	90	HIPPWERK OHG (G)	145
France: Exports of Casein/ Caseinates (In Volume)	90	MILCHWERKE KÖLN/WUPPERTAL eG (G) (CAMPINA)	149
France: Imports of Casein/ Caseinates (In tons)	91	MOLKEREI H. STROTHMANN GmbH (CAMPINA) (G)	151
Germany production, prices and exports of casein/caseinates	92	MONA (CAMPINA MELKUNIE -NL)	152
Poland production, exports and imports of casein/caseinates	93	NESTLE (CH)	154
4.6. COMMUNITY OF INDEPENDENT STATES (RUSSIA, BELARUS, UKRAINE)	96	SODIAAL (F)	156
Russia	96	VALIO (FIN)	157
Ukraine	98	UNILEVER FRANCE (MIKO COGESAL) (F)	159
4.7. OCEANIA (AUSTRALIA, NEW ZEALAND)	100	NESTLE ICE CREAM (F)	162
Australia: Production of Casein/ Caseinates (in Volume)	100	NESTLE UK (ROWNTREE MACKINTOSH - UK)	165
Australia: Exports of Casein (in Volume)	100	BLEDINA (DANONE)	168
Future opportunities for caseins and whey – functionality	103	HOCHDORF SWISS MILK COMPANY (CH)	170
New Zealand production, exports & imports of casein/caseinates	105	MILUPA (NUMICO GROUP - G)	171
4.8. ASIA (JAPAN, INDIA, CHINA, SINGAPORE)	110	ARKOPHARMA (F)	172
4.8.1. Japan	110	SHANNON MINERALS (IRL)	173
4.8.2. India	115	HEINZ (UK)	174
India: Imports of Casein (in Volume & Value)	115	CAMPOFRIO Alimentacion (SP)	176
India: Exports of Casein (in Volume & Value)	115	HERTA (F)	177
4.8.3. China	119	KARL KONECKE (G)	178
China: Imports of Casein/ Caseinates (in Volume)	119	GROUPE FLEURY MICHON (F)	179
4.8.4. Singapore	122	MAIZENA (G)	181
Singapore: Imports of Casein/ Caseinates (in Volume/Value)	122	6.2. USA	182
4.8.5. Korea	124	BARIATRIX (CDN)	183
Korea- Imports of Casein/ Caseinates (in Volume and Value)	124	BORDEN (USA)	186
5. MARKET CONCLUSIONS & FORECASTS	126	GENERAL MILLS (USA)	188
5.1. FORECAST FOR THE CASEIN MARKET	127	KRAFT (USA)	191
5.2. WORLD ECONOMIC DEPRESSION	128	KOHLER MIX (USA)	193
5.3. OUTLOOK	128	MEAD JOHNSON (USA)	194
		JOE WEIDER NUTRITION (USA)	197

