

ASIAN SPECIALTY CHEMICALS NEWSLETTER

Issue 45, December 2005

A quarterly newsletter of developments in the chemicals sector

CONTENTS

INTRODUCTION	1
CHINA	1
INDIA	3
JAPAN	4
KOREA	5
SINGAPORE	5
TAIWAN	6
THAILAND	6
VIETNAM	6
REGIONAL	7

INTRODUCTION

We hope you find the *Asian Specialty Chemicals Newsletter* informative.

BDA is a corporate finance and advisory firm, which assists multinational clients to identify, assess and execute cross-border transactions involving Asia, including acquisitions, divestments, JVs and restructuring. We have offices and professional staff throughout Asia, and in the US and Europe.

If you think that BDA's services may be useful to you, please contact us at any one of our offices or email me at erellie@bdallc.com. Contact details for our offices are at the back of this newsletter. We look forward to speaking with you in the future.

Euan Rellie
Managing Director

China

Akzo Nobel will invest EUR15m (US\$18m) in two new China production facilities. In addition to building a new 10,000 tpa polysulfides plant in Taixing scheduled to become operational by early 2007, the company will also construct a new paper chemicals site in Guangzhou producing sizing agents and operated by the company's Eka Chemicals business, scheduled to become operational by Q4 2006. (October 13, 2005)

Arkema Changshu Organic Peroxides Plant has started production in Changshu, China. With an initial 3,000 tpa capacity, the plant boosts Arkema's standing as the world's second leading producer of organic peroxide. (October 25, 2005)

Asahi Kasei Chemicals Corporation ("AKCC") will establish a wholly-owned subsidiary in China for production and sale of its DuranateTM hexamethylene diisocyanate (HDI) based polyisocyanate. The subsidiary will start operation of a new DuranateTM production facility in Q1 2007 with a plant capacity of 10,000 tpa. (November 15, 2005)

BASF and Dow Chemical are planning to jointly bring additional hydrogen peroxide-to-propylene oxide (HPPO) plants onstream in the US and Asia by 2009 and 2010. Both companies said that they have identified a number of opportunities for joint or individual efforts in Asia. The companies declined to name the locations being evaluated in Asia but said the availability of feedstock was an important consideration. (October 31, 2005)

BASF and several partners plan to commission three isocyanates JVs at the Shanghai Chemical Industry Park, Shanghai, China, in Q2 2006. **Shanghai Lianheng Isocyanate**, a JV between **BASF**, **Huntsman**, the **Shanghai Hua Yi group**, **Shanghai Chlor-Alkali Chemical (SCAC)**, and **Sinopec Gaoqiao Petrochemical (SGP)**, is building a 240,000 tpa crude methylene di-phenylene diisocyanate (MDI) unit and plants for aniline and nitrobenzene. The second JV, **Shanghai BASF Polyurethanes**, is building an MDI finishing plant and a 160,000 tpa toluene diisocyanate unit using nitric acid and dinitrotoluene. Its shareholders are **BASF**, **Hua Yi**, and **SGP**. **Huntsman Polyurethanes Shanghai**, the third venture, is building an MDI finishing plant and a prepolymers unit. Its owners are **Huntsman** and **SCAC**. Most of the feedstock contracts had been concluded and some feedstock will be sourced from other projects at SCIP. SCAC will provide chlorine gas, while carbon monoxide and hydrogen will be from SCIP Industrial Gases. **Shanghai Shenxing Chemical Industrial** will supply formaldehyde. Part of the benzene and toluene feedstocks will be obtained from **Secco Petrochemical** and the rest will be imported. (October 10, 2005)

Bayer MaterialScience has commenced construction work to expand its Polymer R&D Centre (PRDC) in Pudong, Shanghai. When completed, the PRDC will be **Bayer MaterialScience**'s first facility in Asia Pacific to host technical R&D facilities for its four business units operating in the region: Polyurethanes; Polycarbonates; Coatings, Adhesives, Sealants; and Thermoplastic Polyurethanes. (October 26, 2005)

China Blue Star Group and **Rhodia** will jointly invest RMB3.5bn (US\$430m) to build a silicone project in the Marine Petrochemical Science Park of Tianjin, making it the country's largest silicone production base. Upon completion in 2007, the project will have a production capacity of 200,000 tpa of methyl chlorosilicone. (November 3, 2005)

China National Chemical Corp (ChemChina) will likely concentrate on specialty chemicals and products from the phenolic chain, such as phenol/acetone, bisphenol A and polycarbonate and possibly monoethylene glycol in future investments. (November 28, 2005)

