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# ***WORLDWIDE EP ELASTOMERS***

**Markets, Technologies & Trends, 1998-2003**

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**Prospectus For  
An In-Depth Strategic Analysis**

**COMPLETED MARCH 1999**

- o EP Elastomers Markets: Sizes & Growth Rates
- o Producers of EP Elastomers: Profiles
- o EP Elastomers Technologies: Conventional Solution & Slurry
- o Impact of New Technologies: Metallocene Catalysts
- o Impact of New Technologies: The Gas-Phase Process
- o Impact of New-Generation Polyolefins
- o Attribute Analysis - Major End-Use Requirements
- o Intermaterial Competition with Other Elastomers
- o Market/Technology Positions of Worldwide Producers
- o Manufacturing Cost Analysis - Modular Approach



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# **WORLDWIDE EP ELASTOMERS MARKETS, TECHNOLOGIES & TRENDS 1998-2003**

## **INTRODUCTION**

The total demand for EP elastomers worldwide is growing at an average of 2.5%. EP (D)M rubber technology had not changed markedly since the 1960s. In the last five years, with the advent of revolutionary technological changes, the distinction between EP (D)M and other polyolefin based elastomers is disappearing. The "EP Elastomer" industry sector has undergone major changes in: (1) manufacturing technologies, (2) product portfolios and (3) organizational make-up. These changes were brought about by: (1) development of newer metallocene based EP(D)M elastomers by DuPont Dow, Exxon, Mitsui, Bayer etc., (2) development of gas-phase manufacturing process by Union Carbide and (3) development of low density polyethylenes by the polyolefin companies. Conventional EP(D)M rubber product portfolios and performance expectations are facing tremendous competitive pressures. These developments, with roots in both the EP(D)M rubber and polyolefins worlds, are out to change the marketplace and re-write the rules of competition.

## **BENCHMARK MARKET STUDY**

To assist companies in developing an in-depth analysis of the current technology status and its impact on current and future markets and monitoring rapid developments in this industry, Chemical Market Resources, Inc. (CMR), with our extensive experience in EP elastomers and EP(D)M rubber markets, catalyst technology, and production technology, presents a comprehensive business and technical strategic analysis that reports in-depth on the intermaterial competition among EP(D)M rubbers and other materials including new-generation polyolefins and performance elastomers. The report will assess the opportunities and the strategies for developing these markets.

## **MAJOR OBJECTIVES**

This study will offer: (1) EP(D)M producers, (2) polyolefin producers, (3) TPO/TPV compounders and (4) TPE producers and (5) the end users, an in-depth, quantified analysis of the current changes taking place in the industry and the future opportunities.

***The present and future EP elastomers market participants attempting to get a share of this market can benefit by understanding a realistic impact of the newer technologies.***

***The conventional EP(D)M producers will gain an insight into polyolefin developments and their impact on their markets in addition to the latest developments in technologies (both gas phase and metallocenes) and their cost impact – which is more important than the intermaterial substitution in this case***

*The detailed market attractiveness analyses will be a powerful tool for short/long range planning for most of the participants*

*The study will benefit individual end users, entrepreneurs, and organizations attempting to capture future growth in the markets*

## **KEY ISSUES ADDRESSED**

*The changing technology landscape: influence of new catalysts and processes: how will this effect producers and end users?*

*Comparisons between conventional and metallocene EP(D)Ms and with new-generation polyolefins, EP elastomers, and performance elastomers*

*Outline of global EP elastomer markets; Market/technology positioning of EP(D)M rubber producers*

*Impact of new-generation polyolefins on EP(D)M rubber markets, End-use requirements for polyolefins resins and unmet needs of major EP(D)M rubber producers; metallocene EP(D)M vs. conventional EP(D)M comparison*

*Detailed manufacturing cost analysis for EP(D)M rubbers: conventional process, metallocene process and gas phase*

## **APPROACH**

The information, data, and conclusions of this analysis were developed from sources in North America, Western Europe, Japan, and the rest of the world and are based on, but not limited to, the following methods:

*Search, review and interpretation of information from government sources, trade and industry groups, published articles and product promotional information; A thorough search of relevant patent technology and process details from producers*

*Information from industry experts and CMR proprietary projects related to EP(D)M rubbers*

*Interviews with leading suppliers of polyolefins and EP(D)M rubber and major end users in each market segment*

*Other studies completed by Chemical Market Resources, Inc including our end use profiles and cost databases.*

## **TIMING, SUBSCRIPTION & ORDERING INFORMATION**

The price of the study is \$8,000 for two copies. An order form is included for your convenience.

