# SUMITOMO CHEMICAL CSR Report 2007



Responsible Care designates a range of voluntary corporate activities relating to the environment, health, safety, and product quality, applied throughout a product's entire life cycle. As of July 1, 2007, chemical industry associations in 52 countries worldwide are engaged in Responsible Care.



school science visits (P.63) 2) Constructing schools in Africa (P.15)

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# Sustainable Chemistry





#### CSR Report 2007

Since fiscal 1998 Sumitomo Chemical Company, Limited has issued an annual "Environment, Health and Safety Report" focusing on the Company's Responsible Care activities, in particular those involving environmental protection, safety and disaster prevention, occupational health and safety, chemical safety, and product quality assurance.

This title was changed to "CSR Report" in fiscal 2004 to reflect broader coverage of corporate social responsibility (CSR) initiatives, which include social and economic activities.

We have made the report more concise and easier to understand and added columns introducing a wide range of our unique activities in order to ensure that readers from various backgrounds will be able to gain an understanding of Sumitomo Chemical's CSR activities. We have compiled detailed numerical data in a separate booklet for easy reference.

This report was prepared with reference to the Japanese Ministry of the Environment's "Environmental Reporting Guidelines" (fiscal 2003 edition), "Environmental Accounting Guidelines" (fiscal 2005 edition), "Environmental Performance Indicators for Businesses" (fiscal 2002 edition), and Global Reporting Initiative (GRI) "Sustainability Reporting Guidelines" (third edition). KPMG AZSA Sustainability Co., Ltd. conducted an independent review of this report to ensure the reliability and transparency of its contents.

We welcome your frank opinions and impressions regarding this report.

#### Scope of this report

· Environmental performance (excluding environmental accounting and environmental efficiency)

The environmental performance data included in this report cover Group companies whose production divisions have sales above a certain level or whose environmental impact is relatively large: Sumitomo Chemical and 16 Group companies in Japan, and 9 Group companies overseas (the environmental performance data for overseas companies are also available in the Data Book).

· Environmental accounting

The environmental accounting data included in this report cover Group companies whose production divisions have sales above a certain level; Sumitomo Chemical and 16 Group companies (12 domestic, 4 overseas). Environmental efficiency

The environmental efficiency data included in this report cover Group companies with production divisions: Sumitomo Chemical and 12 domestic Group companies

In this report, "Sumitomo Chemical" and "Sumitomo Chemical Group" are distinguished as follows

Sumitomo Chemical: Sumitomo Chemical Co., Ltd.

Sumitomo Chemical Group: Sumitomo Chemical and Group companies (When "Group companies" is referred to, this does not include Sumitomo Chemical. The applicable scope of Group companies is indicated as necessary.)

Period covered by this report: April 1, 2006 - March 31, 2007

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# Sumitomo Chemical is helping to build a sustainable society through Sustainable Chemistry centered on its CSR-based management.

"Sustainable Chemistry" represents a concept of continuously providing useful products and services in an environmentally and socially friendly manner by exploiting the potential of chemistry. In practice, this involves the development of chemical technologies that neither use nor generate chemicals harmful to the health or to the environment, while employing processes that achieve reductions in the consumption of energy and natural resources.

Sumitomo Chemical is promoting CSR-based management that contributes to society with the products and services created through its practice of Sustainable Chemistry, while giving due consideration to Responsible Care, the needs of society, and economic requirements in all aspects of its operations.



# Reaching New Heights as a Global Company

# Sumitomo Chemical Advances to a New Stage in its CSR Management

Sumitomo Chemical believes that CSR (corporate social responsibility) is essential for contributing to the sustainable development of society through our business activities. In the conduct of its business, the Company practices CSR-based management by working to achieve balance among the three segments of Responsible Care activities, pursuit of economic needs, and social activities. Sumitomo Chemical seeks to manifest its CSR-based management by realizing Sustainable Chemistry as the driving force that enables the Company to continue to provide products that bring greater benefit to people in their daily lives through technological innovation in a more environmentally and socially friendly manner.

Sumitomo Chemical's origins date back to 1913, when the Company sought to solve the problem of sulfur dioxide emissions from the Besshi Copper Mine in the Shikoku region of Japan by using them to produce super-phosphate fertilizer, helping to improve living standards of the time by supplying fertilizer that increased crop yields. Since the beginning, Sumitomo Chemical has not only sought to increase its profits, but has also worked to contribute to society in the development of its various businesses. Thus, it could be said that Sumitomo Chemical has always followed a philosophy similar to that of modern-day CSR.

Today, with progressive globalization and the diversification of society, CSR-based management is becoming increasingly important, and with this in mind, we have developed a new Corporate Business Plan for the three years starting in fiscal 2007. Envisioning further expansion of our business on a global scale, the basic principle we determined for the Plan is to achieve and consolidate high profitability and secure sustained growth potential to generate the added value our shareholders expect in our business as we work to *reach new heights as a global company*. The basic initiatives to be implemented under this Plan include rigorous compliance with all laws, regulations and ethical standards, and active promotion of CSR, completion of the Rabigh Project for the construction and operation of an integrated oil refining and petrochemical complex in Saudi Arabia, and establishing business foundations & enhancing consolidated global management. By steadily implementing our new Three-Year Corporate Business Plan, we will firmly anchor and further develop our CSR-based management as befits a global company.

### Strengthening and Enhancing Responsible Care While Promoting Sustainable Chemistry

Sumitomo Chemical has long undertaken voluntary Responsible Care activities to ensure the performance of its products in terms of the environment, safety, health and quality throughout their life cycles. The Company takes this beyond the concept of Responsible Care in its active efforts to promote Sustainable Chemistry, by which we endeavor to raise the overall value and benefit to society of our products as well as their economic value-added.

While the Company naturally strives to conserve energy and resources at its production plants as well as further minimize their environmental impact, we also make a priority of initiatives for global issues such as global warming, adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and compliance with Europe's new REACH legislation.

# Sumitomo Chemical's Distinctive CSR Activities toward the Sustainable Development of Society

Providing support to remedy the extreme poverty in Africa is one of the most urgent global issues facing society today. Among the causes of Africa's poverty, the human and social damage caused by malaria is vast and the economic losses, enormous. Therefore, malaria prevention is essential to the future development of Africa.

Sumitomo Chemical developed its Olyset Net, an insecticide-impregnated mosquito net effective in preventing infection by the mosquitoes that carry malaria, and we are widely supplying these nets centering on Africa. We have also enhanced our manufacturing capabilities by expanding our production capacity in Tanzania, China and Vietnam in order to meet the increasing demand for these nets. In addition, we have provided our production technology free of charge to a manufacturer in Africa for local production of the nets, thereby also creating employment opportunities and contributing, even in some small way, to the economic development of the region.

Wanting to make a significant contribution by returning a portion of the revenues from our Olyset Net business to the local communities, we are supporting education in Africa through the construction of primary schools, while in Vietnam we are providing support for the renovation of medical clinics in order to contribute to the autonomous development of these regions.

Going forward, the Company will continue to take a global perspective with regard to the environment, economy, society, and indeed in all aspects of its business to conduct CSR activities unique to Sumitomo Chemical. Further, by creating and continuing to provide new and useful products and technologies, we will contribute to the betterment of people's lives and the solution of the global social and environmental problems we all face.



In this report, we have endeavored to present a broad picture of our CSR activities. I hope it will give you a good understanding of Sumitomo Chemical's CSR initiatives as we aim to reach new heights as a global company.

Hiromasa Yonekura President of Sumitomo Chemical



# **Realizing Sustainable Chemistry**

### Pursuing Green Processes and Clean Products

With its ceaseless technical innovation and creation, the chemical industry supports various industries ranging from those providing products related to clothing, food, and housing, automobiles, and home appliances to advanced industries such as IT and electronics.

Sumitomo Chemical, as a member of the chemical industry, has defined as our corporate mission the realization of sustainable chemistry, where we contribute to the enrichment and comfort of people's lives by providing better products in a more environmentally friendly manner, while at the same time contributing to the economic growth and sustainable development of society.

Valuable resources and energy are required for the manufacture of chemical products. Processes sometimes produce unwanted byproducts and may also generate waste or hazardous substances.

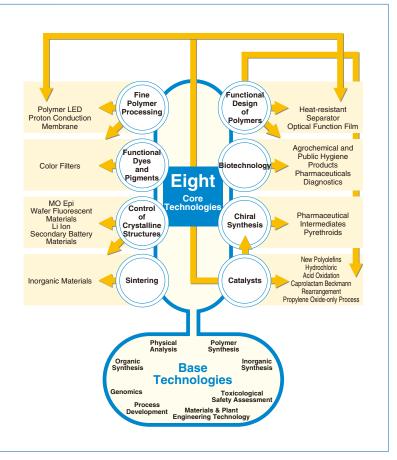
Sumitomo Chemical aims to realize sustainable chemistry by reducing environmental impact through the use of Green Processes and the production of Clean Products. We call processes that minimize environmental impact or eliminate it entirely Green Processes. Likewise, Clean Products are products that are more environmentally friendly, safer and better for the health than other products used for similar purposes.

### Reliable Technology Development Capabilities to Help Realize Sustainable Chemistry

In order to conserve energy and reduce environmental impact, reliable, scientifically based technical capabilities are essential. Sumitomo Chemical aims to reinforce and expand its operations through its original strategy of "Creative Hybrid Chemistry" founded on its base technologies, such as synthesis technology, physical analysis technology, as well as toxicological safety assessment, process development, and materials and plant engineering technologies cultivated over many years.

### **Creative Hybrid Chemistry**

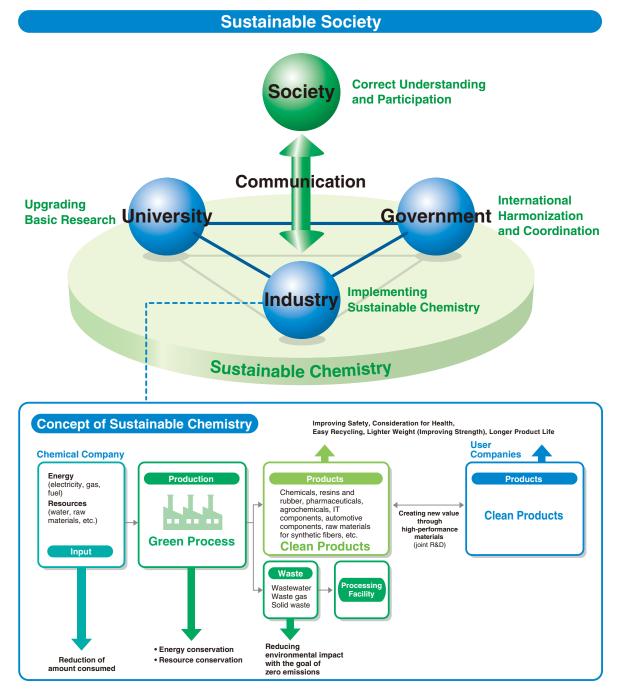
Building on its base technologies in organic synthesis, inorganic synthesis, polymer synthesis, physical analysis, toxicological safety assessment, genomics, process development, and materials and plant engineering technology, Sumitomo Chemical has defined fine polymer processing, functional dyes and pigments, control of crystalline structures, sintering, functional design of polymers, biotechnology, chiral synthesis, and catalysts as its eight core technologies. In referring to Creative Hybrid Chemistry, we have combined these different fields of core technologies in order to create a comprehensive system of technologies that allows us to operate in new technological fields. In particular, our catalyst technology plays a major role in generating efficient and environment-friendly Green Processes and Clean Products.



## Industry-Government-University Collaboration and Communication with Society

We at Sumitomo Chemical believe that industry-governmentuniversity collaboration is vital to the more effective realization of our Sustainable Chemistry. Within this framework, the three parties play their own distinct roles and take advantage of their respective areas of expertise, with administrative organizations taking charge of policy planning and public affairs from an international perspective, and universities both in Japan and overseas collaborating in basic research, and industries cooperating in their various capacities. Sumitomo Chemical is actively promoting initiatives undertaken in cooperation with outside organizations because of the recognition that deeper cooperation among industry, government, and university is an important factor for enhancing and accelerating Sustainable Chemistry.

Sumitomo Chemical is fully aware of the importance of reporting our efforts for realizing Sustainable Chemistry through industry-government-university collaboration to local communities, as well as the results of these efforts and challenges arising from the collaboration. At the same time, we need to listen attentively to feedback from our stakeholders. We consider it important to engage in this two-way communication for us to continue our business within the social sphere.



### Sumitomo Chemical's Green Processes and Clean Products

### **Green Processes**

#### Vapor-Phase Caprolactam Process

In the conventional process for manufacturing caprolactam, a raw material for nylon, a large amount of ammonium sulfate was produced as a by-product. However, this new vapor-phase process produces no ammonium sulfate. The major advantages of this process are that it reduces the amount of raw material required, shortens the entire production process, and uses a safer catalyst.



#### Hydrochloric Acid Oxidation Process

Chlorine is generated as a by-product in the production of caustic soda (sodium hydroxide). Therefore, the amount of chlorine produced has conventionally been determined by the demand for caustic soda. Sumitomo Chemical's hydrochloric acid oxidation process, however, enables the lowcost production of chlorine from excess hydrochloric acid generated in

other processes. This makes possible not only the effective use of waste products, but also the stable supply of chlorine. In addition, this process is considerably more energy-efficient than conventional processes.



#### Proprietary Propylene Oxide-Only Process (PO-Only Process)

Our proprietary PO-Only process developed in-house is a compact and energy-efficient process that enables the production of propylene oxide without producing by-products. In addition to being highly economical, it does not generate the chlorinated wastes or wastewater containing them that are co-produced using the conventional process.

#### **Clean Products**

#### Foamed Polypropylene Resin

Although polypropylene resin is used widely for automotive parts, demand is increasing for lighter products to help boost fuel efficiency. We aimed to achieve weight saving by foaming polypropylene resin. The foaming of polypropylene resin was believed to be extremely difficult with conventional technology, but Sumitomo Chemical succeeded in foaming the resin without compromising its strength by improving the processing method for it while at the same time enhancing its functions. This material is contributing to

lightweighting in an automotive industry that is moving increasingly toward the production of highly fuel-efficient vehicles. It can also be recycled in the

same way as ordinary polypropylene.

Cross section of foam product



#### New Generation Low Density Polyethylene (EPPE)

Sumitomo Chemical's Easy Processing Polyethylene (EPPE) is a newgeneration low-density polyethylene that combines both ease of processing and high strength. Unlike conventional polyethylene, EPPE requires less electricity in production and processing, and because it requires no additives, helps increase productivity.



Greenhouse film that uses EPPE

#### Natural Enemy Pesticide "Midori Hime"

Midori Hime is a natural enemy pesticide product that contains 25 adult insects of Neochrysocharis formosa (Westwood) in a 15-ml plastic bottle. Neochrysocharis formosa is known to be a natural enemy of Agromyzidae.

Midori Hime works by parasitizing the larvae of Agromyzidae, taking in their body fluid, and laying eggs in the bodies of the Agromyzidae in order to kill them. Hatched Neochrysocharis formosa larvae grow in the bodies of the larvae of Agromyzidae and emerge as adult insects. The next generation of adult insects in turn lay their eggs in the larvae of other Agromyzidae. Through this repeated process, Midori Hime proliferates continuously and works to protect crops by decreasing the density of Agromyzidae.

Midori Hime not only exhibits a high level of success in pest control against Agromyzidae, for which control is difficult with synthetic pesticides, but also has less impact on the environment (ecosystem) because it consists of natural organisms.



#### Sumitomo S-SBR (Solution Polymerization Styrene Butadiene Rubber)

As the worldwide momentum toward resource conservation and environmental preservation grows, consumers' awareness of the need for energy efficiency and safety in driving is rising. The performance required of tires has grown increasingly sophisticated with each passing year. In terms of fuel efficiency and safety, in particular, the role of road-gripping tire treads is significant and enhanced functions are required.

Sumitomo S-SBR (solution polymerization styrene butadiene rubber) is used for tire treads as a synthetic rubber material that can simultaneously improve the two often opposing characteristics of fuel cost saving (energy conservation) and brake performance (safety).

Sumitomo S-SBR (left) and a tire using the product



#### Photocatalysts

Photocatalysts use light energy to decompose harmful substances safely and cleanly. They absorb ultraviolet light and visible light to demonstrate such effects as breaking down surrounding volatile organic compounds, eliminating odors, and preventing the deposition of dirt.

There are two types of photocatalysts: one is an ultraviolet lightresponsive photocatalyst, effective outdoors, and the other is a visible lightresponsive photocatalyst, effective indoors. They are used for exterior building materials, curtains and blinds. Sumitomo Chemical offers three types

of photocatalyst products in the form of a powder, a hydrosol, and a coating agent with an inorganic binder.



Curtain that uses photocatalysts

#### Lano Tape Pesticidal Adhesive Tape

Lano Tape is an adhesive tape that incorporates a pesticide using lano, an insect growth hormone, as its active ingredient, and enables the control of harmful insects without the need to spray pesticides. Insects are attracted by the tape's yellow color and are killed by the pesticide when they come in contact with it.

In recent years, the promotion of integrated pest management (IPM) has come under closer scrutiny. IPM combines chemical, physical, biological, and grain farming pest management methods in a complementary manner in order to control harmful insects. Incorporating the physical attri-

bute of the "yellow color," this product can be used concurrently with natural enemies (biological pest controls), such as Encarsia Formosa Gahan, which parasitizes whiteflies, and is thus suited to IPM.



Yellow tape is Lano Tape.

#### Sumifix HF Environmentally Friendly Dye

Reactive dyes are widely used for cellulosic fibers. However, they pose the following problems: (1) they use a large amount of inorganic salts in the dyeing process; (2) because of their low staining rates, the impact of the water discharged from the dyes on the environment is significant; and (3) removing unstained dyes (unfixed residual dyes) that require washing at high temperatures for extended periods of time consumes a large amount of energy.

With its high level of fixation and good dyeing responsiveness, Sumifix HF enables us to achieve high fixing rates with less inorganic salt, and to significantly reduce the impact of discharged water on the environment. It

has been designed so that, on a molecular basis, the functionality of unstained dyes is reduced after the initial dyeing. Therefore, this product can reduce energy consumption in the washing process and is environmentally friendly.



#### Olyset Net – Mosquito Nets for the Prevention of Malaria

Our Olyset Net is made using Sumitomo Chemical's proprietary technology for impregnating the mosquito netting fibers with insecticide and is used to

protect against mosquitoes that carry malaria. The insecticide is gradually released from within the fibers and retains its effectiveness for over five years, even with repeated washings. Olyset Nets are supplied mainly to Africa and other parts of the world through UNICEF, etc., and have earned an excellent reputation for their superior protection against mosquitoes and environmental safety.



# Sumitomo Chemical's CSR

Sumitomo Chemical's origins date to the "House of Sumitomo," an enterprise with a history spanning more than 300 years. The fundamental principles of this business continue even today.



# Sumitomo's Business Principles

#### **Sumitomo's Business Principles**

#### Pledge 1

Valuing above all the trust placed in it by society, Sumitomo shall conform to the highest standards of integrity in achieving strength and prosperity.

#### Pledge 2

Responsive to changing times, Sumitomo shall set its business course boldly yet judiciously, never rashly pursuing easy gains, regardless of whether its business is flourishing or not.

**CSR Milestones** 

The first pledge in Sumitomo's Business principles, advocating "integrity and sound management," reflects the importance of maintaining the trust of the Company's business partners and of society as a whole. The second pledge calls for refraining from the pursuit of easy gains —conducting thorough investigations and giving serious thought to business decisions so as not to be blinded by the prospect of immediate gains.

While not expressly written down, another traditional concept applies: harmony between the individual, the nation, and society. Sumitomo manifests this concept by seeking to benefit not only its own business, but also to benefit both the nation and society as a whole, and through the Company's emphasis on harmony between its interests and those of the public.

These principles have been applied to this day throughout the various Sumitomo Group companies, including Sumitomo Chemical.



Sumitomo Chemical's business dates back to 1913, when the Company sought to solve the problem of sulfur dioxide emissions from smelting operations at the Besshi Copper Mine in the Shikoku region of Japan. The Company got its beginnings producing sulfuric acid and calcium super phosphate fertilizers using the emitted sulfur dioxide. This not only solved the environmental problems by curbing the emission of pollutants, but also helped to increase crop yields by providing useful fertilizers.

From the 1990s onward, a number of corporate scandals focused particular attention on corporate governance. This period also saw increasing demands for measures reflecting corporate social responsibilities, from addressing environmental issues such as global warming to seeking ways to combat the discrimination and inequalities accompanying economic globalization.

Sumitomo Chemical approaches these issues by establishing policies governing quality, safety, the environment, risk management, and the conduct of business.

In 2004, the Company established its Basic CSR Policy. In January 2005, it announced its participation in the Global Compact.

# **Basic CSR Policy**

Sumitomo Chemical established its Basic CSR Policy in November 2004 based on its business principles, management philosophy, and Corporate Charter for Business Conduct. Work is currently under way to determine how the Policy will be implemented in terms of specific activities.

### **Basic CSR Policy**

By continuously creating and providing useful new technologies and products that have never before existed, Sumitomo Chemical will build corporate value while contributing to both the solution of problems facing our environment and society, and the enrichment of people's lives.

In order to accomplish this, the Company will work to achieve a balance of profitable business operations, the preservation of the environment, safety, health, product quality, and social activity. We will also pursue and promote our CSR activities with consideration for the interests of all our stakeholders, including our stockholders, employees, business partners, and the local residents of all regions in which we conduct business. Through our endeavors in these areas, we hope to play a significant role in building a sustainable society, while continuing to grow in order to realize our goal of becoming a truly global chemical company in the 21st century.

#### **CSR Promotion Coordinating Board Meetings**

Sumitomo Chemical has established a company-wide CSR Promotion Coordinating Board to promote CSR activities. This Board includes representatives from each department and division, overseeing the liaison and coordination of relevant activities and compiling company-wide CSR implementation plans. The Coordinating Board is operated jointly by the General Affairs Department, the Corporate Communications (CC) Department, and the Responsible Care (RC) Office.

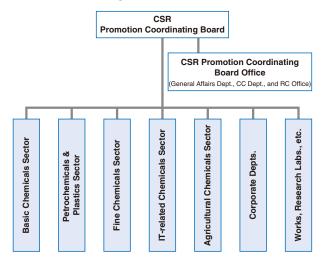
At the meeting held in April 2007, the Board drew up key initiatives for fiscal 2007, confirmed and approved their contents to promote the CSR activities of the Company and the Group based on the Basic CSR Policy established in November 2004. Based on the key initiatives for fiscal 2007, individual departments set specific targets for their initiatives, and are implementing their CSR activities accordingly.

The CSR Promotion Coordinating Board is informed from time to time of the status of implementation in individual departments, summarizing its findings in an annual CSR Report for internal and external stakeholders.



CSR Promotion Coordinating Board meeting on April 5, 2007

#### CSR Promotion Organization



# **Corporate Governance**

#### **Basic Policy**

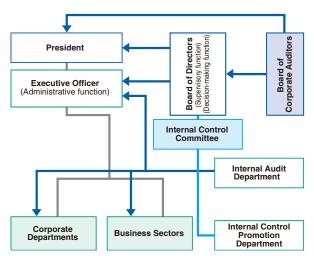
Sumitomo Chemical realizes that serving the interests of shareholders and other stakeholders in the midst of changing social and economic conditions is the very foundation of corporate governance, and we have endeavored to improve our approaches to this end.

To further bolster these efforts, we will expedite important decision-making, define more clearly executive officers' responsibilities pertaining to the execution of duties, enhance and strengthen the compliance system and internal audits, and promote timely disclosure of information.

#### **Management Structure**

The Company's management structure currently consists of nine board members and 29 executive officers, nine of whom serve in dual capacity as board members. The Board of Directors makes decisions regarding important managerial matters in accordance with the law and the articles of incorporation as well as regulations concerning the Board, and also oversees and supervises the discharge of duties by each individual director. The executive officers carry out business operations in accordance with the management strategy determined by the Board.

There are five corporate auditors, three of whom are from outside the Company (as of July 2007).



#### Corporate Governance Organization

#### **Timely Disclosure**

The Company's Corporate Communications Department will promote and strengthen IR and PR activities by continually providing shareholders, institutional investors and media organizations with fair and honest information in a timely manner for their investment decisions and other purposes.

#### Defining the Basic Policy to Enhance Our Internal Control System

The May 2006 meeting of the Board of Directors determined basic policy in compliance with regulations under Corporate Law to define our Internal Control System in order to enhance mechanisms for ensuring that business is conducted in a proper and appropriate manner. In accordance with this basic policy, the Internal Control Committee was established in May 2007 to structure the internal control systems for Sumitomo Chemical as well as the Sumitomo Chemical Group to ensure that duties are executed in an appropriate manner and to continually review and update the system in response to changing conditions. This committee is administrated by secretariats in the internal control promotion department established in April 2007. The purpose of establishing the internal control promotion department is to propose and promote various measures to enhance the Company's internal control system.

We consider the preparation of our Internal Control System a necessary process for maintaining a sound organization, and believe this system should be actively utilized for the achievement of business objectives. We will work to maintain and improve this system in the future.

#### **Internal Auditing Structure**

Internal auditing is conducted by an Internal Audit Department that functions independently of the Company's operating departments. The Internal Audit Department audits the Sumitomo Chemical Group to ensure both that internal control functions effectively in the conduct of business by executive officers and employees, and that business is conducted in a proper and appropriate manner. A Group Internal Auditing Committee has been established to improve the effectiveness and efficiency of internal auditing of Group companies.

The Responsible Care Office conducts Responsible Care auditing for all matters concerning the environment, safety, and product quality.

# Compliance

Sumitomo Chemical is committed to promoting compliancebased management through the observance of laws, regulations, and Company rules by all Company employees and executive officers in all their corporate activities, and also through supervision by various internal committees, including the Responsible Care Committee, the Antitrust Law Compliance Committee, and the Group Companies Auditing Committee.

In July 2003, we took a step toward further reinforcing compliance-based management by formulating the "Sumitomo Chemical Charter for Business Conduct," which codifies basic standards for corporate activities, and also by providing all employees and Board members with the *Sumitomo Chemical Business Conduct Manual* to establish concrete guidelines for business conduct in accordance with these basic standards.

All of Sumitomo Chemical's consolidated subsidiaries and affiliates both in Japan and overseas are also required to adopt comparable compliance programs, reflecting the laws and regulations of the country in which it operates.

#### **Charter for Business Conduct**

At Sumitomo Chemical, we believe it is our social obligation to conduct business ethically and lawfully throughout our worldwide operations. To translate this imperative into action, we established the "Sumitomo Chemical Charter for Business Conduct" as the cornerstone of our compliancebased management.

#### Sumitomo Chemical Charter for Business Conduct

- 1. We will respect Sumitomo's business philosophy and act as highly esteemed good citizens.
- We will observe laws and regulations, both at home and abroad, and will carry out activities in accordance with our corporate rules.
- 3. We will develop and supply useful and safe products and technologies that will contribute significantly to the progress of society.
- We will engage in voluntary and active initiatives to achieve zeroaccident and zero-injury operations and preserve the global environment.
- 5. We will conduct business transactions based on fair and free competition.
- 6. We will endeavor to make our workplaces sound and energetic.
- 7. Every one of us will strive to become a professional and achieve advanced skills and expertise in our field of responsibility.
- 8. We will actively communicate with our various stakeholders, including shareholders, customers, and local communities.
- 9. As a corporate member of an international society, we will respect the culture and customs of every region of the world and contribute to the development of those regions.
- 10. We will strive for the continued development of our Company through business activities conducted in accordance with the guiding principles described herein.

In addition, all employees and Board members are expected to uphold the highest ethical and business standards by observing rules and principles for conduct as enumerated in the *Sumitomo Chemical Business Conduct Manual*, which encompasses the following five areas: The relationship with society; relations with customers, business partners, and competitors; relationships with shareholders and investors; rules concerning employees; and rules concerning the Company and its assets.

# Sumitomo Chemical's Compliance System and Its Organization

The Compliance Committee oversees and supports the effective implementation of compliance-based management. It is the Committee's role and duty to investigate and supervise legal and ethical compliance throughout the Company and recommend improvements as necessary.

#### Compliance Committee Organization



#### Speak Up System

We have in place a "Speak Up System" for our Compliance Program to provide employees with an avenue for reporting violations or suspected violations of laws, regulations or Company rules, should their immediate resolution through the normal process of reporting to a superior appear difficult or impossible.

Employees may report either to the Compliance Committee or to an outside attorney retained by the Company. In either case, the actual investigation is carried out by the Compliance Committee, while reporting to an outside attorney allows the informant's name to be withheld from the Compliance Committee.

Informants are not granted immunity against disciplinary action if they have also been involved in the illegal or unethical conduct being reported, but they do not risk dismissal, transfer, or discrimination for simply reporting incidents.

The "Speak Up System" promises to serve as an effective tool to prevent illegal or unethical practices and to promote self-regulation through the rapid identification and rectification of any such acts.