Degussa has signed an agreement with **Rizhao Lanxing Chemical Industry Co** to build a sulphur-functional silanes plant. It will own a 50% stake in the JV, Lanxing 40%, and an unnamed financial investor the remaining 10%. The JV will be known as **Degussa Lanxing (Rizhao) Chemical Industrial Co**. The plant will produce sulphur-functional silanes for rubber applications, in liquid form and as a blend with carbon black, in Lanshan-Rizhao, Shandong province. (November 28, 2005)

DuPont signed an agreement with the city of Dongying, China to build a US\$1bn titanium dioxide (TiO₂) plant in the city's Economic Development Zone. Construction would begin once outstanding government approvals had been obtained. The wholly owned plant will be the company's largest single investment project outside the US. The plant is due onstream in 2010, with an initial capacity of 200,000 tpa, and its investment included the eventual expansion of the original facility. (November 21, 2005)

DuPont and **Sinopec** subsidiary **Beijing Yanhua Petrochemical** are expected to conclude a JV agreement to produce ethylene vinyl acetate (EVA) in China soon. Both companies had been discussing the JV for almost a year, and an agreement has been reached in principle. The planned 60,000 tpa EVA facility would take about a year to build. If an agreement was signed by the end of 2005, it could start up by end-2006. (November 28, 2005)

Henkel has bought a majority stake in China's **Huawei Electronics**, which makes epoxy moulding compounds for semiconductors. This is Henkel's first equity investment in Chinese electronic chemicals production. (November 7, 2005)

Jilin Chemical Group Fine Chemicals Co, China's largest methyl isobutyl ketone (MIBK) producer, plans to double its capacity to 30,000 tpa in August 2006. Construction of the 15,000 tpa unit at Jilin City, Jilin Province will start in February 2006, with mechanical completion slated for June 2006. (November 28, 2005)

Kansai Paint Co of Japan and **Cosco Group** of China will jointly build a new plant in Zhuhai, Guangdong Province, to produce paint for use in shipping containers costing US\$6m. The plant is scheduled to go into operation in June 2007. Kansai Paint will provide 35% of the funds and the Cosco Group will provide the remainder. The new plant will also produce heavy-duty coatings to prevent rusting caused by seawater. (December 1, 2005)

Kemira of Finland, the world's second-largest paper chemicals supplier, will build a new specialty chemicals plant for the pulp and paper industry in Yixing near Shanghai, China. The plant, due to start up in H1 2006, is part of a total EUR7m (US\$8m) investment in pulp and paper chemicals and water treatment chemicals at the site. **Kemira** did not reveal the unit's planned capacity. (November 28, 2005)

Lee Chang Yung Chemical Industry (LCY) of Taiwan has started building a US\$15m methyl isobutyl ketone (MIBK) plant in Zhenjiang, China. The plant, which is expected onstream by Q3 2006, will use **LCY** technology. (September 12, 2005)

Shanghai Sinopec Mitsui Chemical Co received final central government approval for its bisphenol-A (BPA) project in China. The company, a JV between **Sinopec subsidiary Shanghai Gaoqiao Petrochemical (SPG)** and Japan's **Mitsui**, plans to build a 120,000 tpa BPA unit at the Shanghai Chemical Industry Park in Caojing, Shanghai. (October 31, 2005)

Shijiazhuang Coking and Chemical will build a 100,000 tpa cyclohexanol plant in China's Hebei province with start-up scheduled in 2007. **Asahi** will provide the technology for the plant. The cyclohexanone will be supplied to a caprolactam plant that **Shijiazhuang Chemical Fibre**, a

subsidiary of **Sinopec**, plans to build. (December 5, 2005)

Yantai Wanhua Polyurethanes, China's only methylene diphenyl diisocyanate (MDI) producer, could expand the capacity of its new 160,000 tpa facility at Ningbo to 300,000 tpa. The expansion schedule would depend on market conditions. The company expects the plant at the Ningbo Daxie development zone, Zhejiang province, to be onstream by end-2005. The plant, together with an existing 100,000 tpa unit in Yantai, Shandong province, will make Yantai Wanhua the largest MDI producer in Asia in 2006. (October 31, 2005)

India

Altana Chemie AG, a specialty chemical producer and wholly owned subsidiary of Altana AG of German, has signed a five-year agreement with **Sunshield Chemicals Ltd** to source a key raw material being consumed globally. For Sunshield Chemicals, this will generate export driven growth and better capacity utilization. (November 30, 2005)

