

ASIA IS A BUSINESS IMPERATIVE... NOW MORE THAN EVER

ASIAN SPECIALTY CHEMICALS NEWSLETTER

ISSUE 15, OCTOBER 1999

A bimonthly newsletter of developments in the chemicals sector

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INTRODUCTION

DuPont, which has opened a new US\$100m Lycra plant in Singapore, expects its Asia-Pacific revenues to grow by 15% this year. "The Asian economic crisis is over for us," said Chairman & CEO Charles Holliday.

We hope that you find *Asian Specialty Chemicals Newsletter* informative. BDA is a corporate finance advisory firm which helps clients to identify and execute acquisitions and JVs in Asia. If you think that BDA's services may be useful to you, please contact us in New York at (212) 265-5300 or in Singapore at (65) 533-8500.

Euan Rellie
Managing Director

CHINA/HK

Henkel of Germany has established a research operation in Tianjin to conduct product development and quality evaluation for its customers in Asia. The new facility, **China Detergent Research Centre**, includes several offices and two labs, a packaging material development facility and a detergent testing unit. Henkel has eight JVs in China with sales totaling RMB2bn (US\$241m). (September 16, 1999)

Hubei Datian Co, Ltd of China, **MQM** of Spain, and **China Haohua Chemical Industrial Corporation** have jointly funded the construction of a 240,000tpa NPK fertilizer unit in Hubei. MQM loaned US\$2.8m to facilitate the completion of the project. (September 6, 1999)

Lianyungang Sanjili Chemical Co, Ltd has worked with **Tianjin University** and **Tsinghua University** to develop dihydric phenol for domestic production in China with capacity of 2,000tpa. The chemical is used in the manufacture of anthraquinone dyes, azo dyes, ammonia co-solvents, rubber antioxidants, polymerization inhibitors, coatings, essence stabilizers and antioxidants. (September 6, 1999)

Red Star Chemical Group Corp of China and **Bayer's** subsidiary **Rhein Chemie Rheinau** have begun commercial production at their JV in Qiangdao, China. The plant produces 11,000tpa of specialty chemicals for the rubber and oil industries. The JV, **Rhein Chemie Qiangdao**, is 90% owned by Rhein Chemie and 10% by Red Star. It expects revenues of US\$25m by fiscal year 2004, exporting 30% of its product within Asia. (August 24, 1999)

Tianjin Bohai Chemical Group is negotiating with **Solucorp Industries** to form a JV in China to market *Molecular Bonding System (MBS)* technology. MBS, owned by Solucorp, is used primarily to treat contaminated waste. The companies are discussing terms for Bohai to become the sole licensee in China. Currently, Solucorp is under contract to treat a 170,000 ton chromium slag mountain for Bohai, spurred by Beijing's heavy metal cleanup program. (September 14, 1999)

Tianjin Nanwangda Chemical Plant has begun production in China of tri-isopropylphenyl phosphate, a new flame-retardant plasticizer. The product is odorless, environmentally friendly and has a low toxicity. It will be used in the plasticization of rubbers and plastics and is expected to replace TCP in wall paper, leather, coatings, transformer oil, hydraulic fluid and lubricating oil. (September 6, 1999)

INDIA

CBI India and **Tamilnadu Petroproducts** established a JV, **Petro Araldite**. The new company started with equity of Rs47.6crores (US\$13.8m) and CBI holds a 76% stake. Petro Araldite's plant in Manali near Chennai has a production capacity of 30,000tpa and manufactures epoxy resins, formulations and ancillaries. **Ciba Specialty Chemicals** markets all Petro Araldite's products. (September 22, 1999)

ICI India, a subsidiary of Britain's **ICI plc**, has transferred its explosives business to **Indian Explosives Ltd (IEL)**, a new JV created with **Orica Ltd**. ICI India will hold a 51% stake and Orica Ltd of Australia will own the balance of IEL, the largest manufacturer of explosives in India. (September 30, 1999)