THE WORLD CASEIN & CASEINATES MARKET

NABISCO BISCUITS (USA)	199	8.3. NORTH AMERICA	250
7. CASEIN MANUFACTURERS	202	8.3.1. United States	250
7.1. EUROPE	203	U.S. Casein Importers	254
KERRY INGREDIENTS (IRL)	203	AGRI DAIRY PRODUCTS	254
LACTALIS (F)	205	JLS FOODS International	255
DMV INTERNATIONAL (NL)	208	EUROPROTEINS	257
EURIAL (F)	211	8.3.2. Canada	258
LACTOPROT (G)	212	8.4. SOUTH AMERICA	260
EPI INGREDIENTS (F)	214	8.4.1. Peru	260
LLC VERONIKA	217	8.4.2. Guatemala	260
7.2. USA	218	8.4.3. Honduras	261
ERIE CASEIN COMPANY INC (USA)	218	8.4.4. Salvador	261
AMERICAN CASEIN COMPANY	220	8.4.5. Nicaragua	261
7.3. MEXICO	222	8.4.6. Panama	261
LACTE DU MONDE SA, DE CV (MX)	222	8.4.7. Argentina	262
DILAC SA, DE CV (MX)	223	8.4.8. Chile	264
7.4. CHINA	224	8.4.9. Mexico	265
GANSU HUALING MILK PRODUCTS GROUP	224	8.4.10. Bolivia	267
KERUI DAIRY	225	8.4.11. Costa Rica	267
7.5. INDIA	226	8.4.12. Brazil	268
BHOLE BABA DAIRY INDUSTRIES	226	8.5. MIDDLE EAST	270
DYNAMIX DAIRY INDUSTRY LTD (SCHRIEBER FOODS USA)	227	8.5.1. Bahrain	270
CASEIN INDIA	228	8.5.2. Saudi Arabia	271
CHAROTAR INDIA	228	8.6. AFRICA	272
VENUS CASEIN PRODUCTS	229	8.6.1. Senegal	272
CLARION CASEIN PVT.LTD.	229	8.6.2. South Africa	273
7.6. OCEANIA	230	8.7. WESTERN EUROPE	274
WESTLAND MILK PRODUCTS (NZ)	230	8.7.1. EU Regulation	274
8. REGULATIONS AND CASEIN IMPORTERS	232	8.7.2. Greece	274
8.1. ASIA	233	8.7.3. The Netherlands	275
8.1.1. Singapore	233	HAVERO HOOGWEGT	276
8.1.2. Hong kong	234	INTERFOOD BV	277
8.1.3. Korea	235	MELKWEG HOLLAND BV	278
8.1.4. Thailand	236	NAARDEN AGRO PRODUCTS	279
8.1.5. China	242	8.7.4. Belgium	280
8.1.6. Taiwan	245	8.7.5. France	280
8.1.7. The Philippines	246	UNIPEX	280
8.1.8. Malaysia	247	8.8. EASTERN EUROPE	282
8.1.9. Japan	248	8.8.1. Poland	282
8.2. OCEANIA	249	8.8.2. Russia	284
8.2.1. Australia	249	Nutritional Outlook Buyers Guide: Protein: Casein	285

