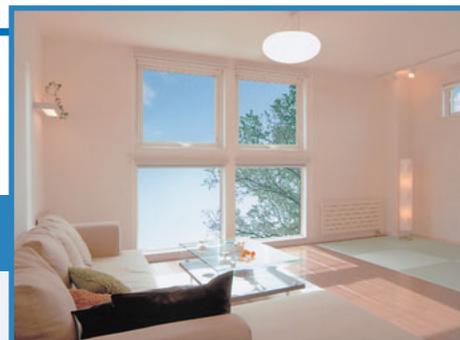


# Review of Operations

PVC is used in window frames due to its superior heat insulation capabilities.



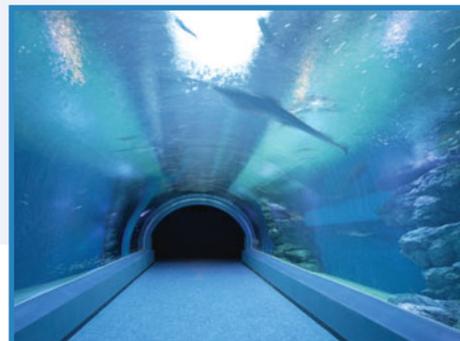
## Organic and Inorganic Chemicals

### Net Sales of Main Products

(Billions of yen)

	2009	2008	2007
Polyvinyl chloride (PVC)	324.9	363.7	375.8
Silicones	171.8	199.7	198.8
Cellulose derivatives and others	132.5	137.6	133.8
Total	629.2	701.0	708.4

The superior adhesiveness, durability and deep hardening qualities of silicone-based, elastic joint sealing material make it effective for aquariums and other large-size water tanks.



### Polyvinyl Chloride (PVC)

PVC is a commodity plastic resin having superior use properties, processability and economic advantages. Life-cycle assessment shows major environmental benefits, too: Manufacturing PVC requires less petroleum resources than making other plastics, and PVC recycling is also progressing.

In North America, demand for PVC products is primarily in the forms of pipes and exterior walls. In Europe and Asia, PVC is used mainly for pipes and window frames. Recently, builders in Japan have begun using more PVC window frames due to their superior insulation performance, seasonally reducing the costs of both heating and cooling of homes, which can contribute to reduction of global warming via reduced energy needs.

Shin-Etsu is expanding its PVC production capacity at Shintech Inc. in the United States. In 2008, operations commenced at our additional large-scale integrated PVC plant in the state of Louisiana, which handles all processes from raw materials. Besides Shintech, the Shin-Etsu Group will strengthen its PVC businesses in Europe and elsewhere, going forward with tri-lateral bases positioned to best serve all world markets.

### Silicones

Silicones combine organic and inorganic properties and can be produced in various physical forms, such as fluid, resin or rubber. Their numerous unique properties include electrical insulation, as well as heat, cold and weather resistance. We currently provide more than 4,000 different kinds of silicone products for applications that contribute to improved functionality of products, rationalization and increased efficiency of production processes in a wide range of fields such as the electrical, electronics, automotive, construction, cosmetics, toiletries and chemical industries.

In Japan as well as in China and elsewhere overseas, we are aggressively going forward with the expansion of production and sales in the regions where silicone is in demand. In addition to promoting the development of new products and new applications, the Shin-Etsu Group has been working to maintain stable operations at its manufacturing facilities in Japan, Thailand and around the world.

### Cellulose Derivatives

Cellulose derivatives are an environmentally friendly material made from a natural polymer. Shin-Etsu has developed a wide array of cellulose derivative products that are used in diverse fields such as

pharmaceutical coatings and binders for tablets and granules, construction, civil engineering, agriculture, fine ceramics, paper processing, foods and toiletries.

In addition to the Naoetsu Plant, construction is currently progressing on pharmaceutical cellulose production facilities at SE Tylose GmbH & Co. KG in Germany in order to stabilize supply by establishing multiple production bases.

### Organic and Inorganic Chemicals and Other Related Products

Synthetic sex pheromones disrupt insect mating behaviors and, as a result, suppress the population of the next generation. In Europe and North America, they are widely used in fruit orchards, such as apple, peach and grape. In Japan, they are used mainly in fruit orchards as well as in vegetable fields, such as cabbage, and in tea fields. Mating disruption is gaining wider attention as an alternative technique to insecticides, and Shin-Etsu will continue to expand sales worldwide.