Madras Refineries (MRL), a state-owned company, plans to sell a 10% stake in its JV, **Indian Additives Limited (IAL)**, to its JV partner **Chevron Chemical Company** of the US. The sale will lower MRL's stake to 50%. IAL will benefit from Chevron's lubricant and additive technology. (September 8, 1999)

Sun Chemicals of the US is acquiring **Coates of India (COI)**, a 51% subsidiary of **Total Fina** of France. COI manufactures printing inks, including paste inks and metal coatings that are used as industrial intermediates by publication and packaging industries. Sun Chemicals is the largest manufacturer of industrial inks, resins, and intermediates and is expected to make COI its base for South Asian markets. The takeover will be completed by Q4 1999. (September 8, 1999)

INDONESIA

DuPont has acquired three companies in Indonesia: **PT Herberts Indonesia**, **PT Pioneer Hibrida Indonesia** and **PT Indonesia Teijin DuPont Films**. This brings the total number of JVs in Indonesia to five including **PT DuPont Agricultural Products Indonesia** and **PT Branta Mulia**. (August 24, 1999)

Kansai Paint, Japan's largest paint manufacturer, and **Eguchi Iwao** have reestablished a plan to create a JV in Indonesia that will sell auto paints and metal surface treatments in ASEAN countries. In 1998, a similar JV was abandoned due to the economic crisis, but the companies have stated that signs of recovery are clear. The venture should begin production in 2000. (September 21, 1999)

Nissho Iwai of Japan will acquire 60% of **Humpuss's** equity in their JV, **Kaltim Methanol**. As a result of this deal, the new capital structure of the JV will be 85% owned by Nissho Iwai, 10% by Humpuss, and 5% by **Daicel Chemical Industries**. Kaltim is the largest ASEAN methanol manufacturer, producing 660,000tpa. The company exports 70% of its products to Korea, Japan, Taiwan and other ASEAN nations. (August 26, 1999)

To submit stories to the *Asian Specialty Chemicals Newsletter* please contact Paul DiGiacomo on (212) 265-5300 or pdigiacomo@bdallc.com.

JAPAN

Asahi Chemical Industry (Asahikasei) and **Wacker-Chemie** of Germany have agreed to establish a JV, **Wacker Asahikasei Silicone**. The new company will be composed of **Wacker Chemicals East Asia's** silicone business which produces silicone oils, resins and rubber with 1998 revenues of DM1.5bn (US\$829.3m). The new plant will have a production capacity of 7,000tpa in Akeno, Ibaraki Prefecture. Asahikasei will hold a 50% stake in the JV. (September 27, 1999)

Mitsubishi Rayon Co (MRC) will begin commercial production of a newly developed chelating agent in 2000. Currently in trial production at 10tpa, the agent is biodegradable and bacteria-based. MRC's new proprietary production process does not require high levels of heat and pressure, rendering the new product less expensive to make compared to other bacteria-based chelating agents. The company will determine a commercial output volume figure by Q4 1999. (September 13, 1999)

NMB Co, a subsidiary of **SKW Trostberg** of Germany, has combined **Harris Specialty Chemicals'** Japan office operations with NMB's sales affiliate **Pozzolith Bussan**. SKW Trostberg acquired Harris Specialty Chemicals last March. Marketing responsibilities for NMB are delegated completely to Pozzolith Bussan. NMB manufactures concrete admixtures. (September 21, 1999)

NOF Corp of Japan will acquire a majority stake in **Nippon Koki Co**, the Tokyo-based explosives producer, for ¥5.0bn (US\$45m). The majority acquisition will increase NOF's explosives market share in Japan from 20% to 26%, second to **Asahi Chemical Industry**. NOF also has interests in specialties, oleochemicals, processed foods, coatings and pharmaceuticals. Explosives account for 10% of its business. (September 16, 1999)

Shin-Etsu Chemical will establish a pilot plant in Gunma by the end of this year to produce the silicon-based epoxy integrated circuit (IC) packaging material it developed three months ago. The product is made

with silicon, instead of conventional brominated epoxy resin, and is environmentally-friendly. Shin-Etsu plans to commercialize the technology. (September 16, 1999)

