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[Table of Contents 2](#)

[List of Tables & Charts 3](#)

[Study Overview 4](#)

[Sample Text, Table & Chart 5](#)

[Sample Profile, Table & Forecast 6](#)

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Pigments: Inorganic, Organic & Specialty

US Industry Study with Forecasts for **2011 & 2016**

Study #2232 | August 2007 | \$4500 | 275 pages

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Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT

General	4
Macroeconomic Overview	4
Consumer Spending & Income Patterns	8
Manufacturing Outlook	11
Regulatory Environment	13
Pollution Control Issues	14
Consumer & Worker Safety Concerns	15
Historical Market Trends	16
Foreign Trade	19
Imports	20
Exports	24
International Activity	26

OVERVIEW

General	28
Colorant Industry Outlook	29
Demand by Color Group	33
Red Pigments	35
Yellow Pigments	36
Blue & Green Pigments	36
Other Pigments	37
Demand by Pigment Type	37
Pricing	40

INORGANIC PIGMENTS

General	43
Demand by Market	45
Demand by Type	46
Special Carbon Black	48
Complex Inorganic	51
Iron Oxide	53
Ultramarine	56
Chromium Oxide	60
Chromate	61
Cadmium	63
Other Inorganic	65

ORGANIC PIGMENTS

General	68
Demand by Market	70
Demand by Type & Grade	72
Azo	74
Phthalocyanine	77
Quinacridone	80

Other Organic	82
Carbazole Violet	83
Diketo Pyrrolo Pyrrole	84
Isoindoline	85
Perylene	85
All Other	86

SPECIALTY PIGMENTS

General	87
Demand by Market	88
Demand by Type	90
Metallic	91
Markets	94
Suppliers	97
Luminescent	98
Daylight Fluorescent	99
Other	100
Pearlescent	101
Transparent	103
Other Specialty	105

PIGMENT DEMAND BY MARKET

General	109
Paints & Coatings	111
Paints & Coatings Industry Overview ..	112
Pigment Demand	113
Architectural	116
Durable Equipment	118
Special Purpose	121
Printing Inks	123
Printing Inks Industry Overview	124
Pigment Demand	127
Conventional Printing Inks	129
Specialty Printing Inks	131
Digital Inks	135
Plastics	137
Plastics Industry Overview	138
Pigment Demand	139
Ceramics, Glass & Minerals	143
Ceramic, Glass & Mineral Industry Over-	
view	144
Pigment Demand	145
Ceramics	146
Glass	147
Minerals	147
Textiles & Leather	150
Textile & Leather Industry Overview ...	150
Pigment Demand	152
Toner	155
Toner Industry Overview	155
Pigment Demand	156

Cosmetics & Toiletries	158
Cosmetic & Toiletry Industry Overview	159
Pigment Demand	161
Paper & Paperboard	164
Paper & Paperboard Industry Overview	165
Pigment Demand	166
Other Markets	168

INDUSTRY STRUCTURE

General	172
Market Share	175
Sun Chemical	176
BASF	176
Ciba Specialty Chemicals	177
Clariant International	178
LANXESS	179
Other	179
Inorganic Pigments	180
Organic Pigments	183
Specialty Pigments	185
Pigment Concentrates	187
Mergers & Acquisitions	189
Competitive Strategies	192
Product Differentiation	194
Product Specialization	194
Cooperative Agreements	195
Research & Development	198
Manufacturing	199
Marketing & Distribution	201

COMPANY PROFILES

ALTANA AG	203
Apollo Colors	206
BASF AG	207
Cabot Corporation	211
Ciba Specialty Chemicals	213
Clariant International	216
Columbian Chemicals	220
Dainichiseika Color & Chemicals	222
Dainippon Ink and Chemicals	224
Elementis plc	228
European Colour	230
Ferro Corporation	231
Flint Group	233
Freeport-McMoRan Copper & Gold	235
Heubach GmbH	236
Honeywell International	238
JDS Uniphase	239
LANXESS AG	241
Lubrizol Corporation	243

(continued on next page)

