

RESPONSIBLE CARE REPORT 2004



We Care about Safety and the Environment



Please direct opinions and inquiries to:

 **SUMITOMO SEIKA CHEMICALS CO.,LTD.**

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 **SUMITOMO SEIKA CHEMICALS CO.,LTD.**

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Company Outline (as of March 31, 2004)

Company Name	Sumitomo Seika Chemicals Company Limited
Head Offices	Osaka: 4-5-33 Kitahama, Chuo-ku, Osaka, Japan Tokyo: 1-13-5 Kudan Kita, Chiyoda-ku, Tokyo, Japan
Website	http://www.sumitomoseika.co.jp/
Established	July 1944
Capital	¥9,698 million
Sales	¥33,775 million (non-consolidated)
Employees	676
Major Lines of Business	
Fine Chemicals Division	: Raw material products for pharmaceuticals, functional materials, various industrial chemicals
Functional Polymers Division	: Water-absorbent polymers, water-soluble polymers, emulsions, powdered resins
Gases Division	: Gases for semiconductor device production, standard gases, gases for medical use
Engineering Division	: PSA gas generators, electronics industry equipment
Works	
Befu Works	346-1 Miyanishi, Harima-cho, Kako-gun, Hyogo, Japan
Himeji Works	1 Irifune-cho, Shikama-ku, Himeji City, Hyogo, Japan
Chiba Works	1384-1 Kamikoya, Yachiyo City, Chiba, Japan

Message from the President

Protecting the Global Environment and Assuring Safety

As civic society has matured, businesses have been confronted with a diversity of social and economic problems. In order to address these problems, every enterprise must fully demonstrate voluntary commitment to taking action. We must make steady holistic improvement in dealing with environmental and safety issues in conjunction with fulfilling the needs of society and the economy.

So far, we have been addressing issues associated with the environment and safety in accordance with our fundamental management policy that consists of the following principles.

- 1) Provide useful products for society.
- 2) Make efforts to alleviate environmental loads, based on a long-term vision.
- 3) Prevent accidents and disasters and assure the safety of local communities and our employees.

For our voluntary commitment to the environment and safety, we have been making a variety of efforts in responsible care activities since 1995. At that time, we declared that we would exercise *responsible care* in our business activities for the entire life cycle of all our products, from research and development to final disposal, and that we would be fully committed to *environmental protection* and *safety assurance*.

As a part of our responsible care activities, in fiscal 2004 all three of our works successfully acquired ISO 14001 certification, which is the international standard for environmental management. Achievement of this standard has made us more conscious about environmental protection, and we will continue to make even greater efforts to alleviate environmental loads.

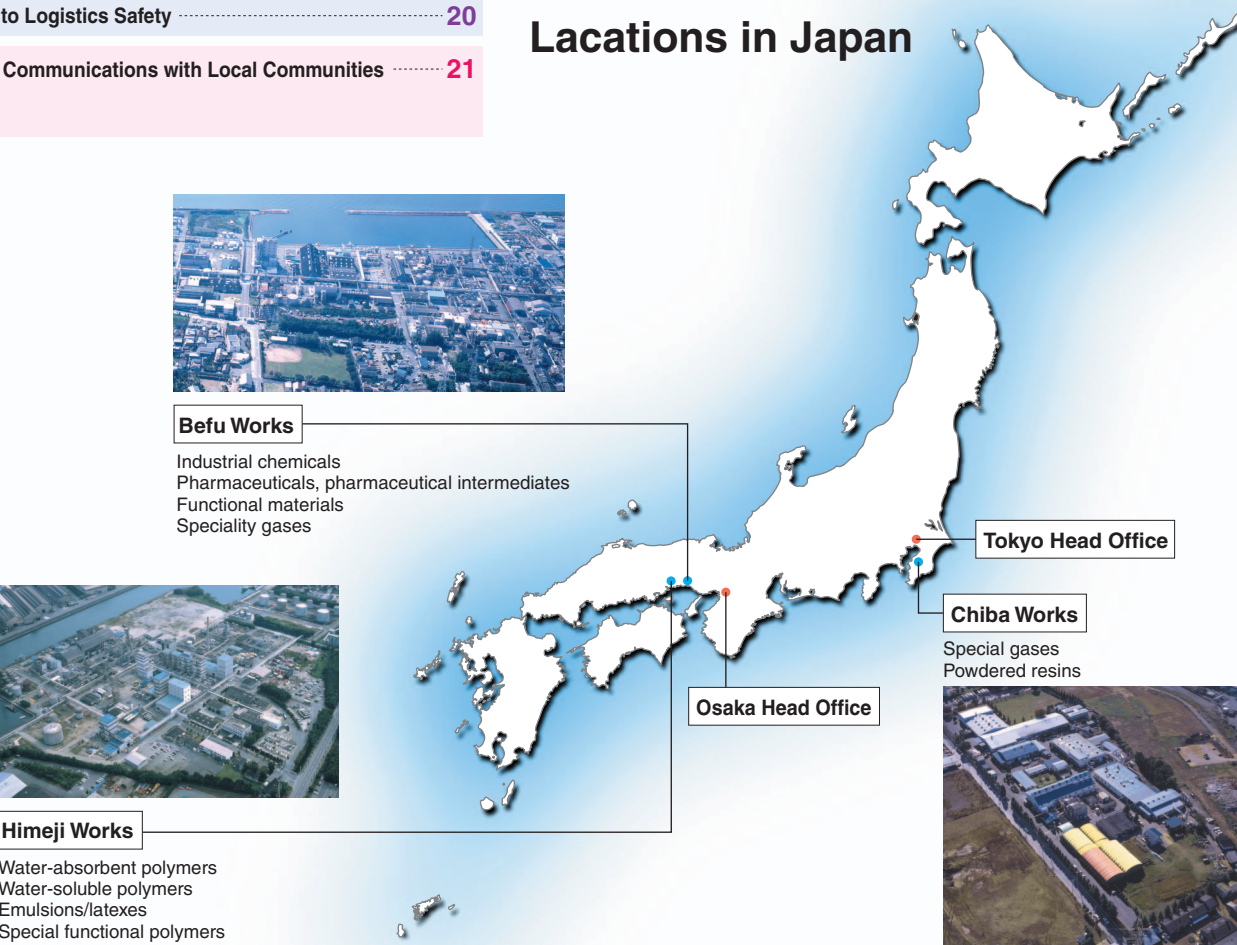
Please read through this, our 2004 Responsible Care Report, to learn more about our efforts for environmental protection and safety assurance. Finally, I would like to express in advance my thanks for your support of our responsible care activities.