KOREA

Samsung Fine Chemical is beginning commercial production in its new formed 30,000tpa capacity epichlorohydrin (ECH) plant in Ulsan. **Hanwha Chemical** has postponed its ECH expansion and **Saudi Arabian Industrial Development Co's** ECH plant is not yet completed. Samsung expects to generate sales of Won34bn (US\$28m) in 1999 and Won60bn (US\$49m) in 2000 from the ECH operation. Output will serve primarily the domestic market. ECH is a specialty chemical that goes into the production of epoxy resins, surfactants and synthesized glycerin. (September 13, 1999)

Samsung Display Services, a unit of **Samsung**, will sell part of its stake in its **Daehan Specialty Chemicals JV** to **Solvay** of Belgium due to pressure from the South Korean government. Solvay increased its stake in the 50/50 barium and strontium carbonates JV to 60%. Barium and strontium manufacturing continues as an important activity for Samsung Display Services because the chemicals are used in flat screen displays. (September 16, 1999)

MALAYSIA

Nylex Bhd's exports of manufactured products are expected to increase from 35% to 50% of its production for 1999. Both the engineering and polymer divisions contributed to the recent success. Due to the pegging of the ringgit, production costs decreased as resin prices were set at US\$500 per ton relative to the previous price of US\$600-US\$710 per ton. (September 1, 1999)

Rinol Research & Technology Malaysia, a subsidiary of **Rinol AG** of Germany, will build a new plant for synthetic resins, powders and magnesia products. The facility will have a production capacity of 10,000tpa and primarily supply markets in Singapore, Thailand, Malaysia and Vietnam. The company has scheduled pilot production for Q4 1999 and final start-up for January 2000. (September 3, 1999)

Tenco Bhd has restructured its debt, including an injection of two new businesses, **Ridgemonde Chemicals & Resins Sdn Bhd** and **Quality Coatings Sdn Bhd**. This will increase the company's sales by 20% within the next two years. (August 31, 1999)

SINGAPORE

Ciba Specialty Chemicals has recently transferred its technical center from Hong Kong to Singapore and has focused on additive analysis and formulation in order to strengthen its polymer business. The company is now supplying granule-type pre-blended polymer additives. It also has expanded its customer services in the region. (September 16, 1999)

Kureha Chemicals Pte Ltd (KCS) will decrease total costs in its Singapore plant by more than 10%, compared to last year through a complete evaluation of the facility. Using raw materials from local industries has reduced the firm's freight costs. KCS manufactures acrylic reinforcement for PVC and other resins. (September 3, 1999)

TAIWAN

Asia Chemical Company has begun building a specialty chemicals plant in TangMei for **Clariant**, one of the largest producers of electronics specialty

chemicals. The new plant will come on stream in Q1 2000 to produce TFT-LCDs and other specialty products. The company expects to generate annual revenues of NT\$300m (US\$9.4m). (August 19, 1999)

Dahin Co of Taiwan is merging its affiliate, **Afino Fine Chemicals**, with **Eastern Formosa Chemical Industry**, a unit of **Taiwan Fertilizer Co**. Dahin will own 51% of the venture and Taiwan Fertilizer will own the balance. Afino is constructing a new 30,000tpa methyl di-p-phenyl isocyanate plant in Chanping and another 50,000tpa phthalic anhydride plant. Both facilities will be completed in Q3 1999. (August 31, 1999)

Formosa Chemicals & Fibre, a subsidiary of **Formosa Plastics**, and **Idemitsu Petrochemical** agreed to conduct a feasibility study for a polycarbonate JV in Taiwan. Using Formosa Plastics' Mailiao factory and license, and Idemitsu Petrochemical technology, the JV will build a 150,000tpa plant. Idemitsu holds several dozen patents relating to optical-disk-grade PC resin. (September 2, 1999)