COMPANY PROFILES

Matsui International.....	244
Merck KGaA.....	245
Organic Dye-stuffs.....	248
PMC Global Incorporated.....	249
PolyOne Corporation.....	250
RAG AG.....	253
Rockwood Holdings.....	256
RPM International.....	259
Sensient Technologies.....	261
SICPA Holding.....	263
Sudarshan Chemical.....	264
Synalloy Corporation.....	265
Thomas Swan & Company.....	266
Toyo Ink Manufacturing.....	267
US Bronze Powders.....	269
Wacker Chemie.....	270
Other Companies Mentioned in Study....	271

List of Tables/Charts

EXECUTIVE SUMMARY

1 Summary Table.....	3
----------------------	---

MARKET ENVIRONMENT

1 Macroeconomic Overview.....	8
2 Consumer Spending & Income Patterns.....	10
3 Manufacturers' Shipments.....	13
4 Pigment Market, 1996-2006.....	18
Cht Pigment Market, 1996-2006.....	18
5 Pigment Supply & Demand.....	20
Cht US Pigment Imports by Region, Value & Volume, 2006.....	23
Cht US Pigment Exports by Region, Value & Volume, 2006.....	25
Cht World Pigment Demand, 2006.....	27

OVERVIEW

1 Colorant Demand by Type.....	31
Cht Colorant Industry Flow Chart.....	32
2 Pigment Demand by Color Group.....	34
Cht Pigment Demand by Color Group, 2006.....	35
3 Pigment Demand by Type.....	39
Cht Pigment Demand by Type, 2006.....	40
4 Pigment Prices.....	42

INORGANIC PIGMENTS

1 Inorganic Pigment Demand.....	44
2 Inorganic Pigment Demand by Market	46
3 Inorganic Pigment Demand by Type ..	48
4 Special Carbon Black Pigment Demand by Market.....	51
5 Complex Inorganic Pigment Demand by Market.....	53
6 Iron Oxide Pigment Demand by Market.....	56
7 Ultramarine Pigment Demand by Market.....	59
8 Chromium Oxide Pigment Demand by Market.....	61
9 Chromate Pigment Demand by Market	63
10 Cadmium Pigment Demand by Market	65
11 Other Inorganic Pigment Demand by Market.....	67

ORGANIC PIGMENTS

1 Organic Pigment Demand.....	70
2 Organic Pigment Demand by Market ..	72
3 Organic Pigment Demand by Type & Grade.....	74
4 Azo Pigment Demand by Type & Market.....	77
5 Phthalocyanine Pigment Demand by Type & Market.....	80
6 Quinacridone Pigment Demand by Market.....	82
7 Other Organic Pigment Demand by Market.....	83

SPECIALTY PIGMENTS

1 Specialty Pigment Demand.....	88
2 Specialty Pigment Demand by Market	90
3 Specialty Pigment Demand by Type...	91
4 Metallic Pigment Demand by Type & Market.....	94
5 Luminescent Pigment Demand by Type & Market.....	99
6 Pearlescent Pigment Demand by Market.....	103
7 Transparent Pigment Demand by Market.....	105
8 Other Specialty Pigment Demand....	108

PIGMENT DEMAND BY MARKET

1 Pigment Demand by Market.....	110
Cht Pigment Demand by Market, 2006...	111
2 Paints & Coatings Shipments.....	113
3 Paints & Coatings: Pigment Demand by Type & Segment.....	116
4 Architectural Paint: Pigment Demand.....	118
5 Durable Equipment Coatings: Pigment Demand.....	121
6 Special Purpose Paints & Coatings: Pigment Demand.....	123
7 Printing Inks Production.....	126
8 Printing Inks: Pigment Demand by Type & Segment.....	129
9 Conventional Inks: Pigment Demand	131
10 Specialty Inks: Pigment Demand.....	135
11 Digital Inks: Pigment Demand.....	137
12 Plastics Supply & Demand.....	139
13 Plastics: Pigment Demand by Type..	143
14 Ceramic, Glass & Mineral Product Shipments.....	145
15 Ceramics, Glass & Minerals: Pigment Demand by Type.....	146
16 Textile & Leather Product Shipments	152
17 Textiles & Leather: Pigment Demand by Type.....	154
18 Toner Production.....	156
19 Toner: Pigment Demand by Type.....	158
20 Cosmetic & Toiletry Product Shipments.....	161
21 Cosmetics & Toiletries: Pigment Demand by Type.....	164
22 Paper & Paperboard Production.....	166
23 Paper & Paperboard: Pigment Demand by Type.....	168
24 Other Markets: Pigment Demand....	171

