Polyvinyl Chloride (PVC)

PVC is a general-purpose resin that has many advantageous properties. It is easy to process and economical as well. Moreover, from the standpoint of its contribution to the quality of the environment, while other plastics depend 100% on petroleum, the manufacturing of PVC involves far less dependency on petroleum resources, with 57% of its material being salt and only 43% petroleum. It is a very superior product.

Demand for PVC is growing for applications in pipes and sidings in the U.S. and for pipes and window profiles in Europe and Asia. In China, in particular, applications mainly for construction materials and consumer goods are showing strong growth in demand. In addition, over the past few years, PVC window profiles are attracting attention in Japan because the use of PVC meets people’s needs for energy saving, and creating a better, healthier housing environment by helping reduce air conditioning/heating costs and preventing condensation.

PVC is an indispensable material that supports our daily lives in contemporary society. Strong future growth in demand is expected in various regions around the world. In anticipation of this trend, the Shin-Etsu Group, the world’s largest manufacturer of PVC, is implementing major expansion plans for its PVC production capacity. Shintech Inc. in the U.S., which celebrated the 30th anniversary of the start-up of its operations in October 2004 and is a core part of the Shin-Etsu Group’s PVC business, is planning to construct large-scale integrated production facilities. Shin-Etsu PVC B.V. in the Netherlands is also further expanding its PVC production capacity. By the end of 2007, the combined production capacity of Shin-Etsu Group companies in Japan, the U.S. and Europe is expected to be about 4 million tons annually. By utilizing its world-leading production capacity and the Group’s sales capabilities that were nurtured in global markets, the Group will continue to take the lead in initiating plans to expand its PVC business in the future so as to assure its world number-one position.

Silicones

In 1953, Shin-Etsu became the first company in Japan to commence the commercial production of silicones and has now been selling silicones for over half a century. During these years,

<table>
<thead>
<tr>
<th>Net Sales of Main Products</th>
<th>(Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2004</td>
</tr>
<tr>
<td>Polyvinyl chloride (PVC)</td>
<td>296.5</td>
</tr>
<tr>
<td>Silicones</td>
<td>155.9</td>
</tr>
<tr>
<td>Cellulose derivatives and others</td>
<td>96.6</td>
</tr>
<tr>
<td>Total</td>
<td>549.0</td>
</tr>
</tbody>
</table>
silicones have continually expanded their rich diversity of applications so that today the Shin-Etsu Group markets more than 4,000 kinds of silicone products for applications in such fields as the electric, electronics, automotive, construction, cosmetics, toiletries and chemical industries. In each field, we are contributing in such ways as helping to improve products’ functions and to make production processes more efficient.

Among the wide range of application fields for silicones, one that has been rapidly growing in recent years is in the automotive field, where high functionality is increasingly required. Silicones are becoming an essential material in various applications such as electronics equipment, interior finishes, and inside the engine casing, thanks to their unique properties of electrical insulation and heat and weather resistance. Furthermore, in the case of electrical and electronics devices, silicones serve application needs for an efficient heat transfer medium that efficiently discharges heat, and in cosmetics applications, silicones have attracted a great deal of attention for their ability to help make these products feel good on the skin and make them easier to apply. In the future, we will continue to develop new products and new applications and endeavor to further create and expand global demand.

The Shin-Etsu Group is aggressively going forward on a global basis with the expansion of production and sales of silicones in the regions where demand is growing. In addition to production bases in Japan, the U.S., the Netherlands, Korea, Taiwan and China, in 2004 integrated silicone monomer and polymer manufacturing facilities began operations in Thailand, and a keypad production plant constructed in Hungary by Shin-Etsu Polymer Co., Ltd., a Shin-Etsu Group company that handles the fabrication of silicones, also began operations. These keypads are used for mobile phones and other electronics equipment. These manufacturing facilities are all functioning well, and in each country their business activities as silicone production bases are widely expected to contribute to the growth and development of the Shin-Etsu Group.