THE WORLD CASEIN & CASEINATES MARKET

LIST OF TABLES

TABLE 1. WORLD MARKET (IN NUTRACEUTICAL APPLICATIONS)	14	TABLE 37. PRICES OF EDIBLE CASEIN IN THE USA 2000-2009	59
TABLE 2. DISTRIBUTION OF CASEINS OF COW'S MILK (% , WET MATTER)	18	TABLE 38. PRICES OF RENNET AND ACID CASEIN IN THE USA 2000-2009	61
TABLE 3. THE VARIOUS TYPES OF MILK INGREDIENTS	20	TABLE 39. CANADIAN CASEIN IMPORT 2006-2008	64
TABLE 4. CASEIN HEALTH APPLICATIONS	21	TABLE 40. MEXICO: IMPORTS/EXPORTS OF CASEIN ,2003-2008 (TONS&USD)	66
TABLE 5. CASEIN - NUTRACEUTICAL PROPERTIES	22	TABLE 41. MEXICO: IMPORTS/EXPORTS OF CASEIN IN 2007 BY REGIONS	66
TABLE 6. NUTRITIONAL VALUE OF CASEIN	27	TABLE 42. IMPORTS/EXPORTS OF CASEINATES 2003-2008 (TONS&USD)	66
TABLE 7. AMINO-ACID CONTENT OF SODIUM CASEINATES USED IN PROCESSED FOODS (%)	27	TABLE 43. MEXICO: IMPORTS/EXPORTS OF CASEINATES IN 2007 BY REGIONS	66
TABLE 8. PROTECTED APPLICATIONS OF CASEIN	29	TABLE 44. US EXPORTS OF CASEIN TO MEXICO IN VALUE 2009	67
TABLE 9. COMPARATIVE REDUCTION OF CARIES WITH CGMP FORMULA	34	TABLE 45. US EXPORTS OF CASEIN TO MEXICO IN VOLUME 2009	67
TABLE 10. CASEINS AVERAGE PRICE BY COUNTRIES 1997-2009	38	TABLE 46. MEXICO: CASEIN IMPORT FROM EU IN € - 2000-2008	67
TABLE 11. CASEIN - MAIN MARKET SEGMENTS - 2008	38	TABLE 47. MEXICO: CASEIN IMPORT/EXPORT FROM EU IN KGS - 2003-2008	67
TABLE 12. CASEINATES - MAIN MARKET SEGMENTS - 2008	39	TABLE 48. MEXICO: CASEINATES IMPORT/EXPORT FROM EU IN € - 2003-2008	67
TABLE 13. TECHNICAL APPLICATIONS OF CASEINS AND CASEINATES - MARKET AND VOLUME	41	TABLE 49. MEXICO: CASEINATES IMPORT/EXPORT FROM EU IN TONS,2003-2008	68
TABLE 14. WORLD SALES OF CASEIN- CASEINATES IN THE FOOD INDUSTRY PER TYPE OF INGREDIENT	42	TABLE 50. BRAZIL: IMPORTS/EXPORTS OF CASEIN - 2008 (TONS)	69
TABLE 15. MAIN APPLICATIONS OF CASEINS AND CASEINATES IN THE FOOD INDUSTRY - 2008 - MARKET SIZE	43	TABLE 51. BRAZIL: IMPORTS/EXPORTS OF CASEINATES - 2008 (TONS)	69
TABLE 16. CASEIN/CASEINATES APPLICATIONS IN SPORTFOODS	45	TABLE 52. BRAZIL: CASEIN IMPORTS/EXPORTS TO/FROM EU IN €, 2003-2008	70
TABLE 17. NUTRITIONAL VALUE OF CASEIN	45	TABLE 53. BRAZIL: CASEIN IMPORT/EXPORT TO/FROM EU IN TONS,2003-2008	70
TABLE 18. COMPOSITION IN AA RESIDUS FOR 6 MAJOR PROTEINS OF COW'S MILK	46	TABLE 54. BRAZIL: CASEINATES IMPORT/EXPORT TO/FROM EU IN €,2003-2008	70