BASF has signed an agreement with **Balaji Amines Ltd (BAL)** to source specialty chemical n-methyl-2-pyrrolidone (NMP). The two companies agreed on deliveries at a mutually agreed price over the next two years and BASF would also supply an intermediate gamma butyrolactone to BAL. The Indian company did not provide any additional information about the agreement. BAL has the capacity to produce 3,300 tonne/year of NMP. (November 21, 2005)

BASF India Limited (BIL) will expand polymer dispersion capacity by 45,000 tpa to 65,000 tpa at its Mangalore facility to boost production of acrylic and carboxylated styrene butadiene dispersions. The expansion is slated for commissioning in Q1 2007. The company said the Rup410m (US\$9.1m) project in the southern state of Karnataka would be funded by a combination of cash and loans. (November 7, 2005)

BIL is also considering further expanding its expandable polystyrene (EPS) capacity due to booming demand for consumer electronics in India. It has already upped its EPS capacity from 12,000 to 20,000 tpa in the previous financial year. (November 7, 2005)

Fertilisers and Chemicals Travancore Ltd (FACT) is seeking investors to expand its existing caprolactam plant and to build a new downstream nylon-6 plant in India. FACT plans to expand its caprolactam facility at Udyogamandal in the southern state of Kerala to 120,000 tpa from 50,000 tpa at present. (November 28, 2005)

Solvay acquired the Polymers Division of **Gharda Chemicals** in India. This is Solvay Specialty Polymers Strategic Business Unit's first industrial base in India. Solvay plans to combine the acquisition, which brings US\$10m in revenues, into its Solvay Advanced Polymers LLC operating unit headquartered in Alpharetta, Georgia. Solvay will initially expand PEEK production at the Panoli site as part of a broader plan to establish a strong market position for Solvay in this ultra-high performance polymer. (December 15, 2005)

Tata Chemicals has secured preliminary agreements with two of **Brunner Mond's** shareholders to buy a majority stake in the UK soda ash producer. Brunner Mond operates plants in Delfzijl, the Netherlands; Northwich in the UK; and Lake Magadi, Kenya. (November 24, 2005)

W. R. Grace & Co acquired **Flexit Laboratories Pvt Ltd**, a manufacturer and supplier of chromatography products headquartered in Pune, India. Terms of the deal were not disclosed. Flexit is a privately held company that manufactures columns and accessories for HPLC (high performance liquid chromatography) and SPE (solid phase extraction). Flexit will be integrated into the Discovery Sciences business of Grace's Davison Chemicals segment. (November 11, 2005)

Japan

Asahi Kasei Fibers Corp (AKF) and Lanxess Deutschland GmbH have signed a MOU for the purchase by AKF of the Dorlastan® spandex business of Lanxess. All Dorlastan® operations and assets, including production facilities in Dormagen, Germany, and Bushy Park, South Carolina, USA, are subject to transfer. (November 17, 2005)

BASF and JGC Corporation, Japan, are jointly developing a new technology for removing and storing the carbon dioxide (CO₂) contained in natural gas. The cooperation aims to develop a process that will shave some 20% off the cost of traditional methods. (October 5, 2005)

FUJIFILM Electronic Materials USA Inc, a US subsidiary of **Fuji Photo Film Co** acquired a 50% stake in **Planar Solutions** for approximately US\$17m from **Arch Chemicals**. Planar Solutions was originally a JV between Arch and **Wacker Chemical Corporation** for the production of chemical mechanical planarization (CMP) slurries sold to semiconductor manufacturers. The JV has manufacturing facilities in Adrian, Michigan, and Mesa, Arizona. (November 30, 2005)

Mitsubishi Rayon will construct a carbonization line with capacity of 2,200 tpa of polyacrylonitrile (PAN) carbon fibers at the Toyohashi Plant. The investment is expected to be approximately US\$60m and the line is scheduled to become operational in Q2 2007. (November 11, 2005)

Japan's **Nippon Oil** plans to acquire a 51% stake in **Mizushima Paraxylene**, a subsidiary of **Mitsubishi Gas Chemical (MGC)**, in April 2006. **Nippon Oil** will pay Y100m (US\$1.0) for a stake in the 250,000 tpa paraxylene (PX) plant at Mizushima, which is owned by **MGC** and a consortium including

To submit stories to the *Asian Specialty Chemicals* Newsletter, please contact Meng Jiang in Shanghai at (8621) 5407-5580 or email mjiang@bdallc.com.

trading company **Marubeni Corp.** (October 31, 2005)

Prime Polymer, the polyolefins JV between **Mitsui Chemicals** and **Idemitsu Kosan**, will decide by the end of 2005 on an expansion of its metallocene linear low-density polyethylene (mllDPE) plant in Chiba, Japan. The plant's capacity could be raised by 60,000 tpa to 260,000 tpa to meet growing demand for mllDPE in Japan and the rest of Asia. If the project goes ahead, it is likely to be completed in 2006-07. (October 3, 2005)