## PROJECT MANAGEMENT TEAM

**DR. WILLIAM D. VERNON** obtained a B.A. in Chemistry from Rice University and a Ph.D. in Chemistry from Michigan State University. Bill spent 21 years in the chemical industry, initially as a research scientist at Stauffer Chemical Company, Dobbs Ferry, NY, as research scientist then manager then director at Rexene, Odessa, TX, and finally as Vice President, Technology, for Paxon Polymer Company, Baton Rouge, LA. His technical expertise is in the areas of polyolefins manufacturing, catalysis, properties, processing, and analysis as well as general chemical manufacturing.

**MR. RICHARD M. BURKHART** obtained a B.S. in Chemical Engineering from Purdue University and a Masters in Engineering from Dartmouth College. Rick spent 33 years with Exxon Chemical Company, initially as a research engineer followed by a wide variety of assignments including over six years in the marketing of elastomers and plastics to the tire and automotive industries. His technical expertise is in the areas of chemical intermediates, polyolefins (elastomers and plastics) and adhesive resins. His recent focus has been in the area of long range technology trend analysis.

**JEHANGIR IRANI** obtained his Master's degree in Chemical Engineering from the Texas A&M University. Jehangir has several years of experience in production and process development in the chemical industry. As a project manager, he has completed several technology evaluations and market research projects related to vinyls, polyolefins, polyurethane, thermoplastic elastomers and fabricated products. He was responsible for the overall report organization, content and flow of materials.

**TAKASHI FUKUDA** obtained his Bachelor's degree in Chemical Engineering from Keio University and B.A. degree from Sanno Institute of Business Administration. Takashi has over 25 years of marketing and business research experience in the U.S. and Japan. He worked for Yano Research Institute (Tokyo) for six years in the area of market research of domestic products. He has completed several domestic and international market research projects in the area of petrochemicals, plastics and elastomers during his career with IRM, Inc., (U.S. and Japan) for 15 years. Presently Mr. Fukuda is a senior manager with MDI Research Company, Limited (Tokyo), a well marketing research company in Japan.

**DR. BALAJI B. SINGH**, president of Chemical Market Resources, Inc., obtained his Ph.D. in Chemical Engineering from Texas A&M University and an M.B.A in Marketing Research and Strategic Planning from the Ohio State University. He has seven years of experience in the oil/chemical industry in process research, process economics and marketing research. His key area of expertise is in opportunity evaluation and competitive assessment for technology value added specialty products in petrochemicals and functional chemicals. Balaji has successfully completed over 500 proprietary studies, in high technology specialty products in various end use industry sectors for clients worldwide.

**MR. TARUN KHEMLANI** obtained his Bachelor's degree in Chemical Engineering from the University of Houston. Tarun has played an active role in marketing research projects for the past several years. He has recently completed major projects for several multinational companies.

## **ABOUT OUR COMPANY...**

**CHEMICAL MARKET RESOURCES, Inc., was founded in 1990 to focus in the areas of marketing research and strategic planning. Our global clientele is concentrated within the chemical, petrochemical, plastics, and related industries.**

Prior to joining CMR, Inc., our associates held responsible positions in chemical and allied industries. Our professionals have strong technical backgrounds combined with hands-on business experience. Compilation of data, strategic analyses, writing, and editing are entirely conducted in-house in our state-of-the-art facilities to assure quality control at each stage of development. Our strength is in closely interacting with our clients to maximize effectiveness. We provide in-depth analyses with actionable statements in a cost-effective and timely fashion.

## **We are committed to Polyolefins/Elastomers!**

### ***Multiclient Studies***

New generation Polyolefins vs. SB Copolymers - North America, Europe and Japan 1995-2000 - Markets, Technologies & Trends - Completed January 1995

Intermaterial Competition of fPVC, Flexible Range TPEs and EP(D)M vs. Polyolefins North America, Europe & Japan 1995-2005 - Completed January 1996

High EVA Copolymers - North America, Europe and Japan 1996-2001 - Markets, Technologies & Trends - Completed June 1997

Polypropylene Films - North America, Europe and Japan 1996-2001 - Markets Technologies & Trends - Completed December 1996

### ***Periodicals***

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### ***Conferences***

We conduct a highly successful Annual Conference - FlexPO- that covers intermaterial competition among flexible polymers including fPVC, polyolefins, TPEs, and rubbers.