Hayashi Pure Chemical Industries, the specialized reagents manufacturer, has entered into an agreement with **Taiwan Fertilizer** to provide it with technology and information in the production of high-purity electronics chemicals for liquid crystal displays (LCD). Taiwan Fertilizer, a large fertilizer and inorganic chemicals manufacturer, will build a first-stage plant in the Hsinchu Science Park where electronics-related industries are concentrated. The plant costs US\$17m and will produce etching fluid, washing fluid, stripping fluid and related chemicals. (August 28, 1999)

Taita Chemical has secured a license and engineering technology for a polystyrene plant from **Nova Chemicals Corporation**. Production will begin at the 100,000tpa facility in Kaoshiung in Q4 2000. Taita manufactures PS, styrene acrylonitrile and ABS resins for markets in Taiwan and China. According to Nova, the technology will increase Taita's product quality and decrease operating costs. (September 9, 1999)

THAILAND

Ciba Specialty Chemicals plans to increase production capacity at its Mahachai dyes unit from 3,000tpa to 6,000tpa. The plant will produce reactive dyestuffs, commodity dyes and ink-jet dyes for textiles. (September 22, 1999)

FOCUS:

Japanese construction chemical manufacturers

Japanese construction chemical companies are typically divisions of large conglomerates. As holding companies are now legal in the country, these conglomerates are increasingly looking to focus on core businesses. As a result, the frequency of mergers, acquisitions and JVs in the construction chemicals industry will continue to increase.

Products range from cement additives and concrete admixtures that are used primarily in the industrial and nonbuilding markets, to protective coatings and sealers that protect structures and roads from the weathering effects of water, sun, pollution and fire. Demand for these products stems from construction of new infrastructure and from repair and maintenance of existing structures.

The following company profiles provide an insight into the trends in the industry in Japan. One common thread is that a number of companies are engaged in JVs in order to maximize market share in the region. They also continue to invest in R&D to provide new technologies to stay competitive.

1. ASAHI DENKA KOGYO

Activities- Asahi Denka Kogyo is a diversified caustic soda-based chemical company focused on fine chemical products, including resin additives and electronics-related materials, as well as its recent expansion into foodstuffs. It has enjoyed benefits from its merger with **Tokai**

Denka in April 1999. Asahi Denka is doing particularly well in resins additives and has doubled its production capacity for these over the last few years at its Mie facilities. It will be starting up a resin additives plant in the US in 2001. The company also expects to bring on stream a new plant for condensed phosphate flame retardants at Kashima, Ibaraki Prefecture by Q4 1999 to be used primarily in housings for office automation. The facility will have a production capacity of 5,000tpa.

Product Range- Construction chemicals include: epoxy resins, coatings, chlorinated polymers used for paints and adhesives, and waterproofers, polystyrene, ABS resin, chloroprene rubber and acetylene black.

Shareholder structure -The company is publicly listed and is part of the **Furukawa Group**.

Financials (fiscal year ending March 1999)

Revenues	US\$1.1bn
Net profit	US\$0.8m
Market capitalization	US\$394.8m

2. DENKI KAGAKU KOGYO KABUSHIKI KAISHA (DENKA)

Activities- DENKA is a leading second-tier comprehensive chemical manufacturer. It was founded as a carbide maker, and subsequently diversified into cement, construction materials and petrochemicals. Cement and related products accounted for 17% of revenues in fiscal year ended March 1999. The company is particularly strong in the business of cement mixing agents, and has plans to set up a cement additives JV with **Tongyang Cement** of Korea. DENKA has also formed a JV, **Grace Chemicals K.K.**, with **W.R. Grace's Grace Construction Products** in February 1999. The JV will take advantage of DENKA's established distribution network, introduce new technologies and present new products.

Product Range- Cement additives and concrete admixtures including: plasticizers, superplasticizers, heat controlling agents, dry-shrinkage reducing agent, and expansive additives, quicksetting additives, rapid hardening additives, and high strength additives.

Shareholder structure- Public company

Financials (Fiscal year ending March 1999)

Revenues	US\$2.0bn
Net profit	(US\$6.5m)
Market capitalization	US\$1.5bn

3. NMB CO, LTD

Activities- NMB, a wholly owned subsidiary of **SKW Trostberg**, managed to consolidate its leading position in concrete admixtures through higher sales of concrete super plasticizers even though demand for concrete admixtures declined in the region. SKW has other construction chemicals subsidiaries in China, Korea, Malaysia, the Philippines, Singapore and Taiwan.