Meanwhile, Simcoa Operations Pty. Ltd., a wholly owned subsidiary in Western Australia, produces 30,000 tons of high-quality silicon metal annually. This secures a stable, long-term supply of quality silicon metal, which is used as a raw material in the Shin-Etsu Group's core businesses such as semiconductor silicon, silicones and synthetic quartz.

#### Topics

#### Making CIRES a Wholly Owned Consolidated Subsidiary

Shin-Etsu is making progress in procedures to make Companhia Industrial de Resinas Sintéticas, S.A. (CIRES) of Portugal, which manufactures and sells PVC in Europe, a wholly owned subsidiary. This is aimed at speeding up operations at CIRES and expanding the PVC business in Europe. CIRES is working to strengthen profitability as a wholly owned Shin-Etsu Group subsidiary by further improving its existing manufacturing technologies and sales capabilities.



## Electronics Materials

### Net Sales of Main Products

(Billions of yen)

	2009	2008	2007
Semiconductor silicon	404.9	482.8	406.7
Others	62.6	81.9	72.7
Total	467.5	564.7	479.4

### Semiconductor Silicon

The Shin-Etsu Group is the world's top silicon wafer supplier, with a worldwide market share of approximately 33 percent. The Shin-Etsu Group is providing products that meet the needs of the world's most advanced technologies, and respond to all client demands and requests.

The Shin-Etsu Group has been providing a stable supply to users from its silicon wafer production bases in Japan, Malaysia, the United States, the United Kingdom and Taiwan.

As for 300mm wafers, the Group is going forward with mass production at its five production sites in Japan and the United States. In the future, the Group will apply its collective strength to fulfill its duties as the world's largest manufacturer by accurately grasping market trends and maintaining its framework for promptly increasing capacity to meet demand.

For wafer products with a diameter of 200mm or less, the Group is also focusing on expanding sales of such special products as SOI wafers, used for applications in highly functional devices.

### Rare-Earth Magnets for the Electronics Industry

The Shin-Etsu Group has the largest global market share for rare-earth magnets for voice coil motors (VCM), which are used for hard disk drives (HDD) used in computers, servers and audiovisual-recording devices.

The Shin-Etsu Group is the only manufacturer in the world to

Silicon wafers boast a degree of evenness to within 65 nanometers.



Epoxy molding compounds, which are silicone variations, are necessary materials for high-intensity LEDs.



carry out integrated production of high-quality rare-earth magnets starting from high-purity rare earth. Beginning with material development, the Shin-Etsu Group then uses its ability to quickly adapt in moving from prototype to commercial production to respond to customer needs, providing a stable supply of products, developing products that meet application requirements and maintaining thorough quality control.

### Photoresists and Other Products

The Shin-Etsu Group has established a system to supply the principal materials needed for the lithography process in semiconductor manufacturing. We have used our close connections with the semiconductor industry to develop, commercially produce and market photoresists for KrF (krypton fluoride) and ArF (argon fluoride) excimer lasers as a photo-sensitive material used in printing semiconductor circuits, I-line resists, and the dust protective covers called pellicles, used for photomasks with excimer laser lithography.

Although Shin-Etsu entered the photoresist market last, it is now the leading photoresist manufacturer in the world, with a share of around one-third of the market due to the Company's meticulous response to customers' technological innovations and widespread client trust.

The Group is preparing for the next generation of semiconductor devices such as the development of the most advanced photomask blanks.

### Epoxy Molding Compounds

Epoxy molding compounds are used as packaging materials in almost all semiconductor products. The Shin-Etsu Group is working aggressively to meet diversified needs for semiconductor packaging.

Based on cutting-edge technology accumulated through the development of various silicone products, the Shin-Etsu Group has provided a succession of unique products that are differentiated from those of other companies. These include Green EMC products, which introduced a flame-retardant system that responds to environmental requirements, liquid epoxy resins, and molding materials modified with silicones for high-brightness LEDs.

### Topics

#### Acquisition of Land in Nishigo, Fukushima Prefecture

Shin-Etsu acquired land in Nishigo, Fukushima Prefecture, in August 2008. Shin-Etsu Handotai Co., Ltd.'s Shirakawa Plant, which is located several kilometers away in the same village, has been the primary manufacturing facility for semiconductor silicon wafers since 1984. The newly acquired land has the same excellent utilities as the Shirakawa Plant, including clear and fresh industrial water, and superior access to Tokyo. We will use this land to further expand the Shin-Etsu Group's business.