TABLE 19. CASEIN HEALTH APPLICATIONS	47	TABLE 55. BRAZIL: CASEINATES IMPORT/EXPORT TO/FROM EU TONS,2003-2008	70
TABLE 20. WORLD MARKET	49	TABLE 56. CHILE: IMPORTS OF CASEIN AND CASEINATES IN 2008 (TONS&USD)	71
TABLE 21. WORLD CASEIN/CASEINATE PRODUCTION /1,000 TONS/	50	TABLE 57. CHILE: IMPORTS OF CASEIN IN 2006 (TONS&USD)	71
TABLE 22. EXPORT OF CASEIN/CASEINATES	50	TABLE 58. CHILE: IMPORTS OF CASEINATES IN 2006 (TONS&USD)	71
TABLE 23. IMPORT OF CASEIN/CASEINATES	51	TABLE 59. CHILE: CASEIN IMPORT FROM EU IN € - 2000-2008	72
TABLE 24. US IMPORTS OF CASEINS AND CASEINATES FROM WORLD 2004-2009 IN VALUE	53	TABLE 60. CHILE: CASEINATES EXPORT FROM EU IN € - 2006-2008	72
TABLE 25. US IMPORTS OF CASEIN AND CASEINATES IN VOLUME 2009	53	TABLE 61. ARGENTINA: IMPORT- EXPORT OF CASEIN IN 2008 (TONS&USD)	73
TABLE 26. US IMPORTS OF CASEIN IN VOLUME 2009	53	TABLE 62. ARGENTINA: IMPORT- EXPORT OF CASEIN IN 2007 (TONS&USD)	73
TABLE 27. US IMPORTS OF CASEIN IN VALUE 2009	53	TABLE 63. ARGENTINA: IMPORT- EXPORT OF CASEINATES IN 2008 (TONS&USD)	73
TABLE 28. US IMPORTS OF CASEINATES IN VOLUME 2009	55	TABLE 64. ARGENTINA: IMPORT- EXPORT OF CASEINATES IN 2007 (TONS&USD)	73
TABLE 29. US IMPORTS OF CASEINATES IN VALUE 2009	55	TABLE 65. CASEIN IMPORT/EXPORT FROM EU IN ARGENTINA - 2000-2008	74
TABLE 30. US EXPORT OF CASEIN IN VOLUME 2009	56	TABLE 66. CASEINATES IMPORT/EXPORT FROM EU IN ARGENTINA - 2000-2008	74
TABLE 31. US EXPORT OF CASEIN IN VALUE 2009	56	TABLE 67. IMPORTS/EXPORTS OF CASEIN IN 2006 (IN VOLUME&VALUE)	75
TABLE 32. US EXPORT OF CASEINATES IN VOLUME 2009	57	TABLE 68. IMPORTS/EXPORTS OF CASEINATES IN 2006 (IN VOLUME AND VALUE)	75
TABLE 33. US EXPORT OF CASEINATES IN VALUE 2009	57	TABLE 69. VENEZUELA: CASEIN IMPORT FROM EU - 2000-2008	75
TABLE 34. US IMPORTS OF CASEIN GLUES IN VOLUME 2009	58	TABLE 70. VENEZUELA: IMPORTS OF CASEINATES IN 2000-2008 (TONS&USD)	75
TABLE 35. US IMPORTS OF CASEIN IN VOLUME FROM NEW ZEALAND, 2009	58	TABLE 71. MAJOR PRODUCERS - 2008	76
TABLE 36. US IMPORTS OF CASEIN IN VALUE FROM NEW ZEALAND- 2009	58	TABLE 72. EUROPEAN PRICES	78
		TABLE 73. EUROPEAN CASEIN PRICES 2006/11	78
		TABLE 74. EUROPEAN CASEIN PRICES 2006/11	78
		TABLE 75. EUROPEAN UNION: PRODUCTION OF CASEIN/ CASEINATES (IN VOLUME) - 2000-2007	79
		TABLE 76. EUROPEAN CASEIN PRODUCTION 2000-2007, 1,000 TONS	79

