

SURFACTANTS FOR EMERGING MARKETS IN ASIA/PACIFIC, 1996-2010

Surfactant consumption in Greater China, Southeast Asia, India and Pakistan is estimated to have been over 3.5 million tons in 1996. Although the Asian crisis has temporarily slowed the growth in this consumption, it is expected to increase as economic activity returns to this region.

The household sector is responsible for almost 78 percent of all surfactants consumed in this region. Industrial applications dominated by the textile industry, and the smaller but faster growing personal care markets, comprise the other major markets covered in this study.

These dynamic markets are the subject of a newly published market research study by Colin A. Houston & Associates, Inc. (CAHA), entitled *Surfactants For Emerging Markets in Asia/Pacific, 1996-2010*. This report follows CAHA's previous multiclient study *Asia/Pacific Surfactants, 1990-2005* by five years. It details changes by country and focuses on the growth market areas.

This report provides up-to-date, accurate data, analyzed and clearly presented to help unlock development problems. The report was completed in March 1999. The following pages contain a description of the study and the complete Table of Contents.

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DESCRIPTION OF THE STUDY

Surfactants For Emerging Markets in Asia/Pacific, 1996-2010 analyzes all the factors affecting supply and demand for surfactant intermediates and surfactants for individual countries. The study covers ten countries as shown below and identifies key trends affecting the markets in them. The developed markets of the Northern Pacific, Japan and Korea, are not included.

Countries Covered

China	Pakistan
Taiwan	Philippines
India	Singapore
Indonesia	Thailand
Malaysia	Vietnam

The following is an overview of the contents of each chapter of the study.

Introduction

This Introductory chapter provides a foundation for the report by giving economic and social statistics on the countries, explanations of the industries and major trends.

Environmental Issues

Environmental Issues addresses some main areas of concern, including biodegradability, toxicity, eutrophication, and life cycle analysis. The level of attention and sophistication of environmental consciousness varies from country to country and in Asia there are societies with high levels of environmental awareness. This chapter explains the environmental issues of importance in the region and their current status, and summarizes the legislative situation. Further details for individual countries are included in the country survey section.

Surfactant Intermediates

Surfactant Intermediates assesses the present supply/demand situation of the major intermediates. They are global commodities but the regional supply picture is an important driver in the competitive surfactant market. The technical and commercial stories for each of the major intermediates are reviewed for the region. Included are the details covering technology, producers and capacities, production, market trends, and consumption.

Major Organic Surfactants

This chapter covers the key surfactant volumes and market trends including a new section on specialty and other surfactants. It provides plant location and capacity data for ethoxylators and sulfators/sulfonators, by country. Surfactant producer capabilities and surfactant consumption are covered in this section, and major producers are profiled.

End Market Overviews and Consumption by Region

This chapter overviews provides backgrounds on the diverse product technologies present in Asian markets. By addressing technologies separately, discussions on a country basis are focused on the important and unique features of the countries. This chapter provides the comparative view of surfactant consumption by end market and by country to identify progress and explain the relative importance of markets. End markets covered are listed in the Table of Contents.

Country Surveys

Country surveys comprise the core of this report. Each country survey is presented as a stand-alone report on the country covering environmental issues, the intermediates picture, surfactants and the end markets. End market coverage includes the major surfactant consuming uses and provides data on end product consumption, surfactant customers, market share and other relevant data. These provide a complete picture of surfactant use in the countries, market by market.

Tabulations

This chapter brings together the surfactant consumption figures given throughout the report and presents data by end use and by surfactant. The Appendix contains a list of abbreviations and a tabulation of the major companies contacted during the course of the project.

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SAMPLE TABLES

Table 1								
SUMMARY OF SURFACTANT CONSUMPTION BY TYPE, 1992-2010 (thousand tons)								
	1992	1996	1997	1998	2000	2005	2010	AAGR % 1996-2010
ANIONICS								
Branched alkylbenzene sulfonates								
Linear alkylbenzene sulfonates								
Alcohol ethoxy-sulfates								
Alcohol sulfates								
Soap								
Other anionic								
Total anionics								
NONIONIC								
Alcohol ethoxylates								
Alkylphenol ethoxylates								
Other nonionic								
Total Nonionic								
CATIONICS								
AMPHOTERICS								
OTHERS								
TOTAL								

Table 3								
SURFACTANT CONSUMPTION BY END MARKET, 1992-2010 (thousand tons)								
	1992	1996	1997	1998	2000	2005	2010	AAGR % 1996-2010
HOUSEHOLD								
Laundry								
Dish								
Fabric softeners								
Other household ^a								
TOTAL HOUSEHOLD								
PERSONAL CARE								
Hair shampoo								
Cream rinse								
Toothpaste								
Other personal care								
TOTAL PERSONAL CARE								
INDUSTRIAL								
Agchem								
I&I Cleaners								
Paints and coatings								
Pulp and paper								
Plastics and elastomers								
Textiles								
TOTAL INDUSTRIAL								
GRAND TOTAL								
^a Includes toilet soap.								