Cellulose Derivatives

Cellulose derivatives are an environment-friendly material made from a natural polymer. Their application fields are vast and they are being utilized in such fields as construction, civil engineering, fine ceramics, paper processing and in such fields as pharmaceuticals, foods and toiletries, where safety is crucial.

Demand is particularly strong for applications of cellulose derivatives as pharmaceutical coatings and binders for tablets and granules and for industrial use as molding binders for ceramics that purify automobile exhaust emissions.

When Shin-Etsu acquired the cellulose business of Clariant AG at the end of December 2003, establishing SE Tylose GmbH & Co. KG in Germany, the Shin-Etsu Group became the world’s largest manufacturer of methylcellulose. Furthermore, since steady growth in demand is expected, plans to expand production capacity are going forward both at Shin-Etsu’s Naetsu Plant in Japan and SE Tylose’s facilities. In the future, by utilizing the merits of this bipolar production system, the Shin-Etsu Group will work to strengthen its position as the world’s number-one methylcellulose producer.

Organic and Inorganic Chemicals and Other Related Products

The Shin-Etsu Group manufactures, markets and sells a large number of very useful acetylene derivative products such as synthetic pheromones, which are used in agriculture, and synthetic aroma chemicals, which are widely used in perfumes and food flavorings.

Synthetic pheromones were developed for the purpose of suppressing the birth of the next generation of harmful insects by disrupting their mating behavior, a technique known as “mating disruption.” They are now used worldwide in apple and peach orchards and other crops. In Japan, they are mainly used in fruit orchards as well as for vegetables such as cabbage, and in tea orchards. Mating disruption is now being focused on as an innovative method that will replace the use of insecticides. The Shin-Etsu Group has the world’s number-one market share in synthetic pheromones.

The Shin-Etsu Group also manufactures silicon metal. Silicon metal is an essential raw material in such products as silicones, semiconductor silicon, and synthetic quartzes, which are among the Group’s core businesses. Through its wholly owned subsidiary in Western Australia, Simcoa Operations Pty. Ltd., the Group is securing stable and high-quality supplies of this valuable commodity.
Semiconductor Silicon

In fiscal 2005, sales of cutting-edge 300mm wafers were strong throughout the fiscal year, although sales of the 200mm wafers, the Shin-Etsu Group’s main wafer product, experienced a slight adjustment phase in the second half of the fiscal year.

The Shin-Etsu Group, as a world leader in the silicon wafer business, constantly works to achieve the world’s highest quality products and highest level of customer satisfaction. The Group has been developing the world’s most advanced technologies to produce larger-diameter, super-smooth silicon wafers with the lowest defect rate. The demand for silicon wafers is rapidly increasing, and the Shin-Etsu Group possesses silicon wafer production bases in Japan, Malaysia, the U.S., the U.K. and Taiwan. As a result of its strategies to implement production capacity expansions in a very timely fashion, the Group has become the number-one manufacturer of silicon wafers, with a world market share of more than 30%.

Shin-Etsu Handotai Co., Ltd. and its group of companies closed to half of the share in the world market for 300mm wafers. As of the end of December 2004, production capacity had reached 300,000 wafers monthly, as repeated expansions of production capacity were implemented as the market steadily expanded. Because the Group anticipates that global demand for 300mm wafers will increase, we have begun construction of facilities that will expand the Group’s production capacity to 500,000 wafers monthly by the fall of 2006. We will also work to create a 300mm wafer production system that can flexibly adapt to expanding customer requirements.

The Group is also focusing on expansion of sales of such newer products as SOI wafers and annealed wafers, used for applications in highly functional devices. For existing wafer products of up to 200mm, the Group will pursue rationalization of production and product quality improvement efforts as well as work to strengthen production systems so that the Company can meet any and all requests of customers.