THE WORLD CASEIN & CASEINATES MARKET

TABLE 77. EUROPEAN UNION: SUBSIDIES SKIM MILK FOR THE PRODUCTION OF CASEIN/ CASEINATES	80	TABLE 121. NEW ZEALAND: EXPORTS OF CASEIN (IN VOLUME)	104
TABLE 78. EUROPEAN UNION: SUBSIDIES SKIM MILK FOR THE PRODUCTION OF CASEIN & CASEINATES (€/ 100 KG)	80	TABLE 122. NEW ZEALAND: GENERAL EVOLUTION OF EXPORTS OF CASEIN	104
TABLE 79. EU EXPORT OF CASEIN/ CASEINATES 2000- 2007 ('000 TONS)	81	TABLE 123. NEW ZEALAND IMPORT EXPORT OF CASEIN - 2008	104
TABLE 80. EU IMPORT OF CASEIN/ CASEINATES 2000- 2007 ('000 TONS)	81	TABLE 124. NEW ZEALAND IMPORT EXPORT OF CASEINATES - 2008	105
TABLE 81. EUROPEAN CASEIN IMPORT- EXPORT 2008	81	TABLE 125. NEW ZEALAND EXPORTS IN 000NZ\$ FOB- CASEIN, CASEINATES, CASEIN GLUES, DERIVATIVES	106
TABLE 82. EUROPEAN CASEIN & CASEINATES IMPORTS INCLUDING EU INTRA TRADE	84	TABLE 126. NEW ZEALAND: CASEIN IMPORT/EXPORT FROM EU €,1996-2008	107
TABLE 83. EUROPEAN CASEINATES IMPORT- EXPORT 2006	85	TABLE 127. NEW ZEALAND: CASEIN IMPORT/EXPORT FROM EU TONS,2003-2008	107
TABLE 84. EU PRODUCTION OF CASEIN/ CASEINATES & SHARE OF IRELAND MT	87	TABLE 128. NEW ZEALAND: CASEINATES IMPORT/EXPORT FROM EU €,2003-2008	107
TABLE 85. WORLD TRADE OF CASEIN/ CASEINATES - SHARE OF EU	87	TABLE 129. NEW ZEALAND: CASEINATES IMPORT/EXPORT FROM EU MT2003-2008	108
TABLE 86. EU BALANCE SHEET FOR CASEIN	88	TABLE 130. JAPAN: IMPORTS OF CASEIN (TONS)	110
TABLE 87. FRANCE: SUBSIDIES FOR SKIM MILK (FF/ 100 KG)	89	TABLE 131. JAPAN: CASEIN STATISTICS (IMPORT) COMMODITY CODE: 350110	110
TABLE 88. FRANCE: COLLECTION & PRODUCTION OF CASEIN/ CASEINATES MT	89	TABLE 132. JAPAN: CASEIN STATISTICS (EXPORT) COMMODITY CODE: 350110	111
TABLE 89. FRANCE: PRODUCTION OF CASEIN/ CASEINATES (IN VOLUME)	89	TABLE 133. JAPAN: CASEINATE STATISTICS (EXPORT) COMMODITY CODE: 350190	112
TABLE 90. FRANCE: EXPORTS OF CASEIN/ CASEINATES (IN VOLUME)	89	TABLE 134. JAPAN: PRODUCTION/IMPORTS OF DIFFERENT DAIRY INGREDIENTS IN TONS	112
TABLE 91. FRANCE: EXPORTS OF CASEIN/CASEINATES (IN VALUE)	90	TABLE 135. JAPAN CASEIN IMPORT/EXPORT FROM EU IN €, 2000-2008	112
TABLE 92. FRANCE: IMPORTS OF CASEIN/ CASEINATES (IN TONS)	90	TABLE 136. JAPAN: CASEIN IMPORT/EXPORT FROM EU IN TONS - 2003-2008	113
TABLE 93. GERMANY: PRODUCTION OF CASEIN/ CASEINATES (IN VOLUME)	91	TABLE 137. JAPAN: CASEINATES IMPORT/EXPORT FROM EU IN € - 2003-2008	113
TABLE 94. GERMANY: PRICES OF EDIBLE CASEIN €/KG	91	TABLE 138. JAPAN: CASEINATES IMPORT/EXPORT FROM EU IN TONS 2003-2008	113
TABLE 95. GERMANY: EXPORTS OF CASEIN/ CASEINATES (IN VOLUME)	91	TABLE 139. INDIA : IMPORTS OF CASEIN (TONS AND €)	114
TABLE 96. POLAND: PRODUCTION OF CASEIN/ CASEINATES (IN VOLUME)	92	TABLE 140. INDIA: IMPORTS/EXPORTS OF CASEIN/CASEINATES INDIA 2007	115
TABLE 97. POLAND: EXPORTS OF CASEIN/ CASEINATES (IN VOLUME)	92	TABLE 141. INDIA: CASEIN IMPORT/EXPORT FROM EU IN €,2000-2008	116
TABLE 98. POLAND: EXPORTS IMPORTS OF CASEIN 2008 (TONS)	92	TABLE 142. INDIA: CASEIN IMPORT/EXPORT FROM EU IN TONS,2003-2008	116