Table V-7								
CONSUMPTION OF CONVENTIONAL POWDERS BY COUNTRY, 1992-2010 (thousand tons)								
	1992	1996	1997	1998	2000	2005	2010	AAGR % 1996-2010
China								
Taiwan								
India								
Pakistan								
Indonesia								
Malaysia								
Philippines								
Singapore								
Thailand								
Vietnam								
TOTAL								

Table VI-37								
CHINA - SURFACTANT CONSUMPTION IN PESTICIDES, 1992-2010 (thousand tons)								
	1992	1996	1997	1998	2000	2005	2010	AAGR % 1996-2010
Alkyphenol ethoxylates								
Linear alkylbenzene sulfonates								
Alcohol ethoxylates								
Ethoxylated castor oils								
Naphthalene sulfonates								
Ethoxylated sorbitan ester/sorbitan esters								
EO/PO copolymers								
Others								
TOTAL								

Table VI-215								
INDONESIA - SURFACTANT CONSUMPTION IN SYNTHETIC TEXTILE PRODUCTION, 1992-2010 (thousand tons)								
	1992	1996	1997	1998	2000	2005	2010	AAGR % 1996-2010
Sulfonated oils								
Soap								
Alkylphenol ethoxylates								
Phosphate esters/ Phosphate ester ethoxylates								
Quaternaries								
Polyethylene glycol								
Sorbitol ester/sorbitol ester ethoxylates								
Ethoxylated castor oils								
Other								
TOTAL								

Table VI-323								
THAILAND - HOUSEHOLD PRODUCT CONSUMPTION, 1992-2010 (thousand tons)								
	1992	1996	1997	1998	2000	2005	2010	AAGR % 1996- 2010
Conventional powder								
Compact powder								
Heavy duty liquids								
Subtotal Laundry								
Toilet soap								
Dishwashing								
Fabric softener								
Others ^a								
TOTAL								
^a Hard surface cleaners and floor cleaners.								

Table VI-368

VIETNAM - MAJOR LAUNDRY POWDER PRODUCERS
AND MARKET SHARES, 1998
(percent)

Company	Brand	Market Share
Lever	Omo, Lux, Doll	
Dasso-Dacco	Dasso, Viso	
Procter & Gamble	Tide	
Tico	Tico	
Lix	Lix	
Net Detergent	Net	
Duc Giang	Duc Giang	
Hanoi Detergent	Hanoi	
Others		
TOTAL		

QUALIFICATIONS AND PERSONNEL

Colin A. Houston & Associates Inc. was founded in 1971 to provide consulting services to the chemical industry worldwide. The primary area of expertise was and continues to be surfactants: raw materials, intermediates, major surfactants, and the surfactant-consuming industries. Other areas of activity include: a variety of industry studies on such topics as oilfield chemicals, detergent builders, ingredients for personal care products, and bleaching agents; engineering studies such as a worldwide study of glycerine evaporation plants with recommendations for improved efficiency; a world study of the state of the art in spray-drying detergents; contracts with the U.S. Government to develop industry effluent guidelines; and business strategy and acquisition studies.

The reputation thus earned by CAHA for comprehensive, high quality techno-economic and market analyses has led to a variety of engineering, marketing, and strategic planning studies for individual clients in North America, Western Europe, and the Asia/Pacific region.

The project team approach utilized by CAHA includes a core of senior and technical professionals augmented by expert consultant associates. The following brief synopses present the staff and consultants who will carry out the study, *Surfactants For Emerging Markets in Asia/Pacific, 1996-2010*.

Joel H. Houston, President,

was the project leader for numerous multiclient studies including SURFACTANTS FOR EMERGING MARKETS IN ASIA/PACIFIC, 1996-2010; OPPORTUNITIES IN PERFORMANCE SURFACTANTS IN THE U.S.; HIGHER ALCOHOLS - WORLD MARKETS, 1992-2005; ASIA/PACIFIC SURFACTANTS, 1990-2005; DETERGENT ALKYLATES - WORLD MARKETS, 1992-2005; and WEST EUROPE HOUSEHOLD DETERGENT INGREDIENTS: SURFACTANTS TO 2000 WITH BUILDER AND BLEACH SYSTEMS. He has guided CAHA's research in oleochemicals since 1980, and in detergents since 1987. Mr. Houston has extensive experience in projects for consumer products. He has presented papers at CMRA, ECMRA and CSMA meetings, and is the editor of CAHA's global detergent newsletter, AGGLOMERATIONS. He is a member of CDA, AOCS and ASTM.