INDUSTRY STRUCTURE

1 US Pigment Sales for Selected Firms, 2006.....	173
Cht 2006 US Pigment Sales by Company	175
Cht US Inorganic Pigment Sales by Company, 2006.....	183
Cht US Organic Pigment Sales by Company, 2006.....	185
Cht US Specialty Pigment Sales by Company, 2006.....	187
2 Selected Acquisitions & Divestitures	191
3 Selected Cooperative Agreements ...	197

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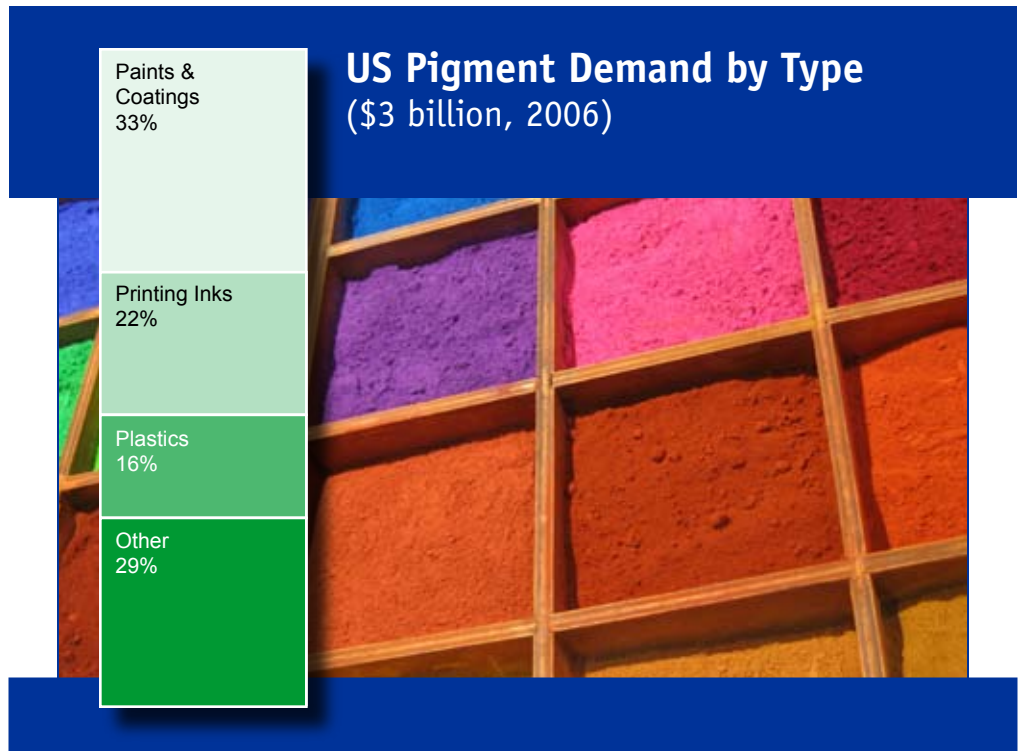
Gains will be driven by a shift toward costlier high-performance organic pigments and specialty types, as well as by steady increases in large pigment markets such as paints and coatings.

US demand to grow 4.4% annually through 2011

Demand in the US for color pigments, including inorganic, organic and specialty types, is forecast to increase 4.4 percent per year to \$3.8 billion in 2011, driven by a shift toward more expensive high-performance organic pigments and specialty types. Steady increases in large pigment markets such as paints and coatings will support volume growth. Trade continues to have a large impact on the US pigment industry (imports and exports account for about 25 percent of demand and production value, respectively). Imports mostly consist of lower-end pigments while higher-quality products are exported.

Specialty pigments to be fastest growing type

Specialty pigments, such as metallic and pearlescent types, will provide good opportunities, with demand growing at an annual rate of 5.5 percent to \$640 million in 2011. Gains will arise from increased requirements for unique and novel eye-catching optical effects by manufacturers of products such as automotive coatings, printing inks, plastics, cosmetics and toiletries. Specialty pigments provide metallic tones and other special effects such as color-shifting that are increasingly popular in a broad range of consumer products. In addition, these pigments are used to create product packaging that attracts consumer attention and differen-



tiates manufacturers' products competing for shelf-space in retail establishments.