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TABLE OF CONTENTS	PAGE NO.
<b>CHAPTER 1: EXECUTIVE SUMMARY</b>	
Introduction.....	1-1
Study Organization.....	1-2
Chapter 3: EP Elastomer Overview.....	1-3
Properties of EP Elastomers.....	1-3
Manufacturing Technologies of EP Elastomers.....	1-5
Manufacturing Cost Economics of EP Elastomers.....	1-6
<b>Finished Forms</b> .....	1-6
<b>Curing of EP Elastomers</b> .....	1-6
<b>Processing EP Elastomers</b> .....	1-6
<b>Major Applications</b> .....	1-6
Chapter 4: Metallocene EP Elastomers .....	1-7
Comparison of Conventional vs. Metallocene EP Elastomers.....	1-7
Manufacturing Cost Analysis.....	1-8
Major Suppliers of Metallocene EP Elastomers.....	1-8
Future Developments.....	1-8
Chapter 5: Gas-Phase EP Elastomers.....	1-8
Current Status.....	1-9
Manufacturing Cost Analysis.....	1-9
Impact of Union Carbide's Gas-Phase Product.....	1-10
Impact on Future Technology.....	1-10
Chapter 6: Impact of Polyolefins.....	1-10
Chapter 7: EP Elastomer Markets.....	1-11
Automotive Parts.....	1-12
Single-Ply Roofing Membranes.....	1-12
Thermoplastic Olefins (TPOs and TPVs). Mechanical Rubber Goods.....	1-13
	1-14

TABLE OF CONTENTS (Contd.,)	PAGE NO.
Oil Additives.....	1-14
Wire and Cable.....	1-15
Tires and Tubes.....	1-15
Appliance Parts.....	1-15
Hoses.....	1-16
Other End Uses.....	1-16
Chapter 8: Global Demand for EP Elastomers....	1-16
Chapter 9: Global EP Elastomer Supply.....	1-20
Chapter 10: Strategic Analysis.....	1-25
Vulnerability of Conventional EP..... Elastomers to Those Produced by New Technologies.....	1-26
Strategic Options.....	1-27
<b>CHAPTER 2: INTRODUCTION</b>	
Background.....	2-1
Objectives.....	2-3
CMR Research Methodology.....	2-4
Abbreviations Used in this Studies.....	2-4
A Message from the Authors.....	2-4
<b>CHAPTER 3: EP ELASTOMER OVERVIEW</b>	
Introduction.....	3-1
Types of EP Elastomers.....	3-2
Ethylene Propylene Copolymer (EPM).... Ethylene Propylene Diene Terpolymer	3-2
EP(D)M.....	3-4
Properties of EP Elastomers.....	3-6
Technology of EP Elastomers.....	3-9
Conventional Solution Process.....	3-12
Conventional Bulk, or Suspension Process.....	3-14

<b>TABLE OF CONTENTS (Contd.,)</b>	<b>PAGE NO.</b>
Process Comparison.....	3-16
Post-Reactor Treatment and Packaging.....	3-17
Manufacturing Cost Economics.....	3-17
Conventional Solution Process.....	3-19
Finished Forms.....	3-21
Curing EP Elastomers.....	3-23
Other Additives.....	3-25
Processing EP Elastomers.....	3-25
Major Applications.....	3-25
Automotive Parts.....	3-25
Single-Ply Roofing.....	3-25
TPOs and TPVs.....	3-26
Mechanical Rubber Goods.....	3-26
Wire and Cable.....	3-26
Oil Additives.....	3-26
Tires and Tubes.....	3-27
Hoses.....	3-27
Appliance Parts.....	3-27
 <b>CHAPTER 4: METALLOCENE ELASTOMERS</b>	
Metallocene Overview.....	4-1
Metallocene EP Elastomers.....	4-3
Comparison of Conventional vs. Metallocene EP Elastomers.....	4-3
Manufacturing Cost Economics.....	4-6
Major Suppliers of Metallocene EP Elastomers...	4-8
End-User Responses.....	4-12
Future Developments.....	4-13
 <b>CHAPTER 5: GAS-PHASE EP ELASTOMERS</b>	
<i>Background</i> .....	5-1

