

ACKNOWLEDGMENTS	xi
PREFACE	xii
PART I THE INDUSTRY	1
1. What Fine Chemicals Are	3
1.1 Definition	3
1.2 Positioning on the Value-Added Chain	5
2. The Fine-Chemical Industry	8
2.1 Fine-Chemical/Custom Manufacturing Companies	8
2.2 Contract Research Organizations	16
2.3 Laboratory Chemical Suppliers	20
3. Products	22
3.1 Small Molecules	22
3.2 Big Molecules	24
4. Technologies	27
4.1 Traditional Chemical Synthesis	27
4.2 Biotechnology	32
5. Facilities and Plants	40
5.1 Plant Design	41
5.2 Plant Operation	51
6. Research and Development	57
6.1 Objectives	58
	vii

6.2	Project Initiation	60
6.3	Project Execution and Management	61
7.	Cost Calculation	64
7.1	Investment Cost	64
7.2	Manufacturing Costs	64
8.	Management Aspects	68
8.1	Risk/Reward Profile	69
8.2	Performance Metrics and Benchmarking	71
8.3	Organization	73
Bibliography		76
 PART II	 THE BUSINESS	 79
9.	Market Size and Structure	81
9.1	Fine-Chemical Market Size	81
9.2	Market Breakdown by Major Applications	83
10.	The Business Condition	86
10.1	Offer	87
10.2	Demand	89
11.	Customer Base	93
11.1	Pharmaceutical Industry	93
11.2	Agrochemical Industry	101
11.3	Animal Health Industry	106
11.4	Other Specialty-Chemical Industries	108
12.	Marketing	123
12.1	Organization and Tasks	123
12.2	Target Products and Services	126
12.2.1	Exclusives: Custom Manufacturing	128
12.2.2	Nonexclusives: API-for-Generics	130
12.2.3	Standard Products	136

12.3	Target Markets: Geographic Regions and Customer Categories	137
12.4	Distribution Channels	142
12.5	Pricing	144
12.6	Intellectual Property Rights	148
12.7	Supply Contracts	149
12.8	Promotion	152
12.9	Network and Contact Development	153
12.10	Key Account Management and Collaborative Relationship	155
Bibliography		158
PART III OUTLOOK		159
13. General Trends and Growth Drivers		161
14. Globalization		163
15. Biotechnology		172
15.1	Small Molecules	172
15.2	Big Molecules (Biopharmaceuticals)	172
16. Ethical Pharmaceutical Industry/Custom Manufacturing		176
16.1	Restructuring and Outsourcing	177
16.2	R&D Productivity	179
17. Generics Industry/API-for-Generics		186
18. Agro Fine Chemicals		189
19. Contract Research Organizations		191
20. Conclusion: Who Is Fittest for the Future?		193
Bibliography		197
ABBREVIATIONS		199

APPENDIX	203
A.1 Information Sources/Life Sciences	205
A.2 Checklist for New Product Evaluation	210
A.3 Product Schedule, Custom Manufacturing Product	212
A.4 Company Scorecard	214
A.5 Job Description for Business Development Manager	216
A.6 Selection Criteria for Outsourcing Partners	218
A.7 Checklist for Customer Visit	219
A.8 Outline for a Company Presentation	221
A.9 Overseas Expansion of Indian Fine-Chemical Companies	222
INDEX	224

NOTES:

Exchange rates €1 = \$1.245/CHF 1 = \$0.804/£1 = \$1.82