Organic pigments to post above-average gains

Organic pigments will also experience encouraging growth, resulting from trends toward more expensive, high-performance pigments and the continual displacement of heavy metal-based inorganic pigments such as chromate. Organic pigments have a superior environmental profile in comparison to inorganic pigments (and to some dyes) and provide a wider range of bright colors that are used in printing inks, a major outlet for organic pigments.

Inorganic pigments offer niche opportunities

Inorganic pigments will be the slowest growing segment through 2011, due to the continued phasing-out of heavy metal types and the increasing popularity of vivid colors with special effects, which are usually achieved with organic and specialty pigments. By 2011, demand for organic pigments will surpass that for inorganics, which was the largest segment for the past decade. Nevertheless, favorable opportunities exist for certain types of inorganics, such as complex inorganic pigments, which offer superior lightfastness and chemical resistance.

Sample Text, Table & Chart

PIGMENT DEMAND BY MARKET

Pigment Demand -- Printing Inks

Demand for pigments in the printing ink market is forecast to increase 20% to 1.5 billion in 2011, with a market volume total of 1.2 billion at that time. Pigments can be used in the production of printing inks, including conventional flexographic (letterpress), specialty and digital types. Conventional inks continue to provide opportunities for growth, but specialty types gain market share over gravure since the latter requires higher pigment loadings. Value gains will be driven by greater usage of specialty inks, where specialty pigments generally cost more than standard pigments. The production of specialty inks generally consists of the incorporation of expensive special effect pigments (e.g., metallic, luminescent). Pigment demand in the production of digital inks will benefit from a shift in formulation standards that favors pigments over dyes.

Three basic pigment colors -- yellow, magenta (called "process red") and cyan (called "process blue") -- along with black and white are utilized in the manufacture of inks. These hues are combined in a variety of ways to create every color in the spectrum.

Color is achieved in inks by either pigments or dyes; dyes are basically limited to uses in writing, security and digital inks, while the remainder of inks typically use pigments. Pigments can be used in ink formulations either as dry pigments, or in the form of color concentrates, where the pigment is dispersed in a medium, usually with additives. The choice between dry pigments and color concentrates is determined by the preference of the ink or toner maker.

Several types of pigments find use in the ink and toner industry. Special carbon blacks are the workhorse pigment for printing inks. Color inorganic pigments, such as chrome yellow, molybdenum orange, iron

127

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**SAMPLE
TEXT**

TABLE IV-3

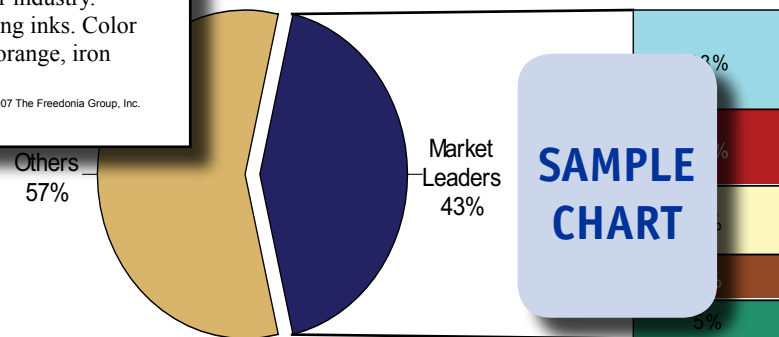
INORGANIC PIGMENT DEMAND BY TYPE (million dollars)

Item	1996	2001	2006	2011	2016
Inorganic Pigment Demand	1,200	1,500	1,800	2,100	2,400
Special Carbon Black	300	350	400	450	500
Complex Inorganic	100	120	140	160	180
Iron Oxide	200	250	300	350	400
Ultramarine	50	60	70	80	90
Chromium Oxide	100	120	140	160	180
Chromate	50	60	70	80	90
Cadmium	50	60	70	80	90
Other	100	120	140	160	180

**SAMPLE
TABLE**

CHART VIII-1

INORGANIC PIGMENT SALES BY COMPANY, 2006 (\$3.0 billion)



**SAMPLE
CHART**

* includes Engelhard

Sample Profile, Table & Forecast

TABLE V-4
AZO PIGMENT DEMAND BY TYPE & MARKET
 (million dollars)

Item	1996	2001	2006	2011	2016
Organic Pigment Demand % azo					
Azo Pigment Demand					
By Type:					
Diazo					
Monoazo					
By Market:					
Paints & Coatings					
Printing Inks					
Other					
\$/lb					
Azo Pigment Demand (mil lbs)	48	53	56	62	68



COMPANY PROFILES

SICPA Holding SA
 Avenue de Florissant 41
 1008 Prilly
 Switzerland
 41-21-627-5555
 http://www.sicpa.com

Annual Sales
 Employment

Key Products

SICPA Holding SA is a privately held company that manufactures security inks for banknotes and operates in the Document Security and Product Security markets.