TABLE 99. CASEIN IMPORT/EXPORT FROM EU IN € - 1996 - 2008	93	TABLE 143. INDIA: CASEINATES IMPORT/EXPORT FROM EU IN €,2003 -2008	116
TABLE 100. POLISH EXPORT OF CASEINATE BY COUNTRY OF DESTINATION 2008	93	TABLE 144. INDIA: CASEINATES IMPORT/EXPORT FROM EU IN TONS 2003-2008	117
TABLE 101. POLISH IMPORTS OF CASEINATE BY COUNTRY OF DESTINATION 2008	94	TABLE 145. CHINA : IMPORT- EXPORTS OF CASEIN (TONS) 2008	118
TABLE 102. RECONCILIATION OF 350190 CASEIN GLUES AND CASEINATE 2008	94	TABLE 146. CHINA : IMPORT- EXPORTS OF CASEINATES (TONS) 2008	119
TABLE 103. EXPORTS OF CASEIN (IN VOLUME)	95	TABLE 147. CHINESE CASEIN IMPORT/EXPORT FROM EU IN €,2000-2008	119
TABLE 104. RUSSIA: IMPORTS & EXPORTS OF CASEIN 2008 (TONS)	95	TABLE 148. CHINESE CASEIN IMPORT/EXPORT FROM EU IN TONS 2000-2008	120
TABLE 105. RUSSIA: IMPORTS & EXPORTS OF CASEINATES 2008 (TONS)	95	TABLE 149. CHINESE CASEINATES IMPORT/EXPORT FROM EU IN € - 2003-2008	120
TABLE 106. CASEIN IMPORT/EXPORT FROM EU TO RUSSIA IN €, 2000-2008	96	TABLE 150. CHINESE CASEINATES IMPORT/EXPORT FROM EU IN TONS 2003-2008	120
TABLE 107. UKRAINE: PRODUCTION OF CASEIN/ CASEINATES (IN VOLUME)	97	TABLE 151. CHINA: IMPORTS OF CASEIN/ CASEINATES IN VOLUME (TONS)	120
TABLE 108. UKRAINE: EXPORT OF CASEIN/ CASEINATES (IN VOLUME)	97	TABLE 152. SINGAPORE: IMPORTS OF CASEIN/ CASEINATES (TONS)	121
TABLE 109. CASEIN IMPORT/EXPORT FROM EU - 2003 - 2008	97	TABLE 153. SINGAPORE: EXPORTS OF CASEIN/ CASEINATES (TONS)	121
TABLE 110. UKRAINE CASEIN IMPORT - EXPORT 2007	97	TABLE 154. SINGAPORE: CASEIN IMPORT/EXPORT FROM EU IN € - 2008	121
TABLE 111. UKRAINE CASEINATES IMPORT - EXPORT 2007	98	TABLE 155. SINGAPORE: CASEIN IMPORT/EXPORT FROM EU IN TONS - 2008	121
TABLE 112. AUSTRALIA: PRODUCTION OF CASEIN/ CASEINATES (TONS)	99	TABLE 156. SINGAPORE: CASEINATES IMPORT/EXPORT FROM EU IN € 2003-2008	121
TABLE 113. AUSTRALIA: EXPORTS OF CASEIN (TONS)	99	TABLE 157. SINGAPORE: CASEINATES IMPORT/EXPORT FROM EU IN TONS - 2003 - 2008	122
TABLE 114. AUSTRALIA: EXPORTS/IMPORTS OF CASEIN (TONS)	99	TABLE 158. SOUTH KOREA: IMPORTS OF CASEIN/ CASEINATES (TONS) - 2008	123
TABLE 115. AUSTRALIA: EXPORTS IMPORTS OF CASEINATES (TONS)	100	TABLE 159. KOREA: IMPORTS OF CASEIN/ CASEINATES (TONS) - 2005	123
TABLE 116. CASEIN IMPORT/EXPORT FROM EU IN € - 1996 - 2008	101	TABLE 160. SOUTH KOREA: CASEIN IMPORT/EXPORT FROM EU IN €2000-2008	123
TABLE 117. AUSTRALIA: CASEIN IMPORT/EXPORT FROM EU IN TONS,2003-2008	102	TABLE 161. SOUTH KOREA: CASEIN IMPORT/EXPORT FROM EU IN €2003-2008	123
TABLE 118. AUSTRALIA: CASEINATES IMPORT/EXPORT FROM EU €,2003-2008	102	TABLE 162. SOUTH KOREA: CASEINATES IMPORT/EXPORT FROM EU €2003-2008	124
TABLE 119. AUSTRALIA: CASEINATES IMPORT/EXPORT FROM EU TONS,2003-2008	102	TABLE 163. South Korea: caseinates Import/Export from EU MT2003-2008	124
TABLE 120. NEW ZEALAND: PRODUCTION OF CASEIN/ CASEINATES (IN VOLUME)	104		