<b>TABLE OF CONTENTS (Contd.,)</b>	<b>PAGE NO.</b>
Gas-Phase EP Elastomers	5-1
Process.....	5-6
Post-Reactor Equipment Analysis.....	5-14
Packaging.....	5-16
Current Status.....	5-17
Manufacturing Cost	5-17
Economics.....	5-19
Impact of Union Carbide's Gas-Phase Product...	5-20
Impact on Future	5-20
Technology.....	5-20
Other Gas-Phase Technologies.....	5-20
Future of Gas-Phase Technologies.....	5-20
References.....	5-20
 <b>CHAPTER 6: IMPACT OF POLYOLEFINS</b>	
Polyolefin Developments: Overview.....	6-1
New Generation Polyolefins: Technology.....	6-2
Overlap of EP Elastomers and Polyolefins.....	6-3
Strategic Positions of New-Generation Polyolefins Producers.....	6-4
Suppliers of New-Generation Polyolefins: Market Positions .....	6-6
Suppliers of New-Generation Polyolefins: Technology Positions.....	6-6
Impact of New-Generation Polyolefins on EP Elastomers: The Future.....	6-7
 <b>CHAPTER 7: EP ELASTOMERS MARKETS</b>	
Introduction.....	7-1
Automotive Parts.....	7-1
Single-Ply Roofing Membranes.....	7-3
Thermoplastic Olefins (TPOs and TPVs).....	7-4
Mechanical Rubber Goods.....	7-5
Wire and Cable.....	7-9
Oil Additives.....	7-10

TABLE OF CONTENTS (Contd.,)	PAGE NO.
Tire and Tubes.....	7-11
Hoses.....	7-11
Appliance Parts.....	7-12
Other End Uses.....	7-13

### CHAPTER 8: GLOBAL DEMAND FOR EP ELASTOMERS

Demand for EP Elastomers - North America.....	8-1
Automotive Parts.....	8-1
Single-Ply Roofing Membranes.....	8-4
Thermoplastic Olefins (TPOs and TPVs)	8-10
Mechanical Rubber Goods.....	8-14
Wire and Cable.....	8-17
Oil Additives.....	8-21
Tires and Tubes.....	8-24
Non-Automotive Hoses.....	8-27
Appliance Parts.....	8-31
Other End Uses.....	8-31
Demand for EP Elastomers - Western Europe....	8-33
Automotive Parts.....	8-33
TPOs/TPVs.....	8-36
Mechanical Rubber Goods.....	8-36
Wire and Cable.....	8-36
Single-Ply Roofing and Building Construction.....	8-37
Oil Additives.....	8-37
Other End Uses.....	8-37
Demand for EP Elastomers – Japan.....	8-37
Automotive Parts.....	8-38
TPOs and TPVs.....	8-38
Mechanical Rubber Goods.....	8-38
Single-Ply Roofing Membranes.....	8-41

TABLE OF CONTENTS (Contd.,)	PAGE NO.
Appliance Parts.....	8-41
Wire and Cable.....	8-41
Other End Uses.....	8-41
Demand for EP Elastomers - Rest of the World...	8-42

### CHAPTER 9: EP ELASTOMERS GLOBAL SUPPLY

Producers of EP Elastomers - North America.....	9-1
Uniroyal Chemical Company.....	9-1
Exxon Chemical Company.....	9-5
DSM Copolymer, Inc.....	9-5
DuPont Dow Elastomers, LLC.....	9-12
Bayer Corporation.....	9-13
US Imports.....	9-13
US Exports.....	9-13
Producers of EP Elastomers - Western Europe..	9-21
EniChem Elastomeri S.r.l.....	9-21
Exxon Chemical Europe, Inc.....	9-26
DSM Elastomers Europe B.V.....	9-26
Bayer A.G.....	9-26
Producers of Elastomers - Japan.....	9-26
Japan Synthetic Rubber Company, Ltd..	9-26
DSM Idemitsu Company, Ltd.....	9-27
Mitsui Chemicals, Inc.....	9-27
Sumitomo Chemical Company, Ltd.....	9-27
Producers of EP Elastomers - Rest of the World	9-35
Kumho Polychem Company, Ltd.....	9-35
Herdillia Unimers, Ltd.....	9-38
DSM Elastômeros do Brasil, Ltd.....	9-38
Jilin Chemical Industrial Company, Ltd...	9-38
Capacity Analysis.....	9-53
Future Expansions.....	9-53