# Implementing the UN Global Compact

In January 2005, Sumitomo Chemical became the first Japanese chemical company to announce its participation in the Global Compact advocated by then United Nations Secretary-General Kofi Annan. As it expands its business globally, Sumitomo Chemical will comply with the ten principles of the Global Compact, augment its activities while networking with the UN and other institutions, and report on the status of its efforts through this CSR Report.

		The Global Compact's Ten Principles
Human Rights	Principle 1.	Businesses should support and respect the protection of internationally proclaimed human rights; and
	Principle 2.	Make sure that they are not complicit in human rights abuses.
Labour Standards	Principle 3.	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
	Principle 4.	The elimination of all forms of forced and compulsory labour;
	Principle 5.	The effective abolition of child labour; and
	Principle 6.	The elimination of discrimination in respect of employment and occupation.
Environment	Principle 7.	Businesses should support a precautionary approach to environmental challenges;
	Principle 8.	Undertake initiatives to promote greater environmental responsibility; and
	Principle 9.	Encourage the development and diffusion of environmentally friendly technologies.
Anti-Corruption	Principle 10.	Businesses should work against corruption in all its forms, including extortion and bribery.

#### COLUMN



# Taking Active Part in WBCSD Projects

Akira Okumura WBCSD Liaison Designate; Senior Associate, Responsible Care Office

Sumitomo Chemical became a member of the World Business Council for Sustainable Development (WBCSD\*) in April 2006, and has engaged in active discussions and started various specific projects to facilitate the harmonization of economic development, environmental preservation, and social responsibility for global sustainable development. In particular, Sumitomo Chemical has taken up global warming (energy and climate) as a priority challenge in line with its perception that it is an imperative problem shared by the global community. We have deepened the debate and taken opportunities presented to make necessary recommendations.

Industry-specific projects are also WBCSD's mainstay activities. Each industry is defining roles to play and problems to be addressed by the industry for the establishment of a sustainable society in the future, and has started to take specific measures to fulfill the roles and solve the problems. Sumitomo Chemical has just started initiatives for the chemical industry project, in cooperation with 11 world chemical companies. Presently, we are working out our schedules and drafting a concrete road map for the project. We expect that the project will be completed around 2012.

\* WBCSD (World Business Council for Sustainable Development): A federation of 190 international corporations that aspire to realize sustainable development. WBCSD has its headquarters in Geneva.

# Fiscal 2006 CSR Activities

Sumitomo Chemical promoted its CSR activities based on the Key Medium-Term Initiatives.

In terms of economic performance, thanks to business expansion accomplished through aggressive investment, we have achieved the financial targets, such as sales and profits, set in the 2004-2006 Three-Year Corporate Business Plan one year ahead of schedule.

With respect to Responsible Care, we assessed the risks of various chemical substances with a view to reducing the environmental impact of business activities. Based on risk assessment, we took necessary measures and successfully reduced our impact on the environment. We also endeavored to enhance environmental and safety technologies in order to preserve the environment and to secure safety throughout the product life cycle, from R&D to use and disposal. As for the target of eliminating accidents and injuries, our Group unfortunately recorded one case of injury, and our contractors, two cases of injury, that necessitated absence from work.

As for social performance, we worked for stricter compliance-based management through the observance of relevant laws and regulations in executing business and through the development of internal control frameworks. In addition, we conducted school science visits to nearby elementary schools, sponsored community sporting events, extended support in eradicating malaria through our Olyset Net, and joined forces with NPOs in constructing schools in Africa, thereby enhancing our social contribution activities. We also promoted communication with various stakeholders. We provided information through our CSR and Annual Reports as well as announcements of quarterly financial results, and organized factory tours, explanatory meetings, and round-table conferences for our various stakeholders.

#### Key Medium-Term Initiatives through Fiscal 2006

#### Society

- Compliance with all laws and regulations
- Expanding social contribution activities
- Dialogue with stakeholders from a global perspective

#### **Responsible Care**

- Eliminating accidents and injuries
- Assessing and reducing environmental impact
- Improved environmental and safety technologies

#### Economic aims

Becoming a highly profitable company

# Key CSR Initiatives for Fiscal 2007

Sumitomo Chemical has determined the following seven key CSR initiatives for fiscal 2007 at a meeting of the CSR Promotion Coordinating Board held in April 2007, reviewing the key medium-term initiatives through fiscal 2006. Based on these new initiatives, specific objectives to be achieved will be set for CSR activities for the coming year. The seven areas are as follows:

#### Expanding and enhancing CSR activities

A unified company-wide awareness of CSR activities is achieved through bodies such as the CSR Promotion Coordinating Board, and each department implements and promotes CSR activities individually.

Aiming at achieving financial performance targets based on the new Three-Year Corporate Business Plan

We aim to achieve the financial performance targets under our new Three-Year Corporate Business Plan to reach new heights as a global company.

#### Achieving the primary targets of RC activities for fiscal 2007

We clearly define points regarding RC initiatives, setting primary targets for RC activities for each fiscal year (described in detail on pages 29 and 30), and strive to achieve the targets.

#### **Enhancing CSR procurement**

We incorporate the requirement of CSR procurement in internal rules, and implement CSR procurement in cooperation with our business partners.

#### Strengthening internal control

In accordance with our Basic Policy for Enhancement of the Internal Control System, we have built internal control systems for both the Company and the Group to ensure that business is conducted in a proper and appropriate manner.

#### Promoting dialogue with internal and external stakeholders

We promote dialogue with all of our stakeholders, including customers, consumers, business partners, shareholders, employees, community residents, NGOs, governments, and the media by providing our CSR Report, factory tours, and public information meetings and seminars.

#### Continuing to promote balanced social contribution activities

We continuously promote social contribution activities unique to the Sumitomo Chemical Group based on our global perspective as a company with worldwide operations.

# Fiscal 2006 Highlights

Improving Health and Education in Africa

#### -Initiatives to Achieve the UN's Millennium Development Goals

#### Participating in a Campaign to Combat Malaria

### Donating Approximately 330,000 Olyset Mosquito Nets

In April 2006, Sumitomo Chemical started donating Olyset anti-malarial mosquito nets to the U.S. nonprofit organization Millennium Promise. During fiscal 2006, the Company provided approximately 330,000 nets.

Millennium Promise was established in the United States with the aim of eliminating extreme poverty in Africa, in accordance with the UN's Millennium Development Goals. The NPO has selected 112 model villages in areas of Africa where poverty is most serious, and worked on the "Millennium Village" project to provide them with support in farming technology, foodstuffs, education, and medical care. It has also engaged in projects distributing Olyset anti-malarial mosquito nets and providing medicines.

The Olyset Net is highly regarded by the Millennium Promise for its great durability and for its retention of insecticidal efficacy for over five years, even with repeated wash-



Olyset Net factory in Tanzania

#### Millennium Development Goals (MDGs)

Based on the UN's Millennium Declaration adopted by the United Nations in September 2000, the MDGs comprise eight goals to be achieved, including poverty, education, the environment, and human rights, and action plans to be implemented.

#### Goals for humanity to achieve by 2015

- 1: Eradicate extreme poverty and hunger
- 2: Achieve universal primary education
- 3: Promote gender equality and empower women
- 4: Reduce child mortality
- 5: Improve maternal health
- 6: Combat HIV/AIDS, malaria and other diseases
- 7: Ensure environmental sustainability
- 8: Develop a global partnership for development

ing. These mosquito nets are believed to have the potential to save more than 500,000 lives by preventing malaria.

In cooperation with relevant organizations, we will continue to support programs working toward eliminating poverty in Africa by providing our Olyset Nets as a part of our CSR activities.

# Becoming the First Japanese Company to Participate in the GBC

Sumitomo Chemical became the first Japanese company to join the Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria (GBC\*) in February 2007. The GBC was established in 2001 as a nonprofit organization, and works toward the elimination of the three major infectious diseases of HIV/AIDS, tuberculosis and malaria through the utilization of proprietary technologies and expertise of private companies. Currently, approximately 220 companies, mainly from America and Europe, have joined the organization.

Sumitomo Chemical has supplied Olyset Nets to more than 50 countries in Africa and other areas through international organizations such as the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO). To respond to increasing demand for the nets, we also provided Olyset Net production technology free of charge to Tanzanian mosquito net manufacturer A to Z Textile Mills, and developed a local mass production system for the nets in fiscal 2003. Since fiscal 2005, we have enhanced our production facilities in China and Vietnam to substantially expand production capacity. With the support of the GBC, we will step up our endeavors in cooperation with participating companies and other organizations involved.

\* GBC: The Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria

### Promoting Educational Support Projects in Africa Part of the Profits from Olyset Net Appropriated to the

# Construction of Schools

In addition to epidemics, a major hurdle on the path toward sustainable development in Africa is its inadequate educational environment. In financially strapped African nations, schools are severely lacking, with many children studying outdoors in the dust, under the scorching sun, or in small, cramped classrooms. Placed in such environments that hinder learning, children's academic performance often suffers. Given these educational conditions, Sumitomo Chemical is engaging in projects to construct school buildings, using a portion of the revenues from our Olyset Net business. We are currently undertaking a project in cooperation with the NPO World Vision Japan. An elementary school girls' dormitory was completed in Kenya in September 2006 and an elementary school building in Tanzania was completed in December 2006. As of July 2007, two buildings with a total of eight classrooms are being constructed for an elementary and a junior high school in Ethiopia.



School building constructed in Tanzania

#### Commendation for Olyset Net

#### **Olyset Net Receives Tech Museum Award**

Sumitomo Chemical was named a Tech Museum Awards\* Laureate for the development of its Olyset Net. The Tech Museum Award was presented in San Jose, California in November 2006.

The Tech Museum Awards program was established with the aim of acknowledging innovative uses of technology that bring sustained benefit and contribute to solving the most pressing problems facing humanity. The Tech Awards are presented in the categories of Health, Education, Environment, Economic



Award ceremony

\* The Tech Museum Awards is an awards program run by The Tech Museum of Innovation in San Jose, California. It was established in 2000 and the first awards were presented in 2001. Partners and sponsors of the program include Applied Materials, Inc., the American Council of the United Nations University, the UNDP, the World Bank and many others. The concept of the five categories of Health, Education, Environment, Economic Development, and Equality was based on the Millennium Project's 15 Global Challenges, which address issues of peace and safety on a global scale. Development, and Equality. Five awards are presented in each category in recognition of the accomplishments of a total of 25 laureates, and one Laureate from each category is selected as a Prize Laureate. In 2006, the program received 951 entries representing 98 countries in all categories, and Sumitomo Chemical was selected as the Prize Laureate in the category of Health.

#### Asahi Corporate Citizen Award Granted for Support for Africa

Sumitomo Chemical received the third Asahi Corporate Citizen Award (sponsored by The Asahi Shimbun) for its support for Africa through Olyset Nets. The commendation ceremony took place at the Ginko Club in Marunouchi, Tokyo in October 2006.

This award was created by The Asahi Shimbun in 2004 in the midst of growing public interest in corporate social responsibility to commend companies that have defined a clear policy toward being good corporate citizens, have engaged in social contribution activities and produced significant achievements.



Sumitomo Chemical's President, Mr. Yonekura, delivering a speech at the commendation ceremony

### **Reaching New Heights as a Global Company**

### —The Rabigh Project in Saudi Arabia

#### Plant Construction Work is Proceeding Steadily, with Production Facilities to Start Operation in the Fall of 2008

In 2005, Sumitomo Chemical and the Saudi Arabian Oil Company (Saudi Aramco) formed a fifty-fifty joint venture, Rabigh Refining and Petrochemical Company (Petro Rabigh) to engage in the Rabigh Project for the operation of one of the world's largest integrated refining and petrochemical complexes. The complex, situated on the site of Saudi Aramco's existing topping refinery in the town of Rabigh on Saudi Arabia's Red Sea coast, which has a nominal crude distillation capacity of 400,000 barrels per day, will have secondary refining units, including a fluid catalytic cracker for the production of gasoline and propylene, an ethane cracker to produce ethylene, and facilities to produce ethylene and propylene derivative products. At Rabigh, plant construction work is proceeding steadily, with daily additions giving the complex an increasingly dynamic appearance.

Meanwhile, we are recruiting experienced petrochemical and refining facility operators, both in Saudi Arabia and other countries, who will run the complex, and are also hiring new graduates in Saudi Arabia. Full-fledged work in preparation for plant operation has commenced. Among other preparations, key engineers and supervisors have been participating in training at Sumitomo Chemical's Chiba Works in Japan. They are learning the skills and expertise necessary for plant operation. Prior to the launch of the main production units scheduled for 2008, various utility supply facilities will start their operations in succession during 2007.

This project will contribute to the sophistication and diversification of Saudi Arabia's industrial sector, generating employment and supporting sustained economic development through the expansion of downstream industries. It is hoped that the project will help to develop even closer relations between Japan and Saudi Arabia.



#### COLUMN

### Accepting Trainees from Saudi Aramco and Petro Rabigh

Chiba Works and the Petrochemicals Research Laboratory started accepting trainees in January 2006 from its business partner Saudi Aramco and Petro Rabigh to prepare for the start of plant operations in Rabigh, scheduled for fall 2008. Training for engineers and operation supervisors is underway. The program begins with a guidance session that introduces the lifestyle habits of the Japanese people as well as easy Japanese expressions, and includes lectures on general petrochemical engineering processes, plant tours, and lectures on the manufacturing processes, facilities and operating conditions at each plant. Trainees have opportunities to check actual on-site work operations, process flows and equipment.

Although some of the trainees seemed tired from the approximately 24-hour journey to Japan as well as from growing accustomed to a new living environment, once the training programs started, they listened intently to the speakers' lectures and were very active in asking questions. All the participants are highly motivated.

The staff members at the Chiba Works and Petrochemicals Research Laboratory who serve as instructors in the program provide trainees with the maximum possible support, endeavoring to offer the best possible training environment to enable the trainees to achieve their expected goals. The staff and trainees both work together as partners toward the shared goal of the successful completion of the Rabigh Project.

The Chiba Works and Petrochemicals Research

Laboratory plan to accept approximately 130 trainees by October 2007.



Trainees working diligently on the program (second and third persons from the right)

## Promoting Sustainable Chemistry

#### -Commendation for Green Processes and Their Utilization

#### Chemical Society Award for Development and Commercialization of a Novel PO Production Process

Sumitomo Chemical received the Chemical Society Award for Technical Development for 2006 for its development and commercialization of its new propylene oxide process. The award ceremony took place at Kansai University in Osaka in March 2007.

Propylene oxide is traditionally manufactured using the propylene oxide-only process using chlorine, which generates chlorides, or by a co-production process that generates styrene monomer, making the production of propylene oxide subject to fluctuations in the styrene market. The new process adopts the new concept of recycling cumene, enabling the production of propylene oxide alone without generating by-products and co-products. The use of high-performance catalysts in this process has achieved high product yields. The process is also a green process that achieves resource and energy conservation through the effective use of reaction heat recovered in each relevant step of the manufacturing process.

A plant using this process at our Chiba Works entered

#### **Okochi Memorial Production Award**

In March 2007, a commendation ceremony for the 53rd Okochi Memorial Production Award took place in Tokyo. Sumitomo Chemical garnered the Production Award for developing and commercializing a process for the ammonium sulfate-free production of caprolactam, a raw material for nylon 6.

\* Okochi Memorial Production Award: The Okochi Award was established in 1954 in commemoration of the achievements of the late Dr. Masatoshi Okochi, a former director of RIKEN, the Japan governmental institute of science (1878–1952), toward promoting science and technology in the field of production. The award recognizes researchers and companies who have realized outstanding achievements in production engineering and production technology.





commercial operation in 2003 and has been operating steadily ever since. Manufacturing facilities equipped with the same propylene oxide production process are currently under construction for the Rabigh Project.



### Licensing Its Hydrochloric Acid Oxidation Process to Mitsubishi Chemical

Sumitomo Chemical licensed its hydrochloric acid oxidation process to Mitsubishi Chemical in June 2006.

This process takes hydrogen chloride, a by-product in the manufacture of urethane and other products that use chlorine as a raw material, and converts it highly efficiently into chlorine using a proprietary high-activity oxidation catalyst developed in-house by the Company. The process was awarded the 2005 Green & Sustainable Chemistry Award, sponsored by the Green & Sustainable Chemistry Network\*, for being both energy-efficient and environmentally friendly, and has been attracting worldwide attention.

Mitsubishi Chemical is Sumitomo Chemical's second licensee for the process. The Company first licensed the process to another company in 2002.

\* Green & Sustainable Chemistry Network (GSCN): A federation of 22 organizations that promote green chemistry, including the Japan Chemical Industry Association



Facility for test production using hydrochloric acid oxidation process (Ehime Works)

## **Promoting Proper Management of Chemicals**

#### Sumitomo Chemical Chosen as Recipient of the "2006 PRTR Grand Prize" for Proper Management of Chemical Substances

In February 2007, Sumitomo Chemical was awarded the "PRTR Grand Prize" sponsored by Japan's Center for Environmental Information Science (CEIS) under the auspices of the Ministry of Economy, Trade and Industry and the Ministry of the Environment and other organizations. The company was the first leading manufacturer of diversified chemicals to win this prize.

CEIS established the Awards Program for Chemical Management and Risk Communication to publicly honor companies and facilities that support promotion of the PRTR system, take the initiative in implementing chemical substances management, and are proactive in keeping the public informed through communications activities. This year is the third time CEIS has awarded the prize.

The first and second times, the Grand Prize was awarded to individual facilities of a company rather than to any corporation as a whole. This year, Sumitomo Chemical became the first company to be awarded the Grand Prize as a corporation. Furthermore, in an industry consisting of many specialized manufacturers, the award to Sumitomo Chemical is particularly noteworthy since our manufacturing activities encompass diverse fields of chemical products rather than a limited variety of products such as those of specialized manufacturers.

For this year's award, Sumitomo Chemical and three other companies were nominated for the grand prize from among 20 entries. The four nominees made final presentations at the selection meeting and the committee members and judges at the venue voted to determine the Grand Prize winner.

Dr. Itaru Yasui, Vice-Rector of the United Nations

# Innovating Hazard Experience Education Programs

#### **Experiential Fire and Explosion Training**

Sumitomo Chemical has been implementing experiential training for fire and explosion hazards for certain members of the operating staff of its Ehime Works. Beginning in January 2007, we innovated this training to start anew our Experiential Fire and Explosion Training. This training targets technicians key to the manufacturing and research departments throughout the Company, combining preparatory study of the Company guidelines, training (experiential training and schooling) along with the submission of followup reports to impart learning by experience. The objective of this training is to prevent the occurrence of accidents and various other problems by educating employees to master the Company's internal disaster-prevention guidelines, while at the same time cultivating the abilities to discover and respond to latent hazards. This experiential training consists of 12 items, including intermixture hazards, static electricity, gas and dust explosions, ignition combustibility, thermal stability and other items selected from a broad range of safety issues. Development of instructional materials for experiential training and schooling is undertaken by the Safety Engineering Laboratory at our Process and Production Technology Center, and this development is based on the technologies actually in use at Sumitomo Chemical.

University, serving as the selection committee chairman had the following high praise for Sumitomo Chemical: "The whole company pulls together to practice rigorous riskbased chemical substances management, the formulation of specific action plans and their practice. Additionally, all the company's plants demonstrate creativity and independence in line with regional characteristics and other factors in their active promotion of multi-faceted risk communication activities."





\* PRTR: Pollutant Release and Transfer Register





Dust explosion experiment

Measurement of electric potential of a funnel during replacement of liquid

### Awards for Responsible Care

#### Award for Safety

#### **Fiscal 2006 JISHA Chairman Prize**

Sumitomo Chemical received the 2006 Japan Industrial Safety & Health Association Chairman Prize at the 65th National Industry Safety & Health Convention 2006 in Niigata, Japan, organized by the Association in September 2006 in Niigata.

This prize is presented to companies that have made efforts to promote and improve industrial and occupational safety activities as well as carry out educational and public relations activities for local communities and industrial circles, and which have demonstrated prominent achievements.

#### 30th Safety Effort Award of JCIA and JRCC

In May 2006, Sumitomo Chemical's Tsukuba Research Laboratory received the 30th Safety Effort Award from the Japan Chemical Industry Association (JCIA) and Japan Responsible Care Council (JRCC).

This award is presented jointly by JCIA and JRCC to honor exemplary companies that have conducted excellent safety activities as part of the chemical industry's voluntary efforts to promote workplace safety and health. This award was presented in recognition of the Tsukuba Research Laboratory's long record of zero-accident and zero-injury operations as well as its efforts to prevent accidents and injuries.



#### Awards for RC Activities Overseas

#### PCS Wins Gold Prizes in Four RC Categories in 2006

Petrochemical Corporation of Singapore (Pte) Ltd. (PCS) was awarded gold prizes in four of the six categories of the 2006 Responsible Care awards sponsored by Singapore Chemical Industry Council (SCIC). These categories were logistics, occupational health and safety, environmental preservation, and process safety. The award ceremony was held in March 2007 with the participation of Singapore's Minister of State for Education and Manpower Mr. Gan Kim Yong and some 370 people. Launched in fiscal 2001, the prize has been awarded to acknowledge companies and individuals who have made significant contributions and

achieved outstanding results in the RC activities led by SCIC. The RC prizes also include two further categories: cooperation with local communities and product liability. A total of 56 companies were commended, with several individual companies receiving more than one prize.



#### Award for Energy Conservation

Director-General Prize of Agency for Natural Resources and Energy for the Low-Temperature Exhaust Heat Recovery System Shared with Fuji Oil's Sodegaura Refinery

Sumitomo Chemical, Fuji Oil Company Ltd., and Chiyoda Corporation jointly won the Agency for Natural Resources and Energy Director-General Prize for a cross-company joint energy conservation project at the 2006 Energy Conserving Machinery Awards, sponsored by the Japan Machinery Federation. The award ceremony took place at the Hotel Grand Palace (Chiyoda-ku, Tokyo) in February 2007.

This project aimed at more extensively sharing and utilizing low-grade exergy (low-temperature exhaust heat) from Sumitomo Chemical's Chiba Works and Fuji Oil's Sodegaura Refinery beyond previous limitations in use. It consists of three systems: (1) multi-site energy sharing facilities, (2) the integrated energy monitoring system, and (3) a low-grade heat conversion system for generating electricity, and has realized annual energy conservation equivalent to 10,700 kl of crude oil, and CO<sub>2</sub> emission reductions of 28,000 tons.



# Fiscal 2006 Results

#### Society

 Enhancement of Compliance Activities
 Enhanced the comprehensive compliance system and established an internal control system Worked to meet Financial Instruments and Exchange Law (J-SOX) Studied the status of other companies' degrees of compliance to environmental accounting requirements Reviewed the introduction of an intellectual property status check system (tentative name)

Information security
 Conducted risk assessments and took necessary measures for security

#### Enhancing Social Activities

- Collaboration with various organizations
  - Held seminars on agrochemical safety and efficacy through the Japan Crop Protection Association
- Continued joint support activities with NPO World Vision Japan (see P15)
- $\label{eq:conducted} Conducted enlightenment activities through the Plastic Waste Management Institute$
- Accepted Chinese trainees through the Association for Overseas Technical Scholarship and the Japan International Training Cooperation Organization
- Sponsored the Korean Costume Exhibition organized by the Korean Cultural Center of the Embassy of the Republic of Korea in Japan (See P64)
- Participated in festivals organized by local municipal governments, etc.
- Received the Public Service Star award from the government of the Republic of Singapore Sumitomo Chemical's President Hiromasa Yonekura received the Public Service Star 2006 from the government of the Republic of Singapore as one of the management executives who have made the greatest contributions to the economic development of Singapore (see P64)
- Support for education in local communities
- Conducted activities for invention and discovery clubs and science classes (see P63) Accepted interns from local junior and senior high schools (see P63)
- Donated electronic balances and fish for monitoring processed wastewater
- Sponsoring sporting events
  - Supports the organization of boys' baseball competitions, boys' volleyball competitions, etc. Volunteer activities at the Japan table tennis competition for the disabled (see P62) Lends out the Company's playing fields to local sporting organizations (see P62)
- Support for the promotion of local industries, science and art
  - Conducted an endowment lecture (Fukan Environmental Engineering) at the University of Tokyo Conducted lectures at the Life-World Watch Center at Ochanomizu University (chemical substance general assessment and
- management course) (four lecturers)
- Participates in the Alliance for Global Sustainability at the University of Tokyo
- Supported the hosting of the first Asian-Oceanian International Symposium on Green Sustainable Chemistry
- Participates in the national project (NEDO project): Toxigenomics II and Safety Assessment of Photocatalysts
- Involved in core manufacturing personnel training project plan by Toyo Industry Creation Center
- Dispatches a judge to a junior adventure competition (research plan examination) by Ehime Industrial Promotion Foundation Cooperates in "manufacturing activities in the form of community-based projects" of Niihama National College of Technology Organizes cultural lecture meetings and dispatches lecturers to lecture meetings
- Donation and aid activity
- Constructs elementary school buildings, etc., in Kenya and Tanzania, using a portion of the revenues from Olyset Net business (see P15)
- Project to renovate a clinic in Vietnam (see P64)
- Support for Hurricane Katrina relief fund (see P65)
- Scholarships established in China and Hungary (see P65)
- Donation to citizens' wind force power generation in  $\overline{O}ma$

	Cleanup campaign around each Works and Research Laboratory (see P62)
og	ue with Stakeholders
	Conducting CSR education and training
	Organized the CSR Promotion Coordinating Board
	Participated in the UN Global Compact meeting
	Held the Global Managers Meeting and conducted CSR education for newly employed people
	Organized the Global Leader Training (see P58)
	Held the Group Company President Round-Table Conferences and other meetings for the exchange of information
	within the Group
	Proactive disclosure of CSR information
	Public relations activities through shareholders' meetings, reports and CSR reports
	Each Works and Research Laboratory publishes and distributes its own Environment, Health and Safety Report
	Issues community public relations paper (inserted in newspapers)
	Disseminates information through Ehime Works historical reference library
	Participated in trade shows such as the Messe Nagoya 2006 Environment Exhibition, Ehime Prefecture Business Matching
	2006, and Higashi Ehime Machinery Industry Forum, etc.
	Introduces CSR activities through in-house magazines
	Malaria prevention activities
	Received the 3rd Asahi Corporate Citizen Award for support for Africa (see P16)
	Introduces activities to support Africa through newspaper publicity
	Cooperates in activities by external organizations, such as the Ministry of Foreign Affairs, JETRO, and Friends of the Global
	Fund, Japan
	Participates in the Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria (see P15)
	Plant tours, explanatory meetings, and round-table conferences
	Conducts plant tours (see P62)
	Round-table conferences with local communities, such as explanatory meetings on responsible care activities

#### **Responsible Care**

- Strengthens safety management of chemical substances and processes and plants based on risk assessments, and secures greater safety (see P47)
- Conducts systematic measures to achieve shared targets for environmental preservation, in cooperation with Sumitomo Chemical Group companies in Japan (see P28)
- Held the first RC global meeting to facilitate the exchange of information and opinions on Responsible Care with overseas Group companies (see P26)
- Enhances basic measures to prevent the occurrence of major quality problems, and strengthens risk management of product quality (see P52)
- Develops an internal system to realize CSR-based procurement practice on a global scale for the procurement of raw materials (actual operation of the system started in April 2007) (see P56)
- The third Commendation of Chemical Substance Management and Risk Communication in a Company (PRTR Grand Prize 2006), sponsored by the Center for Environmental Information Science, is the first time any leading manufacturer of diversified chemicals has received the Grand Prize at the PRTR Awards as a corporation rather than a single facility (see P19)
- Won the fiscal 2006 Japan Industrial Safety & Health Association Chairman Award at the 65th National Industry Safety & Health Convention 2006 sponsored by Japan Industrial Safety & Health Association (see P20)

#### **Economic Aims**

- Achieved the targets set in the Corporate Business Plan for fiscal 2004–2006 one year ahead of schedule
- Creates employment mainly in Tanzania, China, and Vietnam through local contract production and the increased manufacture of Olyset Net mosquito nets

# **Responsible Care** Activities

Responsible Care (RC) refers to voluntary corporate activities aimed at preserving the environment, safety, health, and product quality in all phases of the product life cycle, while at the same time earning the trust of society through dialogue.



## **Discussion: Current State of Chemical Substances Management and Issues**

In the following discussion, Sachio Otoshi, President of Environmental Information Communications Inc., and Yasumi Shiozaki, Associate Officer of Sumitomo Chemical Co., Ltd., share their views on the importance of chemical substances management and risk communication.

#### Sumitomo Chemical's Chemical Substances Management and Risk Communication

**Otoshi:** Sumitomo Chemical won the grand prize at the PRTR Awards. In managing chemical substances, what points does the Company keep in mind?

**Shiozaki:** We believe that risk-based voluntary management is very important. We place higher priorities on chemicals judged to be of higher risk, and start working from those posing the greatest risks. It is sometimes difficult, but we set our sights high in order to take on even the most difficult challenges.