Ube Industries of Japan plans to build a new butadiene rubber (BR) plant somewhere in Asia to meet rapidly rising demand from major tire producers. (November 28, 2005)

V-Tech, an 85/15 JV between **Mitsubishi Chemical** and **Toagosei**, will be expanding its vinyl chloride monomer (VCM) capacity at Mizushima, Japan, by 50,000 tpa to 400,000 tpa at the end of 2005. V-Tech will export the additional VCM to other Asian countries. Ethylene dichloride feedstock for the expansion would be sourced from the spot market. (October 31, 2005)

Korea

Honam Petrochemical will invest W200bn (US\$188m) on a 65,000 tpa polycarbonate unit that will come onstream in 2008. The plant would be located at Honam's petrochemical complex in Yeochun. The plant is targeted for completion in October 2008. (October 31, 2005)

Korea Polyol Co is building a 30,000 tpa polyol plant in Nanjing, China, to serve Korean customers in China. The facility is scheduled to start commercial production late in 2006. The plant will produce flexible foam-grade polyol, which is commonly used for automobile seats. It will also produce rigid foam-grade polyol, required mostly for insulation in refrigerators. (November 7, 2005)

LG Chem will invest W2.2tr (US\$2.1bn) in five years to boost the production of information technology, electronic, and industrial materials. The investments from 2006 to 2010 would promote the growth of the company's materials business. LG Chem has 22 production plants in Korea and other countries such as China, Vietnam, India, and the US. (December 5, 2005)

LG Chem is planning to build a new plant in Korea to produce terephthalaldehyde (TPAL) by 2008 and will license the technology to other companies. LG Chem is waiting for patent approvals from the US, Japan, Germany, and nine other countries. The company has developed a new environment-friendly process to produce TPAL, an intermediate used mainly for the production of whitening agents. (November 29, 2005)

Phelps Dodge Corp has agreed to sell its **Columbian Chemicals Co** carbon black subsidiary to a company owned jointly by Korea's **DC Chemical Co Ltd** and **One Equity Partners**, a private equity affiliate of **JPMorgan Chase**, for US\$600m. (November 21, 2005)

Singapore

Asahi Kasei Chemicals Corporation (AKCC) and **Mitsubishi Gas Chemical Co Inc (MGC)** have agreed to expand plant capacity by 9,000 tpa to a total of 39,000 tpa at **Polyxyleneol Singapore Pte Ltd (PXS)** for the production of PPE powder, the key material for modified PPE resin production. **PXS** is a JV of **MGC** and **Asahi Kasei Plastics Singapore Pte Ltd (APS)**, **AKCC's** wholly-owned subsidiary for the production of modified PPE resin and related materials in Singapore. Commercial start-up of the expanded capacity is scheduled for July 2006. (November 24, 2005)

Ciba Speciality Chemicals plans to invest S\$125m (US\$74m) in a new antioxidants plant at Jurong Island, Singapore. The new plant will comprise synthesis, blending and form-giving facilities for

granular forms of **Ciba's** Irganox 1010 and Irgafos 168 and its blends, and will have an initial capacity of 30,000 tpa. Production is expected to start up in early 2008. The antioxidants will be used in plastics production. Ciba is also planning to invest in new production facilities for coating effects in India. (October 10, 2005)

Huntsman broke ground for a US\$35m polyetheramine production plant on Jurong Island which it plans to use for quicker access to its customers in Asia. Huntsman's chemical plant is expected to be operational by early 2007. (December 1, 2005)

Katoen Natie SembCorp is investing S\$20m to expand its chemical logistics terminal on Jurong Island. The company is a JV between **SembCorp Logistics** and Belgium-based **Katoen Natie**. To be ready end of next year, Katoen Natie SembCorp's second chemical logistics terminal will nearly double the company's warehouse storage to 54,000 square metres. It will also be able to blend and repack products for key customers amid growing demand for such services. (November 21, 2005)

Lucite has awarded the construction contract for its Singapore Alpha methyl methacrylate (MMA) plant to **Foster Wheeler**. The US\$150m project on Jurong Island will have an MMA capacity of 120,000 tpa and was scheduled to break ground in mid-2006. The plant's mechanical completion was due at end-2007 and its start-up in early 2008. **Lucite** is negotiating with **ExxonMobil** and **Petrochemical Corp** of Singapore for ethylene supplies from their nearby plants. (November 28, 2005)