TABLE OF CONTENTS (Contd.,)	PAGE NO.
North American EP Elastomers Suppliers: Market and Technology Positions.....	9-55
Suppliers of EP Elastomers: Market Shares.....	
Suppliers of EP Elastomers: Market Positions.....	9-55
Suppliers of EP Elastomers: Technology Positions.....	9-55
Industry Structure.....	9-57
Price History.....	9-58
Future Trends.....	9-62

**CHAPTER 10: STRATEGIC ANALYSIS**

Introduction.....	
Future Trends.....	
North America.....	10-1
Western Europe.....	10-2
Japan.....	10-2
Rest of the World.....	10-5
Strategic Assessment of Global EP Elastomers..	10-6
Technology Developments.....	10-7
Cost Comparison Among the Processes.....	10-8
Impact by Major End Use.....	10-8
Methodology.....	10-8
Vulnerability of Conventional EP Elastomers to Those Produced by New Technologies.....	10-10
Vulnerability of EP Elastomers to New-Generation Polyolefins.....	10-11
Strategic Options.....	
Producers of Conventional EP Elastomers.....	10-14
Producers of New-Technologies-Based	10-17

TABLE OF CONTENTS (Contd.,)	
EP Elastomers.....	
Producers of New-Generation	10-17
Polyolefins.....	10-18
New Entrants.....	10-18
End Comments.....	10-19

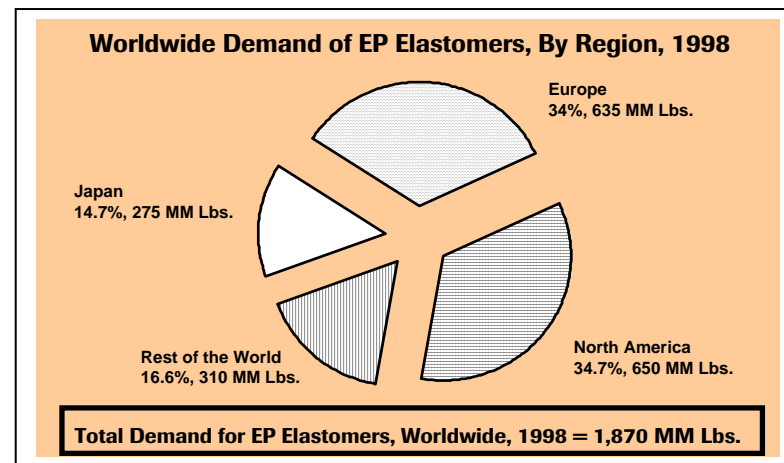
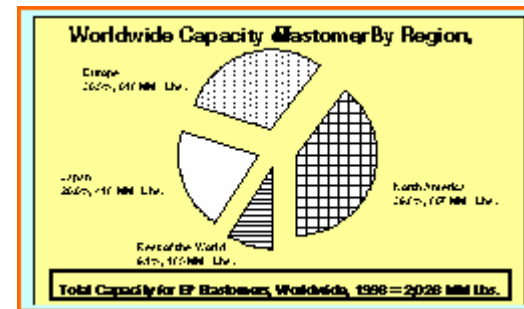