<table>
<thead>
<tr>
<th>Net Sales of Main Products</th>
<th>2005</th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semiconductor silicon</td>
<td>256.6</td>
<td>214.1</td>
<td>196.7</td>
</tr>
<tr>
<td>Others</td>
<td>50.3</td>
<td>48.1</td>
<td>46.7</td>
</tr>
<tr>
<td>Total</td>
<td>306.9</td>
<td>262.2</td>
<td>243.4</td>
</tr>
</tbody>
</table>
Rare Earth Magnets for the Electronics Industry

Rare earth magnets are high-performance, permanent magnets that have about 10 times the magnetic force of ferrite magnets. They have been contributing to the development of more compact and lightweight electric and magnetic components for products that have more highly specialized functions and are more energy efficient. Rare earth magnets are an essential raw material applied in voice coil motors (VCM) for hard disk drives (HDD), of which the Shin-Etsu Group has the largest global market share. These magnets are also used in computers, digital home appliances and mobile music players.

The Shin-Etsu Group is the only manufacturer in the world to carry out integrated production of high-quality rare earth magnets starting from high-purity rare earth. By making use of this advantage, the Shin-Etsu Group is able to better respond to customers’ needs by providing a stable supply of products, speedy product development to meet application requirements and thorough product quality control.

Epoxy Molding Compounds

Epoxy molding compounds are widely used as encapsulation material for all kinds of semiconductor products.

The Shin-Etsu Group, employing cutting-edge technology accumulated through the development of various silicone products, can offer a line-up of unique products such as environmentally friendly Green EMC products and moldable silicone products for high-power LEDs, which are rapidly growing in the market. The Shin-Etsu Group is aggressively developing advanced products in order to meet the diversified needs for semiconductor packaging.

Photoresists

The Shin-Etsu Group is developing a system to supply the principal materials needed in the lithography process in manufacturing semiconductor devices. We have commercially produced and marketed photoresists compatible with excimer lasers as a photo-sensitive material used in imprinting semiconductor circuits and also thick film resist (Deep UV and I-line) for magnetic resistance head and for wafer-level chip-size packaging (WLCSP). The Group has also succeeded in developing pellicles, which are the protective dust covers used for photomasks with excimer laser lithography.

Capitalizing on its leading market share in the global wafer market, and making use of its close ties with the semiconductor industry, the Group is striving to prepare for the next generation of semiconductor devices, for example, by working in collaboration with users to develop ArF (argon fluoride) excimer lasers for photoresists.
Synthetic Quartz Products

The Shin-Etsu Group, with its know-how in silicon chemistry, has succeeded for the first time in the world to mass produce super-high-purity synthetic quartz, which is higher in purity than natural quartz. With silicon metal refined to a high degree of purification as a raw material, the Group established a manufacturing technology for super-high-purity synthetic quartz that holds impurities to the level of 1 ppb (one part per 1 billion).

Synthetic quartz products such as preforms for optical fiber, photomask substrates for LSI and large-size photomask substrates for LCD have become essential materials for the development of the high-level information society.

The demand for optical fiber remains sluggish worldwide; however, the Group is striving to further improve product quality to prepare for future business growth. The Group has the top global market share in large-size photomask substrates, which are used at the time of LCD manufacture, and product sales are going strong. We will endeavor to accurately anticipate and be ready to cope with the expansion in future demand.

Rare Earths and Rare Earth Magnets for General Industrial Use

The Shin-Etsu Group possesses its own original proprietary high-level separation and refining technologies and physical property control technologies. We use them for the separation and refining of various kinds of rare earths with a high purity of 99.9999%. The Group’s rare earths are widely applied in such products as plasma display panels, luminescence for LCD TVs and fluorescent lights, oxygen sensors in automobile engines, catalytic converters and capacitors. In addition, applications in various other fields are expected to expand.