Schenectady International is completing plans to build an alkylated phenol plant on Jurong Island in Singapore. The investment would be made over the next three years. The Singapore plant would complement the company's operations in Japan, Korea, and India. (October 10, 2005)

Taiwan

Degussa AG has formed a JV with Taiwan's **Forhouse Corp** to manufacture polymethyl methacrylate (PMMA) used in flat panel displays. Production of PMMA will begin at the end of next year. Degussa will hold a 51% in the entity, and Forhouse will hold the remaining 49%. Financial terms of the agreement were not disclosed. (December 14, 2005)

Motech, Taiwan's largest maker of solar cells, is seeking to set up a JV with a chemicals or petrochemicals maker for the production of polysilicon, the raw material for the wafers used in solar cells. The new company will try to obtain the technology from the US. (November 28, 2005)

Thailand

Thailand's Supreme Court has rejected the latest attempt by **Thai Petrochemical Industry** founder Prachai Leophairatana to regain control of the company, clearing potentially the last obstacle to TPI's sale to a government-linked consortium. (December 5, 2005)

Vietnam

China National Chemical Construction Corp has signed an agreement to build a diammonium phosphate (DAP) plant in Vietnam. The engineering, procurement and construction contract for the 330,000 tpa DAP unit at the Dinh Vu economic zone in Hai Phong was signed in October 2005. **Vinachem**, the Vietnamese state-owned chemical company, will operate the plant. (October 30, 2005)

Vinachem, the Vietnamese state-owned chemical company is planning an ammonia and urea project in Ninh Binh province in northern Vietnam. It signed

a MOU with the Chinese government in 2004 to borrow US\$360m for this project. (November 7, 2005)

REGIONAL

Dow Chemical is close to choosing a location for its new p-series glycol ethers plant in Asia. The new plant, expected to have a similar capacity to Dow's 125,000 tpa Stade, Germany facility, would serve the whole Asia-Pacific region. (October 3, 2005)

Arkema, the chemicals subsidiary of France's **Total**, will expand production capacity across the globe to ensure competitiveness. The expansion plans include a possible second hydrogen peroxide (H₂O₂) plant at its site in Wujing, China as well as other production sites elsewhere in China and Asia. Arkema may also set up a new acrylics plants in Asia, possibly in China. The company will increase organic peroxide manufacturing in Asia, possibly with a debottleneck at Changshu and also increase its specialty chemicals production. Arkema's ethylene dichloride (EDC) capacity will also be debottlenecked in Qatar, with an implementation date of 2008-2010. (November 4, 2005)

Euan Rellie, Managing Director

Meng Jiang, Associate

ABOUT BDA

Business Development Asia is a corporate finance advisory firm which assists multinational companies in expanding their businesses in Asia through JVs, acquisitions and divestments. For further information on BDA's services or on any of the articles in this newsletter, please contact the offices below.

New York

Euan Rellie
Business Development Asia LLC
The Economist Building, 11th Floor
111 West 57th St
New York, NY, 10019
Tel (212) 265-5300
Fax (212) 265-4300

Seoul

Hans Kim
Business Development Asia
Rm #709, Yeoksam Hyundai Venture Tel
Yeoksam-dong 642-1, Kangnam-ku
Seoul, 135-080, Korea
Tel: (82) 2-2192-4450
Fax: (82) 2-2192-4454

London

Andrew Huntley
Business Development Asia Ltd
10 Crown Place
Clifton St
London EC2A 4FT
Tel (44) 20-7655-3500
Fax (44) 20-7655-8913

Shanghai

Jeffrey Wang
Business Development Asia Co Ltd
The Center, #3706
989 Chang Le Road
Shanghai 200031, China
Tel (86) 21-5407-5580
Fax (86) 21-5407-5680

Tokyo

Jeff Acton
Business Development Asia
Crane Toranomon Building 5th Floor
3-20-5 Toranomon, Minato-ku,
Tokyo 105-0001 Japan
Tel (81) 3-3433-5803
Fax (81) 3-3433-5269

Hong Kong

Paul Digiacomio
Business Development Asia (HK)
1411 Harcourt House
39 Gloucester Road
Hong Kong
Tel (852) 2537-9565
Fax (852) 2537-4406

Mumbai

Rohit Singh
Business Development Asia
Apeejay Business Centre
3 Dinsha Vachha Road
Churchgate, Mumbai 400020
Tel: (91) 22-56517128
Fax: (91) 22-56517129

Bahrain

Tim Holder
Business Development Asia
Bahrain Office
PO Box 11487
Manama, Bahrain
Tel: (973) 3962-6312
Fax: (973) 3962-6312