THE WORLD CASEIN & CASEINATES MARKET

LIST OF FIGURES

FIGURE 1. THREE DIMENSIONAL STRUCTURE OF BOVINE CASEINS	15
FIGURE 2. CASEINS ELECTROPHORESIS	15
FIGURE 3. STRUCTURE OF CASEIN MICELLE (MODEL OF MORR).	16
FIGURE 4. PREPARATION OF MILK FRACTIONS	17
FIGURE 5. MILK PROTEIN PRODUCTION	26
FIGURE 6. CASEIN NUTRACEUTICAL PROPERTIES	28
FIGURE 7. DISTRIBUTION OF THE AMERICAN IMPORTS OF CASEINS IN 2009	54
FIGURE 8. DISTRIBUTION OF THE AMERICAN EXPORTS OF CASEINS IN 2009	54
FIGURE 9. DISTRIBUTION OF THE AMERICAN IMPORTS OF CASEINATES IN 2009	55
FIGURE 10. US NON-FAT DRY MILK PRICES COMPARED WITH CASEIN PRICES, 2000-2009	59
FIGURE 11. PRICE COMPARISON OF MAJOR PROTEIN CONCENTRATE FOR HUMAN FOOD AND ANIMAL FEED -2005	60
FIGURE 12. US MONTHLY RENNET CASEIN PRICE	62
FIGURE 13. CASEIN PRICES 2010-2011	62
FIGURE 14. CANADIAN CASEIN IMPORTS - 2006	63
FIGURE 15. IMPORT OF DAIRY PRODUCTS: 2008	65
FIGURE 16. AUSTRALIAN CASEIN PRODUCTION AND EXPORTS	101
FIGURE 17. AUSTRALIA: CASEIN PRODUCTION AND EXPORTS	101
FIGURE 18. ASIAN CASEINS IMPORTS FROM EU	109
FIGURE 19. MAIN TRADES OF CASEINS AND CASEINATES IN THE WORLD, EXCLUDING INTERNAL EU EXCHANGES ('000 TONS)	128
FIGURE 20. MAIN TRADES OF CASEINS AND CASEINATES WITHIN THE EU ('000 TONS)	129