**Otoshi:** The sponsor of the PRTR Awards, the Center for Environmental Information Science, has requested that risks be assessed on the basis of the PRTR data. However, very few companies actually comply with this request. Sumitomo Chemical sets a very good example by conducting proper risk assessment in order to select which chemical substances to deal with.

Shiozaki: Traditionally, chemical substances management has taken a hazard-based approach. However, Sumitomo Chemical believes that management should be conducted with a risk-based approach.\* To manage risks, we have established a system where risk management tasks are supported by specialists from the Process & Production Technology Center or the Environment Health Science Laboratory for each category of harmful and hazardous substances.

**Otoshi:** How does Sumitomo Chemical go about its risk communication?

Shiozaki: First of all, the important thing is to determine a corporate policy for risk communication to be implemented throughout the entire Company. Each factory has its own historical background and its own individual circumstances. Based on the head office's policy of promoting risk communication, individual factories are conducting their own

unique activities, focusing on their own ingenuity and initiative, and taking their location and regional characteristics into account.

**Otoshi:** Isn't it difficult for the head office to nail down its tasks?

Shiozaki: One of the head office's major responsibilities is to determine policies. The Responsible Care Committee meets on a regular basis, and the heads of our Works and Business Sectors participate to develop policies for a mediumterm or for a given fiscal year. One of their tasks is to determine a plan for the implementation of risk communication. This creates an environment that helps personnel in charge of risk communication at each facility fulfill their responsibilities. This is one of the head office's important roles. Another is to gather wide-ranging information and provide business units with good, reliable information. We regard it as the head office's duty to raise the levels of risk communication within individual business unit.

**Otoshi:** So, at Sumitomo Chemical, the head office does not impose a set pattern of risk communication. Rather, each business unit is responsible for developing and implementing measures in a manner suited to local situations, and subsequently findings are shared within the Group. This flow seems to be functioning well.

**Shiozaki:** It is very important to have the personnel in positions of responsibility at Works fully understand the corporate policy. The staff at each Works gathers at the meetings and discusses risk communication activities in detail. Participants encourage each other and help each other absorb good practices. This motivates the employees. Achievements are reported to top management, which, in turn, further encourages employees.

<sup>\*</sup> Risk and hazard: Risks refer to degree of danger related to exposure or contact with dangerous substances. Hazards refer to the degree of danger of a substance itself. Risk-based management reduces overall degree of danger by reducing contact with hazardous substances.

**Otoshi:** I would like to publicize this activity as a model. It's ideal for raising risk communication levels throughout the chemical industry.

#### **The Importance of Changing Perceptions**

Otoshi: Experts explain that a risk should be determined by taking the factors of hazard and exposure into account. While this holds true, there is another aspect that is lacking for the general public, in particular for residents who are subject to risks, and that is public perception. This has not been widely discussed. Given the same objective risk, people generally feel that the level of risk is greater when the risk is posed by an irresponsible company. However, if the risk is posed by a trustworthy company, people feel the level of risk is much lower, and may even be considered acceptable. That difference arises from perception. I believe the factor that changes perception is communication. When a company is open and has established a relationship of trust with local residents, it is easier to obtain the understanding of the local residents against the same risk. The company no longer needs to concern itself to the same degree about how far to reduce risks. This is an important goal of responsible care.

**Shiozaki:** I really understand that idea very well. One of the primary problems we run into in dealing with residents is the concept of "zero risk." This is extremely difficult. We hope we can help local residents understand the concept of risks accurately and change their perceptions by promoting patient and repeated communication with the residents about reliable scientific risk information.

#### **REACH Legislation and Future Chemical Substances** Management

**Otoshi:** The importance of chemical substances management, exemplified by REACH (a new chemical substances legislation in the EU), is being advocated globally and various policies are being implemented. How does Sumitomo Chemical view this trend?

Shiozaki: Globally, we have dispatched members to chemical industry associations around the world to conduct studies and have participated in the World Business Council for Sustainable Development (WBCSD). In Japan, we have been actively involved in the Japan Article Management Promotion-Consortium (JAMP) since its inception. In our business operations, we will proactively accommodate the trend of tightening regulations.

**Otoshi:** One of the challenges of the REACH framework is supply chain management and communication. How does Sumitomo Chemical deal with this issue?

Shiozaki: This is the most difficult thing. The cooperation of customers is essential in chemical substances management. We need to obtain various data from our customers. We take every opportunity to explain that REACH represents a challenge not only for the materials industry but also for customers. We have been successfully gaining a reasonable level of understanding from customers thus far. Otoshi: With the start of REACH, upstream companies are motivated to teach members of their supply chains how to conduct risk assessment and management. On the other hand, I think traceability will become the next challenge. For example, assuming that a hazardous substance is contained in a product, if there are thousands of suspected substances it's impossible to analyze all of them. We have to declare that a given product contains no hazardous substances. Traceability comes into play as a basis of such assurance. I believe that a fundamental part of traceability is to input all the data on PRTR, purchased chemical substances, and products shipped into a database.

**Shiozaki:** In Japan, JAMP will play a role in traceability. We will discuss what data will be needed to obtain the understanding of stakeholders and determine which direction will be mutually beneficial. In order to achieve this, Sumitomo Chemical will be creating a global company-wide database.

Thank you very much for taking time to share your knowledge with us today.



Yasumi Shiozaki Associate Officer and General Manager of the Responsible Care Office, Sumitomo Chemical Co., Ltd.



Sachio Otoshi President of Environmental Information Communications Inc.

# **Responsible Care Management**

Sumitomo Chemical has created a management structure for its activities based on the concept of Responsible Care to implement effective measures for safety, environment, product quality, and health throughout all phases of the product life cycle, while earning the trust of society through dialogue.

### Promoting RC Activities in Full Coordination with Group Companies

#### Corporate Policy on Safety, Environment, and **Product Quality**

Sumitomo Chemical has prescribed the challenges of top priorities in safety, environment, and product quality in all our operations in the Corporate Policy on Safety, Environment, and Product Quality. The policy has been communicated to all departments and employees of the Company as well as to its Group companies to make everyone in the Group aware of the policy.

#### **Policy on Responsible Care Activities**

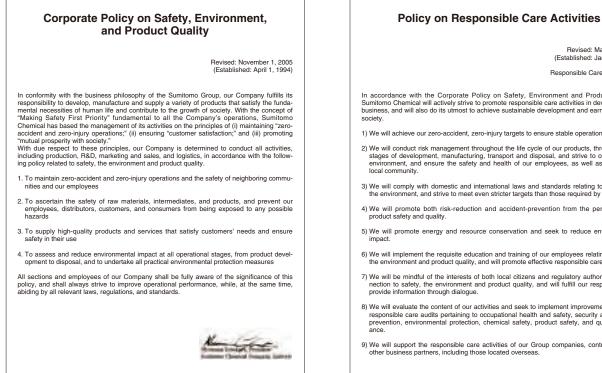
Based on the Corporate Policy on Safety, Environment, and Product Quality, Sumitomo Chemical has formulated the Policy on Responsible Care Activities to define key initiatives in Responsible Care activities.

This Policy has also been communicated to the Group companies. The companies have stipulated their own policies on the activities in accordance with the Company's efforts. This ensures consistent and coherent group-wide Responsible Care activities.

### The Policy on Responsible Care Activities, along with the Corporate Policy on Safety, Environment, and Product Quality, is distributed to all employees as a diary-sized pocket booklet. We encourage everyone to be aware of the policy, comply with the law, and make continuous efforts to improve performance.

#### **Organization of Responsible Care Activities**

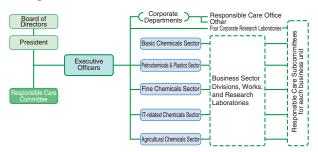
The Responsible Care Committee (RC Committee) was established to promote comprehensive, efficient Responsible Care initiatives with a long-term perspective. The RC Committee consists of the chairman, executive officers in charge of the Company's Business Sectors, executive officers in charge of the corporate departments (general affairs, legal, human resources, corporate communications, corporate planning & coordination, finance & accounting, procurement & logistics, Responsible Care) and the heads of our Works.



Revised: March 2, 2006 (Established: January 1995) Responsible Care Committee In accordance with the Corporate Policy on Safety, Environment and Product Quality, Sumitomo Chemical will actively strive to promote responsible care activities in developing our business, and will also do its utmost to achieve sustainable development and earn the trust of 1) We will achieve our zero-accident, zero-injury targets to ensure stable operations 2) We will conduct risk management throughout the life cycle of our products, throughout the stages of development, manufacturing, transport and disposal, and strive to conserve the environment, and ensure the safety and health of our employees, as well as that of the 3) We will comply with domestic and international laws and standards relating to safety and the environment, and strive to meet even stricter targets than those required by law. 4) We will promote both risk-reduction and accident-prevention from the perspective of product safety and quality 5) We will promote energy and resource conservation and seek to reduce environmental 6) We will implement the requisite education and training of our employees relating to safety, the environment and product quality, and will promote effective responsible care activities 7) We will be mindful of the interests of both local citizens and regulatory authorities in connection to safety, the environment and product quality, and will fulfill our responsibility to provide information through dialogue.

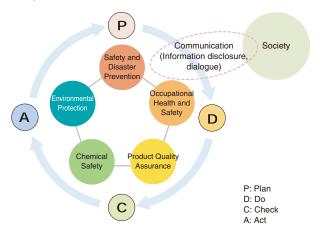
- 8) We will evaluate the content of our activities and seek to implement improvements through responsible care audits pertaining to occupational health and safety, security and disaste prevention, environmental protection, chemical safety, product safety, and quality assur
- 9) We will support the responsible care activities of our Group companies, contractors, and other business partners, including those located overseas

#### Organization



#### **PDCA for Responsible Care Activities**

Sumitomo Chemical's Responsible Care activities can be broadly classified into five fields: environmental protection; safety and disaster prevention; occupational health and safety; product quality assurance; and chemical safety. By repeating the PDCA cycle for all the Company's Responsible Care activities, we strive to improve the performance of these activities. We give due consideration to improving the quality of RC activities and ensuring their transparency through inspections of our RC activities under the RC verification (system) conducted by the Japan Responsible Care Council.



#### Adoption of Management Systems in Compliance with **International Standards**

The Sumitomo Chemical Group has been actively working to obtain certifications under the OSHMS, ISO 14001, and ISO 9001 international standards of management systems for safety, the environment, and product quality.

These management systems have been utilized most effectively. They have better enabled us to undertake the management of the Company and Group companies properly and to identify significant areas for improvement, which, in turn, has strengthened of our business infrastructure.

(See P1 of the CSR Report 2007 Data Book for details of the adoption of these systems.)

#### **Sharing RC Information with Group Companies**

Sumitomo Chemical regularly holds RC meetings where RC heads from each Group company both in Japan and overseas meet to share the various issues related to RC activities with Group companies in order to raise the level of RC activities. Currently, the RC meetings take place twice a year for companies in Japan, and once a year for overseas Group companies (RC Global Meeting, started in fiscal 2006).

### COLUMN

#### First RC Global Meeting Held

In March 2007, the first RC Global Meeting was held at the head office of Sumitomo Chemical in Tokyo. This was conducted to exchange information and opinions on Responsible Care (RC) activities with the Company's Group companies in Asia, America, and Europe. The meeting was attended by 25 RC heads from 20 overseas Group companies and about 30 members from the Company's Responsible Care Office, the Planning & Coordination Offices of various sectors, the Corporate Planning & Coordination Office, the Environment Health Science Laboratory, etc. Sumitomo Chemical outlined its RC organization as well as its policies and targets in the fields of environment and safety, RC audit, quality assurance, and production technology. It also provided specific information on its initiatives in each field by introducing actual cases and topics. Overseas Group companies reported in detail on their RC activities and future challenges.

We will regularly convene an RC Global Meeting beginning next year in order to strengthen and enhance our RC activities on a Group level. These activities represent an important aspect of our CSR-based management. By leveraging these meetings, we will advance our truly global initiatives for Responsible Care.



**Executive Vice** President Kawachi delivering the opening address

Meeting

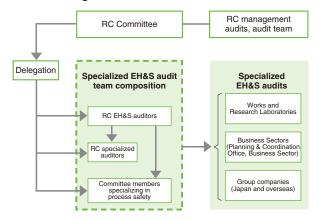
## **Auditing Framework**

#### **Responsible Care Internal Audits**

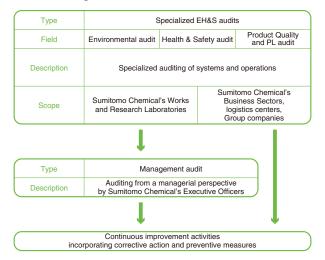
We endeavor to improve the performance of our RC activities by repeating the plan-do-check-act (PDCA) cycle. In order to evaluate objectively that our RC activities are being conducted appropriately, we are conducting RC audits.

Sumitomo Chemical's plants and laboratories are subject to two types of Environment, Health & Safety (EH&S) audits: (1) Specialized audits, where specialized staff conduct advance evaluations using checklists; and (2) Management audits involving RC Committee members led by the Executive Officer in charge of Responsible Care. Environment, Health & Safety (EH&S) audits are also conducted for the Business Sector departments of the head office and at Group companies in Japan and overseas.

#### RC Auditing Framework



#### RC Auditing Overview



#### **Fiscal 2006 RC Audit Results**

A total of 32 audits were conducted. RC EH&S and management audits were conducted at Works and Research Laboratories in Ehime, Chiba, Osaka, Oita, Misawa, and Tsukuba. RC EH&S audits were conducted in five Business Sectors and at 15 Group companies.



# COLUMN

### **Review of Fiscal 2006 RC Audits**



Front row (from left): Daisaburo Imai, General Manager Masakazu Aihara Back row (from left): Osamu Yamamoto, Toshiyuki Kokubo Audit team, Responsible Care Office

With a view to contributing to the enhancement of corporate value, our RC auditing covers a list of diverse activities to further increase the effectiveness of our RC activities.

Our fiscal 2006 audits focused on evaluating efforts to strengthen legal compliance and completely eliminate accidents. The head office also started an audit for high-pressure gas certification. The audits revealed that both Sumitomo Chemical and its Group companies are aggressively implementing RC activities, and these activities are proceeding well.

#### **Future RC Activities**

From the perspective of strict compliance and CSR promotion, we will strengthen RC audits to promote RC activities and enhance internal control of the Sumitomo Chemical Group as a whole. In order to *reach new heights as a truly global chemical company*, it is imperative that we develop a global RC audit framework in response to the global expansion of our business operations. We will review audit items (check lists) to keep pace with changing requirements in Japan and overseas. We will also strengthen our auditing of overseas Group companies to the same level as that of Group companies in Japan.

We will strengthen our audit organization to ensure the implementation of the above.

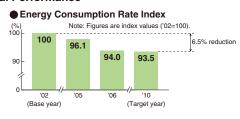
# **Results of Fiscal 2006 Responsible Care Activities**

Sumitomo Chemical has set specific targets for its Responsible Care activities in the areas of environmental protection, safety and disaster prevention, occupational health and safety, chemical safety, product quality assurance, and audits. Highlights of Sumitomo Chemical's Responsible Care Activities in fiscal 2006 in environmental protection, safety, and quality assurance are presented below.

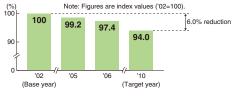
### Follow-Up on the Establishment of Shared Targets for the Sumitomo Chemical Group

The Sumitomo Chemical Group, while striving to raise productivity throughout the entire Group, is aiming to reduce the environmental impact of its activities. To this end, we have set shared targets to be met by fiscal 2010 (the target year) for unit energy consumption and CO<sub>2</sub> emission rates, the volume of PRTR emissions, and the amount of waste disposed of in landfills, and are implementing specific initiatives to meet these targets.

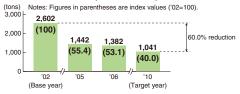
#### Sumitomo Chemical Group Reduction Targets and Actual Performance



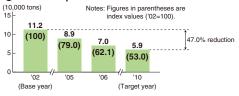
#### ● CO<sub>2</sub> Emission Rate Index



#### PRTR Emissions (air and water)



#### Landfill Disposal Volume



Notes:

- The targets for each category (for fiscal 2010) were determined by aggregating the targets set individually by Sumitomo Chemical and 16 domestic Group companies. (For more details, see P13 to P15 in the CSR Report 2007 Data Book.)
- With the revision of targets, the target values for PRTR Emissions and Landfill Disposal Volume have also been revised.

### COLUMN



Aiming for an Urban Factory that Promotes Prosperous Coexistence with the Local Community

Tadashi Inamura Responsible Care Office, Taoka Chemical Co., Ltd.

Located approximately 2 km northwest of JR Shin-Osaka Station, Taoka Chemical's Yodogawa Factory is situated in an urban area.

When the plant was established, the area was designated as an industrial zone. Due to its convenient location within 20 minutes' travel from Umeda in the center of Osaka, the area has become increasingly residential in recent years. Prosperous coexistence with nearby residents has become an important issue for us in responsible care, and therefore we have worked to address noise, vibration, and odor.

Our plant manufactures organic chemicals and has been receiving requests from nearby residents to ameliorate the unpleasant odors generated by the factory. Recognizing that the odor problem is the most important challenge for a company located in a residential district, we promote communication with local residents, while at the same time requiring better awareness among employees to prevent unpleasant odors from being released.

We have also taken separate measures for equipment that generates odors. One example is the introduction of a regenerative thermal oxidation system that recovers and incinerates exhaust gas containing unpleasant odors. The regenerative thermal oxidation system incinerates exhaust gas containing organic matter emitted from plant emissions treatment systems, pots and tanks at temperatures of 800 to 900°C in a regenerative furnace, and decomposes the gas with more than 99% efficiency. This is highly effective in reducing emissions of substances subject to the PRTR Law. We were able to ameliorate the odor from our factory dramatically when we installed the system in May 2005. Our efforts to eliminate the odor received high ratings from the pollution control committee in Nishimikuni, composed of nearby residents, during its annual patrol around the factories in the area. In addition, we have received many inquiries and factory inspection requests from plants located in residential areas that are examining the introduction of such systems.

We strive to become an urban factory that promotes prosperous coexistence with local residents by taking various measures both in our relationship with them and in our equipment and facilities in order to eliminate complaints about noise, vibration and odor.

# **Primary Responsible Care Initiatives: Targets and Progress**

		Theme	Goal	Measures Taken	Subject	
	Sustaina	able management	Promotion of sustainable management	Simultaneous pursuit of business objectives and environmental protection	Non-consolidated/ Group	
	Glo	bal environmental protection	Prevention of global warming	Reduction in CO <sub>2</sub> emissions	Non-consolidated	
			Prevention of ozone layer depletion	Reduction of CFC emissions	Group Non-consolidated/ Group	
Ę		Establishing a recycling- oriented society	Energy conservation	Improvement of energy efficiency	Non-consolidated	
ectic					Group	
Environmental Protection			Waste reduction	Reduction in the amount of generated waste; promotion of recycling	Non-consolidated	
5					Group	
			Reduction in water use	Improvement in efficiency of water use	Non-consolidated	
1		Preservation of the living environment and prevention of health	Appropriate chemical substances management (Proper handling of PRTR* substances)	Promotion of PRTR substance risk management	Non-consolidated	
		hazards			Group	
			Reduction in VOC emissions	Reduction in VOC emissions	Non-consolidated	
			Prevention of soil and groundwater contamination	Promotion of soil and groundwater contamination risk management	Non-consolidated/ Group	
			PCB countermeasures	Proper storage and disposal of PCB waste	Non-consolidated/ Group	
			Prevention of accidents causing environmental contamination	Reduction of environmental risks involving operating activities	Non-consolidated	
	Promotio safety	on of occupational health and	Prevention of occupational accidents	Use of OSHMS (Occupational Safety and Health Management System) to reduce potential occupational safety risks Prevention of problems caused by human factors	Non-consolidated	
	Promotic activities	on of disaster prevention	Prevention of major accidents	Reduction of process-related risks	Non-consolidated	
oalety	Promotic manage	on of chemical product safety ment	Ensuring the safety of chemical products	Enhancement of safety information and proper management of chemical substances	Non-consolidated	
	Promotio logistics	on of safety activities in	Ensuring safety, environment, and product quality in logistics	Reduction of occupational accident and injury risks in logistics Promotion of a transport system that exerts less impact on the environment Promotion of measures to prevent quality irregularities in logistics	Non-consolidated	
Assurance	Promotion of quality assurance activities		Prevention of quality problems	Promotion of measures to prevent major quality problems	Non-consolidated	
Audits	RC activ	ous improvement of vities iening of corporate governance	Use of audits to evaluate and improve RC activities Strengthening of compliance	Promotion of integrated RC activities and RC audits throughout the Group Determination of priority areas for auditing: Zero accidents, measures to strengthen compliance	Non-consolidated/ Group	

### Major Initiatives for Environmental Protection, Safety, Quality Assurance, and Audits

\* PRTR: System for recording the emission and movement of environmental pollutants. Stands for "Pollutant Release and Transfer Register."

Target	Performance in Fiscal 2006	Progress
Meet shared environmental protection targets for the Group Study the possibility of introducing environmental efficiency indicators within the Group	Conducted follow-ups to ensure targets will be achieved Aggregated environmental impact and continued to evaluate the effectiveness of environmental efficiency indicators based on the JEPIX method	•
Reduce CO <sub>2</sub> emission rate from fossil fuel for captive consumption by 15% relative to fiscal 1990 levels by fiscal 2010 (Upward revision from previous 10% to 15%)	Reduced CO <sub>2</sub> emission rate by 4.3% relative to the previous fiscal year Reduced CO <sub>2</sub> emission rate by 18.1% relative to fiscal 1990	
Reduce $CO_2$ emission rate by 6.0% relative to fiscal 2002 levels by fiscal 2010	Reduced CO <sub>2</sub> emission rate by 2.6% relative to fiscal 2002	
Eliminate the use of refrigeration units that use specified CFCs as coolants by fiscal 2025	Promoted systematic replacement of refrigeration units No coolant leaks occurred	
Reduce the annual energy consumption rate by 1%	Reduced annual energy consumption rate by 2.2% relative to the previous fiscal year Reduced annual energy consumption rate by 19.8% relative to fiscal 1990	
Reduce the energy consumption rate by 6.5% relative to fiscal 2002 levels by fiscal 2010	Reduced energy consumption rate by 6.0% relative to fiscal 2002	
Reduce landfill disposal volume by 85% relative to fiscal 1990 levels by fiscal 2010 Cease the disposal of red bauxite by sea dumping by fiscal 2015	Landfill: Landfill disposal volume increased by 19.3% relative to the previous fiscal year (69.4% reduction from fiscal 1990) Sea dumping: Continued studying ways of promoting sustainable development of the aluminum products business and ceasing landfill disposal	•
Reduce landfill disposal volume by 47% relative to fiscal 2002 levels by fiscal 2010	Reduced landfill disposal volume by 37.9% relative to fiscal 2002	
Reduce water use rate by 25% relative to fiscal 1990 levels by fiscal 2010	Improved water use rate by 33.9% relative to fiscal 1990	
Reduce total emissions (air and water) of substances subject to the PRTR Law by 50% relative to fiscal 2002 levels by fiscal 2010	Reduced total emissions by 42.6% relative to fiscal 2002	
Reduce total emissions (air and water) of substances subject to the PRTR Law by 60% relative to fiscal 2002 levels by fiscal 2010 (Revision from previous 59.5% to 60%)	Reduced total emissions by 46.9% relative to fiscal 2002	
Reduce VOC emissions by 30% relative to fiscal 2000 levels by fiscal 2010	Reduced VOC emissions by 10.2% relative to fiscal 2000	
Keep hazardous materials strictly within Company premises and ensure careful management of these materials	Soil contamination surveys, evaluations, and required improvements currently near completion Monitoring of groundwater near boundaries has confirmed levels of hazardous materials below those stipulated under environmental standards Continued monitoring of groundwater by Sumitomo Chemical	•
Promote the appropriate storage and recovery of PCB waste and complete PCB waste treatment by March 2014	Continued Company implementation of strict recovery and appropriate storage of PCB waste	
Eliminate accidents and major problems	Achieved target of zero accidents and major problems (No violations of environmental laws and regulations relating to the recommendations, orders, or penalties of the regulatory authority)	
Eliminate all accidents resulting in lost workdays for employees of Sumitomo Chemical or its contractors/affiliate companies Frequency rate of lost-workday injuries: Less than or equal to 0.1 Severity rate of lost-workday injuries: Less than or equal to 0.01 /Frequency rate of lost-workday injuries = (number of lost-workday injuries/man- hours) × one million Severity rate of lost-workday injuries = (number of lost-workday/man-hours) × 1,000/	There was one accident resulting in lost workdays at Sumitomo Chemical and two in total at its contractors. At the Company, the target was achieved, whereas at its contractors, the target was not achieved. Sumitomo Chemical: Frequency rate of lost-workday injuries: 0.09 Severity rate of lost-workday injuries: 0.21 Affiliate companies: Frequency rate of lost-workday injuries: 0.21 Severity rate of lost-workday injuries: 1.5	
Eliminate major accidents	Achieved target of zero major accidents Conducted process risk assessment and implemented safety measures Systematically implemented a long-term earthquake retrofitting plan	•
Conduct various studies and risk assessments and enhance safety information related to Responsible Care of chemical products	Conducted surveys and risk assessments for 110 chemical products (these include health and environmental risk assessments of chemicals emitted into the atmosphere, environ- mental risk assessments for wastewater, occupational safety risk assessments of chemical substances handled by the Company, and consumer safety risk assessments of newly developed chemicals, etc.). Introduced advanced simulation models to improve the accuracy of exposure evaluation	•
Promote advanced measures for the management of chemical substances	Promoted a voluntary challenge program for upgrading safety information. Embarked on a project to improve and expand the database to store such safety information. Started the development of an alternative method for skin irritation evaluation and of a new test method for respiratory sensitization evaluation in an effort to develop safety evaluation techniques	•
Achieve zero accidents resulting in lost-workdays at partner logistics companies Reduce the annual energy consumption rate by 1% Achieve the management target for logistics quality irregularities	Achieved zero accidents resulting in lost-workdays at partner logistics companies To comply with the revised Law Concerning the Rational Use of Energy, a system was developed to grasp levels of energy consumption for transport. In fiscal 2006, the system started collecting data. Some of the logistics quality irregularity management targets were not achieved.	•
Reinforce quality risk management Continue to implement Basic Measures to Prevent Major Product Quality Problems	Early identification of potential quality risks and strengthened risk control was determined as the key initiative for the entire company over the next fiscal year Made the Policy to Prevent Major Product Quality Problems more informative by incorpo- rating case studies (both failures and successes) from inside and outside the Company Established a corporate culture attaching high value to quality in all divisions and among all employees (1)Solicited quality assurance slogans and displayed them at every site (2)Established "quality prizes"	•
Review the systems and rules for RC audits to improve RC audits at Sumitomo Chemical and its Group companies	Clarified the role of RC audits, strengthened their independence, and established company rules Strengthened and expanded audits of Group companies Strengthened and expanded compliance audits	

# **Group Company Initiatives**

The Sumitomo Chemical Group makes concerted efforts to enhance and promote Responsible Care activities.

#### The Polyolefin Company (Singapore) Pte. Ltd.

Located on the premises of the Singapore Petrochemical Complex that centers on the Petrochemical Corporation of Singapore (Pte) Ltd. (PCS), The Polyolefin Company (Singapore) Pte. Ltd. (TPC) is the Sumitomo Chemical Group's largest overseas resin production base, with an annual production of 800,000 tons of polyethylene and polypropylene.

Nine independent companies operate within the Singapore Petrochemical Complex. To facilitate effective safety and disaster prevention activities, PCS unilaterally takes charge of safety and disaster-prevention management for the entire complex. Disaster prevention programs are very actively implemented, and drills are conducted every week at some plants in the complex. Whenever a drill is conducted, advance notice of the drill is announced via the emergency broadcasting system.

In 2006, TPC conducted 17 drills in conjunction with PCS. One drill was conducted based on a scenario in which toxic fumes seeped in from a neighboring plant. All employees were evacuated to assigned rooms, where they sealed up any gaps and remained until the order was lifted. Another tension-filled drill involved a scenario in which terrorists affected a landing and engaged in subversive activities. Local police and fully armed national military personnel were actually dispatched. They cornered the suspected perpetrators and foiled the attempt.

TPC independently operates daily patrols on key facilities by safety personnel and weekly safety patrols by teams of five to six personnel under the leadership of the General Manager of the plant, thereby assuring safety, preventing accidents, and raising staff awareness regarding disaster prevention.

