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The Outlook for Coating and Filler Pigments in Paper, 2004-2006

Volume I: North America and Brazil*

Major products covered:
- Ground and precipitated calcium carbonate
- Hydrous and calcined kaolin
- Talc

Minor products included:
- Alumina hydrate
- Barium sulfate
- Calcium sulfate (gypsum)
- Diatomite
- Plastic pigments
- Titanium dioxide

*__Includes a separate regional supplement on the Brazilian Paper Pigments Market__

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The Outlook for Coating and Filler Pigments in Paper, 2004-2006

Since the early part of this decade, global paper coating and filler pigment demand has been growing at an annual rate of approximately 4%, far surpassing overall printing and writing paper growth. North America, which accounts for about 28% of the global coating and filler mineral consumption for paper applications, or over 29 million tonnes, has witnessed a number of changes since the early part of this decade, including the following:

- Lower-cost imports of hydrous kaolin from Brazil and titanium dioxide from Japan, China, and other countries has reduced the North American market share for domestically produced pigments.
- Over the past five years, increased use of engineered kaolins, especially with the development of several new grades from Brazil, has improved paper coating performance and has created new competition for North American suppliers.
- Increasing imports of lower-cost coated and specialty papers from Europe and China, as well as paperboard from Mexico, will reduce demand for U.S.- and Canadian-produced paper/paperboard.
- In an attempt to keep up with rising transportation and production costs, pigment pricing, particularly in the carbonate and kaolin areas, increased by an average of 3% to 6% from 2004 to 2005.
- Consolidation among the key pigment suppliers continues, with some of the more notable deals over the last few years involving Omya's takeover of Huber's global PCC assets and Caemi's (CADAM) and CVRD's (PPSA) merger of assets in the kaolin industry.
- PCC pigment use in paper continued to grow by more than 5% a year over the first half of this decade, despite the closure of a number of mills where satellite PCC production was in place. Future growth is still expected to outpace most key segments of the paper industry, albeit at more modest levels of 2% to 3% a year.

Volume I of **The Outlook for Coating and Filler Pigments in Paper, 2004-2006** addresses these industry concerns and provides a real-world understanding of the North American and Brazilian markets for coating and filler minerals for paper applications, including a detailed assessment of the end-use markets and potential customer base, supply chain dynamics, and the evolving competitive arena.

Report Outline

NORTH AMERICA

1. INTRODUCTION

2. EXECUTIVE SUMMARY

3. CALCIUM CARBONATE
   - 3A. Ground calcium carbonate
   - 3B. Precipitated calcium carbonate

4. KAOLIN
   - 4A. Hydrous kaolin
   - 4B. Calcined kaolin filler pigments

5. TALC

6. OTHER MINOR PAPER MINERALS AND PIGMENTS

- Alumina hydrate
- Barium sulfate
- Calcium sulfate (gypsum)
- Diatomite
- Plastic pigments
- Titanium dioxide

For Chapters 3 through 6, the following information is provided for each major product covered:

- Product overview
- Key paper applications by region
- Competitive products
- Consumption by paper application:
  - Uncoated wood-containing grades (SC-A, SC-B/C, UWC specialties)
  - Coated wood-containing grades
  - Uncoated woodfree
  - Coated woodfree
  - Bleached paperboard grades (SBS)
- Suppliers
  - Estimated supplier sales and paper market share by product type
  - Production facilities and capabilities regions
  - Key paper grades
- Consumers
  - Pricing trend analyses by grade and region
  - Recent market and supplier developments
  - Consumption trends and five-year multi-variant forecast

7. THE NORTH AMERICAN PAPER AND PAPERBOARD INDUSTRY

This chapter provides subscribers with a supplemental assessment of the North American papermaking industry as it relates to coating and filler pigment consumption, including:

- Industry overview
- Current paper production in the region by grade and recent trend
- Description of major paper grades for coating
- Average pigment usage by paper grade
- Major consumers of coating and filler pigments in the paper industry by product type and application
- Recent paper industry developments
  - Reported new capacity additions and shutdowns by paper grades
  - Key paper producer acquisitions
  - New papermaking technology developments
  - Downstream drivers for target paper grades
  - Future paper coating and filler pigment needs

8. OVERVIEW ANALYSIS OF THE BRAZILIAN PAPER PIGMENT MARKET

This regional supplement provides a focused overview of the Brazilian paper pigments market and supply outlook in a condensed format.