EXHIBIT NO.	LIST OF EXHIBITS	PAGE NO.	EXHIBIT NO.	LIST OF EXHIBITS (Contd.,)	PAGE NO.
<b>CHAPTER 1: EXECUTIVE SUMMARY</b>					
1-1	Typical Properties of EP Elastomers.....	1-4		Conventional Solution Process.....	3-18
1-2	Demand for EP Elastomers, North America, 1998, and Projected Growth Rates.....	1-17	3-10	Schematic Depiction of Crosslinked Molecules..	3-22
1-3	Demand for EP Elastomers, Europe 1998 and Projected Growth Rates.....	1-18	3-11	Typical Accelerators Used in Sulphur Vulcanization.....	3-24
1-4	Demand for EP Elastomers, Japan, 1998 and Projected Growth Rates.....	1-19		<b>CHAPTER 4: METALLOCENE EP ELASTOMERS</b>	
1-5	Producers of EP Elastomers, North America....	1-21	4-1	Solution Process for Producing Metallocene- Based EP Elastomers.....	4-7
1-6	Producers of EP Elastomers, Western Europe..	1-22	4-2	Manufacturing Cost Economics for the Metallocene Solution Process.....	4-9
1-7	Producers of EP Elastomers, Japan.....	1-23	4-3	Typical Properties of DuPont Dow Elastomers Nordel IP EP(D)M.....	4-10
1-8	Producers of EP Elastomers, Rest of the World.	1-24			
<b>CHAPTER 2: INTRODUCTION</b>					
2-1	Research Methodology.....	2-5		<b>CHAPTER 5 : GAS-PHASE EP ELASTOMERS</b>	
2-2	Abbreviations Used in this Study.....	2-6		5-1	US Patent 4,482,687.....
				5-2	US Patent 4,994,534.....
				5-3	US Patent 4,758,654.....
<b>CHAPTER 3: EP ELASTOMER OVERVIEW</b>				5-4	US Patent 5,116,940.....
3-1	Chemistry of EP Elastomers.....	3-3		5-5	US Patent 5,292,863.....
3-2	Termonomers Used in the Production of EP(D)M.....	3-5		5-6	US Patent 5,292,863 #2.....
3-3	Typical Properties of EP Elastomers.....	3-7		5-7	US Patent 5,478,922.....
3-4	EP(D)M Chemical Resistance.....	3-8		5-8	US Patent 5,688,910.....
3-8	Comparison of EP(D)M to Other Rubbers and Typical Compounds.....	3-10		5-9	Manufacturing Cost Economics for the Gas- Phase Process.....
3-6	The Evolution of Catalyst Systems for Production of EP Elastomers.....	3-11			5-18
3-7	Solution Process for Producing EP Elastomers.	3-13		<b>CHAPTER 6: IMPACT OF POLYOLEFINS</b>	
3-8	Bulk Process for Producing EP Elastomers	3-15	6-1	The Polyolefins Universe.....	6-5
3-9	Manufacturing Cost Economics for the.....		6-2	Analysis of New Generation Polyolefins	

EXHIBIT NO.	LIST OF EXHIBITS (Contd.,)	PAGE NO.	EXHIBIT NO.	LIST OF EXHIBITS (Contd.,)	PAGE NO.
	Producers Market and Technology Positions - 1998.....	6-8	8-8	Multi-Attribute Analysis: Plastomers vs. EPM in Compounding Applications.....	8-13
6-3	Analysis of New Generation Polyolefins Producers Market and Technology Positions (North America, 1998).....	6-9	8-9	Multi-Attribute Analysis: EP(D)M Markets: Mechanical Rubber Goods..	8-15
	<b>CHAPTER 7: EP ELASTOMERS MARKETS</b>		8-10	Multi-Attribute Analysis: EP(D)M Markets: Mechanical Rubber Goods..	8-16
7-1	Major Types of TPOs.....	7-6	8-11	Major Consumers of EP(D)M in Wire and Cable.....	8-18
7-2	Comparison Among Different Types of TPOs.	7-7	8-12	Multi-Attribute Analysis: EP(D)M Markets: Wire and Cable Applications - EP(D)M.....	8-19
7-3	Multi-Attribute Analysis: PHY TPO vs. TPV vs. REC TPO vs. M-PO based PHY TPO.....	7-8	8-13	Multi-Attribute Analysis: EP(D)M Markets: Wire and Cable Applications - PHY- TPO.....	8-20
	<b>CHAPTER 8: GLOBAL DEMAND FOR EP ELASTOMERS</b>		8-14	Multi-Attribute Analysis: Plastomers: Wire and Cable.....	8-22
8-1	Demand for EP Elastomers, North America, 1998.....	8-2	8-15	Major Consumers of EPM in Oil Additives, 1998	8-23
8-2	Demand for EP Elastomers, North America, 1998, and Projected Growth Rates.....	8-3	8-16	Multi-Attribute Analysis: EPM Markets: Oil Additives.....	8-25
8-3	Multi-Attribute Analysis: EP(D)M Markets: Automotive Trim Applications.....	8-5	8-17	Multi-Attribute Analysis: EP(D)M Markets: Tire and Tube Applications...	8-26
8-4	Multi-Attribute Analysis: EP(D)M Markets: Automotive Non-Bumper Applications.....	8-6	8-18	Major Consumers of EP(D)M in Hoses 1998...	8-28
8-5	Major Consumers of EP(D)M in Single-Ply Roofing, 1998.....	8-8	8-19	Multi-Attribute Analysis: EP(D)M Markets: Industrial Hoses.....	8-29
8-6	Multi-Attribute Analysis: EP(D)M Markets: Single Ply Roofing Membranes.....	8-9	8-20	Multi-Attribute Analysis: EP(D)M markets: Hoses and Tubing.....	8-30
8-7	Multi-Attribute Analysis:EP(D)M Markets: Thermoplastic Vulcanizate (TPV) Application..	8-12	8-21	Multi-Attribute Analysis: EP(D)M Markets: Appliance Parts.....	8-32
			8-22	Demand for EP Elastomers, Europe, 1998.....	8-34
			8-23	Demand for EP Elastomers, Europe, 1998.....	8-35
			8-24	Demand for EP Elastomers, Japan, 1998.....	8-39
			8-25	Demand for EP elastomers, Japan, 1998 and Projected Growth Rates.....	8-40

