

TABLE OF CONTENTS

INTRODUCTION

LIST OF TABLES & FIGURES

I. ECONOMICS, GOVERNMENT REGULATIONS, AND FOREIGN MARKETS	1
Introduction	1
Industry Shipments	5
Forecast	9
Company Performance	9
Industry Profitability	13
Prices	13
Containers	16
Operations/Productivity	17
Employment/Productivity	23
Regional Patterns	24
Transportation	29
Distribution	29
Government Regulations	34
Background	34
The Laws	35
Air pollution	35
Water quality	41
Hazardous wastes	42
Toxic substances	43
Safety	45
Containers	46
Outlook	46
Foreign Trade	49
World Production and Markets	51
Canada	52
Europe	52
Japan	53
2. MATERIALS AND MANUFACTURING	55
Raw Materials	56
Binders	57
Synthetic Resins	57
Alkyds	57
Polyester resins	60
Acrylic resins	60
Vinyl resins	62
Epoxy resins	63
Polyurethanes	64
Amino resins	65
Other resins	65
Oils and Natural Resins	66

Solvents	67
Hydrocarbon solvents	67
Aliphatic hydrocarbons	67
Aromatics	68
Oxygenated solvents	68
Ketones	68
Glycols, glycol ethers and glycol esters	69
Alcohols	69
Esters	69
Pigments	69
White Pigments	71
Carbon Black	72
Color Pigments	72
Fillers And Extenders	75
Calcium Carbonate	76
Clays	76
Talc	77
Silica	77
Barytes	78
Mica	78
Other	78
Additives	79
Surfactants	80
Rheology Modifiers	81
Plasticizers	81
Antifoulants	81
Driers	82
Biocides/fungicides	82
UV Light Stabilizers	82
Other Additives	83
Prices	84
3. PRODUCTS AND MARKETS	85
Types of Architectural Coatings	89
Interior Paints	92
Exterior Paints	93
Suppliers	93
Industrial OEM coatings	95
Transportation	98
Motor vehicles	98
Automobiles and Trucks	100
Trucks and Buses	106
Other transportation	106
Metal finishes	107
Containers	107
Coil Coatings	109
Fabricated Metal	111
Appliances	112
Wood	113

Machinery And Equipment	114
Powder Coatings	116
Radiation Cured Coatings	118
Other OEM Coatings	122
Special Purpose Coatings	122
Automotive, Transportation And Machinery	124
Industrial Maintenance	126
Highway And Traffic Marking	128
Marine	128
Aerosols	129
Miscellaneous	130
Substrates	130
Plastics	130
Other Substrates	130
4. INDUSTRY ACTIVITIES, ORGANIZATIONS AND SOURCES OF INFORMATION	131
Sources of Statistical Information	131
Trade Associations	134
Trade and Technical Publications	136
Industry Events and Trade Shows	138
5. COMPANIES	141
Appendix 1. CROSS REFERENCE	311
Appendix 2. MERGERS AND ACQUISITIONS	317
INDEX OF KEY PERSONNEL	323

LIST OF TABLES AND FIGURES

Number	Table	Page
I-1	Paint Production by Class of Manufacturer	4
I-2	Characteristics and Competitive Factors by Segment	4
I-3	US Shipments of Paint, Varnish and Lacquer in Dollars	5
I-4	US Production of Paint, Varnish and Lacquer in Volume	6
I-5	Historical and Forecast Sales and Shipments of Paint	10
I-6	Sales of Major Paint Companies	11
I-7	Concentration of US Producers of Paint	13
I-8	Financial Results for Paint Companies	14
I-9	Average Manufacturers' Prices for Paint	15
I-10	Producer Price Indexes for Paint	17
I-11	Number of Plants by Size for Paint Industry	18
I-12	Production Index for Paint Industry	19
I-13	Capacity Utilization Rates for Paint Industry 1980-1989	20
I-14	Capacity Utilization Rates for Paint Industry 1989-2001	20
I-15	Operating Rates for Paint Industry by Major States	21
I-16	Inventories for Paint Industry	21
I-17	New Capital Expenditures for Paint Industry	22
I-18	Capital Expenditures and Profits for Paint Companies	22
I-19	Advertising Expenditures for Paint Industry	23
I-20	Employment and Expenditures of Paint Industry	24
I-21	Productivity and Wages of Paint Industry	25
I-22	Geographical Distribution of Paint Establishments, Shipments and Payroll	26
I-23	Regional Shipments by Product Class	27
I-24	Distribution of Architectural Coatings	29
I-25	Sales by Type and Class	30
I-26	Sales by Class of Wholesalers	30
I-27	Sales by Size of Wholesalers	31
I-28	Concentration of Wholesalers	31
I-29	Sales by Retailers	32
I-30	Operations of Retail Stores	32
I-31	Sales by Size of Retailer	33
I-32	Retail Outlets by Company	33
I-33	Distribution of Paint Stores by State	34
I-34	HAP Specified in the Clean Air Act	37
I-35	HAP Limits for Can Coatings	39
I-36	HAP Limits for Wood Building Products	39
I-37	Permitted VOC Emissions for Architectural Industrial Maintenance Coatings	40
I-38	VOC Limits for Automotive Refinishes	41
I-39	VOC Limits Current National Rule and Proposed Limits	47
I-40	US Imports and Exports by Year	49
I-41	US Foreign Trade by Country	50
I-42	US Exports of Paints by Type	50
I-43	US Imports of Paints by Type	51