#### Sumipex. (Thailand) Co., Ltd.

Sumipex. (Thailand) Co., Ltd. was incorporated in August 2002, following the acquisition of the factories and business rights of a local Thai company with capital invested by Sumitomo Chemical and Itochu Corporation at rates of 51% and 49% respectively. The company manufactures and

sells approximately 10,000 tons of acrylic sheet annually both in Thailand and overseas. Since its founding, the company has improved facilities and strengthened its environmental management activities by pursuing four initiatives: (1) separating paths for discharged water and rain water, and strictly managing BOD, COD, and pH levels; (2) regularly analyzing gas emissions from boilers, and reporting and managing these records; (3) separating waste materials into general waste and hazardous waste, preventing the contamination of rain water, and strictly managing the reporting of these tasks to the competent authorities; and (4) reducing the outflow of process exhaust gas from exhaust vents.

Along with the expansion and upgrading of the facilities, we implemented environment-friendly measures, such as improving ventilation in workshops, changing heavy oil boilers to gas boilers, and reducing radiation from ovens. With technical support and guidance from Sumitomo Chemical, we successfully raised the level of environmental preservation activities, and in 2005, we received Responsible Care (RC) audits from Sumitomo Chemical. In March 2007, we participated in the Sumitomo Chemical Group's RC Global Meeting and reaffirmed our understanding of Sumitomo Chemical's basic philosophy and RC policy.

Since 2007, we have upheld the 3S's of *seiri*, *seiton*, and *seiso*, (referring respectively to spatial organization, organization of materials, and cleaning-up) as key components of our annual vision, and have fostered competition in the workplace to this end. Such competition has motivated employees to improve their performance, and this has made workplace activities more vigorous.

We must enhance our RC activities to continuously raise the level of our initiatives. By promoting measures to reduce risk factors even further, we aim to create a safer and more worker-friendly plant. We continue our efforts jointly with local staff in closer cooperation with Sumitomo Chemical, with emphasis placed on establishing a system for safety management activities, employee training and education, and enhancing measures for facility safety management.



Norio Maeno General Manager of the Plant, The Polyolefin Company (Singapore) Pte. Ltd.



Bunzo Akiyama General Manager of the Plant, Sumipex. (Thailand) Co., Ltd.

#### Asahi Chemical Co., Ltd.

Asahi Chemical works to implement Responsible Care (RC) activities, aiming to be a company that earns a reputation among customers, employees, and shareholders as a "good company" that contributes to people, society and the Earth. We also aspire to be a company our employees can feel proud to be part of. In fiscal 2006, we obtained ISO 14001 certification, which had been a long-standing goal.

In January 2007, we compiled our previous quality, safety, and environmental policies into the Basic Management Policy on Quality, Safety, and the Environment. Staff members draw on the Policy to guide their RC practices in daily operations. Activities related to environmental preservation, safety and disaster prevention, chemical safety, and occupational safety and health are promoted by the RC Subcommittee of the Business Development Committee.

In our environmental preservation activities, focusing on maintenance and improvement in accordance with our ISO 14001 certification, we are working on reducing CO<sub>2</sub> emissions, energy consumption, and the amount of waste disposed of in landfills. To raise our employees' environmental awareness, we began the Potori Campaign this year. (*Potori* refers to a unit of measure, whereby one *potori* is equivalent to the reduction of CO<sub>2</sub> by 100 g.) Inspired by the story of *Hachidori no Hitoshizuku*\* (One Drop of Water from a Hummingbird), the campaign is designed to encourage employees to start with small efforts to reduce environmental impact. Under the motto of "things that I can do right now" to prevent global warming (adapted from the subtitle of the book), employees engage in activities to save energy and resources, reduce waste, and recycle materials.

In our chemical safety initiatives, we comply with relevant laws and regulations regarding materials and products, and develop and distribute MSDS to enable customers to use our products safely. As for products that contain substances restricted by the PRTR Law, we are actively

\* "Hachidori no Hitoshizuku—Ima Watashi-ni Dekirukoto" (One Drop of Water from a Hummingbird, Things that I Can Do Right Now), edited by Shinichi Tsuji, published by Kobunsha undertaking the development of alternative substances for such products, while maintaining their functionality.

By actively conducting the above initiatives to attain our targets, we wish to make steady contributions to people, society, and the Earth.

#### Nihon Oxirane Co., Ltd.

Nihon Oxirane has an annual production capacity of 181,000 tons of propylene oxide (PO), 100,000 tons of propylene glycol, and 425,000 tons of styrene monomer.

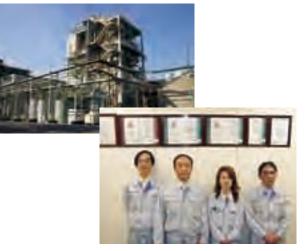
Unlike the conventional chlorine method, Nihon Oxirane's oxidation method for the PO manufacturing process requires no residual chlorine treatment, and thus represents an environmentally friendly technology.

Our Chiba Plant is located in the Sumitomo Chemical Chiba Works' Sodegaura 1st district, and receives various services, including the supply of raw materials and utilities, and facilities maintenance from Sumitomo Chemical. We promote RC activities in cooperation with Sumitomo Chemical and have been accredited with ISO 14001 certification as an organization within Sumitomo Chemical. The case below describes a successful joint initiative, where we were able to achieve energy conservation through cooperation with Sumitomo Chemical.

Nihon Oxirane was short of low-pressure steam and purchased steam from Sumitomo Chemical, which had been using waste heat from its plants to generate steam but was not able to use all of the heat. However, the steam supplied from Sumitomo Chemical was high-pressure steam, so we had to reduce the pressure in order for us to use it. We then asked Sumitomo Chemical to produce and supply low-pressure steam suitable for our company. This has enabled us to reduce our consumption of high-pressure steam, while enabling Sumitomo Chemical to sell the excess energy the company had previously been unable to use effectively. The energy thus saved amounts to the equivalent of 3,000 kl/yr. of crude oil.

As the case exemplifies, collaboration with a neighboring plant brought about new benefits, whereas unilateral efforts would have produced only a limited energy conservation effect.

Because Nihon Oxirane consumes a large amount of energy as a Type I Designated Energy Management Factory, as defined under the Japanese government's Law Regarding the Rationalization of Energy Use, we continue to place a strong emphasis on energy conservation activities.



Hisayuki Tani

(the second person from the left), General Manager of Technology Department, Asahi Chemical Co., Ltd. and members of the Department

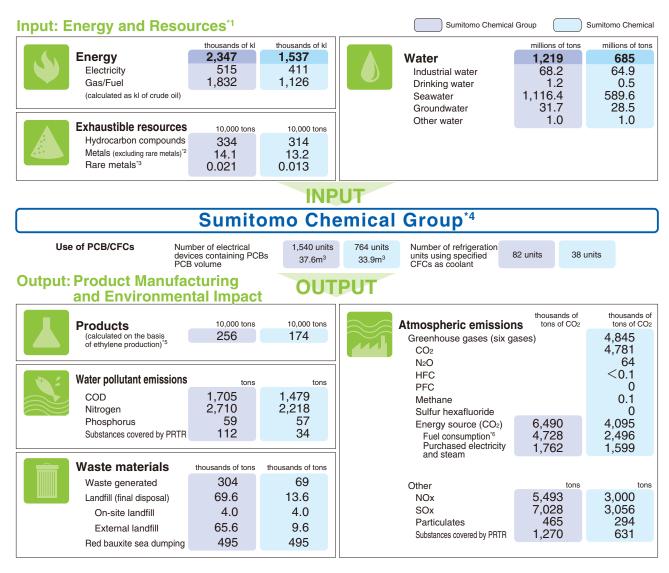


Nobufumi Niwa Manufacturing Section, Chiba Plant, Nihon Oxirane Co., Ltd.

# Environmental Performance of the Sumitomo Chemical Group (Environmental Impact and Environmental Accounting)

Among its Responsible Care activities, Sumitomo Chemical places great importance on reducing its environmental impact, and collects basic impact data on a Group level. The Company has also introduced environmental accounting to assist in managing environmental protection activities.

# **Environmental Impact of Production Activities**



\*1. Performance data for major overseas Group companies for energy consumption, CO<sub>2</sub> emission, water use, and landfill disposal volume is given on P16 of the CSR Report 2007 Data Book.

\*2. Metals: Calculations include the following 12 metals: iron, gold, silver, copper, zinc, aluminum, lead, platinum, titanium, palladium, gallium, and lithium.

\*3. Rare metals: Calculations include the following seven rare metals, for which the supply system is extremely delicate and which are stockpiled by the Japanese government: nickel, chromium, tungsten, cobalt, molybdenum, manganese, and vanadium.

\*4. Group companies consist of the following 16 domestic Group companies: Dainippon Sumitomo Pharma Co., Ltd.; Koei Chemical Co., Ltd.; Taoka Chemical Co., Ltd.; Sumitomo Joint Electric Power Co., Ltd.; Sumika Color Co., Ltd.; Nihon Medi-Physics Co., Ltd.; Nippon A&L Inc.; Thermo Co., Ltd.; SanTerra (formerly Sanzen Kako Co., Ltd.); Sumika Kakoushi Co., Ltd.; Asahi Chemical Co., Ltd.; Shinto Paint Co., Ltd.; Sumitomo Dow Ltd.; Sumika Bayer Urethane Co., Ltd.; Nihon Oxirane Co., Ltd.; and Sumika Takeda Agrochemical Co., Ltd.

\*5. Certain assumptions were made in calculations due to the difficulty of obtaining weight-based figures for some products.

\*6. CO<sub>2</sub> emissions are not included for energy (electricity and steam) sold outside the Sumitomo Chemical Group. Emissions are, however, included for Sumitomo Joint Electric Power Co., Ltd. as sales of energy form its primary business.

### **Environmental Accounting**

Sumitomo Chemical continuously gathers and evaluates data on environment-related expenses, investments, and economic results, in line with the Company's environmental accounting introduced in fiscal 2000.

#### **Items Pertaining to Environmental Accounting**

- Scope: Sumitomo Chemical and 16 domestic and overseas Group companies<sup>\*1</sup>
- (2) Period: Fiscal 2006 (April 1, 2006 to March 31, 2007)

# (3) Classification: Based on Ministry of the Environment guidelines

- (4) Independent review: Conducted by AZSA Sustainability Co., Ltd.
- (5) Tabulations are made on a consolidated basis: 16 principal consolidated affiliates (12 domestic, four overseas). In fiscal 2005, tabulations were made for 17 consolidated affiliates (13 domestic, four overseas).

	(Unit: 0.1 billions of ye					of yen)				
				Fisca	l 2005			Fisca	I 2006	
Classification		Main Implementation Details	Sumitomo Chemical only		Consolidated		Sumitomo Chemical only		Consolidated	
			Investment	Expenses	Investment	Expenses	Investment	Expenses	Investment	Expenses
Bus	iness Area Costs		23	132	29	191	18	147	23	213
ЧN	Pollution Prevention Costs	Prevention of air pollution, water pollution, soil contamination, noise pollution, odors, ground subsidence, etc.	(14)	(92)	(19)	(128)	(7)	(105)	(9)	(144)
Breakdown	Global Environmental Protection Costs	Prevention of global warming, ozone layer depletion, etc.	(0)	(0)	(0)	(1)	(0)	(0)	(2)	(2)
Bre	Resource Recycling Costs	Resource and energy conservation, water conservation and rainwater use, reducing and disposing of waste, recycling waste, etc.	(9)	(40)	(10)	(62)	(11)	(42)	(12)	(67)
Ups Cos	tream/Downstream ts	Green purchasing, recycling and recovery procedures for products, remanufacturing, appropriate processing, recycling costs associated with containers and packaging, environmentally friendly products and services	0	0	0	2	0	0	0	2
Adm	ninistrative Costs	Costs associated with environmental education, environmental management systems, the monitoring and measuring of the environmental impact of business activities and products, environmental organization operation, etc.	0	6	0	13	0	7	0	13
R&[	) Costs	Development of products that contribute to environmental safety, research into energy- conservation processes, etc.	4	32	4	33	4	33	4	35
Social Activity Costs		Protecting the natural environment and enhancing its scenic beauty and greenery, supporting community initiatives aimed at environmental protection, supporting environ- mental protection groups, environment-related paid contributions and surcharges, etc.	0	6	0	9	0	6	0	9
	ironmental nediation Costs	Environmental rehabilitation of contaminated environments and other environmental damage, reserve funds to cover environmental rehabilitation	0	1	0	1	0	1	0	1
Tota	al		27	177	33	249	22	194	27	273

(Unit: 0.1 billions of ven)

# Environmental Protection Costs

#### Economic Effects<sup>\*2</sup>

(Onit: 0.1 billions of ye					
Results	Fisca	l 2005	Fiscal 2006		
nesuits	Sumitomo Chemical only	Sumitomo Consolidated	Sumitomo Chemical only	Sumitomo Consolidated	
Expense Reductions Due to Energy Conservation	7	9	5	7	
Expense Reductions Due to Resource Conservation	10	12	10	11	
Expense Reductions Due to Recycling Activities	20	23	25	29	
Total	37	44	40	47	

\*1. Sixteen domestic and overseas Group companies: Dainippon Sumitomo Pharma Co., Ltd.; Koei Chemical Co., Ltd.; Taoka Chemical Co., Ltd.; Sumitomo Joint Electric Power Co., Ltd.; Sumika Color Co., Ltd.; Nihon Medi-Physics Co., Ltd.; Nippon A&L Inc.; Thermo Co., Ltd.; San Terra; Sumika Kakoushi Co., Ltd.; Nihon Oxirane Co., Ltd.; Sumika Takeda Agrochemical Co., Ltd.; Dongwoo Fine-Chem Co., Ltd.; Sumitomo Chemical Singapore Pte. Ltd.; The Polyolefin Company (Singapore) Pte. Ltd.; and Sumika Technology Co., Ltd.

\*2. Economic effects are limited to those achieved through energy conservation, resource conservation, and recycling activities, and are calculated on the basis of a number of defined assumptions.

### COLUMN



#### Initiatives to Improve Environmental Management and Reduce Costs

Toshitaka Yamaguchi Environment & Safety Department, Osaka Works

We have improved water quality by removing organic matter from reused wastewater. This has resulted in a reduction in the volume of wastewater discharged and its impact on the environment, and has amounted to annual savings of 30 million yen in annual sewage fees.

In addition, by using waste oil as a fuel for wastewater incineration facilities, we have reduced the annual costs of fuel LNG and waste oil treatment by 131 million yen. We also responded to a request from local residents to take measures against emitting white smoke from a smoke stack by using an alternative method of emitting exhaust gases in an effort to improve the scenery of the area.

## Environmental Performance at Works (Environmental Impact and Environmental Accounting)

All Sumitomo Chemical works determine specific itemized activities to actualize their environmental policies, assess and reduce the environmental impact of their operations, and contribute to environmental preservation.

To reduce environmental impact on a continuous basis, the works identify priority challenges based on their reduction objectives for environmental performance throughout the Company. They formulate specific improvement goals and implement measures systematically.

Initiatives that achieve outstanding results are shared at regular corporate-level meetings on environmental preservation attended by personnel in charge of environmental preservation from the head office, laboratories and works. The initiatives are developed laterally within the Company to improve our environmental performance company-wide.



Corporate Environmental Protection Team Leader Meeting (April 2007 at the Ehime Works)

### **Chiba Works**

#### Main products: Propylene oxide, styrene monomer and other organic chemicals, polyethylene, polypropylene and other synthetic resins, synthetic rubber

- Number of employees: 1,264
- Message from General Manager of the Works: The most important mission for the Chiba Works to accomplish is to ensure safe and stable operations. We are diligently implementing our environmental activities in order to attain our goal for all our employees to achieve the "four zeros" (zero accidents and injuries, zero environmental problems, etc.).



Tsutomu Konaka General Manager, Chiba Works

Fiscal 2006 Environmental Performance and Other Main Results

Inp	ut	Output		
Energy <sup>*1</sup>	831,000 kl	Products <sup>*2</sup>	920,000 tons	
Exhaustible resources	2.54 million tons	CO2*3 (atmosphere)	2.079 million tons	
Water	556 million tons	NOx (atmosphere)	1,992 tons	
		SOx (atmosphere)	609 tons	
		COD (water)	149 tons	
		Landfill volume	1,300 tons	
	Environment	al accounting		
	Investment	870 million yen		
	Expenses	4.36 billion yen		
	Economic effect	600 million yen		

#### **Ehime Works**

• Main products: Inorganic and organic chemical products, feed additives, synthetic fiber materials, fertilizer, IT-related materials, aluminum hydroxide and alumina products, super engineering plastics, pharmaceutical and agrochemical intermediates, etc.

Message from General Manager of the Works:

Number of employees: 1,442



Because the Ehime Works is a large-scale plant, the environmental impact of the works is correspondingly large. We are committed to the reduction of environmental impact as a top priority for the plant and promote various initiatives from every perspective.

Kiyoyasu Hashimoto General Manager, Ehime Works

Fiscal 2006 Environmental Per	formance and Other Main Results

ու	bui	Output			
Energy <sup>*1</sup>	609,000 kl	Products <sup>*2</sup>	720,000 tons		
Exhaustible resources	640,000 tons	CO2 <sup>*3</sup> (atmosphere)	2.418 million tons		
Water	102 million tons	NOx (atmosphere)	756 tons		
		SOx (atmosphere)	2,051 tons		
		COD (water)	999 tons		
		Landfill volume	10,600 tons		
	Environmen	tal accounting			
	Investment	340 million yen			
	Expenses	7.61 billion yen			
	Economic effect	2.44 billion yen			

#### **Osaka Works**

 Main products: Pharmaceutical bulk and intermediates, Sumiresist and other semiconductor display materials, Sumilizer and other polymer additives, Sumifix and other dyestuffs, Sumilex and other fungicides for fruit trees and vegetables



- Number of employees: 969
- Message from General Manager of the Works: The Osaka Works is located in an urban district, and we take the need for harmonious coexistence with local residents seriously. We strive to continue as a safe and trustworthy plant.

Kazumune Yamamoto General Manager, Osaka Works

Fiscal 2006 Environmental Performance and Other Main Results

Inp	out	Output		
Energy <sup>*1</sup>	21,000 kl	Products <sup>*2</sup>	30,000 tons	
Exhaustible resources	20,000 tons	CO2"3 (atmosphere) 39,000 t		
Water	1 million tons	NOx (atmosphere) 19		
		SOx (atmosphere)	<1 tons	
		COD (water)	133 tons	
		Landfill volume	200 tons	
	Environment	al accounting		
	Investment	100 million yen		
	Expenses	820 million yen		
	Economic effect	210 million yen		

- \*1 Energy values are crude oil equivalent.
- \*2 Products values are ethylene equivalent.
- \*3 CO2 values include emissions from energy use, environmental treatment, and of process origin.
- \*4 Number of employees is as of March 31, 2007.

#### **Oita Works**

- Main products: Agricultural chemicals: Sumithion, Danitol, Sumisoya, Delaus; Fine chemicals: cresol-related products, Sumilizer GP (polymer additive)
- Number of employees: 340



We work daily to reduce environmental impact and improve safety and product quality. We aim to be a plant where all employees observe rules and offer one another candid advice. We maintain close communication with local residents and also aim to contribute to the local community.

Hideki Suematsu General Manager, Oita Works

#### Fiscal 2006 Environmental Performance and Other Main Results

Input		Output	
Energy⁺¹	49,000 kl	Products <sup>*2</sup>	40,000 tons
Exhaustible resources	50,000 tons	CO2*3 (atmosphere)	160,000 tons
Water	19 million tons	NOx (atmosphere)	209 tons
		SOx (atmosphere)	317 tons
		COD (water)	134 tons
		Landfill volume	1,000 tons
	Environment	tal accounting	
1	nvestment	420 million yen	
E	Expenses	1.69 billion yen	
E	Economic effect	280 million yen	

#### **Gifu Plant**

- Main products: Pharmaceutical bulk and intermediates
- Number of employees: 161
- Message from General Manager of the Works: We engage actively in activities that contribute to the local community as a company trusted by local residents. In our production activities, we pursue an on-site approach.



General Manager, Gifu Plant

#### Fiscal 2006 Environmental Performance and Other Main Results

Input		Output	
Energy <sup>*1</sup>	4,000 kl	Products <sup>*2</sup>	1,000 tons
Exhaustible resources	10,000 tons	CO2*3 (atmosphere)	15,000 tons
Water	2 million tons	NOx (atmosphere)	20 tons
		SOx (atmosphere)	4 tons
		COD (water)	8 tons
		Landfill volume	300 tons
Environmental accounting			
I	nvestment	10 million yen	
E	Expenses	400 million yen	
E	Economic effect	60 million yen	

#### **Misawa Works**

- Main products: Household and public health insecticides: Pynamin, Vaporthrin, Gokilaht; Agricultural insecticides: Sumi-Alpha, Admiral Number of employees: 127
- Message from General Manager of the Works: The Misawa Works aims to be a world-leading plant that achieves sustained growth through the concerted efforts of our employees, preserves the rich greenery of the environment surrounding the plant, and produces environmentally friendly products.



Osamu Maruvama General Manager, Misawa Works

#### Fiscal 2006 Environmental Performance and Other Main Results

Input		Output	
Energy⁺¹	12,000 kl	Products <sup>12</sup>	10,000 tons
Exhaustible resources	<10,000 tons	CO2 <sup>*3</sup> (atmosphere)	35,000 tons
Water	1 million tons	NOx (atmosphere)	36 tons
		SOx (atmosphere)	15 tons
		COD (water)	14 tons
		Landfill volume	<100 tons
	Environmental accounting		
Ir	ivestment	10 million yen	
E	xpenses	420 million yen	
Economic effect		30 million yen	

#### **Okayama Plant**

- Main products: Pharmaceutical bulk and intermediates
- Number of employees: 150
- Message from General Manager of the Plant: The Okayama Plant is located within the scenic Setonaikai National Park. Our slogan is "care for the environment" and our basic philosophy is "prosperous coexistence with society.'



Toshio Nakamatsu General Manager, Okayama Plant

#### Fiscal 2006 Environmental Performance and Other Main Results

Input		Output	
Energy <sup>*1</sup>	11,000 kl	Products <sup>*2</sup>	10,000 tons
Exhaustible resources	10,000 tons	CO2 <sup>*3</sup> (atmosphere)	37,000 tons
Water	3 million tons	NOx (atmosphere)	24 tons
		SOx (atmosphere)	4 tons
		COD (water)	42 tons
		Landfill volume	200 tons
Environmental accounting			
	Investment	30 million yen	
	Expenses	500 million yen	
	Economic effect	420 million yen	

# Introduction of Environmental Efficiency Indicators

The Sumitomo Chemical Group has been aggregating the environmental impact of its activities and studying ways of assessing relationships between production efficiency, the cost of environmental activities, and environmental impact. Through these studies, we are attempting to develop environmental efficiency indicators that will enable us to reduce the environmental impact of our activities more effectively.

### Studies toward Practical Application of Environmental Efficiency Indicators Using JEPIX<sup>\*1</sup>

In fiscal 2006, Sumitomo Chemical again returned to participate in the third JEPIX Benchmark Project, a project organized by Professor Nobuyuki Miyazaki of International Christian University, to further deepen our understanding of the JEPIX method.

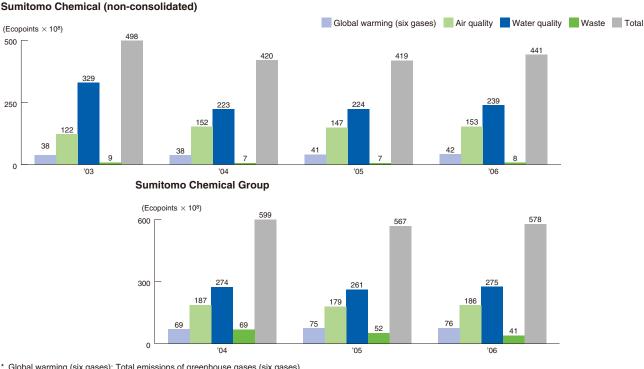
Meanwhile, the Sumitomo Chemical Group has been conducting ongoing studies of the effectiveness of environmental efficiency<sup>\*2</sup> calculated on the basis of the JEPIX method as an indicator (whether or not it should be used as an indicator in corporate strategy).

Again in fiscal 2006, we calculated the environmental efficiency of each of the major domestic Group companies (12 companies), and carried out various assessments and analyses in addition to our studies. In the future, we will continue to verify the efficiency of the method through more

detailed studies and the compiling of data.

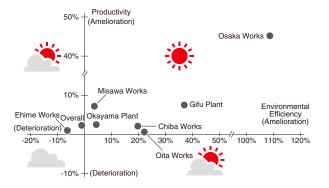
(For the details of the yearly trend of "Ecopoints and environmental efficiency" for Sumitomo Chemical (including the data for each works) and its Group companies, see P17 and P18 of the CSR Report 2007 Data Book.)

- \*1 JEPIX (Environmental Policy Priorities Index for Japan): This method, which employs a uniform single indicator (Environmental Impact Points or ecopoints) for evaluating environmental effects, is derived from the Swiss LCIA Eco Scarcity methodology. The current method evaluates the discrepancy between targets (e.g. laws and environmental policies) and actual conditions based on the material flow data.
- \*2 Figures such as output, sales and power generation divided by the figures for the amount of environmental impact aggregated on the basis of the JEPIX method (using a common and unique unit called the ecopoint)
- \*3 Asahi Chemical Co., Ltd.; Koei Chemical Co., Ltd.; Thermo Co., Ltd.; SanTerra (formerly Sanzen Kako Co., Ltd.); Shinto Paint Co., Ltd.; Sumika Color Co., Ltd.; Sumitomo Joint Electric Power Co., Ltd.; Sumitomo Dow Ltd.; Taoka Chemical Co., Ltd.; Sumika Takeda Agrochemical Co., Ltd.; Nihon Medi-Physics Co., Ltd.; and Sumika Kakoushi Co., Ltd.)



#### Breakdown and Trends in Aggregate Values for Environmental Impact (Environmental Impact Points or Ecopoints)

\* Global warming (six gases): Total emissions of greenhouse gases (six gases) Air quality: Total emissions of substances that destroy the ozone layer, toxic air pollutants, photochemical oxidants, NOx, and SPM10 Water quality: Total emissions of BOD, COD, nitrogen, and phosphorus Waste: Amount of waste disposed of in landfills



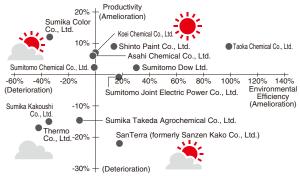
#### Relationship between Environmental Efficiency and Production Efficiency (Sumitomo Chemical)

#### Note:

This graph plots fiscal 2006 year-on-year percentage increases or decreases in efficiency indicators.

Environmental efficiency = Output (tons) / Ecopoints
 Production efficiency = Output (tons) / Energy consumed (kl)

#### Relationship between Environmental Efficiency and Production Efficiency (Sumitomo Chemical Group)



Notes:

- 1. This graph plots fiscal 2006 year-on-year percentage increases or decreases in efficiency indicators

- Environmental efficiency = Output (tons) or Sales (in units of 100 million yen) / Ecopoints
   Production efficiency = Output (tons) or Sales
- (in units of 100 million yen) / Energy consumed (kl)
- 2. The data for companies that are judged unsuitable for trend evaluation are not presented.

#### COLUMN



#### **Current Status of the JEPIX** Method and Its Future **Development and** Challenges

Nobuyuki Miyazaki

Professor, the College of Liberal Arts International Christian University

JEPIX (Environmental Policy Priorities Index for Japan) is an EMS (Eco Scarcity Method) employed in Japan, which is equivalent to one of the global standard environmental impact assessment methods used in Europe and the United States.

Its first feature is to measure environmental impact based on the distance between 1) "environmental target (Fk)" according to environmental policies and environmental laws and 2) "environmental condition (F)" which represents the actual environmental condition.

Its second feature is that, as a result of all calculated environmental index figures indicated uniformly in ecopoints (EP), all environmental impact data obtained by multiplying the environmental index figure by the figure for the environmental impact that a company actually exerts are also indicated in ecopoints (EP), a unique and uniform unit for assessment.

A theory study (method development and coefficient calculation) was conducted by the Sustainable Management Rating Institute (SMRI) of the Sustainable Management Forum of Japan (SMF) for JEPIX as part of the Environmental Rating Research Project of the Japan Science and Technology Agency (JST). Then the JEPIX Forum (the 1st, 2nd, and 3rd)

was formed in the Ministry of Education, Culture, Sports, Science and Technology's 21st Century COE Program at International Christian University. Practical efforts are being made to introduce the method to corporate management with the support and cooperation of the approximately 50 distinguished sustainable management-related institutions, including the Ministry of the Environment and the Ministry of Economy, Trade and Industry at home, and BUWAL and Wuppertal Institute for Climate, Environment & Energy (WI) abroad.

To date, a cumulative total of over 50 companies, mainly those listed on the first section of the Tokyo Stock Exchange, have used JEPIX for their internal environmental management. Furthermore, they enter the environmental impact figures and eco efficiency figures indicated by the JEPIX ecopoints into their environmental reports (including CSR reports).

For future developments and challenges, efforts are required to limit unavoidable subjectivity (variation) within a certain scientific framework by increasing rationality in the selection of the environment target value (Fk) under environmental policies and laws, while increasing the measurement precision of actual environmental impact figures (F), which serve as a reference in the JEPIX method.