EXHIBIT NO.	LIST OF EXHIBITS (Contd.,)	PAGE NO.	EXHIBIT NO.	LIST OF EXHIBITS (Contd.,)	PAGE NO.
	<b>CHAPTER 9: EP ELASTOMERS GLOBAL SUPPLY</b>		9-22	Analysis of EP Elastomers Suppliers' Market And Technology Positions - 1998.....	9-59
9-1	Producers of EP Elastomers, North America..	9-2	9-23	Analysis of EP Elastomers Suppliers' Market And Technology Positions North America, 1998.....	9-60
9-2	Market Share of EP Elastomers Producer by Market.....	9-3	9-24	Industry Structure: EP Elastomers, North America.....	9-61
9-3	Typical Properties of Uniroyal Royalene EP(D)M.....	9-4	9-25	Prices, EP Elastomers, North America, 1998	9-63
9-4	Typical Properties of Exxon VISTALON EP Elastomers.....	9-6	9-26	EP Elastomers Capacity by Region, World, 1998.....	9-64
9-5	Typical Properties of DSM Keltan EP(D)M.....	9-7			
9-6	Typical Properties of DuPont Dow Elastomers Nordel IP EP(D)M.....	9-14		<b>CHAPTER 10: STRATEGIC ANALYSIS</b>	
9-7	Typical Properties of Dupont Dow Elastomers NORDEL EP(D)M.....	9-16	10-1	Comparison of Manufacturing Cost Economics Of EP Elastomers.....	10-9
9-8	Typical Properties of Buna EP Elastomers.....	9-17	10-2	Vulnerability Index: Conventional EP Elastomers vs. New-Technology EP Elastomers.....	10-12
9-9	Producers of EP Elastomers, Western Europe..	9-22	10-3	Market Attractiveness vs. Vulnerability Index Conventional EP Elastomers vs. New Technology EP Elastomers, North America, 1998.....	10-13
9-10	Typical Properties of EniChem Dutral EP Elastomers.....	9-23	10-4	Vulnerability Index: Conventional EP Elastomers vs. New Generation Polyolefins.....	10-15
9-11	Producers of EP Elastomers, Japan.....	9-28	10-5	Conventional EP Elastomers vs. New Generation Polyolefins North America, 1998.....	10-16
9-12	Typical Properties of JSR EP.....	9-29	10-6	EP Elastomers Capacity by Region, World, 1999.....	10-20
9-13	Typical Properties of DSM-Idemitsu EP(D)M....	9-32			
9-14	Typical Properties of Mitsui EPT.....	9-36			
9-15	Producers of EP Elastomers, Rest of the World.	9-37			
9-16	Typical Properties of Kumho KEP EP Elastomers.....	9-39			
9-17	Typical properties of Herdillia Herlene EP Elastomers.....	9-48			
9-18	Typical Properties of Keltan EP(D)M Elastomers Produced in Brazil.....	9-50			
9-19	Typical properties of Jilin EP(D)M.....	9-52			
9-20	EP Elastomers Capacities, World Total, 1998...	9-54			
9-21	Estimated Market Shares for EP Elastomers, N.A., 1998.....	9-56			