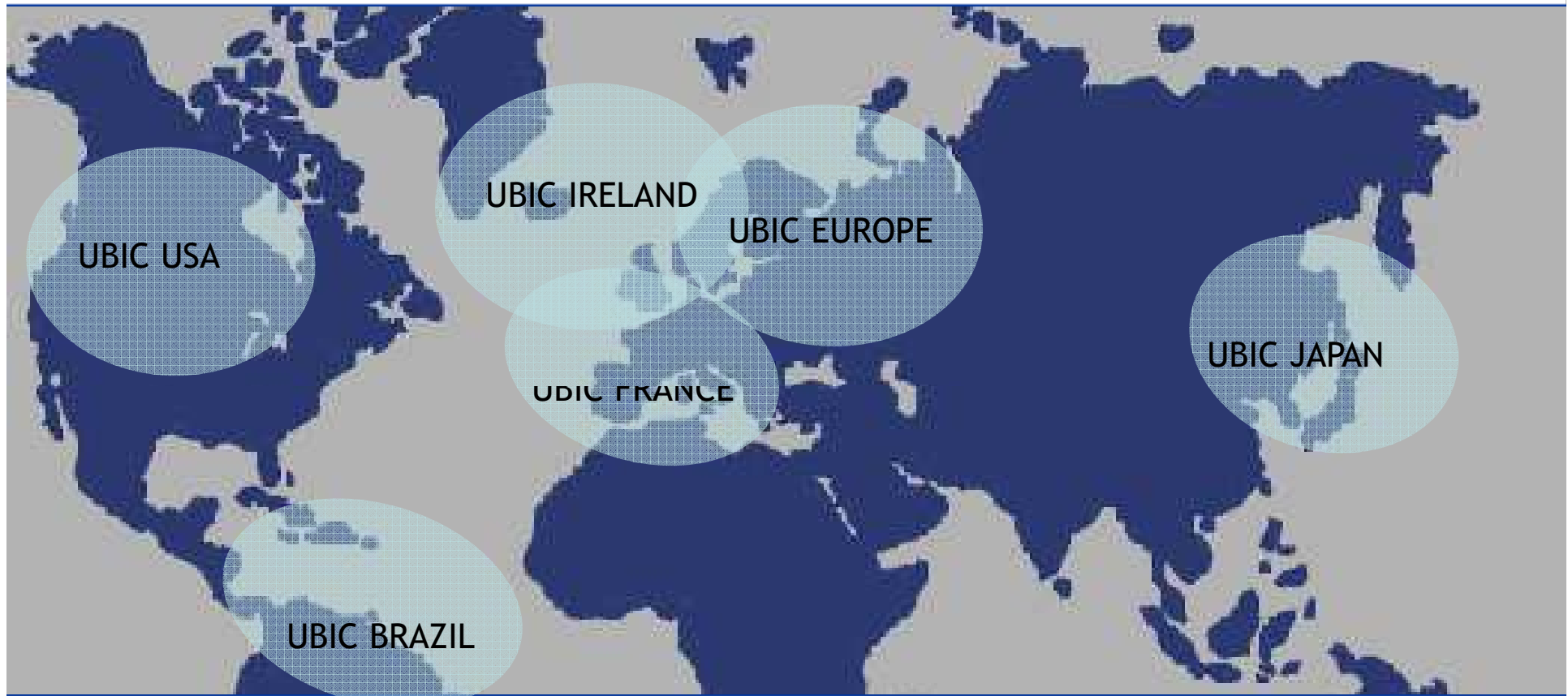
THE WORLD CASEIN & CASEINATES MARKET

ORDER FORM

Complete Study	<input type="checkbox"/> All sections	€4,900
Summary - conclusions	<input type="checkbox"/> Pages 1 - 49	€ 1,590

<p>Study purchase includes one year update available on-line on UBIC's Extranet</p> <p>Assistance is also available for specific questions</p>	<p>COMPANY _____</p> <p>Name _____ Position _____</p> <p><input type="checkbox"/> _____</p> <p>_____</p> <p><input type="checkbox"/> _____ Date _____</p> <p>Signature _____</p>
--	--

UBIC CONSULTING IN THE WORLD



UBIC USA
5020 Campus Drives
NEWPORT BEACH
CA-92660
Phone: 1 702 355 8804
Fax: 1 949 752 2287
info@ubicusa.com

UBIC EUROPE
Techno-Pôle 3
3960 SIERRE
CA-92660
Phone: +41 (0) 27 456 1440
+41 (0) 27 456 1444
Fax: +41 (0) 27 456 1447
info@ubiceurope.com

UBIC IRELAND
45 Glencarraig
DUBLIN 13
CA-92660
Phone: 353 1 832 47 12
Fax: 353 1 832 12 77
ubic@ubic-consulting.com

UBIC JAPAN
2nd Floor, IBRI, 2-2
Minatojima-minamimachi,
Kobe, 650-0047 JAPAN
Phone: +81 78 303 5559
Fax: +81 50 3488 4318
japan@ubic-consulting.com