1-44	World Production by Region	52
1-45	European Production by Country	53
1-46	European Production by Product Line	53
1-47	Japanese Production	53
1-48	Leading Worldwide Producers	54
2-1	US Consumption of Raw Materials by Type	56
2-2	Materials Consumed by Kind	58
2-3	Consumption of Binders	59
2-4	US Production and Sales of Epoxy Resin	63
2-5	Consumption of Solvents	67
2-6	Consumption of Pigments	70
2-7	Production and Consumption of Titanium Dioxide	71
2-8	Production, Imports and Supply of Iron Oxide Pigments	73
2-9	Consumption Extenders and Fillers	76
2-10	Production and Consumption of Kaolin	77
2-11	Production and Consumption of Talc	78
2-12	Production and Consumption of Ground Mica	79
2-13	Consumption of Paint Additives	80
2-14	Prices Indexes of Raw Materials	84
3-1	Residential Expenditures for Painting by Type of Property	88
3-2	Residential Expenditures for Painting by Region	89
3-3	Residential Expenditures for Paint	89
3-4	Quantity and Value of Shipments of Architectural Coatings	90
3-5	US Sales of Major Producers of Architectural Coatings	94
3-6	Producer Price Indexes for Architectural Paint	95
3-7	Major US Suppliers of OEM Product Finishes	98
3-8	Industrial Production Indexes of End Uses for OEM Product Finishes	98
3-9	Producer Price Indexes for OEM Product Finishes	99
3-10	Shipments of OEM Product Finishes by End Use	99
3-11	Value of Industrial OEM Paints, Varnishes and Lacquers	101
3-12	Shipments of Transportation Equipment	103
3-13	Production of Automobiles and Trucks	104
3-14	Production of Automobiles by Manufacturer	104
3-15	EPA Emission Limits for Plastic Coatings	107
3-16	Production of Metal cans by Type	108
3-17	Production of Metal Cans by End Use	109
3-18	EPA Limits for Metal Cans	109
3-19	Shipments of Metal Furniture and Fixtures	111
3-20	Shipments of Major Household Appliances	112
3-21	Shipments of Wooden Furniture and Fixtures	113
3-22	HAP Emission Limits for Wood Building Products	115
3-23	Shipments of Machinery and Equipment	115
3-24	Shipments of Special Purpose Coatings	120
3-25	Consumption of Special Purpose Coatings by End Use	123
3-26	Price Indexes for Special Purpose Coatings	124
3-27	Major US Suppliers of Special Purpose Coatings	125

Page	Figure	No.
1-1	Overview of the Industry	2
1-2	Structure of the Industry	3
1-3	Industry Shipments by Segment	7
1-4	Index of Production	8
1-5	Index of Production by Type	8
1-6	Quarterly Production by Type	9
1-7	Price Indexes of Paint and Raw Materials	14
1-8	Employment by Size of Establishment	18
1-9	Average Production Index	19
1-10	Shipments of Paints by State	25
1-11	Paint Stores by State	32
<hr/>		
3-1	Shipments of Architectural Coatings in Dollars	86
3-2	Shipments of Architectural Coatings in Volume	87
3-3	Housing Starts	87
3-4	Value of Residential New Construction	87
3-5	Waterborne vs. Solventborne Interior Architectural Coatings	91
3-6	Waterborne vs. Solventborne Exterior Architectural Coatings	91
3-7	Shipments of OEM Product Finishes	97
3-8	US Consumption of OEM Industrial Finishes	100
3-9	Shipments of Special Purpose Coatings	123
3-10	End Uses for Special Purpose Coatings	124