Next, it will be essential to work out agreeable figures within this framework that suit the realistic perceptions of those involved in corporate business affairs and environmental management as well as stakeholders.

Furthermore, it is highly desirable to expand the JEPIX Forum (which celebrates its fifth anniversary this year) into a more open forum in every direction, toward industrial, academic and governmental spheres, where we can engage in open discussions on the future of JEPIX.

# **Environmental Protection Activities**

Sumitomo Chemical has been working to further reduce its energy and resource consumption, and reduce emissions to minimize environmental impact. The Company devotes its efforts to the protection of both the global environment and living environment as well as the prevention of health-related problems.

### **Energy Conservation and Prevention of Global Warming**

Targets	Performance in Fiscal 2006
Reduce the energy consumption rate by 1% each year	Achieved a 2.2% reduction relative to the previous fiscal year (19.8% reduction from fiscal 1990)
Reduce the CO $_2$ emission rate from fossil fuel consumption by 15% relative to fiscal 1990 by fiscal 2010	Achieved a 4.3% reduction relative to the previous fiscal year (18.1% reduction from fiscal 1990)

#### Summary of Initiatives

Sumitomo Chemical aims to achieve its targets for energy conservation and CO<sub>2</sub> emissions through strategic promotion of the Proposed Medium-Term Initiatives for Reducing Energy Use.

Sumitomo Chemical has made wide-ranging, multi-faceted efforts to conserve and use energy more efficiently. These have included improving methods of operating equipment, recovering exhaust energy, streamlining processes, improving the efficiency of facilities and equipment, and using our proprietary catalyst technology to significantly improve processes. The results these efforts have produced have been commensurate, in terms of actual performance, with the targets we have set.

Meanwhile, the reduction of CO<sub>2</sub> emissions remains one of the most important shared challenges at the national level.

In response to this issue, the Company has been working to further reduce emissions of CO<sub>2</sub> and other greenhouse gases, while placing an emphasis on energy conservation and the development of innovative production processes.

In March 2005, we invested in the BioCarbon Fund established by the World Bank and plan to acquire carbon credits worth 400,000 tons of CO<sub>2</sub> by 2017. The effect, however, is quite limited, and it will not accomplish any significant change overall.

Against this backdrop, Sumitomo Chemical will continue to conduct detailed and specific studies of the practical responses available, while considering the possible implementation of the Kyoto Mechanisms.

#### Assessments and Analyses of CO<sub>2</sub> Emission Rates by Product

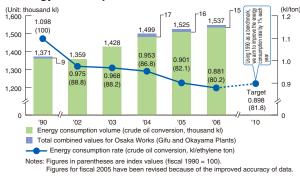
We are conducting various assessments and analyses to achieve more efficient CO<sub>2</sub> emission reductions by totaling the volume of CO<sub>2</sub> emissions from each plant, or the volume of such emissions associated with the production of each product or product group. (See P6 of the CSR Report 2007 Data Book.)

# Development and Operation of the Company-Wide Greenhouse Gas Totaling System

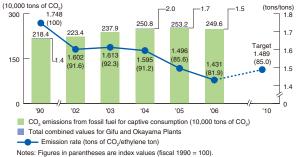
Sumitomo Chemical has developed its own unique Company-Wide Greenhouse Gas Totaling System and made it available on the corporate intranet, which provides a network linking the Head Office with each plant. The system began operation in April 2007.

The completion of this system has contributed significantly to the speed and accuracy of data totaling. As a result, we have realized a considerable reduction in the volume of work required for the emission reporting system under the Law Concerning the Promotion of Measures to Cope with Global Warming and other laws.

Energy Consumption Volume and Rate







Figures for fiscal 2005 have been revised because of the improved accuracy of data.

Volume of CO<sub>2</sub> Emissions Unit: 10,000 tons of CO2 Energy Consumption Environmental Treatment Total nissio FY Process En Incineration Wastewater 1990 367.6 218.4 103.8 28.2 2.2 15.0 2004 432.1 250.8 125.7 30.7 2.6 22.3 2005 481.6 253.2 161.9 31.1 2.8 32.6 2006 478.3 249.6 159.9 29.9 2.9 36.0

Notes:

1. "Process" refers to production process emissions other than energy consumption.

2. Figures for fuel consumption do not include electricity or steam sold outside the Company

The data for fiscal 1990, 2004, and 2005 include emissions from the Gifu and Okayama Plants.
 Figures for fiscal 2005 have been revised because of the improved accuracy of data.

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#### COLUMN



#### Energy Savings Realized by Lowering the Concentration of High-Concentration Wastewater Kenji Ito (right) No.4 Manufacturing Department,

Chiba Works **Miyuki Toki** (left) Environment & Safety Department, Chiba Works

Since wastewater generated from manufacturing plants (process wastewater) is contaminated with a large quantity of organic matter, it is not possible to discharge it into public waters. Therefore, it is detoxified in the Environmental Protection Section's processing facility. Specifically, wastewater containing a lesser quantity of organic matter undergoes an activated sludge process utilizing a bio-processing method, while water containing a greater quantity of organic matter undergoes incineration disposal processing.

The Chiba Works has newly installed and started operation of a distillation facility that removes organic matter contained in wastewater. This facility enables us to lower the concentration of organic contaminants in high-concentration organic wastewater, allowing us to switch successfully from incineration processing to activated sludge processing. As a result, the fuel that had previously been used for incineration processing is no longer necessary; and we were able to reduce annual energy consumption by 4,000 kl (crude oil conversion), and annual CO<sub>2</sub> emissions by 9,000 tons.

We will continue to study methods for optimizing wastewater processing.



# Sharing the Energy System with Oji Paperboard Co., Ltd.

Masakazu Aihara General Manager, Responsible Care Department, Oita Works (Currently General Manager, Responsible Care Office, Tokyo Head Office)

There are now fewer plants at the Oita Works that consume large quantities of energy, and this has caused a decline in the operational efficiency of the boilers supplying energy (steam, etc.) in conjunction with a rise in the price of heavy fuel oil. In response to this problem, we proposed an energy systemsharing project with Oji Paperboard Co., Ltd., which has a state-of-the-art RPF (Recycled Plastic Fuel) boiler. We discovered that we could exploit unused streamlining measures by considering the situation not only in our own plants, but also in the plants of other companies.

The project aims for a total sharing of boiler systems between the neighboring companies. We started by connecting the boilers of Sumitomo Chemical and Oji Paperboard with 1.2 km of piping, through which Sumitomo Chemical uses the low-pressure steam that Oji Paperboard has used for power generation. Energy savings and the difference between the prices of heavy fuel oil and coal (RPF) are the sources of economic benefit in this project. The annual energy conserved amounts to merely 1,900 kl (crude oil conversion) and  $CO_2$  reduction is a modest 2,000 t/year, but this form of energy savings through cross-industrial cooperation between different industries such as the chemical and paper pulp industries is rarely seen in Japan. We hope this project will serve as a touchstone for the future, as no other new measures for energy savings can be found within a single company in this industry.



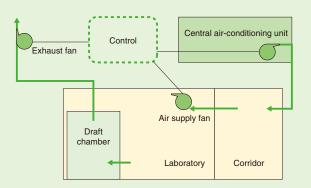
#### Osaka Works Introduces State-of-the-Art Energy-Saving Facilities

#### Tatsuo Fujimori

Engineering & Maintenance Department Osaka Works

The Osaka Works of Sumitomo Chemical introduced a fresh air supply system linked with exhaust air volume, which adopted state-of-the-art energy-saving technology in Research Building No.1 in November 2005. This system's special feature is that it optimizes the amount of air supplied to the central airconditioning unit by calculating the exact amount of air required to control the pressure in the rooms. There are multiple draft chambers installed in Research Building No.1, where a safe working environment is maintained through proper control of the airflow from the central air conditioning unit for ventilation of the draft chambers in each laboratory, preventing the pressure from becoming too negative inside the laboratories and corridors. The average operating rate of the draft chambers in the Research Building is 25% to 30%, which indicates significant energy savings.

In February 2007, we were granted the Encouragement Prize of the Fiscal 2006 Excellent Energy-Saving Facility Award from the Japan Association of Refrigeration and Air-Conditioning Contractors for having actively introduced this system.



Overview of control operation and function

Control interconnected with exhaust fan

The air-conditioning unit and air supply fan are interconnected with the operation of the exhaust fan.

Backflow prevention control

The air-conditioning unit installed on the roof supplies processed air to each corridor. (Airflow is controlled so the pressure in the corridor will be higher than the pressure inside the laboratory in order to prevent backflow.)

Negative pressure prevention control

An air supply fan is installed in each laboratory and supplies air while controlling the chamber pressure to ensure that the inside pressure inside each laboratory does not become too negative.

- Air supply optimization control (energy-saving control)
- The air-conditioning unit optimizes air supply volume by adjusting airflow to match the total airflow volume of the air supply fans installed in multiple laboratories, resulting in energy savings.

### Initiatives to Reduce the Release of PRTR Substances and VOCs

Targets	Performance in Fiscal 2006
Reduce total releases of PRTR Law-targeted substances (into the air and water) by 50% relative to fiscal 2002 by fiscal 2010	Total releases of PRTR Law-targeted substances fell by 19.5% relative to the previous fiscal year (42.6% reduction from fiscal 2002)
Reduce releases of volatile organic compounds (VOCs) by 30% relative to fiscal 2000 by fiscal 2010	Releases of VOCs remained constant relative to the previous fiscal year (10.2% reduction from fiscal 2000)

Sumitomo Chemical manages PRTR Law-targeted substances under a risk-based management system. Specifically, we aim at a systematic reduction of the release of such substances (including VOCs) based on the Sumitomo Chemical PRTR Strategy.

The PRTR Strategy is made up of four items centering on environmental risk-based risk management. To supplement this, we have introduced a system for release control. Release control consists of release ranking assessments, cooperation with the industry and community, and utilization of the environmental impact aggregation method.

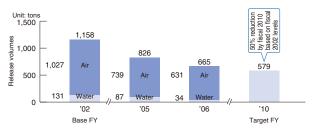
Our PRTR target is to reduce the total volume released (into the air and water) by 50% from the base year of fiscal 2002 by fiscal 2010. The PRTR Strategy acts as a powerful driving force for achieving this target.

(For details on reductions in VOC releases, see P10 of the CSR Report 2007 Data Book.)

#### **PRTR Strategy**

- 1. Risk management based on environmental risk
- 2. Release control based on release ranking assessments
- 3. Release control in cooperation with the industry and community
- Release control utilizing the Environmental Impact Aggregation Method

#### PRTR Strategy Target and the Total Release Performance



#### COLUMN



#### Measures for Reducing Benzene Releases

Toshio Kurita

Niihama No.1 Manufacturing Department Ehime Works

The Ehime Works is implementing step-by-step measures for reducing hazardous substances released into the air. In February 2007, a new benzene release reduction facility based on a thermal regeneration exhaust gas processor was completed and started operation at the nitrobenzene plant. The facility incinerates combustible components internally and recovers the heat generated to the heat reservoir in the facility. Removal rates of more than 95% and heat efficiency of more than 90% are possible. Its characteristic advantage is that it requires only a limited additional heat source during operation

because of the effective use of heat generated as a byproduct of the processing, thanks to the high heat efficiency of the facility. This will enable us to reduce annual benzene releases from a nitrobenzene plant to less than 10 t/year in fiscal 2007.



Exhaust gas incineration facility at the nitrobenzene plant



#### Measures for Reducing Chemical Substance Releases

Takahiko Kinoshita Environment & Safety Department Chiba Works

The Chiba Works is currently implementing measures to reduce releases of chemical substances into the environment. For vinyl acetate, the PRTR Law-targeted substances released in the largest amounts, a facility for incinerating gases emitted from the ethylene and vinyl acetate emulsion plant was completed in 2006, followed by a boiler facility for processing gases emitted from the polyethylene plant, which is scheduled for completion in February 2008. These measures are expected to reduce emissions of vinyl acetate into the atmosphere by approximately 70% compared with fiscal 2002.

We are also implementing measures to lower the volatilization volume of VOCs by installing a floating roof inside the storage tank.

Furthermore, we are working on reducing emissions into the atmosphere of gases emitted from the synthetic rubber plant by processing the gases in a regenerative incinerator. We therefore expect VOC emission reductions of approximately 30% compared with fiscal 2000 by fiscal 2010.

Targets	Performance in Fiscal 2006
Continue to keep emissions of SOx, NOx, soot and dust, COD, nitrogen, and phosphorus at or below commonly agreed-upon levels	Emissions were at or below commonly agreed-upon levels
Reduce the water use rate by 25% relative to fiscal 1990 by fiscal 2010	Reduced the water use rate by 5.3% relative to the previous fiscal year (33.9% reduction from fiscal 1990—target achieved)

### Initiatives to Prevent Air, Water, and Sensory Pollution

#### **Initiatives to Prevent Air and Water Pollution**

Sumitomo Chemical is working actively to preserve the purity of the atmosphere and water by developing numerous technologies designed to prevent air and water pollution; working to reduce the amount of SOx (sulfur oxides), NOx (nitrogen oxides), and soot and dust released into the atmosphere; reducing amounts of COD (chemical oxygen demand), nitrogen, and phosphorus released into waterways; and reducing the volume of water used through the efficient use of water.

#### COLUMN

# Measures for Reducing Nitrogen and Phosphorus Released in Wastewater



Hideki Takagi (left) Environment & Safety Department Ehime Works Hitoshi Morimoto (right)

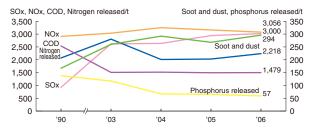
Ehime Fertilizer Plant Sumika Agrotech Co., Ltd.

The Ehime Works, which faces Japan's Inland Sea, falls under the category of plants whose total releases are subject to the Water Pollution Control Law. The amount of nitrogen and phosphorus released in wastewater is being reduced at the Methionine Plant, the Chemical Fertilizer Plant and the General Wastewater Processing Station. Specifically, the following measures are being implemented: (1) Methionine Plant: Reduces ammonia in wastewater by recovering ammonia from processed fluids; (2) Chemical Fertilizer Plant: Reduces phosphorus in wastewater by recovering fine powder grains containing phosphorus that are generated by the chemical fertilizer dryer; and (3) General Wastewater Processing Station: Increases the efficiency of phosphorus recovery by boosting the precipitation and separation capacity of the wastewater processing facility. These measures have enabled the reduction of approximately 3.5 t/day of released nitrogen and approximately 900 kg/day of released phosphorus.



Phosphorus recovery facility of the dryer at the Chemical Fertilizer Plant (bug filter)

#### Emissions and Releases into the Atmosphere and Waterways



#### Initiatives to Prevent Sensory Pollution

Sensory pollution refers to unpleasant sensations such as offensive odors, noise, vibrations as well as light pollution and landscape disturbance. To minimize such pollution, we not only comply with standards such as legal limits and limits agreed on with local governments, but also seek to make further improvements by soliciting the opinions of people living in the vicinity of our sites.

#### COLUMN



#### Responses to Sensory Pollution

Masaki Fujiwara Environment & Technical Department Okayama Plant

The Okayama Plant implements 24-hour continuous monitoring using an offensive odor sensor with a view to early detection and early action against abnormalities, since the plant is adjacent a residential area to its North. We patrol the plant during the day and night, while observing the surrounding environment.

Furthermore, we are striving to improve the environment by regularly conducting measurements of substances that cause offensive odors and of the environmental atmosphere for PRTR Law-targeted substances. We then compare the measured values with our voluntarily agreed-upon figures. In one of our recent cases, we responded to a claim from a nearby resident regarding light pollution from our nighttime lighting by placing hoods on mercury vapor

placing noods on mercury vapor lamps. In addition, we installed an infrared ray sensor on the light at the front gate so that it switches on only at the entry and exit of vehicles to reduce unnecessary lighting.



Hood installed on a mercury vapor lamp

### Initiatives to Reduce the Volume of Waste Disposed of in Landfills

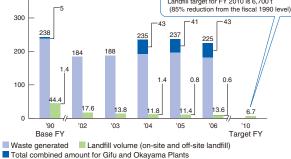
Target	Performance in Fiscal 2006
	Industrial waste landfill disposal vol- ume increased by 19.3% relative to the previous fiscal year (69.4% reduction relative to fiscal 1990)

Sumitomo Chemical is working toward a systematic reduction of the volume of waste disposed of in landfills by reducing sludge generated in the course of wastewater processing and promoting measures for recycling waste such as incinerator ash sludge, burnt residue, and fine silica sand for use in cement production. At present, zero emissions\* have been achieved in three (Osaka, Oita, and Misawa) of the five works.

 $^{\ast}$  Zero emissions at Sumitomo Chemical: Disposal of less than three percent of generated waste in landfills

# Volumes Unit: thousands of tons

Trends in Generated Waste and Landfill Disposal



## Initiatives to Reduce Red Bauxite

### Target

Cease sea dumping of red bauxite by fiscal 2015

Red bauxite is the residue of natural bauxite from which aluminum hydroxide, the raw material for aluminum products, has been extracted. This substance is composed of insoluble mineral constituents and saltwater.

Sumitomo Chemical currently disposes of red bauxite through sea dumping. This is carried out in accordance with Japanese laws such as the Law Relating to the Prevention of Marine Pollution and Maritime Disasters. Materials are appropriately disposed of only after the safety of dumping has been confirmed by conducting analytical tests mandated by law.

The Company acquired a permit for the disposal of waste through sea dumping from the Minister of the Environment in fiscal 2006, as revisions to the law have

#### COLUMN



#### Measures for Recycling Incinerator Ash Sludge for Use in Cement Production

Shuji Yasuda Ohe-Kikumoto No.1 Manufacturing Department Ehime Works

The Ehime Works has been studying the recycling of incinerator ash sludge for use in cement production as a part of its measures toward the reduction of final disposal volumes. Such recycling, however, was found not to be viable, hindered by the high chlorine content in the incinerator ash sludge due to the vinyl chloride solids contained in the wastewater from the vinyl chloride plant.

Now a facility to aggregate, separate, and remove the solids in question has been completed, and we have achieved our objective of lowering the chloride content of the incinerator ash sludge.

This allows us to take the next step toward an actual study of the recycling of incinerator ash sludge for use as a material in cement production. We expect to be able to reduce the incinerator ash sludge disposed of in landfills from approximately 4,000 tons per year to approximately 500 tons per year.



Vinyl chloride wastewater aggregators

made the acquisition of such a permit compulsory from fiscal 2007.

In addition, Sumitomo Chemical has developed a policy to switch to the use of imported aluminum hydroxide, which generates no red bauxite, as a raw material, and aims to cease all sea dumping of red bauxite while continuing to develop its aluminum products business. We have already begun studies on changing our raw materials as soon as possible. We have also been seeking effective uses for red bauxite; in fiscal 2006 we teamed up with a cement company and used approximately 1,300 tons of red bauxite as an ingredient in cement. For fiscal 2007, we plan to effectively use approximately 2,400 tons in this manner.

Select a cleanup

method and

implement cleanup procedures

Measures

for cleanup

Monitoring

Completion

### **Measures to Prevent Soil Pollution**

Target	Performance in Fiscal 2006
Keep hazardous materials strictly within Company premis- es and ensure careful manage- ment of these materials	Survey, evaluation and necessary restoration work for soil pollution of plants and properties have almost been completed. Monitoring of groundwater near boundaries has confirmed levels of hazardous materials below those stipulated under environmental stan- dards (continued monitoring of groundwater by Sumitomo Chemical).

Sumitomo Chemical has long conducted surveys of soil pollution as a key issue, and has implemented the measures necessary to combat this problem according to the flow shown in the chart to the right.

The Sumitomo Chemical Group will continue to work as one to ensure thorough compliance with voluntary management policies centered on keeping the handling of hazardous materials strictly within Company premises and ensuring the careful management of these materials.

The Company also assesses pollution risks when selecting or relocating business sites abroad by checking the use history and conducting pollution surveys of the land.

### PCB Waste Recovery, Storage, and Treatment

In accordance with the Law Concerning Special Measures for Proper Treatment of PCB Waste (polychlorinated biphenyls), Sumitomo Chemical recovers PCB waste (capacitors, transformers, and other electric devices that contain PCB insulating oil). The Company then stores this industrial waste, which is subject to special control, in specified areas within the Company's waste storage facilities, thereby ensuring strict control of these materials.

Sumitomo Chemical plans to treat all of its PCB waste completely by March 2014, ahead of the deadline specified in the Law Concerning Special Measures for Proper Treatment of PCB Waste (July 2016).

The Company has undertaken early registration with the Japan Environmental Safety Corporation, which is engaged in extensive PCB processing and will systematically process these wastes from now on. Moreover, the concentration of PCBs in the insulating oil of devices that are believed to contain no PCBs is analyzed prior to disposal, and any devices with PCB levels exceeding 0.5 mg/kg (low-concentration PCB waste) are treated as PCB waste, as legally required.

#### PCB Waste Storage and Control as of the end of June 2007

	Number of PCB Containers	Total PCB Volume
Sumitomo Chemical	764 (723 stored, 41 in use)	33.9m³
Sumitomo Chemical Group	1,540 (1,055 stored, 485 in use)	37.6m <sup>3</sup>

### **Initiatives to Prevent Ozone Layer Damage**

#### -Eliminating the Use of Refrigeration Units that Employ Specified CFCs

Sumitomo Chemical has a strict policy for the management of cooling devices that use specified CFCs (substances specified in the Law Concerning the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures) that are highly damaging to the ozone layer. The Company is committed to ensuring that CFCs are not accidentally released into the atmosphere from these devices and carries out proper recovery, transportation, and destruction of specific CFCs from refrigeration units upon disposal. The Company is systematically replacing these cooling devices with units that use alternative coolants, as it works toward the Group-wide goal of eliminating the use of refrigeration units employing the specified CFC coolants (CFC11, CFC12, CFC113, CFC114, and CFC115) by 2025.



Verify existence

of pollution

Soil analysis

Underground

water analysis

research

exists

Pollution

Cleanup complete

No pollution exists

exists

Possiblity

No possibility exists

Research on

the possibility

of pollution

Usage history

of plant

Site survey

# **Safety Initiatives**

Working to ensure the safety and health of employees based on the fundamental principle of making safety top priority

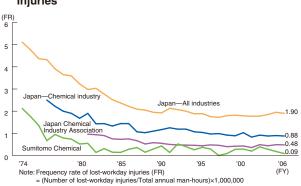
### Occupational Health and Safety

#### Safety Performance

In fiscal 2006, one accident resulted in lost workdays (accident frequency rate of lost-workday injuries: 0.09) at Sumitomo Chemical, with two such accidents (accident frequency rate of lost-workday injuries: 0.2) at contractors.

The number of accidents has been on the decrease since fiscal 2002. This may be attributable to the fact that activities such as initiatives by the Working Group for Studying Zero-Accident Targets and the implementation of preventive safety measures through the application of an Occupational Safety and Health Management System (OSHMS) have proven successful. We will work further to effectively apply the OSHMS, aiming to achieve our target of becoming a "zero-accident" company.

The number of accidents among contractors' employees has remained constant or has increased slightly since fiscal 2001. Many of the accident victims at contractors were those involved in construction work projects. A breakdown of their accidents included: falling from high places, 30%; collisions, 22%; and tripping and falling, 13%. In particular, falling from high places often results in the most serious accidents, and thus we are working to promptly improve the situation.



#### Trends in the Frequency Rate of Lost-Workday Injuries

#### Successful Operation of OSHMS

The high incidence of major disasters such as fires and explosions at large-scale industrial sites nationwide since summer 2003 has prompted the introduction of an OSHMS. Sumitomo Chemical was quick to recognize the effectiveness of the OSHMS framework, adopting it in November 1999 and thus becoming one of the first companies in Japan to introduce such a system. The OSHMS went into operation at the Chiba Works in July 2000. Certification for an OSHMS from the Japan Industrial Safety and Health Association (JISHA) has already been obtained and implemented by all of the seven works and laboratories.

#### Acquisition Status of OSHMS Certification

Works and laboratories	Date Certified	Certification No.
Chiba Works	May 9, 2003	03-12-1
Ehime Works	September 15, 2004	04-38-1
Osaka Works	February 1, 2005	05-27-3
Misawa Works	November 21, 2005	05-2-1
Tsukuba Research Laboratory	December 14, 2005	05-8-3
Oita Works	July 10, 2006	06-44-1
Agricultural Chemicals Research Laboratory	January 10, 2007	07-28-9

#### COLUMN



#### Sensory Safety Training

Muneharu Wada General Affairs Department Ehime Works

Sumitomo Chemical is facing the mass retirement of experienced employees, and the transfer of safety and sanitation skills and know-how from the experienced to the younger staff is one of our most pressing challenges. Also notable are such changes as reduced field experience due to advances in plant control systems and longer intervals between periods of regular maintenance and repair work as well as fewer occurrences of abnormal conditions during periods of stable production. Under these circumstances, we are adopting sensory safety training aiming at providing younger employees with the skills needed to become an effective workforce as early as possible based on the policy of recognizing danger through the sensory experience of failures, using accident case studies as lessons.



Feeling the power of water pressure

If you stand directly in front, you will take the full brunt of the water's force; if you move or turn a little to the side, you will feel less impact.



#### COLUMN



#### Initiatives by the Working Group for Studying Zero-Accident Targets

Akio Yagi Environment & Safety Department Chiba Works

Since accidents involving employees increased steadily during the period from fiscal 2001 to fiscal 2003, a working group was formed by the persons responsible for safety in all works with a view to arresting the trend. The working group has identified all safety issues within the Company and has developed specific action measures to address these problems. The group then implemented these measures in accordance with the related plan for fiscal 2004 through fiscal 2006.

#### Major problems identified and measures taken

(1) It appears that our corporate principle of "making safety top priority" has not been effectively disseminated to all of our employees.

**Measures taken:** We incorporated the safety principle into the Corporate Policy on Safety, Environment, and Product Quality in line with the President's intention. Meanwhile, we have produced a pocket-sized card on which the policy is printed, and have all employees carry it with them at all times.

(2) A number of accidents are occurring in places or situations that are not considered dangerous. It appears that employees are becoming less sensitive to danger.

**Measures taken:** We began conducting experiential and visual safety training while implementing re-training (four-round danger prediction, flash danger prediction, and re-confirmation danger prediction, etc.) to prevent danger forecasting activity from losing its efficacy.

(3) When analyzing the details of hiyari-hatto (pre-accident cases), violations of rules and standards such as corner cutting and omissions are notable. Some employees appear unaware of the existence of rules and standards. Measures taken: We conducted regular discussions on the background and necessity of rules and standards to enable every employee to recognize and understand them. We also carried out a patrol system for talking and asking questions to subordinates based on the corporate ladder system along with other activities, including daily confirmation of rules and understand understand in the standards to enable other activities including daily confirmation of rules and understand understand in the standards to the in observance.

#### (4) According to our research into accidents, in many cases the accidents were very similar to those occurring previously or at other works.

**Measures taken:** We made it a rule to compile the details of past accidents occurring at other works in a digital database available to all employees. We use this in our training for preventing the recurrence of accidents. Also, we have begun conducting experiential and visual safety training based on the knowledge obtained from past accidents. (See Column on P45.)

(5) It appears that employees do not sufficiently understand the details of their work as they often work alone. (We are often shocked to discover after an accident how an employee has behaved.)

**Measures taken:** We started to have the manager, supervisor or other workers observe the employee at work, identify and eliminate dangers not recognized by the employee, and take measures to remedy the situation.

We believe that each of these activities led to the decrease in the number of accidents in the period from fiscal 2004 to fiscal 2006.

### Initiatives to Address the Asbestos Problem

Because Sumitomo Chemical has been using materials containing asbestos at various locations, including production facilities and buildings at its plants, we are taking the following actions:

#### Buildings Constructed Using Materials Containing Asbestos

Sumitomo Chemical surveyed all its buildings to determine whether they had been constructed using materials containing asbestos. The asbestos in places found to contain it was removed, enclosed, or surrounded, in accordance with Ministry of Health, Labour and Welfare regulations for the prevention of asbestos-related diseases. All such work was completed by December 2005.

### Manufacturing Equipment that Uses Materials

#### **Containing Asbestos**

Some of our manufacturing equipment makes use of sealing and heat insulating materials that contain asbestos, and we are gradually replacing these materials with asbestosfree alternatives.

There is no danger of exposure to asbestos during the normal operation of this manufacturing equipment. If, however, there is a risk of dust being produced when handling these sealing and heat insulating materials, we take measures to prevent exposure, requiring persons handling the material to wear protective clothes, for example. (Sealing materials are unlikely to produce dust when handled normally, but will do so when, for example, they are cut. Under such circumstances, anti-exposure measures such as the wearing of protective garments therefore become necessary.)