Product Range- The company primarily produces concrete admixtures, conducts research and development, and offers technical assistance.

Shareholder Structure- Wholly owned subsidiary of SKW Trostberg of Germany.

Financials- Privately held.

4. TOAGOSEI CO, LTD

Activities- Toagosei is a medium-sized chemical producer known for producing *Aron Alpha*, an instant strong glue. Originally a producer of ammonium sulfate and sulfuric acid, it diversified into a general chemical maker. Toagosei was involved in a number of M&A deals in 1999 including the acquisition of **ACI Japan, UK**, from **ACI Asia** for an undisclosed amount in January. In March, Toagosei started production of crude acrylic acid and acrylic ester at 60,000tpa each in Singapore with **Sumitomo Chemical Co.** In September 1999, Toagosei merged its PVC business with that of **Mitsubishi Chemicals**, giving it a total PVC production capacity of 422,000tpa.

Product Range- Waterproofers, external wall coatings, instant-curing spraying mortar, injection grouting, elastic tiles, elastic paints, polymer cement

mortar, coatings removers, sealants, grounding resistance reducers, surface repairing materials, concrete admixtures, injecting water and soil erosion stoppers, greening accelerants, concrete surface coverings, and infiltrating water absorption stoppers.

Shareholder Structure- At the end of 1998, the **Sumitomo Trust & Banking Co** held the largest capital share at 5.93%. 55% of all shares are owned by financial institutions.

Financials (Fiscal year ending December 1998)

Revenues	US\$863.7m
Operating profit	US\$16.9m
Net profit	US\$6.6m
Market capitalization	US\$499.0m (for 1999)

5. TORAY INDUSTRIES, INC

Activities- The company produces synthetic fibers pharmaceuticals, and chemicals such as polypropylene films and plastics. Toray produces construction chemicals mainly by mixing special aggregates and additives into paint and resins. Their construction chemicals R & D center is promoting the development of several main products including: corrosion protective coating, floor and road repair material, and concrete corrosion protection material.

Product Range- Products include: water permeable paving materials, wall-surfacing materials, coatings, films, nylon, polyester, acrylic, ABS, PBT, PP, terephthalic acid, and polyacrylonitrile-based carbon fibers.

Shareholder Structure- Toray is a public company. At the end of 1998, **Nippon Life Insurance** held the largest capital share at 6.0%.

Financials (Fiscal year ending March 1999)

Revenues	US\$8.3bn
Net profit	US\$76.5m
Market capitalization	US\$6.4bn

6. UBE INDUSTRIES, LTD

Activities- One of Japan's largest conglomerates, Ube

Industries is a diversified manufacturer of chemicals and resins, cement, construction materials, machinery and coal. In June 1999, the company restructured its cement business by cutting back its manufacturing work-force by 20%. Moreover, it reduced the number of ready-mix concrete affiliates.

Product Range- Construction chemicals include: nylon resins, polyamide elastomer, nylon composite material, polybutylene terephthalate, polyamide molding material, varnish, overcoat ink, anticorrosives,

anti efflorescence agent, admixture, waterproofing, and nonflammable lacquer.

Shareholder Structure- Public company

Financials (Fiscal year ending March 1999)

Revenues	US\$4.4bn
Operating profit	US\$9.6m
Net profit	US\$14.3m
Market capitalization	US\$2.2bn

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ABOUT BDA

Business Development Asia is a corporate finance advisory firm which assists multinational companies to expand their businesses in Asia. BDA specializes in the chemical industry and helps clients to find local business partners. BDA has senior advisors in Bangkok, Jakarta, Kuala Lumpur, Manila, Seoul and Shanghai. For further information on BDA's services or on any of the articles in this newsletter, please contact Euan Rellie or Charles Maynard, through our New York office, or Andrew Huntley in Singapore.

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