Dr. Alan H. Turner, Senior Research Associate,

has contributed to numerous multiclient and proprietary CAHA studies. He authored several sections of SURFACTANTS FOR EMERGING MARKETS IN ASIA/PACIFIC, 1996-2010 and also authored West Europe portions of ALPHA-OLEFINS - WORLD MARKETS, 1990-2002 and CAHA's West Europe surfactant studies. He provides consultation on alpha-olefins and other topics. Prior to joining

CAHA in 1984, Dr. Turner spent 25 years with Shell Research and Shell International Chemicals in the Netherlands and the U.K., where he worked as a project leader in detergent research and subsequently as manager of development for higher olefins and detergents. He has served on various national and international committees dealing with environmental aspects of detergents. Dr. Turner is a regular lecturer and contributor to international symposia on detergents. In 1990 he presented a paper on trends in builders for laundry detergents in West Europe at the SCI Conference in Cambridge. He has also been involved in a proprietary study on the developing chemical industry of China. Dr. Turner holds a B.Sc., M.A., and D.Phil in Chemistry from Oxford University. He is a Fellow of the Royal Society of Chemistry.

Dr. Darrel L. Muck, Senior Research Associate,

authored our multicient studies GLUCOSAMIDES: THE CHALLENGE OF A NEW SUGAR-BASED SURFACTANT, 1993-1998 and DEVELOPMENTS IN DETERGENT BUILDER SYSTEMS - NORTH AMERICAN REPORT TO 2005. He has also contributed sections of CAHA's study SURFACTANTS FOR EMERGING MARKETS IN ASIA/PACIFIC, 1996-2010; SURFACTANTS FOR CONSUMER PRODUCTS - NORTH AMERICAN FORECAST TO 2008; and OPPORTUNITIES IN PERFORMANCE SURFACTANTS IN THE U.S., and was responsible for the Paint end use chapter of MAJOR INDUSTRIAL APPLICATIONS OF SURFACTANTS - NORTH AMERICAN FORECAST TO 2005. Dr. Muck has 30 years experience in the chemical industry and was most recently Director of Commercial Development, FMC Chemicals Division. He holds B.S./M.S. degrees in chemistry from Wichita State University and a Ph.D. in Organic Chemistry from the University of Florida. He is a member of ACS and AOCS.

H. James Bigalow, Senior Research Associate,

authored the Paper and Textiles end use sections of our multicient study SURFACTANTS FOR EMERGING MARKETS IN ASIA/PACIFIC, 1996-2010, contributed to SURFACTANTS FOR CONSUMER PRODUCTS - NORTH AMERICAN FORECAST TO 2008 and has worked on proprietary detergent and surfactant studies. Mr. Bigalow has over 20 years experience as a senior marketing research executive in the chemical industry. He has conducted successful business analysis projects which have included financial evaluations of businesses and acquisition candidates, identifying current and future markets for new and existing products, and product development and usage. Additional experience has included economic and sales forecasting, strategic planning, proprietary market research projects, benchmarking, and product safety. He is a member of the Chemical Management & Resources Association, the Society of Competitive Intelligence Professionals (SCIP), ACS and the Chemical Marketing and Economics Division of the ACS. Mr. Bigalow holds an M.S. Industrial Administration, Krannert School of Management, Purdue University and a B.S. degree in Chemistry, Denison University.

Jenny Qin Li, Research Associate

authored the Ag Chem and other sections of our multiclient study SURFACTANTS FOR EMERGING MARKETS IN ASIA/PACIFIC, 1996-2010, the Personal Care section of SURFACTANTS FOR CONSUMER PRODUCTS - NORTH AMERICAN FORECAST TO 2008 and the Betaines, Sarcosinates and Amine Oxide sections of OPPORTUNITIES IN PERFORMANCE SURFACTANTS IN THE U.S. She holds a B.S., Industrial Foreign Trade and Computer Science, Shanghai University of Technology, Shanghai, China and has a Masters degree in Business Administration, Clark University, Worcester, MA.

Christopher Morrow, Research Associate

authored sections of our multiclient study SURFACTANTS FOR EMERGING MARKETS IN ASIA/PACIFIC, 1996-2010 and contributed to various sections of the multiclient study entitled SURFACTANTS FOR CONSUMER PRODUCTS - NORTH AMERICAN FORECAST TO 2008. He has also been a contributor to a proprietary study of market share data. Mr. Morrow holds a B.S. Fairfield University, Major in Biology and Religious Studies and is a Microsoft Certified Product Specialist.

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To subscribe to the study, please contact CAHA below:

Colin A. Houston & Associates, Inc.
20 Milltown Road, Suite 206
Brewster, NY 10509
845-279-7891
Fax No. 845-279-7751
E-mail: CAHA1@colinhouston.com