#### Maintaining the Health of Former Employees

If former employees have handled materials containing asbestos while working at Sumitomo Chemical and so request, we will arrange for them to have a physical examination and will discuss their concerns with them, regardless of the degree to which they handled those materials. So far we have organized physical examinations for 1,313 people, eight of whom have been deemed eligible for workers' compensation insurance benefits under the Worker's Accident Compensation Insurance Law. Fifty-seven of them were issued a Health Check Note. Three persons have been deemed eligible for special bereaved family compensation under the Asbestos-Related Health Damage Relief Law (as of March 31, 2007).

Information on these physical examinations is provided on the Sumitomo Chemical website.

### **Disaster Prevention**

The foremost mission of disaster prevention management is to prevent unforeseen plant accidents by ensuring process safety and plant integrity, and plants must also be protected against natural disasters and terrorist attacks. Stringent risk assessments are therefore conducted, in addition to continuous safety improvement and comprehensive self-regulated safety management. In fiscal 2006, there were no major accidents.

#### **Process Safety Management**

In an effort to reduce environmental impact and achieve zero-accident and zero-injury operations, Sumitomo Chemical performs safety assessments at each stage of product development and commercialization, from new chemical process R&D through plant design, construction, operation, and maintenance, to dismantling.

#### 1) Examination of Process Safety

The Process Safety Review Committee convenes at every stage of the R&D and commercialization processes to oversee a system in which the safety of each stage is thoroughly verified before moving on to the next stage. The system is governed by the detailed in-house regulations, Process Development and Commercialization Regulations and Safety Management Guidelines, and operated by designating those in charge of the various R&D and commercialization stages. The system is employed both at Sumitomo Chemical and Group companies.

#### 2) R&D Safety Confirmation

At the R&D stage, safety data and other related data about the chemicals to be handled are examined and assessed in detail. These data are then used to select the safest chemicals and to assess the required amounts in order to ensure that the R&D will entail only fundamentally safe chemical processes. The construction materials for new chemical plants are also examined and evaluated to select the optimum materials with lower life cycle costs. Small and medium scale experiments are conducted to confirm that the developed processes are safe.

#### 3) Plant Safety Confirmation

While plant design and construction are based on legal technical standards, processes are additionally subjected to hazard assessment in order to highlight potential dangers and incorporate, from the standpoint of voluntary management, more stringent safety precautions into the design and construction processes.

Operational manuals are created and training is provided for operators according to the manuals. We also regularly conduct process hazard evaluations after the start of plant operations and any time there is a change in operating parameters in order to ensure plant safety.

#### **Plant Risk Management**

In order to prevent unforeseen accidents, we equip our plants with a range of sensors to detect process irregularities at an early stage during operation, and these sensors are continuously monitored by a process computer. Procedural manuals are prepared and operators undergo systematic training according to annual plans to ensure that appropriate actions are taken and the emergency services are contacted promptly in the event of an emergency. All Company plants are equipped with fire-fighting vehicles, fire-fighting pumps, fire hydrants, and fire extinguishing chemicals to provide first-response fire-fighting capability until emergency services arrive.

#### COLUMN



#### Introduction of Real-Time Analysis and Training Status (Ehime Works)

Takeshi Miyai Environment & Safety Department Ehime Works

Sumitomo Chemical became the first Japanese company to introduce SAFER System's Real-Time System in 2003. This system retrieves real-time weather observation data (wind direction, wind velocity, and temperature, etc.) for the plant premises, conducts simulations of the diffusion of targeted substances based on the obtained weather condition data, and then displays the diffusion conditions and forecasts on the map. We adopted this system for our emergency measures training, and have been verifying its effectiveness in enabling us to use the diffusion forecast displayed on the screen to promptly identify vulnerable facilities and areas so as to minimize the damage from chemical disasters. We will work to improve the system by, for example, retrieving gas detector information.



#### **Risk Management Program**

Sumitomo Chemical places the highest priority on the safety of all people, both in areas near our plants and those entering its premises, by examining accident-scenario risks for toxic substances handled at our existing plants in accordance with U.S. standards. In order to ensure the safety of employees working at plants, a new integrated production center was also constructed at the Ehime Works based on the concept of integrated disaster prevention, designed to cope with explosions and fires. The main accident scenario management software tool used at Company plants and research laboratories is TRACE, made by SAFER Systems in the United States. At the Ehime Works, weather data measured at points around the site are collected in real time and used to establish a framework to minimize the damage from any possible chemical accident. (See Column on P47.)

#### Advanced Self-Administered Safety Management

We have made a voluntary commitment to preserving the environment and ensuring even higher levels of safety. Management systems and support tools are provided and operated to protect the environment and to achieve zeroaccident and zero-disaster targets.

#### 1) Specialized Process Safety

Engineers (Process Safety Specialists) based in the Process & Production Technology Center and other areas throughout the Company specialize in process safety and disaster prevention for each field. These specialists participate in the Process Safety Review Committee and Safety Audits (Responsible Care Internal Audit) from a companywide perspective.

#### 2) Process Hazard Assessment Initiatives

To ensure that adequate process safety analysis is conducted, the following safety and disaster prevention guidelines are prepared and distributed internally and to each Group company. They are also distributed over the intranet. (1) Guidelines for applying disaster prevention assessment (2) Guidelines on safety precautions for static electricity (3) Guidelines on chemical compatibility

A database has also been created with safety data for individual substances and disaster prevention information required to implement process hazard assessments. This database allows for comprehensive access to information. (See P12 of the CSR Report 2007 Data Book for details.)

#### Self-Administered High-Pressure Gas Safety Management

Sumitomo Chemical has obtained Certified Safety Inspector and Certified Completion Inspector certification in accordance with the High-Pressure Gas Safety Law to ensure safe operations at its 47 sites. Since obtaining certification in 1987, the Chiba Works has continually renewed this certification to ensure the stable and continuous operation of its plants. These certifications are granted by the Minister of Economy, Trade and Industry to industrial sites with outstanding safety engineering and management upon the satisfaction of conditions stipulated by law. Such certifications allow self-administered safety inspections in addition to the inspections stipulated by law. The certification involves a prior audit by an inspection team (comprising academics and other experts) to assess the validity of daily safety inspection data and safety management systems. Sumitomo Chemical has received high evaluations in the course of each renewal audit.

#### Acquisition Status of Ministerial Certifications for High-Pressure Gas Safety Management

Works	Region	Date Certified	Sites Certified
Ehime Works	Niihama	September 2003	13
	Kikumoto	March 2003	7
Chiba Works	Anesaki	May 2004	11
	Sodegaura	May 2004	16

#### COLUMN



#### Integrated Disaster Prevention Training (Research Laboratory in Takarazuka Area)

Yoshiharu Matsumoto Manager, General Affairs, Environment, and Safety Agricultural Chemicals Research Laboratory

In the integrated disaster prevention training carried out every year, an indoor fire-hydrant operation drill was implemented in fiscal 2006. The drill included a fourman and a three-man operation conducted by the inhouse fire brigade under the instructions of firefighters from the fire department of Takarazuka City. We experienced the impact of water pressure through actual water spraying. After the drill, the following comment was made by a member of the fire department: "We expect all of you to acquire the fundamentals of firefighting. If you have fundamental knowledge, you can easily apply it to any conceivable situation."

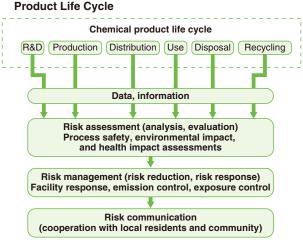
The Laboratory hopes that more staff will acquire fundamental fire fighting skills through the drills it will continue to offer in the future.



### Chemical Safety Activities

In 2002, the 10th anniversary of the 1992 U.N. Conference on Environment and Development, the World Summit on Sustainable Development (WSSD) was held in order to discuss a wide range of sustainable development issues, including problems relating to the environment and poverty. Regarding the chemical substances management in the Implementation Plan for Sustainable Development adopted at the Conference, nations are obliged to reconfirm their commitment to manage chemical substances and hazardous waste appropriately, as embodied in documents such as the U.N. Conference on Environment and Development's Agenda 21. It also aims to promote the adoption of risk assessments and management techniques to minimize, by 2020, the significant adverse effects on human health and the environment caused by the use and production of chemicals. This led to the development of the Strategic Approach to International Chemicals Management (SAICM), administered by the U.N. Environment Program (UNEP).

This process has resulted in the implementation of various initiatives to harmonize the management of chemicals



### • Management of Chemicals Throughout the

internationally. These initiatives include a Globally Harmonized System of Classification and Labeling of Chemicals (GHS), and safety inspections for existing chemicals.

These circumstances led to the establishment by the chemical industry of the Responsible Care Global Charter (RCGC). Sumitomo Chemical's top management has also signed the Declaration of CEO Support for the Global Charter, and, aiming at a sustainable development, the Company is implementing even more ambitious Responsible Care activities. We are also actively involved in the chemical industry's development of concrete policies for implementing the Global Charter.

#### Implementation of Surveys and Risk Assessments and Research on New Technologies Relevant to Chemical Safety Assessment

At Sumitomo Chemical, the Environmental Health Science Laboratory (EHSL) plays a central role in assessing the safety of the various products developed by the Sumitomo Chemical Group.

It conducts sophisticated research in diverse fields ranging from genetics to the global environment and ecosystem, making use of the latest scientific knowledge and advanced technologies, as well as the Company's knowhow and long experience in chemical safety assessments.

In addition, as the core laboratory supporting the technological aspects of Responsible Care activities for chemical safety, the EHSL provides each department of the Company with safety information and the results of risk assessments in order to ensure safety and protect the environment throughout the life cycle of chemical products, from development to use and disposal.

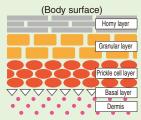
In fiscal 2006, the EHSL conducted surveys and risk assessments for 110 chemical products as a part of its Responsible Care activities. With a view to maintaining human health and preserving the environment and living organisms, we continued to work on assessments to verify the safety of gases and water emitted from the Company's plants. It also conducted the assessment of chemical sub-

#### COLUMN

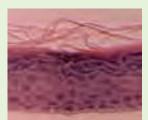
#### Alternative Method: Launched the Research and Development of Skin Irritation Testing Methods

Upon contact, some chemical substances cause adverse skin reactions such as redness and swelling. These skin responses are called irritations; serious responses that penetrate to the dermis and leave marks. In order to protect workers from substances that cause irritation, it is necessary to understand the level of toxicity to the skin before handling chemical substances in manufacturing plants.

The skin is a complicated organ that has various functions, including protecting the body from viruses and regulating body temperature. Recently, artificial cultured skin with a structure quite similar to actual human skin has become available for research purposes. Sumitomo Chemical has begun studying the use of this cultured skin to assess the irritation to the skin.



Skin structure



Cultured skin

stances handled by the Company and newly developed products to ensure the safety of workers and consumers. Furthermore, the laboratory introduced advanced simulation models to further improve the accuracy and precision of exposure assessment. In relation to these risk assessment efforts, 340 tests for initial evaluation relating to human health, such as irritation, sensitization and AMES tests, were conducted. The EHSL is also implementing the Challenge Program launched in fiscal 2005 with the aim of improving safety information. Planning is currently under way to improve and expand the database where such information is stored.

In addition, the EHSL is working continuously on the research and development of safety assessment techniques. For example, with the aim of improving the speed and precision of our assessments, we conducted research and development into alternative methods for skin irritation tests, and implemented a new testing method for the respiratory sensitization test. (See Columns on P49 and P50.)

#### Enhancement and Proper Management of Safety Information for Chemical Substances

At a time when various regulations and voluntary activities are moving toward being established on a risk assessment basis, the enhancement of information on the safety of chemical substances is urgently required. Sumitomo Chemical took the lead in launching its Challenge Program in fiscal 2005, and initiated a radical review of the companywide database aiming for the more effective management and utilization of the collected safety information. While utilizing the company-wide database CHEM-SAFE2 (Chemical Substances Safety Database System), the Company will enhance the system to ensure stricter implementation of proper chemical substance management.

Furthermore, we are conducting appropriate chemicalrelated risk assessments in various fields and working to improve the quality of our risk assessments using the Chemical Safety Assessment System developed by the EHSL.

# Contributions to Voluntary Domestic and Overseas Initiatives

#### 1) Participation in the High Production Volume (HPV) Program

Sumitomo Chemical plays a leading role in compiling reports on some of the chemicals covered in the voluntary HPV program of the International Council of Chemical Associations (ICCA), which involves gathering essential safety data and conducting hazard assessments. We also provide data on other chemicals that the Company handles, both as a member of the industry and as a sponsor of the program.

Furthermore, we are also involved with the Japan Challenge Program, in which industry, in tandem with the central government, collects safety information on existing chemical substances and disseminates it to the public. Our active involvement goes further than just sponsorship; we also participate in data-entry trials to create templates for organizing the data collected, for example.

#### 2) Participation in and Support for the LRI (Long-Range Research Initiative)

We are also active participants in, and are providing continuous support for, the Long-Range Research Initiative, which, like the HPV program, was initiated by the ICCA. This initiative is being implemented on a voluntary basis by chemical industry associations in Japan, the United States and Europe, and promotes long-term research into the impact of chemicals on human health and the environment.

#### COLUMN

#### New Testing Method: Launched Research and Development of Respiratory Sensitization Test

Respiratory sensitization is an allergenic response that occurs in the airway (from the nose to the lungs). Common symptoms often are rhinitis (nasal inflammation) and asthma, and especially severe asthma is life-threatening. When handling a chemical substance, it is essential that workers understand whether the substance causes an allergenic response in the airway. At present, however, we have no validated testing system to assess the respiratory sensitization potential of chemicals, and are currently at the stage where various research groups are proposing a diverse variety of testing methods.

Sumitomo Chemical also considers it important for the safety of workers to detect respiratory sensitizing substances and has launched the development of a respiratory sensitization testing method. Now, we are evaluating the indicators, which are the antibody titer in the blood, and the allergenic response in their lungs (for example, changes in the number of cells and the concentration of cytokines in the bronchoalve-olar lavage fluid) of animals sensitized with the human respira-

tory sensitizing substances. The respiratory sensitizing substance changes the antibody titer in the blood and the concentration of cytokines in the bronchoalveolar lavage fluid. In addition, the respiratory sensitizing substance is said to cause changes in the respiratory function. We are planning to add the measurement of respiratory function to our development of a respiratory sensitization testing method and assess this system with a good number of chemical substances.

In the future, we hope we will be able to detect a respiratory sensitizing substance using cultured cells. To this end, we will conduct parallel research and development of the *in vitro* method.



Cells in the bronchoalveolar lavage fluid

### Safety in Logistics Operations

Based on Sumitomo Chemical's policy of "Making Safety Top Priority," the Logistics Division has formulated its division policies: the "Policy for Responsible Care Activities" and the "Policy for Product Quality Control." The division as a whole, including logistics companies we work with, is engaged in activities relating to safety and the environment as well as quality control.

#### Safety Measures during Transport

To prevent accidents during transport, we notify shipping companies within the Group of the relevant laws and regulations using a dedicated database, and work to promote adherence to all applicable transportation safety rules and standards.

In addition, we also provide guidance and support to shipping companies to enable them to take measures that ensure safe transportation, such as obtaining the certification of Trucking Company Demonstrating Outstanding Safety from the Japan Trucking Association. Nevertheless, tanker drivers must have the knowledge and skills for safe and secure cargo handling of hazardous substances, in addition to safe driving skills for heavy vehicles. While a generational change is taking place among crewmen, Sumika Logistics Co., Ltd., a company responsible for the management of companies cooperating in transportation, opened their in-house skill development course in order to train their staffs to develop knowledge and skills.

Sumitomo Chemical is establishing a nationwide rescue system, cooperating with plants and logistics companies in order to facilitate rapid response in the event of a transport accident. We also implement emergency response drills in which shipping companies participate, and provide drivers with thorough instruction in carrying Yellow Cards, which outline the necessary procedures for emergency response.



Facility for practicing skills learned in the course

#### **Environmental Initiatives in Transport**

We have long been developing logistics systems to further reduce environmental impact, for example, by promoting a modal shift to rail and vessel shipping, which exert relatively low environmental impact by improving logistics efficiency through the use of larger containers. In addition, Sumitomo Chemical created a new system in fiscal 2006 to determine the amount of energy consumed by the logistics sector as a specified consigner under the amended Law Concerning the Rational Use of Energy. We will promote energy-conservation initiatives to decrease environmental impact, targeting an average 1% reduction in the annual unit energy consumption, using fiscal 2006 as the base year. The performance of the domestic logistics sector in fiscal 2006 is given in the table below.

(For the yearly trend of  $CO_2$  emissions, see p.11 of the CSR Report 2007 Data Book.)

	Performance in Fiscal 2006
Unit energy consumption	39,000 kl (crude oil conversion)
Unit energy consumption	0.013 kl/t

#### **Enhancing Logistics Quality Assurance**

Sumika Logistics (West) and Sumika Logistics (East) obtained ISO 9001 certification in June 2001 and June 2002 respectively. In addition, Sumitomo Chemical provides guidance and support for quality assurance activities at logistics companies through Responsible Care and quality-control audits.

#### Activities of Sumitomo Chemical's Logistics Partnership Council

Sumitomo Chemical has established the Sumitomo Chemical Logistics Partnership Council with major domestic shipping companies nationwide as its members. It helps its members tackle logistics-related problems in the areas of safety, the environment, and quality by enabling them to share their expertise and encouraging them to improve their management.

#### COLUMN

#### Conserving Energy and Reducing Environmental Impact through Cross-Company Use of Returnable Containers

Sumitomo Chemical, Lintec Corporation, and Okura Industrial Co., Ltd. jointly produce optical functional films used for liquid crystal displays (LCDs) These companies have recently adopted returnable containers for common use to transport their half-finished products. This not only increases the freight efficiency of trucks but also reduces unnecessary packaging materials. As a result, CO<sub>2</sub> emissions have been reduced by 50%. Sumitomo Chemical, the above two companies and three other logistics companies, including Sumika Logistics Co., Ltd., jointly proposed this initiative for the Green Logistics Partnership Promotion Project implemented by the Ministry of Economy, Trade and Industry. This proposal was also adopted as a FY2007 Model Project.



Conventional packaging materials (left) and newly adopted returnable container (right)

# **Product Quality Assurance Initiatives**

Sumitomo Chemical strives to provide quality products and services that maintain customer satisfaction and peace of mind as top priorities under the Company's Basic Policy on Safety, the Environment, and Product Quality.

### **Our Quality Assurance Activities**

Sumitomo Chemical's quality assurance activities are based on a company-wide quality assurance policy for the fiscal year, which is discussed and approved by the Responsible Care Committee each year. Based on this policy, each business sector, plant, research division, and Procurement & Logistics Office formulates and executes its own quality assurance plan for the fiscal year. In addition, the quality committee at each site and the quality control group for each business sector work to improve the level of quality assurance by following the PDCA cycle for quality assurance.

Sumitomo Chemical promotes its quality assurance activities on the basis of "improvement" and "maintenance & control." Improvement and maintenance & control may, at a glance, appear to present opposing goals, but the results of the improvements are, in effect, generated at the stage of maintaining and controlling such improvements. We therefore recognize that both are essential components of our quality assurance activities, and are actively implementing these in tandem.

First, improvement is our source of both competitiveness and differentiation from other companies. In order to make the most of the results of improvement, it is essential to continue optimum maintenance and control. In-house quality audits and product liability (PL) audits are conducted to check that all employees are implementing quality assurance activities by strictly observing rules, including those that have been newly decided, in their daily production and sales activities.

We are leading a series of related activities to further improve product safety and work quality as well as to maintain and control the results at a higher level, thus enhancing these activities. We also strive to enlighten our employees on a day-to-day basis to make them aware of the fact that such maintenance and control is key to gaining the trust and higher evaluation of customers, and promote quality assurance activities that will cause customers to regard us as a quality-first company.

#### Strengthening Risk Management and Promoting Measures to Prevent Major Quality Problems

In order to prevent the occurrence of major quality problems, it is imperative to take action at an early stage to minimize possible risks or eliminate them entirely by further strengthening risk management. Sumitomo Chemical has long been implementing thorough quality risk management measures to identify potential product risks and reinforce preventive measures.

Today, however, the number of products used in advanced technological fields is increasing, and there are cases where we cannot foresee the effect of certain quality characteristics on the function of the products, which means that sometimes problems are only identified after the products have actually been used. To address such quality risks, Sumitomo Chemical has formulated basic measures to prevent major quality problems, and is implementing various preventive measures.

#### 1) Implementation of Guidelines for Preventing Major Quality Problems

We have been implementing the Guidelines for Preventing Major Quality Problems since September 2006. These guidelines comprise the necessary measures that exist at the design, manufacturing, inspection, packaging, storing, transportation and distribution stages in terms of preventing major quality problems. These are entered into a computer database together with quality assurance case studies from inside and outside the Company. The database is open to the departments concerned. By using this system, we endeavor to prevent major quality problems before they occur at all phases, from development to the sale of products.

#### 2) Implementation of Procedures for Managing Major Quality Problems

We reviewed the existing internal methods of managing the occurrence of major quality problems, and formulated the Procedures for Managing Major Quality Problems in March 2005. These define the basic items to enable the entire organization to accurately and promptly address major quality problems in the event that they occur, and further clarify operational procedures for effective response.

Through the thorough application of these procedures, we work to respond quickly and appropriately to quality problems faced by our customers, so that the problems in question will not harm the reputation of the Company's overall quality assurance system.

#### 3) Product Evaluation Technology that Stays Abreast of Advances in Product Development Technology

Even with a fully functioning quality control system in place, unforeseen problems may still occur with products that incorporate cutting-edge technology surpassing that of our competitors, owing to our lack of sufficient past experience with such products. In order to win the trust of customers, our quality evaluation technology must also be cuttingedge. To meet this challenge, Sumitomo Chemical takes a long-range perspective in its daily efforts toward realizing evaluation technology that stays abreast of advances in product development technology.

#### Soliciting and Posting a Slogan for Company-Wide Quality Assurance

We started strengthening our quality assurance activities by asking all our employees to submit suggestions for a slogan to define Sumitomo Chemical's fiscal 2005 quality assurance activities, with the aim of providing high-quality products and services to our customers. Fiscal 2006 marks the second year of this activity, and the number of slogans submitted was 1.6 times that of the previous fiscal year, indicating that employees' awareness of quality is on the rise.

The winning slogan was "Your awareness affects product quality—seemingly inconspicuous but evident to others," and this has been made into a poster that is now on display at all the Company's plants and other production sites. The slogan, along with five runner-up slogans, is also posted on the Company intranet. By displaying these slogans, we hope to raise awareness of the importance of quality assurance.



#### **Efforts for Ensuring Customer Satisfaction**

With the goal of achieving improved customer satisfaction, Sumitomo Chemical switched to a computerized product quality information management system in 2002 to handle customer complaints and requests in a more timely and reliable manner. This system enabled us to reflect feedback about our products from customers more accurately and effectively in our quality assurance activities.

Each business sector organizes and analyzes the data in the system and takes action to prevent the recurrence of problems for each individual product. In addition, complaints or suggestions for improvement from customers regarding product quality are shared among our production, research, and sales departments for use as basic data for providing systematic responses. In fiscal 2005, under our quality assurance slogan, "Ignoring information on quality will lead to customer complaints, so actively respond to it," we encouraged everyone in the Company to be more diligent in utilizing information on quality from our customers.

In fiscal 2006, we further promoted our efforts to use and share information on quality.



Status display screen on the product quality information management system (example)

#### **Quality Award Program Launched**

Sumitomo Chemical has established an in-house quality award program to recognize organizations that contribute to raising product quality. It aims to further invigorate quality assurance activities by recognizing in-house quality assurance activities where solutions to quality-related requests from customers are devised or product quality is raised through efforts to improve quality evaluation technology.

For the inaugural quality awards in fiscal 2006, one outstanding quality prize, four excellent quality prizes and five quality prizes were awarded. This initiative is posted in the in-house magazine to inform all employees of our active quality assurance activities.



Anti-Contamination Promotion Project Team (Osaka Works)—Winner of the President's Quality Award

#### Initiatives to Ensure the Safety of Pharmaceuticals

Sumitomo Chemical produces active pharmaceutical ingredients and pharmaceutical intermediates for both domestic and overseas markets. These products are manufactured under strict management in compliance with domestic and overseas Good Manufacturing Practice (GMP)\* requirements, while day-to-day efforts to maintain and improve management standards are promoted. We have received praise for our excellent management and controls from customers and in GMP surveys.

As part of our voluntary Responsible Care activities, we conduct periodic GMP Internal Quality Audits of our plants, as stipulated in our corporate rules. These not only allow us to verify the adequacy of our GMP management and controls, but also help us further enhance our level of management.

Sumitomo Chemical will continue to enhance its quality assurance initiatives in order to earn the trust of its customers by providing high-quality, safe pharmaceutical chemicals.

\* GMP: Standards for the manufacturing management and quality control of pharmaceuticals, etc. (cGMP in the United States)

#### **Product Safety Initiatives**

Ensuring the safety of the products we provide to customers is one of the Company's top priorities and an essential part of our CSR.

Our basic principle of making safety top priority also applies to the safety of the people who actually handle and use our products.

Even before the enactment of the Product Liability Law, Sumitomo Chemical recognized the importance of product safety activities, not least in terms of maintaining customer trust, and has promoted systematically implementing measures to ensure product safety in all corporate activities, including product development, production, sales, and after-sales service. Specifically, we emphasize the following measures:

- Maintaining up-to-date Company regulations that ensure systematic implementation of product safety activities
- Education that communicates the importance of product safety activities and how to carry out such activities
- Providing customers with product manuals, warning labels, and MSDS to ensure the safe handling of products
- Risk assessments and reduction measures for new products, taking into consideration the impact on human health and the environment as well as accident prevention
- Quality controls sufficient to ensure safety
- · Participation in the industry's product safety activities

Accurate assessment of product safety and the implementation of reliable risk-reduction measures require the most advanced technology and extensive experience as well as a company-wide framework. Sumitomo Chemical has the highly advanced technology and experience required for a wide range of tests and analyses, including testing on health effects, environmental impact, safety engineering-related property, application-related quality and functions, and trace constituent analysis. These tests enable us to ensure highly reliable safety assessments and risk reduction measures.

# Responding to International Regulations for Chemical Substances

Today, the setting of international standards for the assessment of chemical product safety and the communication of such information is becoming an increasingly important issue, with every country amending its relevant laws. For example, when exporting a chemical product to EU nations, companies are required under newly developed EU legislation—the so-called REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulation—to assess the safety of the product under their own initiative and register the results with the European Chemicals Agency in order to be granted permission for import and use within the EU.

Information sheets such as Material Safety Data Sheets (MSDS) describing the safety data of the product and warning labels are currently regarded as part of the product. In the future, we will be required to indicate this information according to international standards such as the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

As such international regulations for chemical substances spread, the GHS has also been adopted in Japan. Sumitomo Chemical has taken the lead in cooperating to promote the introduction of the GHS to the chemical industry in Japan by participating in the development of the Japanese Industrial Standards (JIS) for MSDS and warning labels that meet the requirements of the GHS as well as involvement in the drafting of the Japan Chemical Industry Association's guidelines to meet the GHS requirements.

In order to create MSDS and warning labels that meet the GHS requirements, it is necessary to collect reliable safety data from the Company's tests and literature search and evaluate them on the basis of advanced knowledge and accumulated experience.

We therefore produce MSDS and warning labels using highly reliable data obtained from the Process & Production Technology Center and the Environmental Health Science Laboratory, which have abundant insight, the latest technical knowledge and state-of-the-art technologies.

#### COLUMN

#### Measuring Levels of Quality Assurance Professionalism to Improve Quality Assurance Skills

The Ehime Works assesses each employee's abilities regarding quality, and strives to maintain and enhance these abilities, aiming to nurture "quality assurance professionals." Specifically, assessments are conducted for knowledge concerning, for example, the use of products, post-processes, production quality control, the ISO 19001:2000 Quality Management System, and product safety. Employees undergo self-assessment and assessment by management personnel on their abilities every six months. If an employee's score fails to reach the target or suffers a substantial decline, a plan for maintaining and improving his/her ability level will be prepared and implemented.

#### **Green Procurement Activities**

Green procurement forms a part of the activities employed to address health, safety, and environment-related issues of customers who use, and persons who handle, our products. Sumitomo Chemical manages raw materials and production processes to verify the safety and legal compliance of its products and provide customers with the information they require. For this purpose, it is necessary for us to exchange information with customers and manufacturers of raw materials while promoting green procurement through mutual cooperation. We have therefore established a Green Procurement Policy.