The company entered the US pigments industry through the July 2005 acquisition of Germany-based Wacker Chemie AG's liquid crystal pigments business. The purchase included the production systems, patent and brand name rights to HELICONE and POLARSHIFT products for applications in the security printing, engraving, industrial and decoration markets. Following the sale, SICPA's LCP Technology GmbH subsidiary (Germany) began producing and selling HELICONE products. In the US, LCP Technology sells HELICONE pigments through a representative in Norcross, Georgia.

LCP Technology's HELICONE optical effect pigments are comprised of platelets of highly crosslinked liquid crystal polymer, and can be used for coatings, paints, plastics, inks, automotive, cosmetics, footwear, household appliance and other applications. HELICONE pigments provide iridescent effects, and are available in six color pairs,

263

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"Azo pigment demand is projected to increase 4.0 percent per year to \$560 million in 2011. Gains will be driven by favorable growth in the large inks market and expanding use in industrial coatings such as traffic paints and automotive coatings. Value growth will be spurred by increasing demand for high-performance azos (e.g., benzimidazolone) offering enhanced environmental acceptability and superior performance characteristics (e.g., heat stability and lightfastness) for industrial coatings. These newer and higher quality azo pigment have also been contributing to aggregate price increases. However, ..."

--Section V, pg. 74

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OTHER STUDIES

Wood Protection Coatings & Preservatives

US demand for wood protection coatings and preservatives is analyzed in this study. It presents historical demand data (1996, 2001, 2006) and forecasts for the years 2011 and 2016 by product (coatings, preservatives), application (siding, decking, furniture, cabinets, windows and doors, fencing, flooring) and market (building construction, nonbuilding construction). The study also considers market environment factors, details industry structure, evaluates company market share and profiles major competitors.

#2243 09/2007..... \$4500

World Enzymes

World demand for enzymes will grow 7.6% annually through 2011. Gains will be driven by continued robust growth in pharmaceutical enzyme demand, double-digit increases in demand for biocatalysts for drug and fine chemical production, and the rapid expansion in bioethanol production from grains. This study analyzes the \$4.1 billion world enzyme industry, with forecasts for 2011 and 2016 by product, market, world region and for 15 countries. It also evaluates market share and profiles major players.

#2229 09/2007..... \$5400

Specialty Silicas

This study examines US market for specialty silicas. It presents historical demand data (1996, 2001, 2006) and forecasts for 2011 and 2016 by silica type (e.g., precipitated, fumed, fused, gel, sol); and market (e.g., rubber, cosmetics and toiletries, coatings and inks, chemicals, plastics, electrical and electronic equipment, paper and textiles, food and beverages, agriculture and animal health, metals and refractories). This study also examines the market environment, evaluates market share and profiles major players.

#2233 08/2007..... \$4400

World Carbon Black

World carbon black demand is forecast to rise 4.2% per year through 2011, bolstered by a healthy global rubber market. Special blacks will be the fastest growing market. The Asia/Pacific region, excluding Japan, will post the strongest gains. This study analyzes the 8.9 million metric ton world carbon black industry, with historical data and forecasts for 2011 and 2016 presented by product, market, world region and for 26 countries. The study also evaluates company market share and profiles leading producers.

#2186 05/2007..... \$5400

Advanced Ceramics

US advanced ceramics demand will grow 7% annually through 2010. Electronic components and electrical equipment will remain dominant but mature markets. The best opportunities for ceramics include ballistic armor, ceramic composite automotive brakes, diesel particulate filters, joint replacement products and piezoceramic sensors. This study analyzes the \$8.6 billion US advanced ceramics industry to 2010 and 2015 by type, product and market. It also details company market share and profiles major producers.

#2134 12/2006..... \$4400

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