By maximizing strong magnetic force, the Group’s rare earth magnets for general industrial use are contributing to making possible the introduction of products that are lighter in weight, smaller in size, and higher in output for such equipment as motors. The range of applications utilizing these outstanding properties is vast, and they are used in

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic quartz products</td>
<td>26.5</td>
<td>25.7</td>
<td>35.0</td>
</tr>
<tr>
<td>Rare earths and rare earth magnets, etc.</td>
<td>28.2</td>
<td>26.5</td>
<td>25.3</td>
</tr>
<tr>
<td>Others</td>
<td>56.9</td>
<td>61.4</td>
<td>72.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>111.6</strong></td>
<td><strong>113.6</strong></td>
<td><strong>133.1</strong></td>
</tr>
</tbody>
</table>
such product areas as air-conditioners, various motors for automobiles and optical pick-ups in CD players. In addition, rare earth magnets have begun to be used in such energy-saving and environmentally friendly applications as in motors for fuel-cell cars, which are being touted for future use as an environmentally clean means of transportation, and in motors for hybrid cars, which are rapidly gaining popularity in many countries, as well as in motors for alternative energy wind-power generators. Shin-Etsu offers a group of rare earth magnet products that have the world’s highest magnetic force level, and our extensive line-up of products consists of both samarium-cobalt magnets and neodymium magnets, and both types are gaining a high level of trust from users.

Shin-Etsu also has developed new high-performance magnet technologies and realized the world’s highest grade of heat resistance characteristics in its neodymium iron boron (Nd-Fe-B) magnets. Future applications of these products are expected in such anticipated growth areas as automobiles and home appliances, where heat resistance is a very important requirement.

**Liquid Fluoroelastomer SHIN-ETSU SIFEL®**

SHIN-ETSU SIFEL® is a revolutionary liquid fluoroelastomer that Shin-Etsu successfully developed for the first time in the world. Its form before hardening is either a liquid or a paste, and after heat curing, it becomes a flexible synthetic rubber material. SHIN-ETSU SIFEL® is superior in resistance to cold so that it will keep its elasticity under even a temperature of minus 50˚C. In addition, it has such desirable characteristics as resistance to oils, solvents, chemicals, heat and excellent electrical insulation properties. Accordingly, it is used in such wide application fields as automotive, aircraft, electric, electronics, office equipment and petrochemical industries as rubber molding, adhesive sealant material and filler. It is contributing to the improvement of product reliability in many application areas. Based on its superior characteristics, SHIN-ETSU SIFEL® is expected to have wider applications in a great diversity of fields.

**Flexible Copper-Clad Laminates**

In addition to its existing three-layer flexible copper-clad laminates, Shin-Etsu has developed and started marketing adhesivesless flexible copper-clad laminates (FCLs) by laminating copper foil and polyimide film using Shin-Etsu’s proprietary technology. Shin-Etsu’s flexible copper-clad laminates are used as materials for thin, light-weight flexible printed circuit (FPC) boards because of their superior flexibility. FPC board are used in such digital home appliances as mobile phones, digital cameras, flat-panel TVs, and DVD recorders and players, and are contributing to making it possible for all of these products to be more compact, lighter in weight and thinner.

**Other Products**

Shin-Etsu Engineering Co., Ltd., a Shin-Etsu Group company, consists of the Plant Division, which handles mainly the integrated design and construction of chemical plants, and the Electro-Mechanics Division, which handles the development planning and manufacturing of mechatronics equipment for electronics-related industries that manufacture such products as semiconductors and LCDs. Both divisions also receive a large number of orders from companies outside of the Shin-Etsu Group. In particular, with the rapid spread in popularity of flat-panel TVs, the demand for LCDs and plasma display panels (PDPs) has grown, and sales of Shin-Etsu Engineering’s panel alignment machine are increasing. The key to demand expansion for flat-panel TVs is the development, sales and marketing of panel displays that are progressively larger. To meet these emerging needs of the industry, Shin-Etsu is offering TV display manufacturers a panel alignment machine that helps them reach their design and production goals.

The panel alignment machine plays an important role in the manufacture of advanced LCDs.