#### Sumitomo Chemical's Green Procurement Policy

- 1. Aim to prevent problems related to accidents, health, and the environment with regard to customers and other persons handling our products ("customers" below), support the management conducted in compliance with all laws and regulations by customers, and support the promotion of waste reduction and recycling.
- 2. Cooperate with green procurement policies of customers and raw material suppliers, and consult together on countermeasures for any problems that may arise.
- 3. Define comprehensive work responsibilities and promote them systematically throughout the company, regularly report the status of activities to the Responsible Care Committee, and take corrective action
- 4. Formulate corporate criteria for implementation procedures for the following items, and take appropriate action for each risk:
  - (1) Selection of controlled substances; formulation of management criteria
  - Manage controlled substances according to their levels of risk by taking into consideration related laws and regulations, related industry criteria, and customer criteria.
  - (2) Product design Take into consideration "the avoidance or limitation of the use of controlled substances," "easier recycling," and "compliance with laws," from the design phase of the product onward.
  - (3) Raw materials management Verify the management system of raw materials suppliers, and request the solution of problems.
  - (4) Production process management Control prevention of contamination by controlled substances.
  - (5) Observe menerate and any configuration by controlled substances.
  - (5) Change management and non-conformance management Verify that no controlled substances increase in quantity upon any change in a process. If a non-conforming product is generated, take action to prevent it from leaving the Company and implement measures to prevent recurrence.
  - (6) Verification of the quantity of controlled substances contained Adopt a comprehensive verification procedure according to the degree of risk of managed substances that may be contained.
  - (7) Assurance method

Observe all relevant laws and regulations, and meet all industry or customer criteria. If necessary, discuss issues in good faith and take active measures to meet said regulations or criteria.

(8) Procedures for providing information Provide customers with information on green procurement, and, as a general rule, do so in a common standard format recommended by related governmental agencies and related industries.

#### COLUMN



#### Measures for the Prevention of Major Problems Using the "BCD for Foreign Matter"

Hideharu Sone No.1 Manufacturing Department Osaka Works

The Osaka Works has been carrying out TPM activities<sup>\*1</sup> since 1996. As part of our autonomous maintenance activities, we strive for zero process failures<sup>\*2</sup>. We have further stepped up a procedure known as the Comprehensive BCD (Batch-process Control Diagram)<sup>\*3</sup>, which was developed in our efforts toward zero process failures. We have designed the BCD for Foreign Matter specifically to target foreign matter to prevent the occurrence of major quality problems. This BCD for Foreign Matter covers various items including: (1) the basic principles of the facilities; (2) detailed diagrams; (3) the quality of materials; and (4) problematic cases in the past and potential problems. It has been working successfully as a tool for easily identifying places where foreign matter occurs. Furthermore, work for preparing the BCD for Foreign Matter has led to an improvement in the skills of operators to prevent the occurrence of foreign matter.

- \*1 TPM (Total Productive Maintenance): Activity involving all employees to realize the optimum conditions for sites and equipment based on the autonomous maintenance of facilities.
- \*2 Process failure: Trouble in the production process is differentiated from machine failure.
- \*3 BCD (Batch-process Control Diagram): A collection of production skill keys that indicate items such as production management points for products and problematic cases in the past, together with a process flow sheet for easy understanding.

# **CSR Procurement Initiatives**

CSR procurement is a new concept that requires business partners from whom Sumitomo Chemical purchases raw materials and packaging materials (collectively "raw materials") to implement CSR, and companies thus implementing CSR activities receive priority in terms of purchasing. As the Company develops its business globally, it is encouraging its Group companies both in Japan and overseas to implement CSR procurement with the aim of globalizing this practice.

### **Toward Global CSR Procurement**

In recent years, raw materials are increasingly being imported from China, India and Southeast Asia.

Sumitomo Chemical designated fiscal 2006 a trial period for global CSR procurement. In fiscal 2007, the Company will start specific initiatives for the development of CSR procurement, and will subsequently extend this to overseas Group companies.

To achieve this, the CSR Procurement Working Group (the Secretariat of the Provisional CSR Promotion Coordinating Board, Raw Materials Group, and Machinery & Equipment Group) discussed how to promote global CSR procurement three times during fiscal 2006, in August, October, and December. As a result, it was decided that global CSR procurement for raw materials be incorporated into the Corporate Rules.

#### Conducting Trial Research of Potential Overseas Business Partners

In fiscal 2006, Sumitomo Chemical augmented the checklist for company visits related to the CSR of business partners, and conducted trial research of potential overseas business partners' CSR implementation status. The companies targeted for research were seven Chinese companies that are business partners for raw materials, and seven companies from China, Southeast Asian countries, and Saudi Arabia that are business partners for packaging materials.

#### Incorporation into Our Corporate Business Plan

We plan to develop CSR and CSR procurement within Sumitomo Chemical in fiscal 2007 and extend this to domestic Group companies in fiscal 2008, and to overseas Group companies in fiscal 2009.

#### **Global Meeting Held**

We held a global meeting on raw materials at Sumitomo Chemical's Tokyo Head Office in February 2007. At the meeting, the Company explained its CSR initiatives and the concept of CSR procurement to the purchasing sectors of five overseas Group companies (including those in charge of sourcing suppliers), and requested their cooperation going forward.

#### **Toward the Implementation of CSR Procurement**

With the introduction of CSR procurement, Sumitomo Chemical has, since March 2007, developed various rules, including purchasing rules, an amendment of the Raw Material Purchasing Operation Rules and the CSR Procurement Implementation Guidelines.

#### Fundamental Principles of Sumitomo Chemical's Procurement Activities

Sumitomo Chemical adheres to the following fundamental principles in its procurement activities:

- Strive to create new business opportunities while transacting business based on fair and free competition
- When selecting a company to order from, base the decision on a comprehensive consideration of the potential business partner's product quality, price, stability of supply, technical development capabilities, and impact on the environment
- Work toward mutual development through sound transactions and deepen mutual understanding with business partners
- In procurement activities, observe all relevant laws and the spirit of such laws, and maintain strict confidentiality with regard to the partner's operational and technological secrets

#### COLUMN

#### The Global Meeting on Raw Materials

In February 2007 at the Sumitomo Chemical Tokyo Head Office, we exchanged views on CSR procurement with the overseas procurement staff of Sumitomo Chemical Group companies. Participants pointed out the need to consider the circumstances of each country, including their labor and human rights conditions. At the meeting, a consensus was reached to target originality in the global CSR procurement initiatives to be implemented.



Procurement staff from Japan, China, India, and Singapore

# **Social Activities**

As a member of society, Sumitomo Chemical strives to enhance its relationships with local communities and employees.



# Hand in Hand with Employees

Sumitomo Chemical is working to create a workplace environment in which individual employees can make the most of their motivation and skills, and to eliminate discrimination from every aspect of corporate activity, in the spirit of the U.N. Global Compact.

### **Key Human Resource Objectives**

As its business expands globally, Sumitomo Chemical has set out three priority human resource objectives: 1) to appoint competent personnel to appropriate positions; 2) to operate in an increasingly global business world; and 3) to utilize a diverse workforce suited to a wide range of operations, so that employees can make the best use of their abilities in their work and enjoy a sense of purpose and satisfaction.

#### 1) Appointing Competent Personnel to Appropriate Positions

Employee placement is reviewed comprehensively to ensure that employees are engaged in work to which they are most ideally suited. In addition to accurately identifying the aptitude of each employee, the Company is making institutional improvements so that employees are assigned to those areas in which they demonstrate the most aptitude, enabling them to perform their duties with enthusiasm and to enjoy a sense of purpose and satisfaction in their work and lives, with the result that they enhance the vigor of the Company as a whole.

#### 2) Operating in an Increasingly Global Business World

In today's increasingly global business world, Sumitomo Chemical now has 43 overseas affiliates, with a total overseas workforce of approximately 7,000 persons, a figure greater than the non-consolidated Sumitomo Chemical's own total workforce (5,703 employees as of March 31, 2007). As the Company pursues large-scale overseas projects such as the Rabigh Project, the number of employees working overseas is destined to increase further, as will the percentage of foreign nationals employed by the Company. Sumitomo Chemical is also endeavoring to hire and train personnel capable of playing an active role on the international stage as it confronts its human resources needs stemming from the globalization of its business operations.

#### 3) Utilizing a Diverse Workforce Suited to Operations

The Company's philosophy regarding workforce utilization is to ensure the optimum combination of an ideally suited, diverse workforce and work methods appropriate to the operations of the business or organization. Sumitomo Chemical endeavors to secure, utilize and train its workforce in a planned manner that will enable it to respond flexibly to future business expansions, as well as the need to hand down its technology to future generations.



Global leader training

### Fiscal 2006 Efforts

#### **Implementation of Training Rotations**

Since 2004, the Company has been carrying out systematic training rotations of younger employees to ensure future placement of individuals in positions for which they are best suited. In certain juncture years (administrative employees: 4th, 7th, and 11th years with the Company; engineers: 5th, 9th, and 12th years with the Company), employees rotate positions in a range of fields, including overseas assignment postings, to enable them to gain broader experience in a variety of fields; the wishes of the employees themselves and their competency (ability to produce results) are taken into account in these rotations. To date, 133 employees (31 employees in fiscal 2006) have undergone training rotation.

#### **Creation and Strengthening of Global Human**

#### **Resources System**

In promoting global business development, Sumitomo Chemical has been promoting an initiative to create and strengthen a human resources system for the entire Sumitomo Chemical Group, including overseas Group companies. Thus far, the Company has established its Global Leader HR Values, which enumerates the values and norms it expects leaders throughout the Sumitomo Chemical Group to share, and has held training programs for future leaders (Global Leader Training and Leader Training). In fiscal 2006, the Company devised an Employee Evaluation System for leaders both in Japan and overseas. This Employee Evaluation System evaluates employees' competencies and behavioral processes in the execution of their duties, as well as their job achievements.

In addition to ensuring the effective application of these measures, we will continue to create systems for appointing competent personnel to appropriate positions both in Japan and overseas.

#### Strengthening of Systematic and Focused Human Resources Development

At Sumitomo Chemical, the HR Development Team was launched in October 2006 to promote human resources development in a more efficient and effective manner. This team has played a core role in the achievement of human resources development targets, such as the development of human resources required for global business expansion; the systematic development of global leaders; promotion of the smooth transfer of techniques and skills for supporting business; and the acquisition and developmental support of role-based knowledge, skills and competency by all levels of employees. The Team has since continued to promote the systematic and focused development of these measures.

#### Introduction of Retiree Re-Employment Program

In 2001, Sumitomo Chemical began a re-employment program for retirees, and in April 2006 introduced a new reemployment program in conformity with the Revised Law for the Stabilization of the Employment of Seniors. In fiscal 2006, 97 (61%) out of 158 retirees were re-employed. They are once again offering the Company the high level of skills and expertise they have cultivated over many years in their workplaces.

#### Number of Re-Employed Retirees on Payroll

End of March 2004	End of March 2005	End of March 2006	End of March 2007 (After introduction of re-employment program)
33 persons	48 persons	48 persons	125 persons

#### COLUMN



#### Transmitting Knowledge and Skills Developed Over the Course of a Career

Nobuhito Goto Power & Utilities Department Chiba Works

I have been continuously engaged in maintenance- and technical-related work at power stations during the 40 years since I joined the Company. I retired in July 2006, but filed an application to enter a re-employment program out of my desire to transfer the knowledge and skills I have developed over the course of my career to younger people. Now, I conduct training for young plant operators on the basic principles of the facilities and how to deal with problems. With a sense of mission that I must pass my techniques and skills down to the younger generation, I am fully devoting myself to preparing training materials, which I could not do during my working career because I had no such time to spare. Even now that I am retired, I am grateful to have been given a place to utilize the expertise and experience I have cultivated over my long years with the Company. I also get a sense of satisfaction when I overhear young people say, "I want to become an expert on power service facilities just like Mr. Goto." It makes me feel that I'm doing something worthwhile, and I put even more energy into the training.



A scene from training

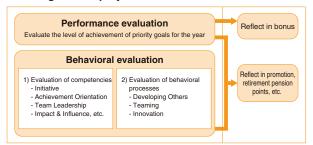
### Human Resources Programs

Sumitomo Chemical is reviewing its human resources system with the aim of developing a framework that enhances the morale and motivation of employees.

#### Introduction of a New Employee Evaluation System for Managerial Employees

We reviewed the Employee Evaluation System for managerial employees, and in April 2007, introduced a new system that evaluates not only their job achievements but also their competencies and behavioral processes in the execution of their duties. The same Employee Evaluation System

#### Flow of the New Employee Evaluation System for Managerial Employees



# Creating an Attractive Workplace Environment

#### **Reduction of Designated Working Hours**

Beginning in April 2006, Sumitomo Chemical started reducing working hours by 64 hours per year for daytime workers (1,952 hours to approximately 1,888 hours), and 35 hours per year for shift workers (1,918 hours to 1,883 hours). In order to improve the labor productivity necessary to realize this reduction in working hours, the Company has introduced specific measures including the designation by individual facilities and workplaces of one day each week on which employees may leave work early (Refreshment Day).

In addition to coping with the recent changes in the work environment, the Company uniformly increased the number of annual paid leave days beginning in April 2007 to a total of 20 days from an employee's first year with the Company in order to provide them with incentives from the start of their career with Sumitomo Chemical.

# Employee Assistance Programs for Childcare and Nursing Care

Sumitomo Chemical has further improved its employee assistance programs since April 2007 to enable employees with childcare or nursing care duties to strike a balance between their work and household responsibilities.

In addition to these systems, we will also consider the expansion of the childcare support system, including the establishment of childcare facilities, and the introduction of a re-employment system for employees who have left their jobs for reasons of childbearing and childcare.

has been introduced for global positions at overseas Group companies as we promote the global expansion of our business operations.

#### Reviewing the Human Resources System for Non-managerial Employees

In order to cope with changes in the business climate surrounding Sumitomo Chemical as well as changes in the working environment, workers and managers jointly launched a study group in November 2006 to discuss the future development of the HR system for non-managerial employees. It will study the specific content of the HR system aiming to introduce a system that emphasizes the fair and proper treatment of willing and able employees who can take on challenges and make efforts to contribute to the Company, regardless of age or length of employment.

In July 2007, we shifted the HR system to a role-based grade system, and introduced a new Employee Evaluation System in October. Under the new system, as with the system for managerial employees, non-managerial employees will be evaluated in terms of their competencies and behavioral processes in carrying out their responsibilities. The evaluation criteria will also include ensuring thorough compliance and environmental, safety and quality contributions in CSR initiatives.

#### Employee Assistance Programs Usage

	FY 2004	FY 2005	FY 2006
Childcare Leave and	50	51	48
Nursing Care Leave	employees	employees	employees
Measures for Shorter	4	7	12
Working Hours	employees	employees	employees
Limited Overtime and Exemption from Late-night Work	0 employees	0 employees	0 employees
Accumulation of Lost	7	8	10
Vacation Days	employees	employees	employees

#### Developments from Fiscal 2007

Item	Before Change	After Change
Childcare Leave and Nursing Care Leave	Up to 18 months for a designated reason	Up to 18 months regardless of reason
Age of Child(ren) for whom Parent is Eligible for Shorter Work Time System*	Up to the beginning of elementary school	Up to the 3rd grade of elementary school
Half-Day Paid Leave System	Not applicable to employees using the flex-time system without core time	Extended to cover employees using the flex-time system without core time if for reasons of childcare or nursing care
Maternity Leave	No system established	Available once a month, on the condition that the petitioner receives a health check (paid leave)

\* Measures to shorten working hours by up to three hours per day for employees who drop off and pick up their children at childcare facilities, or for employees who are providing care for family members

#### **Employment of the Physically Challenged**

Sumitomo Chemical is actively employing physically challenged persons to enable them to participate more fully in society and develop their skills. When assigning physically challenged persons to workplaces, the Company devises work duties in accordance with the particular situations of individuals and their degrees of disability, and makes the necessary adjustments to the workplace environment (e.g., the addition of wheelchair ramps) to ensure that physically challenged persons can fully exercise their abilities.

#### Employment of Physically Challenged Individuals

Fiscal year	2002	2003	2004	2005	2006
Employment rate	1.99%	2.08%	1.93%	1.85%	1.89%

#### **Mental Health**

In order to promote employee health management, Sumitomo Chemical is conducting mental health care under

### Employee Training Programs

Sumitomo Chemical has been offering a range of human resource development programs to train world-class professional personnel who can contribute to enabling Sumitomo Chemical to reach new heights as a global company, and to enable motivated personnel to utilize their skills to their full potential.

#### Enhanced Human Resources Programs

In October 2006, the Company established its HR Development Team to promote efficient and effective human resources development, and has formulated new

#### HR Development Program

Knowledge/skills	Basic Course
	Primary Course
	Specialist knowledge training (legal affairs, intellectual property, quality control, etc.)
Succession of techniques and skills	Specialist technical training
Competency	Competency Development Training
Support for	TOEIC test
globalization	English Conversation Training by priority level
	Basic training in overseas business skills
	Global Communication Skill Training
	Overseas assignment/studying abroad (MBA)
	Global Trainee Program
Early cultivation of global leaders	Global Leader Training
giobal leaders	Leadership Training
Others	CSR Training
	Life Design Training

its comprehensive Sumika Health Improvement Plan (SHIP) for the body and mind. In fiscal 2006, it implemented stress diagnosis for all employees using external specialist institutions, and will take other measures such as strengthening its in-house counseling system.

#### **Protection of Human Rights**

Sumitomo Chemical has been promoting various initiatives, mainly training programs, so that each employee will have a proper understanding of human rights issues and behave in a responsible manner.

Sumitomo Chemical has undertaken company-wide efforts to prevent sexual harassment and similar behavior. These entail not simply determining whether specific behavior in individual cases qualifies as sexual harassment, but rather seeking to create a workplace where people can demonstrate their skills regardless of gender. The Company will continue its efforts to raise the awareness of employees based on this concept.

company-wide policies on human resources development and training, under which it is creating systematic and focused measures. The HR Development Team has also started new programs with a focus on improving English communication skills (presentations, negotiations, etc.), as well as existing human resources development programs in order to develop the human resources required to expand the Company's global business operations.

#### **Enhancement of Training Facilities**

In order to effectively implement these training programs, we are enhancing our existing training facilities. To give one such example, we installed a new language lab in our facility in fiscal 2006 to further improve foreign language training.



Language Laboratory

# **Mutual Prosperity with Local Communities and Society**

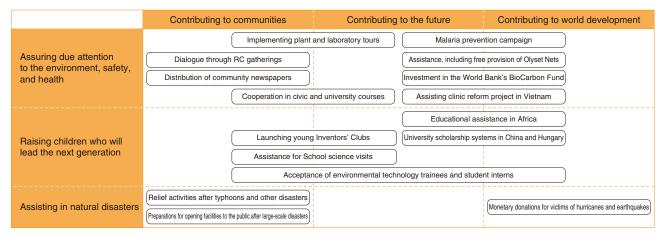
Sumitomo Chemical upholds its mission of prospering together with the local community in conducting its business operations. In this spirit, Sumitomo Chemical, as a responsible member of society, strives to foster good relations with local communities and employees.

### Promotion of CSR Activities Unique to Sumitomo Chemical

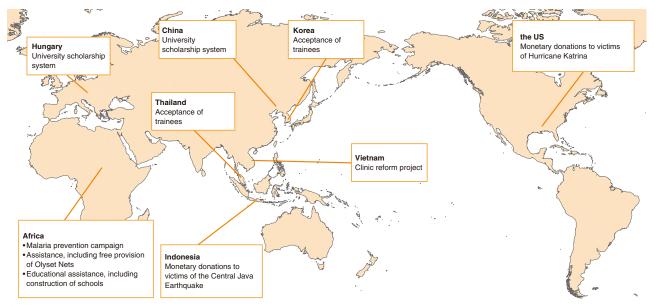
Sumitomo Chemical undertakes its CSR activities from the threefold perspective of prosperous co-existence with local communities, continuous support for society into the future, and as a global company conducting business worldwide.

The Company has been promoting activities to contribute to society and enhance communication between local communities and its facilities and Group companies, plotting its efforts along vertical axes of: (1) assuring due attention to the environment, safety and health; (2) raising the children who will lead the next generation; and (3) assisting in natural disasters; and also the horizontal axes of: (1) contributing to neighboring communities; (2) contributing to the future, starting with educational assistance for young children; and (3) contributing to world development by providing assistance to the international community.

#### Envisioned Matrix of Activities



#### Global Social Contribution Activities (Fiscal 2006)



### Contributing to the Community

The relationship between Sumitomo Chemical's Works and the surrounding communities is not merely a relationship between the local government and the site operator. Sumitomo Chemical's Works are pursuing information disclosure and various means of communicating with others in their communities on a day-to-day basis by conducting plant and laboratory tours, providing sites for events in the community, and holding community dialogue gatherings.

#### Welcoming Plant Tours (Misawa Works)

As part of our activities to deepen understanding in the local community, the Misawa Works welcomes plant tours at anytime during the year. In fiscal 2006, we received as many as 729 visitors from diverse groups, including elementary, junior-high, and high school children; university students; groups such as Japan Agricultural Cooperatives; prefectural and municipal employees; firms; and US military personnel from the Misawa Air Base. In addition to the standard tour course, we sometimes provide visitors with an in-depth description of a particular subject such as environmental safety and quality control, as requested.

Visitors express their surprise, saying, "I never imagined that such a clean plant existed in Misawa," or "I didn't know that globally prominent products were being manufactured in Misawa."



Elementary school children visiting the Misawa Works

# Actively Participating in Community Events (Osaka Works)

The Osaka Works has been actively promoting plant tours, participation in community events, and support for various sports events in order to give people in the community an accurate understanding of our business and to build and maintain a good relationship with the community.

In fiscal 2006, we conducted 14 plant tours for neighborhood residents' associations, senior citizens' clubs, and PTAs, attracting more than 300 visitors. The tours involve guiding visitors around the premises and presenting our efforts for the environment and safety as well as our social contribution activities using our annually published report on safety and the environment, and our newsletter "Kasugade". During the question and answer sessions following the tours, we received valuable opinions and impressions along the lines of, "I gained the strong impression that Sumitomo Chemical is actively participating in community events, which shows the Company is conducting business operations that are friendly to the local community," and "Sumitomo Chemical's entire site is very clean, and I felt really comfortable visiting the plant."

In addition, the Osaka Works promotes voluntary participation in various sports events, including working as ball persons for the Japan Table Tennis Championships for the Disabled. On April 9, 2006, the Sumitomo Chemical Wakaba Cup Goodwill Volleyball and Softball Games were held in the gymnasium and grounds of the Osaka Works and the grounds of a neighboring firm. These games are held every April, with about 600 participants, including members and former members of kindergarten, elementary school, and junior-high school PTAs in Konohana Ward, Osaka City, where the Company operates. This has become established as one of the three most popular events in Konohana Ward. The 2006 Games marked the 30th anniversary of the event, which started in 1978, and the Chairman of the Sumitomo Chemical Wakaba Cup Executive Committee presented Sumitomo Chemical with a certificate of appreciation.



Presenting the certificate of appreciation

# Clean-Up Activities around the Plant throughout the Year (Gifu Plant)

"Hyakubaien," the park in Anpachi-cho, adjacent to the Gifu Plant, is named for the more than 100 kinds of plum trees planted in the park that come into bloom in every March. A Garden Party hosted by Anpachi-cho is held at this time of year, and the park attracts not only residents of nearby communities but also many tourists during the month of the Garden Party. Cherry trees planted along the banks of the Nakasu River also come into full bloom from the end of March to the beginning of April, attracting many viewers. To prepare for these events, the Gifu Plant engages in activities such as picking up the trash and pulling the weeds around the park and along the Nakasu River, and also conducts its clean-up activities in the area surrounding the Plant on the second Wednesday of every month.





### **Contributing to the Future**

In order to encourage children, the leaders of the future, to develop an interest in science and technology, Sumitomo Chemical's Works are engaged in various activities tailored to the particular needs of communities. Such activities include accepting local high school students for internships, and organizing school science visits.

#### Accepting Student Interns (Okayama Plant)

The Okayama Plant accepted two second-year students from the local Washu High School as student interns from July 10 to 13, 2006. This program is intended to cultivate perspectives on careers and work in the students through the experience of working in a company, and such work experience forms a part of the high-school curriculum. This is the first time the Okayama Plant has accepted student interns, and we had them study the plant's outline, activities, and production flow, and also let them have the actual experience of operating the analytical equipment. We will continue actively accepting student interns.



#### Learning the Pleasure and Thrill of Creating Things:

Ichihara-Sodegaura Young Inventors' Club (Chiba Works) In the Young Inventors' Club in the cities of Ichihara and Sodegaura, 150 children from the third grade of elementary school to the second grade of junior high school are selected by lottery every year to experience the pleasure of science.

The Chiba Works started the Young Inventors' Club five years ago in commemoration of its 35th anniversary to contribute to the development and invigoration of local communities. The enthusiasm and steadfast cooperation of numerous parties have been essential to the continuation of these activities. Those parties include the Ichihara and Sodegaura boards of education, Anesaki Elementary School (which allows us to use vacant classrooms), and 47 volunteer instructors comprising Chiba Works employees and former employees, and school teachers.

Starting in fiscal 2006, we began conducting school science visits, utilizing science classes at elementary schools to allow many school children to experience the joys of science. Furthermore, we have organized local com-

munity events in the form of school visits incorporating handicraft projects, and have received a favorable response from local citizens.



#### COLUMN

#### Teaching Children the Joys of Science through School Science Visits

A scene from a school science visit on a day in 2006

#### (1) Ehime Works/Laboratory—Thrilling Science Class

Elementary school children make boomerangs using milk cartons as a study of buoyancy caused by air flow. This science class is full of marvels for enthusiastic children. Whenever children learn a new fact, other mysteries arise, further stirring their curiosity. Instructors (Sumitomo Chemical employees) strive to devise such marvels for children.



#### (2) Gifu Plant—School Chemistry Visits

We made a school chemistry visit for sixth graders at a local elementary school. In an experiment involving the recrystallization of sodium acetate trihydrate, the children were mesmerized by the beautiful needle crystals in the petri dish. In an experiment involving liquid nitrogen, they watched a balloon inflate and deflate. Then when they touched a rose that froze a few seconds after being dipped in the liquid nitrogen and saw the flower shatter, they whooped and clapped their hands in amazement.

#### (3) Oita Works—"Mystery, Experience, Chemistry"

This school visit program has been held since fiscal 2004, with the Oita Works and Showa Denko K.K. jointly dispatching engineers from both companies. Former employees of Sumitomo Chemical also assist in conducting the program. The ultimate aim of enabling children to experience the fascination, fun and mystery of chemistry through these school chemistry visits is to spark in them an interest and curiosity in chemistry and to promote science education, even in some small way.

#### (4) Agricultural Chemicals Research Laboratory —"Science Class" School Visits

This was triggered by the following request from a local elementary school: "We are learning about insects in our science class. We would very much appreciate it if you could come and answer the children's questions." In the class, a researcher explained how insects grow using actual insects, and patiently answered questions such as "Will mosquitoes grow into pupae?" and "Why do mosquitoes suck blood?" in a way the children could easily understand. We received a message of appreciation on behalf of the school, saying, "The children were delighted that the class was so interesting, and they learned a lot."

### **Contributing to the World**

From the perspective of a global company developing its businesses all over the world, we actively promote CSR activities unique to Sumitomo Chemical, working for the protection of the global environment and the sustainable development of society.

#### Sumitomo Chemical's President Hiromasa Yonekura Granted the Public Service Star 2006 Award by the Government of Singapore

Hiromasa Yonekura, President of Sumitomo Chemical, was granted the Public Service Star 2006 award by the government of the Republic of Singapore and was awarded a medal by S. R. Nathan, President of the Republic of Singapore, at a ceremony on December 7, 2006.

This award is given to corporate managers and researchers who have made significant contributions to the economic development of Singapore.

After referring to the 30-year relationship between Sumitomo Chemical and Singapore at the press conference, Mr. Yonekura noted, "We hope to contribute further to the economic development of Singapore through the continued expansion and sophistication of our business."



President of the Republic of Singapore, S. R. Nathan (third from right) and the award recipients. Hiromasa Yonekura, President of Sumitomo Chemical, stands second from the right.

#### Vietnamese Clinic Renovation Project

Sumitomo Chemical, in cooperation with the NPO World Vision Japan, has been assisting with the clinic renovation program as one of the development projects being undertaken by World Vision Japan in the Van Yen region of Vietnam.

The Van Yen region, located in the mountainous area of northern Vietnam, is one of the poorest regions in Vietnam. The region is divided not only by the Ho River, which flows from the Yunnan Province of China to the northern part of Vietnam, but also by numerous streams, making the land vulnerable to natural disasters such as typhoons and floods. In addition, the region is severely lacking in educational and medical facilities, and thus the living and sanitation conditions of the local residents are extremely poor. Currently, the regional clinic receives 35 to 50 patients per day, including children, but the building has fallen into disrepair. Therefore, renovation of the clinic is the top priority in creating a basis for the future development of the region.

Following the Company's projects in Tanzania in East Africa and Dalian in China, Sumitomo Chemical is increasing its production capabilities by outsourcing the production of Olyset Nets to Vietnamese-based companies, thus contributing to the people of Vietnam through the creation of employment opportunities. We hope to be of help in supporting the autonomous development of the region by returning portion of the profits from this business for the benefit of Vietnam.