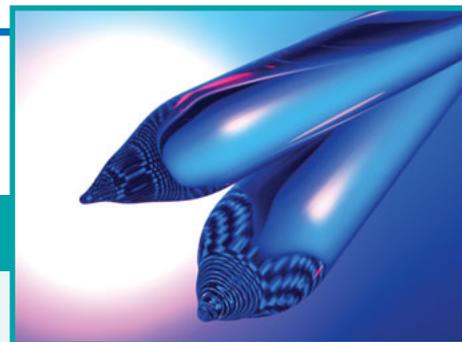


## Functional Materials and Others

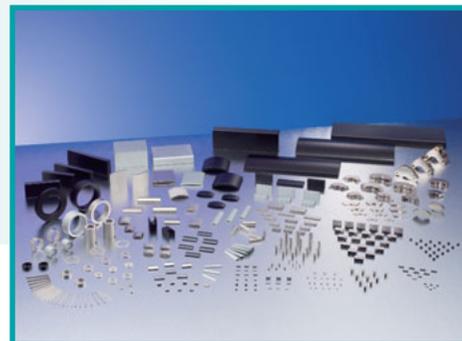
### Net Sales of Main Products (Billions of yen)

	2009	2008	2007
Synthetic quartz products	25.8	29.6	32.9
Rare earths and rare earth magnets, etc.	36.9	37.4	34.8
Others	41.4	43.7	49.2
<b>Total</b>	<b>104.1</b>	<b>110.7</b>	<b>116.9</b>

Preforms for optical fiber



A variety of rare-earth magnets



### Synthetic Quartz Products

With silicon metal refined to a high degree of purification as a raw material, the Shin-Etsu Group mass produces high-purity synthetic quartz, which is extremely high in purity compared to natural quartz.

The Group supplies synthetic quartz products such as preforms for optical fiber, LSI photomask substrates, and large-size photomask substrates for LCDs, which are indispensable materials for the IT industry.

The Shin-Etsu Group is committed to differentiation through quality and will work to ensure a proper response to demand trends for optical fiber preforms and large-size photomask substrates for LCD panels to prepare for the further development of the high-level information society.

### Rare Earths and Rare-Earth Magnets for General Industrial Use

The Shin-Etsu Group uses high-level separation and refining technologies and physical property control technologies to commercially produce rare-earth materials for a wide range of applications in such products as plasma display panels, LCD TVs, fluorescent lamps, and fluorescent materials for LEDs.

By maximizing strong magnetic force, the Group's rare-earth magnets for general industrial use contribute to the introduction of products that are lighter in weight, smaller in size, and higher in output for equipment such as motors. With a wide range of applications in such product areas as energy-efficient air conditioners and other home appliances, and various motors for automobiles, rare-earth magnets have begun to be used in such energy-saving and environmentally friendly applications as motors for hybrid cars and wind-power generators.

### Liquid Fluoroelastomer SHIN-ETSU SIFEL®

SHIN-ETSU SIFEL® is a liquid fluoroelastomer that Shin-Etsu was the first in the world to develop. 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® has superior resistance to cold, keeping its elasticity even at minus 50°C. In addition, it has such desirable charac-

teristics as resistance to oils, solvents, chemicals and heat as well as excellent electrical insulation properties. Accordingly, it is used as a molding material, an adhesive, coating and potting material in a wide range of application fields such as the automotive, aircraft, electric, electronics, office equipment and petrochemical industries. Shin-Etsu continues working to develop new applications.

### Other Products

Shin-Etsu's flexible copper-clad laminates (FCLs) are used as materials for printed circuit boards in such electronic products as mobile phones and digital cameras and are contributing to making these products lighter and more compact. Shin-Etsu developed and started marketing original two-layer flexible FCLs and a halogen-free cover layer with excellent properties.

Shin-Etsu Engineering Co., Ltd. consists of the Plant Division and the Electro-Mechanics Division. Both divisions contribute to expanding and automating the Shin-Etsu Group's investment projects and receive a large number of orders from companies outside of the Group. The Electro-Mechanics Division also supplies alignment machines for panel production of LCDs and Plasma Display Panels (PDPs).

### Topics Shin-Etsu's Magnets Used in Toyota Prius

Due to their outstanding attraction, heat resistance and durability, Shin-Etsu's rare-earth magnets are installed in high-end hybrid cars, thus contributing to the automobiles' high functionality and energy conservation. The magnets are used in the drive motors of Toyota Motor Corporation's Lexus RX 450h hybrid SUV and its third-generation Prius, which is a new model introduced in spring 2009.



The new Prius (prototype)