8A. Executive Summary
8B. Hydrous Kaolin
8C. Ground Calcium Carbonate
8D. Precipitated Calcium Carbonate
8E. Talc
8F. Brazilian Pulp and Paper Industry

APPENDIX: List of companies interviewed

The Outlook for Coating and Filler Pigments in Paper, 2004-2006

Report Overview

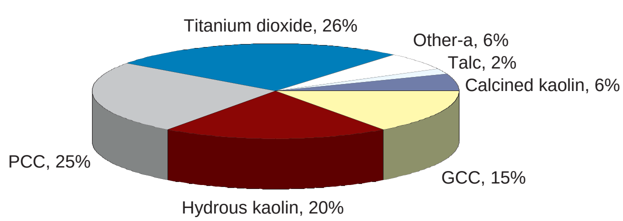
The Outlook for Coating and Filler Pigments in Paper, 2004-2006 will provide subscribers with the necessary product, customer, competitive, and business intelligence to develop effective strategic business plans and serves as a critical reference source to answer the industry's most challenging questions, including:

- How can we continue to compete successfully and profitably in this business?
- How will customer needs and purchasing practices change over the next five years?
- How can we differentiate our products that are often perceived as commodities by our paper customers?
- What are the new growth areas for coating and filler pigments in paper applications?
- What can we learn from our competitors?
- Does the coating and filler pigment industry need to continue to rationalize capacity and shift production, both regionally and to more value-added products?
- Who will be the winners and losers in the global paper industry restructuring, and how do we realign our customer relations?

Figure 1

ESTIMATED CONSUMPTION VALUE OF COATING AND FILLER PIGMENTS FOR PAPER AND PAPERBOARD IN NORTH AMERICA, 2004

% Of total

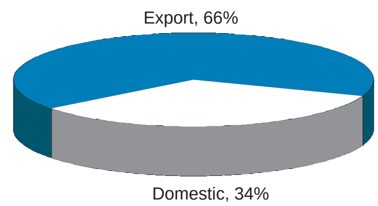


a- Includes plastic pigments, diatomite, and other minor products.

Figure 2

ESTIMATED SALES VOLUME OF COATING AND FILLER PIGMENTS IN BRAZIL FOR DOMESTIC AND EXPORT PAPER MARKETS, 2005

% Of total



NOTE: Includes GCC, PCC, and hydrous kaolin only.

This foundation of information and insights will help facilitate the efficient allocation of financial, marketing, and manufacturing resources necessary for future business development. An important new feature of this service will be the use of multi-variant forecasting to enhance the utility of each report as a business development tool. This technique will broaden the baseline forecast of previous reports by considering the potential impact of external factors such as new technology, product substitution, and industry restructuring on the demand for the target minerals and pigments.

In addition, global perspectives can be further gained from the other regional components of this global research program. Separate analyses for Europe (with an overview of Russia) and China/Japan (with an overview of other selected Asia-Pacific countries) are available for your business development needs.

Following the publication of each Regional Business Report, a Global Executive Summary will be issued annually to summarize paper coating and filler pigment supply and market conditions globally. This supplemental report will help subscribers to keep abreast of changing market dynamics in all major regions and to bridge the gap between the individual regional volumes in this three-year service.

For subscribers seeking more details about the profitability of the paper pigments business or the capabilities and strategy of specific competitors in this business, we are also planning to offer several supplemental services as an extension of the base program. These proprietary services can be custom-tailored to fit individual subscribers business planning needs and budgets. Please contact MineSet Partners directly if you would like more information about these supplemental services.

Research Methodology

MineSet Partners' research approach places the greatest emphasis on primary research to ensure that the foundation of business intelligence and insight is accurate and current. During the course of the field research, the project team conducted approximately 100 in-depth discussions with knowledgeable North American and Brazilian paper industry participants to define and verify, in an exacting manner, the opportunities that exist in each region for coating and filler minerals and pigments in paper applications.

The project team has conducted interviews with key coating and filler mineral suppliers, leading paper industry consumers in each region, trade associations, and government agencies. These report also draws on suppliers' product literature; an analysis of statistical data from government agencies, trade associations, and industry organizations; and nonconfidential information from MineSet Partners' database.

Subscription Terms and Privileges

The Outlook for Coating and Filler Pigments in Paper, 2004-2006 is available only by subscription. In order to maximize its usefulness to each subscriber, the following privileges and services will be made available:

- **One day of consultation** with members of the survey team to be used at the client's discretion within three months of report receipt.
- **One hard copy and pdf files of the report**. Additional hard copies are available for a nominal fee.
- A **Global Executive Summary**, to be delivered annually following the publication of each set of Regional Business Reports (With with subscription to two or more regions only).
- Several **optional supplemental services** as an extension of the base program, to be ordered on request from MineSet Partners.