#### COLUMN

#### Supporting the Korean Costume Exhibition: The Splendor of Traditional Korean Clothing

Sumitomo Chemical and Dongwoo Fine-Chem Co., Ltd., its Group company in Korea, participated in The Splendor of Traditional Korean Clothing exhibition held at a gallery in the Yokohama Red Brick Warehouse from October 24 to 29, 2006. For us, this costume exhibition is the third Japan-Korea cultural exchange event, following the dance production "Karamai: White Dojoji" performed in Tokyo, Nagoya, Osaka, and Kitakyushu in 2005, and the Korean Costume Exhibition "Chogori 2000" held in Tokyo in 2004 to celebrate the 40th anniversary of the normalization of diplomatic relations.

In the gallery, the costume cultures of both the Korean Imperial Court and commoners throughout Korean history from the age of the Three Kingdoms (Goguryeo, Baekje and Silla) through the Korean Empire down to the present day were restored on the basis of rigorous authentication. In particular, the costume history of the Goguryeo Kingdom, one of the progenitors of modern Korean culture, was presented as a valuable repository of the wisdom demonstrating the uniqueness of Korea among East Asian countries.

This exhibition invited Professor Che Kumusog from Sookmyung Women's University, and was sponsored by the Korean Cultural Center of the Korean Embassy and the Yokohama

Arts Foundation, with the support of Sumitomo Chemical and Dongwoo Fine-Chem Co., Ltd. The exhibition ended in a great success.



## Activities for Donating to Society

Sumitomo Chemical ranks activities for donating to society among its key social responsibilities as a company. It takes into consideration relevance to its business, long-term continuity, and urgency, when making donations.

#### FY 2006 Donations

Principal Donations

Community activities	139
Sports	34
Education/Social education	34
Culture/Arts	20
Academics/Research	18
Social Welfare	17
International Exchange/Cooperation	16
Health/Medicine	13
Environment	9
Historical/Traditional cultural preservation	3
Assistance to disaster-stricken areas	3
Assistance to town development based on disaster prevention	3
Creating the foundation for NPOs	3
Others	166
Total	478 donations
(Amount: 4	05.34 million yen)

Principal Donations	(Millions of yen)
U.S. NPO Millennium Promise (Olyset Net assistance)	189
The University of Tokyo Fund	40
World Vision Japan (educational assistance project in Africa; Vietnam regional assistance)	22
Jeddah Economic Forum	9
Repair work on the Sumitomo Collection	8
Donation for victims of Hurricane Katrina (U.S.)	6
Donation for victims of Central Java Earthquake (Indonesia)	5

#### Scholarship System Started in Hungary

Sumitomo Chemical established a scholarship system at the Chemical Engineering Department of Budapest University of Technology and Economics and the Engineering Department of the University of Pannonia (formerly the University of Veszprem) in the Republic of Hungary in 2006. The relationship between Sumitomo Chemical and Hungary includes the granting of licenses in the 1970s to 1980s for the Company's nitric acid production process, aluminum refining and other technologies to local firms, as well as the sale of agrochemicals through Sumitomo Chemical Europe. With this scholarship system, the Company hopes to build an even stronger goodwill relationship with Hungary through educational and cultural exchange.



#### Scholarship Donation System Started in Dalian, China

Sumitomo Chemical started a scholarship system at Dalian University of Technology and the School of Japanese Studies at Dalian University of Foreign Languages in Dalian City, Liaoning Province, China, which enjoy a close relationship with the Company through the production of Olyset Nets and the advancement of affiliated companies. Enabling Chinese people, the leaders of China's future, gain familiarity with Japanese firms helps foster friendly relations between Japan and China, and will also eventually lead to the stable development of businesses in China.

Upon being granted a scholarship at the Dalian University of Foreign Languages, the recipient students expressed thanks by saying they would further advance their studies in Japanese with even greater diligence. Although it is a small effort, we believe that the accumulation of such efforts will create the basis for a deeper friendship between Japan and China.



Dalian University of Technology is one of the foremost universities in science and engineering in the northeastern area of China, and ranks 20th among all Chinese universities. The School of Japanese Studies at Dalian University of Foreign Languages is the second largest Japanese-language educational institution in China. The picture above shows scholarship recipients at the School of Japanese Studies at Dalian University of Foreign Languages.

#### **Donation for Victims of Hurricane Katrina**

Hurricane Katrina, which devastated parts of the southeastern United States in August 2005, left nearly 2,000 people dead or missing and inflicted considerable damage on lifelines including houses and roads. In 2005, Sumitomo Chemical donated 10 million yen to relief efforts through the Japanese Red Cross Society.

In November 2006, Sumitomo Chemical was granted the Tech Museum Award from the United States for the development of Olyset Nets, and received a \$50,000 prize. It donated the entire amount to the Louisiana Disaster Recovery Foundation for the support of the areas struck by Katrina out of a desire to put the prize toward a worthy cause.

# **Environmental Communication**

Sumitomo Chemical promotes activities to improve public understanding of the Company by enhancing the disclosure of information and promoting risk communication for its various stakeholders as a means of gaining their further confidence. The Company also responds in good faith to comments it receives regarding the fulfillment of its social responsibility as a corporate citizen.

### **Disclosure of Information and Risk Communication**

Sumitomo Chemical actively works to improve communication with stakeholders by developing company-wide policies on risk communication and further defining issues and specific initiative items. Actual undertakings at each Works are notable for their originality and their emphasis on their own creativity and independence, with local conditions also being taken into consideration.

Company-wide policy	Issuance of the CSR Report and other materials, and promotion of communication throughout the entire Company and Works
laguag	(1) Improvement of information disclosure
Issues	(2) Implementation of risk communication
	(1) Disclosure of information through environment, health & safety reports, and local newsletters
Specific initiatives	(2) Promotion of various risk communications according to purpose
	(3) Implementation of horizontal development

#### **Disclosure of Information**

CSR reports and other materials are issued regularly every year for the entire Company and all works. Works versions are called "Report on the Environment, Health and Safety," and compliment the company-wide CSR Report with regard to local efforts. The layout and content of these reports greatly differ by Works, all of which aim to produce their own unique report.

In addition, three Works (Ehime, Osaka, and Oita) publish local newsletters providing locally released information. These newsletters are read with interest in the local communities and lead to the enhancement of trustful and friendly relations with the community.

#### **Risk Communication**

Each Works engages in risk communication for various purposes as required. Building on these continuing efforts, Sumitomo Chemical will further enhance its own unique initiatives by continuing such communication.

# Examples of Characteristic Risk Communications

Purpose (Aim)	Activities
Considering environmental risks in the community → Adhering to the fundamentals of information sharing and mutual understanding	<ul> <li>Participating in the risk communication model program of the municipality</li> <li>Environmental Communication in Chiba (environmental dialogue gathering) (Chiba Works)</li> <li>Chemical Substance Risk Communication in the Seino region (Gifu Plant)</li> </ul>
Preserving the environment and strengthening safety on a community basis → Utilizing community power based on a relationship of trust	A system for local residents to engage in dialogue with environmental monitors (Oita Works) Environmental research contracted to local universities and national colleges (Ehime Works) Building a cooperative framework with Misawa U.S. Air Forces Fire Brigade (Misawa Works)
Support for environmental preservation overseas, etc. → Promoting international cooperation	Assisting in the introduction of Korea's first total water quality control system (Chiba Works) • Full cooperation in the research projects conducted by the Korean Environmental Agency, and in the preparation of a promotional DVD Instructing trainees from overseas countries on measures against air pollution (Osaka Works) Plant visit by Thai government and corporate representatives from Thailand (Chiba Works) Training for members of international institutions (OPCW*) (Osaka Works)
Achieving accountability → Fostering a trust-based relationship with the community through sufficient preliminary explanation	Briefing on regular plant repairs Briefing on building construction projects Briefing on measures against electromagnetic disturbance, etc.
Dialogue with the community based on inter-company cooperation → Community cooperation contributes to improved performance throughout the community	Community dialogue based on cooperation within the chemical industry (responsible care dialogue) (Chiba, Osaka, and Oita Works) Mini community dialogue in cooperation with neighboring firms (Oita Works)

\*OPCW: Organization for the Prohibition of Chemical Weapons

# Economic Activities

Focusing its efforts in six business sectors, Sumitomo Chemical is promoting sustainable chemistry through CSR management, and is currently working to boost profitability by continuously developing and supplying products and services that enhance people's lives.



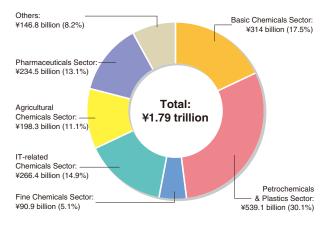
# **Business Sectors**

Basic Chemicals Sector:	Inorganic chemicals, synthetic fiber materials, organic chemicals, methacrylates, alumina products, aluminum
Petrochemicals & Plastics Sector	: Petrochemical products, synthetic resins, synthetic rubber, processed synthetic resin products
Fine Chemicals Sector:	Functional materials, additives, dyestuffs, pharmaceutical chemicals
IT-Related Chemicals Sector:	Optical products, color filters, semiconductor process materials, electronic materials, compound semiconductor materials
Agricultural Chemicals Sector:	Agricultural chemicals, household insecticides, animal feed additives, fertilizers, agricultural materials
Pharmaceuticals Sector:	Pharmaceuticals, radiodiagnostic reagents

# **Business Performance in Fiscal 2006**

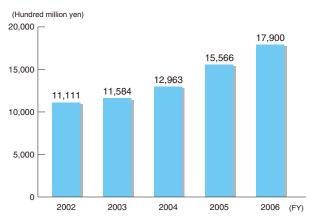
Fiscal 2006 Results (Consolidated):

Net sales:	¥1.79 trillion
Ordinary profit:	¥158 billion
Net income:	¥93.9 billion
Capital expenditures:	¥159.8 billion
R&D expenses:	¥97.7 billion
Number of employees:	24,691 (as of March 31, 2007)



#### Sales by Sector in FY2006 (Consolidated)

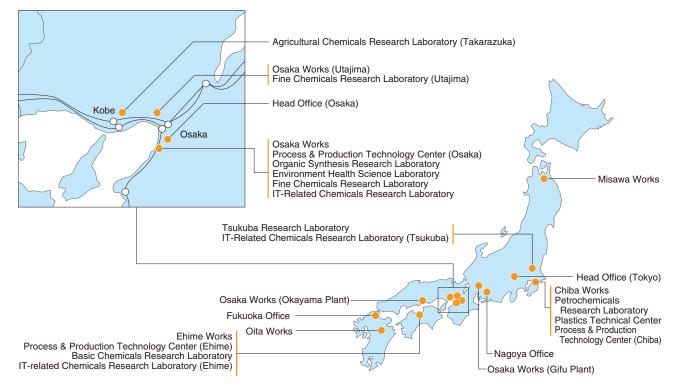
Subsidiaries and Affiliates: Dainippon Sumitomo Pharma Co., Ltd., Dongwoo Fine-Chem, Co., Ltd., Valent U.S.A. Corp., Sumitomo Chemical Singapore Pte. Ltd., The Polyolefin Company (Singapore) Pte. Ltd., and others. Total: 105 companies



#### Sales Trends (Consolidated)

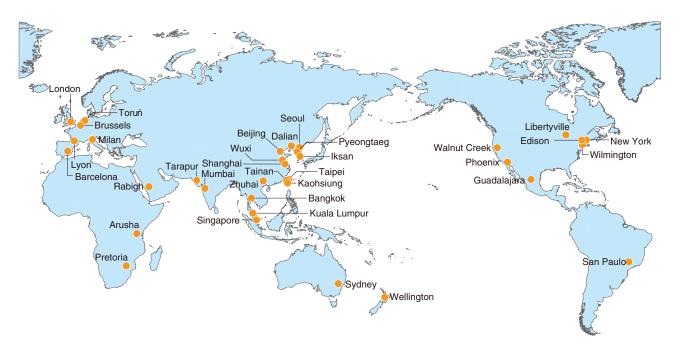
# Sumitomo Chemical's Facilities

Domestic Facilities Locations of head offices, branches, plants, and laboratories



# Overseas Network

• Major Overseas Production Bases Locations of major overseas subsidiaries and offices for resident executives



# **Summary of Business Sectors**

#### [Basic Chemicals Sector] Caprolactam Production Process Receives Okochi Memorial Production

#### Award and Prizes for Science and Technology

The production process developed and commercialized by Sumitomo Chemical for the manufacture of caprolactam, the raw material for nylon-6, has received highly favorable evaluations to date. In fiscal 2006, the process was awarded the 53rd Okochi Memorial Production Award from the Okochi Memorial Foundation and the FY2007 Prize for Science and Technology from the Ministry of Education, Culture, Sports, Science and Technology.

Our vapor-phase Beckmann rearrangement process, which produces no ammonium sulfate, a by-product produced in large quantities by the conventional process, is a groundbreaking green process that achieves resource and energy savings. It has been awarded many prizes for its contributions to the development of sustainable chemistry.



Caprolactam plant at the Ehime Works

#### [Petrochemicals & Plastics Sector] Promoting the Shift to Higher Value-Added Products in Our Polypropylene Business

Sumitomo Chemical has been working to promote the further shift to higher value-added products in our polypropylene business, which is one of the key fields in our Petrochemicals & Plastics Sector. In particular, the Company is promoting the establishment of global production capabilities for high-quality resins and compounds, focusing on automotive applications. At our subsidiary in Singapore, we are planning to modify our existing polypropylene production facilities to enable the manufacture of higher-performance resins and compounds suitable for automotive uses. The Company has constructed a new production facility in Guangdong Province in China for the manufacture of automotivegrade polypropylene compounds, and will also expand its polypropylene compound production bases in North America, Europe, and Southeast Asia, which are major automobile markets.



#### [Fine Chemicals Sector] Development of High-Performance Polymer Additives Specifically for High Value-Added Fields

Based on our strengths in R&D and advanced quality control capabilities, Sumitomo Chemical has been focusing on high value-added fields in its development of high-performance polymer additives, which are essential to improving the quality of synthetic resins and synthetic rubber. In recent years, the functional properties of the Company's products have enjoyed an excellent reputation both in Japan and overseas, thanks to an ever-increasing demand for polymer materials for use in automobiles, electrical and electronic products, packaging materials and other applications, as well as an increasing demand for quality.

In fiscal 2007, the Company succeeded in attract-

ing new customers for its additives for a cross-linked polyethylene insulating and sheathing extra-high voltage power cables thanks to an unprecedented high

level of quality control. In addition, the Company is currently proposing various packaging materials as well as promoting the construction of mixing and granulation processing facility at a Group company in Thailand in order to meet customers' diverse quality requirements.



High-performance polymer additives

#### [IT-Related Chemical Sector] Expansion of Global Production Bases for IT-Related Materials

Sumitomo Chemical is actively expanding its global production bases for IT-related materials. With existing operations in Japan, Korea, Taiwan and China, the Company is working to provide its customers with prompt supply and enhanced services. The Company has also established a new company in Poland, which is scheduled to start operations in 2007.

In order to meet the increasing demand for largescreen liquid crystal televisions, the Company is planning large-scale production capacity expansions for polarizing film. The Company recently completed the construction and started operation of one new production line at its Ehime Works and two new production lines at Dongwoo Fine-Chem Co., Ltd., a Group company in Korea. The Company will continue to meet its customers' requests for a stable supply.



Construction site of the new company in Poland

#### [Agricultural Chemicals Sector] Establishment of A New Company to Strengthen the Foundation of the Environmental Health Business

In March 2007, Sumitomo Chemical integrated the operations of its wholly owned subsidiary Shinto Fine Co., Ltd. with those of Yuko Chemical Industries Co., Ltd., a major business partner in the field of public health chemicals (public hygiene insecticides for professional use) and lumber preservatives (termite and wood preservatives), to establish a new company called Sumika EnviroScience Co., Ltd.

This integration will allow the new company to leverage the fundamental business resources it has accumulated, enabling it to build efficient R&D, production, and sales and service capabilities in close cooperation with Sumitomo Chemical as a core company assuming a role in the Group's environmental health business. The Company anticipates considerable synergies from this integration.



Sumika EnviroScience Co., Ltd.

#### [Pharmaceuticals Sector] Dainippon Sumitomo Pharma Co., Ltd. Launches the Amlodin OD Tablet

In July 2006, Dainippon Sumitomo Pharma Co., Ltd., the Sumitomo Chemical Group's core pharmaceutical company, launched the Amlodin OD Tablet, a long-acting calcium antagonist\*.

The Amlodin Tablet is a treatment for hypertension and angina pectoris that was released in Japan in 1993. The drug has a long-lasting blood pressure (BP) lowering effect and produces few side effects. Many studies on the effectiveness of Amlodin have been published both in Japan and overseas, and the drug is widely prescribed.

The latest Amlodin OD Tablet was developed by applying the company's propriety formulation technology to the current Amlodin Tablet, and is the first orally disintegrating calcium antagonist\*. It disintegrates easily and can be taken even without water, and is easy to take, as it is difficult for it to lodge in the throat or esophagus.

Launching the Amlodin OD Tablet in addition to the current Amlodin Tablet will further contribute to the treatment of hypertension and angina pectoris in Japan.

\*Calcium antagonist: A treatment for hypertension and angina pectoris that dilates blood vessels to achieve an antihypertensive effect.



Long-acting calcium antagonist Amlodin OD Tablet

# New Three-Year Corporate Business Plan (Fiscal 2007–2009) Formulated—Reaching New Heights as a Global Company

On March 5, 2007, Sumitomo Chemical announced its Three-Year Corporate Business Plan for fiscal 2007-2009. The new Corporate Business Plan builds on the steady business expansion and profit growth during the term of the previous Plan (fiscal 2004-2006), and incorporates the basic principles of the previous Plan. Under the new Plan, completion of the Rabioh Project, scheduled to start commercial operation in the autumn of 2008, is a top priority as Sumitomo Chemical aims to reach new heights as a global company.

#### 1. Basic Principle of the New Three-Year Corporate **Business Plan**

Sumitomo Chemical aims to achieve and consolidate high profitability and secure sustained growth potential to generate the added value our shareholders expect as we work to reach new heights as a global company.

#### 2. Basic Initiatives

In order to achieve the Plan's final targets for fiscal 2009, we formulated the following six basic initiatives:

#### 1) Completion of the Rabigh Project

The Rabigh Project will not only significantly strengthen the foundation of the Company's petrochemical business and dramatically boost its profitability, but will also considerably accelerate the globalization of the Sumitomo Chemical Group as a whole. This Project is expected to contribute greatly to the diversification and sophistication of industry in Saudi Arabia, thereby creating employment opportunities. Aiming to bring the complex into immediate stable full operation, preparations are underway to establish distribution channels asthe Company works together to complete the project as planned.

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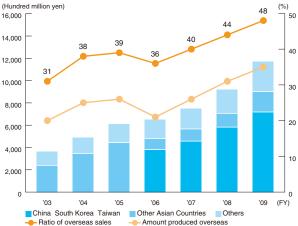
Analysts' meeting held on March 5, 2007

#### 2) Enhancing Global Management to Support Global **Business Development**

The successful completion of the Rabigh Project will drive unprecedented advances in Sumitomo Chemical's global business development. The Company will strengthen and enhance its corporate governance and management systems in order to support the further development of its businesses to emerge as a leading company on the increasingly competitive global stage.

#### **Enhancing Global Management to Support Global Business Development**

- Building a global management system (human resources, accounting, and internal control)
- · Renovating the information system
- Enhancing the business support capabilities of the corporate departments (legal, human resources, systems, intellectual property, accounting, procurement, and logistics, etc.)
- · Allocating corporate staff to major overseas bases



#### Trends in Overseas Business Development

#### 3) Expanding the Company's Businesses in the Life Sciences and IT-Related Materials and Strengthening their Competitiveness, and Enlarging the Value-Added Component of Every Business Sector

The Company will continue to allocate its business resources in a focused and timely manner, seeking to boost profitability in areas like the life sciences and IT-related materials that are forecast to see sustained market growth.

Also, by expanding its production capacities and implementing cost rationalizations, launching new products and shifting to higher value-added products, the Company will forge ahead to further strengthen its basis of profitability in the core businesses in all six of its business sectors.

# Enlarging the Value-Added Component of Every Business Sector

Basic Chemicals:

Immediate full operation of Phase-III plant expansion for MMA in Singapore

Strengthening cost competitiveness of caprolactam

Petrochemicals & Plastics:

Building optimized production capabilities linking Japan, Singapore, and Saudi Arabia

Promoting the shift to higher value-added products by strengthening polypropylene compounds business, etc.

#### Fine Chemicals:

Strengthening competitiveness of resorcinol and pharmaceutical chemicals

IT-related Chemicals:

Strengthening profitability of LCDS-related materials (marketing drives, rationalizations) Developing new materials

Agricultural Chemicals:

Strengthening growth products (Methionine, Sumisoya, Olyset Net)

Promoting the integration of Sumika Takeda Agrochemical Co., Ltd. to realize further synergies (marketing drives, rationalizations)

#### Pharmaceuticals:

Concentrating management resources on strategic products and maximizing the early launch of new products

#### 4) Determining Strategic Investment Framework and Accelerating Corporate Research

Over the next three years, the Company plans to devote ¥370 billion to capital investment. Meanwhile, the Company envisions a cash flow of ¥530 generated from its business activities, and from this free cash flow, a maximum of ¥200 billion will be set aside as a "growth reserve fund" to be used for investment opportunities with the potential to drive further growth that may arise.

In its R&D activities as well, the Company will devote its efforts to the development, cultivation and early commercialization of new businesses. The Company will also allocate its business resources to IT-related materials, energy and life sciences to strengthen and accelerate R&D in these focus areas.

#### 5) Maintaining a Robust Balance Sheet

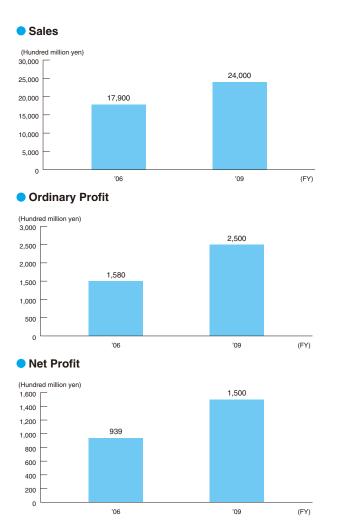
One of Sumitomo Chemical's basic principles is to expand its business while maintaining a sound financial basis. The Company seeks to secure a robust balance sheet in fiscal 2009 by raising profitability and enhancing shareholders' equity to achieve a shareholders' equity ratio of 37% and a debt-equity ratio of 0.5, while interest-bearing debt will be maintained at approximately the same level as at the end of fiscal 2006 because of an increase in shareholder equity. Even if the entire strategic "growth reserve fund" is used during this period, the debt-equity ratio will only fall slightly below 0.7. In order to prepare for investment to achieve further growth in the future, the Company will work to ensure the soundness and flexibility of its financial basis.

#### 6) Ensuring Thorough Compliance and Promotion of CSR

Sumitomo Chemical has set forth the basic principles of its management in the Sumitomo Chemical Charter for Business Conduct, fulfilling its economic, environmental, and social responsibilities in good faith by seeking to contribute to the sustainable development of society and further gaining the confidence and evaluation of the Sumitomo Chemical Group's various stakeholders. To this end, it is essential to ensure rigorous legal and ethical compliance and active promotion of RC activities encompassing safety, the environment, and product quality. Furthermore, we will promote timely social contribution activities from a global perspective.

#### 3. Performance Targets

In fiscal 2009, the final year of the new Three-Year Corporate Business Plan, the Company is targeting sales of  $\pm 2$  trillion 400 billion, ordinary income of  $\pm 250$  billion, and net income of  $\pm 150$  billion.



The Company will expedite the implementation of its new Three-Year Corporate Business Plan with a view to achieving a solid base of high profitability and sustainable growth throughout the entire Sumitomo Chemical Group.

# Independent Assessment

Sumitomo Chemical undergoes independent assessments to increase the reliability and transparency of its activities, and strives to make managerial improvements based on the results of these assessments.

# Independent Expert Commentary



#### Yuiko Watanabe

Environmental Counselor Secretary General Environmental Conservation Association of Shiga Prefecture

Innumerable chemical products are available all around us, and these enrich our lives. Along with the benefits from chemical substances, however, awareness of the potential risks they pose to the environment and ecosystems has been increasing in recent years. For example, Japan's PRTR Law and the EU's REACH legislation represent regulations concerning the proper management of chemical substances, and are one means of dealing with these potential risks.

Sumitomo Chemical is working actively on the risk assessment of chemical substances, and has received the PRTR Award in recognition of its thorough management and specific activities. I get a strong impression that it is a reliable chemical company that ensures safety.

Also, in its Responsible Care activities, Sumitomo Chemical has instituted a composite management system for the environment, product quality, and labor safety, and it also actively engages in contribution activities in places such as Africa and Vietnam. All of these show the Company's strong commitment to make important contributions from the international perspective it has as a global company.

I would like to mention two particularly impressive initiatives among Sumitomo Chemical's wide-ranging and worthwhile activities. One is that the Company has introduced environmental efficiency indicators, and is expressing the relationship between the environmental efficiency and production efficiency at each of its Works using easily understandable climatic symbols. The other is that each Works prepares its own report independently of the Head Office in order to place emphasis on communication with the local community. There are still few companies that actually make such efforts. I feel that the philosophy of "prosperous co-existence with the local community," which echoes the business spirit cultivated since the foundation of Sumitomo Chemical, pervades the entire Company.

For future improvement, I believe that the Company will be better understood if the Report includes statements that describe reasons for underachievement and ways of improving environmental performance. I suggest that it would be better to increase the number of articles that point out problems to be solved and examples of improvement.

Lake Biwa, one of the foremost ancient lakes in the world, and at the same time the water source for 14 million people living in the Kinki district is located in Shiga Prefecture, which is dedicated to conserving the environment. Upon reading your Report, I am convinced anew that we, the Association, should continue cooperating with businesses in promoting environmental conservation activities for prosperous co-existence with the community.

# Independent Review by KPMG AZSA Sustainability Co., Ltd.

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This J-AOEI Logo indicates that this report satisfies the Environmental Report and Registered Mark Granting Criteria regarding the reliability of environmental information set by the Japanese Association of Assurance Organizations for Environmental Information (http://www.j-aoei.org/).

#### COLUMN

#### **Independent Auditor's Comments**

Sumitomo Chemical's CSR Report 2007 can be appreciated for its attitude toward active disclosure of actual results regarding its environmental impact, while acknowledging the Company's status as a member of the chemical industry causing substantial environmental impact. Sumitomo Chemical's environmental information has to date been disclosed in the Environment, Health, and Safety Report published by each Works, which assume their readers to be the works' stakeholders, including community residents and administrators, as well as in the more detailed Data Book (included separately in the CSR Report).

rately in the CSR Report). In the CSR Report 2007, we can see the Company's attitude toward expanding information on the achievements of the CSR activities of its wide range of business sectors in its report for the relevant fiscal year (FY 2006), including the expanded Highlights pages (P15 to P20), and the disclosure of the fiscal 2006 performance in various areas of CSR (P21 to P22). In addition to this quantitative improvement in information, the Company's pursuit of a qualitative improvement of information disclosure also deserves a high appraisal. For example, they have enhanced the column articles to help general readers understand and become familiar with technical information concerning the Responsible Care activities.

However, as a reviewer making a detailed analysis of individual items of disclosure, I found a few points that could be improved. For example, the definition of exhaustible resources given by the Group as a whole differs from the definition given by each of the Works in their reports. Since there is no goal for the qualitative improvement of information disclosure, improvements can always be made. I am hoping to see Sumitomo Chemical offer even better disclosure of environmental information.

As a leading company in the chemical industry, which supplies many of the basic necessities for people's lives, Sumitomo Chemical aims to manifest its Corporate Social Responsibility at a still higher level through its Responsible Care activities. I expect that these activities will also be appraised in the future. I hope that these efforts at Sumitomo Chemical will spread throughout the entire industry, thus furthering the creation of a sustainable society.

> Akira Kajiwara Manager KPMG AZSA Sustainability Co., Ltd.





As a "Responsible Care" company, Sumitomo Chemical Company, Limited voluntarily implements policies that take safety, health, and the environment into

consideration in all processes, from chemical product development to disposal. The Responsible Care mark and logo may only be used by those companies that are members of the Japan Responsible Care Council.



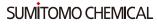
The PRTR Awards are designed to acknowledge companies and business establishments that understand the purpose of the PRTR system, take the initiative in understaking chemical substances management, and actively promote communication with ultrans to gain their understanding. The logo may only be used by those companies that have received the Grand Prize at the PRTR Awards.



The J-AOEI imprint indicates that the reliability of the environmental information in this Report meets the environmental report review and registration mark standards defined by the Japanese Association of Assurance Organizations for Environmental Information <a href="http://www.j-aoei.org">http://www.j-aoei.org</a>.



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Corporate Communications Department Tokyo Sumitomo Twin Building (East) 2-27-1 Shinkawa, Chuo-ku, Tokyo 104-8260 Tel: +81-3-5543-5102 Fax: +81-3-5543-5901



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