Project Team Experience and Capabilities

The Outlook for Coating and Filler Pigments in Paper, 2004-2006 - Volume I: North America and Brazil represents the first volume in a new multi-regional series of reports analyzing the important paper related markets for five major types of filler minerals and coating pigments. This series also marks the fourth decade for the continuing service reports of the North American and European Extender and Filler mineral business, formerly published by Kline & Company since the 1970s.

The Outlook for Coating and Filler Pigments in Paper, 2004-2006 is now being administered by MineSet Partners LLC under the direction of Todd Harris, a former director in Kline's Minerals and Chemicals Practice, as part of an agreement that was reached between Kline and MineSet Partners in early 2003.

MineSet Partners LLC, a New Jersey-based consultancy specializing in the minerals and inorganic chemicals industries, was formed in 2002 by Mr. Harris. MineSet Partners is committed to building on Kline's reputation for producing and delivering accurate and reliable technical industry publications.

The Outlook for Coating and Filler Pigments in Paper, 2004-2006

Our Team Approach

The project team for this series of reports will utilize a systematic approach for gathering and analyzing information that is based on detailed primary research, which guarantees high-confidence results. Our proven approach and global capabilities enable us to put analysts on the ground in each of the regions that will be assessed through the course of this new service.

MineSet Partners' resources include experts in key areas of the minerals, pigments, and market research fields. This diversity allows us to tailor a special project team for each volume that provides the right blend of expertise in the fields of marketing, technology, manufacturing, competitive intelligence, and strategic planning.

Our project teams are experienced at researching and analyzing information available from a variety of industry sources. These teams are further supported by the MineSet Partners and Kline organizations, providing a wealth of experience and knowledge within our respective firms. This high level of technical support and expertise allows us to maintain a high standard of execution and consistently deliver quality studies and assessments.

Our Existing Global Database

Key project team members have been involved with numerous consulting assignments in the extender and filler minerals industry, including the annual syndicated analyses of the markets for extender and filler minerals formerly published by Kline and dating back to the early 1970s.

The team's experience has also been pivotal in the ongoing success of two other highly regarded continuing service programs, The Outlook for Industrial and Consumer Markets for Performance Minerals, and Specialty Silicas: Global Strategic Analysis, as well as other syndicated titles, all of which are now being administered by MineSet Partners.

These projects have enabled MineSet Partners to compile a substantial database that contains detailed information on extender and filler mineral suppliers, products, customers, trends, and production technologies. As a result, our staff maintains an up-to-date and in-depth knowledge store of industry trends, product developments, and supply shifts around the world.

In addition to completing syndicated reports and proprietary assignments, MineSet Partners and Kline have been frequent contributors to numerous international conferences that have examined the challenges and opportunities for coating and filler mineral suppliers to the paper industry. Selected titles of recent speeches and published articles are listed below:

- "Current and Future Markets for Paper Coating and Filler Pigments in North America," presented at the PIRA Fillers and Pigments in Papermaking Applications Conference, Atlanta, September 2006
- "Survival Strategies for Paper Raw Material Suppliers in the 21st Century," presented at the 15th International Industrial Minerals Congress, Paris, April 2002
- "Recent Developments in Opacifying and Extender Pigment Technologies for the North American Paper Industry," presented at Alternative White Minerals and TiO_2 Extenders, 2000, Orlando, FL, November 2000
- "Specialty Paper Applications for Synthetic Silicas," Blendon IM Canada, Vancouver, October 1998
- "Regional Differences in the Use of Coating and Filler Pigments in Paper," Intertech, Frankfurt, Germany, October 1997
- "Market Trends and Developments in Extender and Filler Minerals - Western Europe," Euromin '97, Barcelona

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	Additional hard copies: _______ @ $500 each =		
INDIVIDUAL REGIONAL REPORTS AND SECTIONS			
North America	$16,000	$14,500	
Calcium Carbonate	$6,400	$5,900	
Ground Calcium Carbonate	$3,800	$3,500	
Precipitated Calcium Carbonate	$3,800	$3,500	
Kaolin	$6,400	$5,500	
Hydrous Kaolin	$3,800	$3,500	
Calcined Kaolin	$3,800	$3,000	
Talc	$4,800	$3,000	
Minor Pigments	$4,800	$4,500	
The North American Paper and Paperboard Industry	$6,400	$5,900	
Brazil	$7,000	$6,300	
Calcium Carbonate	$2,800	$2,500	
Ground Calcium Carbonate	$1,600	$1,450	
Precipitated Calcium Carbonate	$1,600	$1,450	
Hydrous Kaolin	$2,800	$2,500	
The Brazilian Pulp and Paper Industry	$2,800	$2,500	
		Subtotal	
		NJ only: 7% sales tax	
		TOTAL	

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