September 2004

Ryuichi Sonoda
President
Sumitomo Seika Chemicals Company Limited



Lacations in Japan



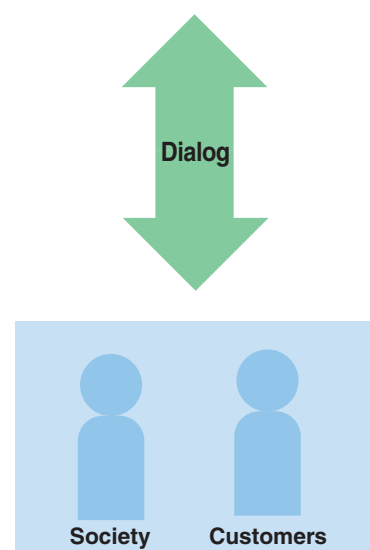
What Is Responsible Care?

Responsible care activities are voluntary management activities in which *environment, safety, and health* are addressed for the entire life cycles of products to implement improvement measures. We are promoting them as a global chemical manufacturer.

Responsible care activities are generally categorized into five aspects – environmental protection, security and accident prevention, occupational safety and health, chemicals safety and logistics safety.



Community dialog meeting sponsored by JRCC



Responsible Care Symbol



This symbol has been designed as "both hands and a molecular model" to show "careful handling of chemical substances." The symbol was determined by the International Council of Chemical Associations (ICCA) as a mark for use by enterprises and associations that are committed to responsible care activities. Use of this mark is permitted only to the national chemical industry associations that belong to ICCA and their members.

In Japan, this mark can be used only by the Japan Chemical Industry Association (JCIA), the Japan Responsible Care Council (JRCC) and JRCC member companies.

Corporate Policy on the Environment and Safety

Corporate Policy on Quality, Environment and Safety

Sumitomo Seika fulfills its responsibility to manufacture and supply a variety of unique and high-quality products utilizing innovative and advanced chemical technologies, and contributes to the growth of society, by managing its activities on the basic principles of (i) ensuring "customer satisfaction," (ii) maintaining "zero-accident and zero-injury operations" and (iii) promoting "co-prosperity with society."

With due respect to these principles, especially on the occasion of product development and supply in the future, our Company is determined to conduct all activities in accordance with the following policy related to quality, environment and safety.

- 1 To provide consistently trustworthy products and services of the highest quality along with customer service and satisfaction.
- 2 To maintain zero-accident and zero-injury and the safety of our neighboring communities and employees.
- 3 To maintain the safety of raw materials, intermediates and products, and prevent our customers, consumers, distributors and employees from being exposed to any possible hazard.
- 4 To continually assess and reduce the environmental loads at all operational stages, from product development through to disposal with objective, to protect the environment.

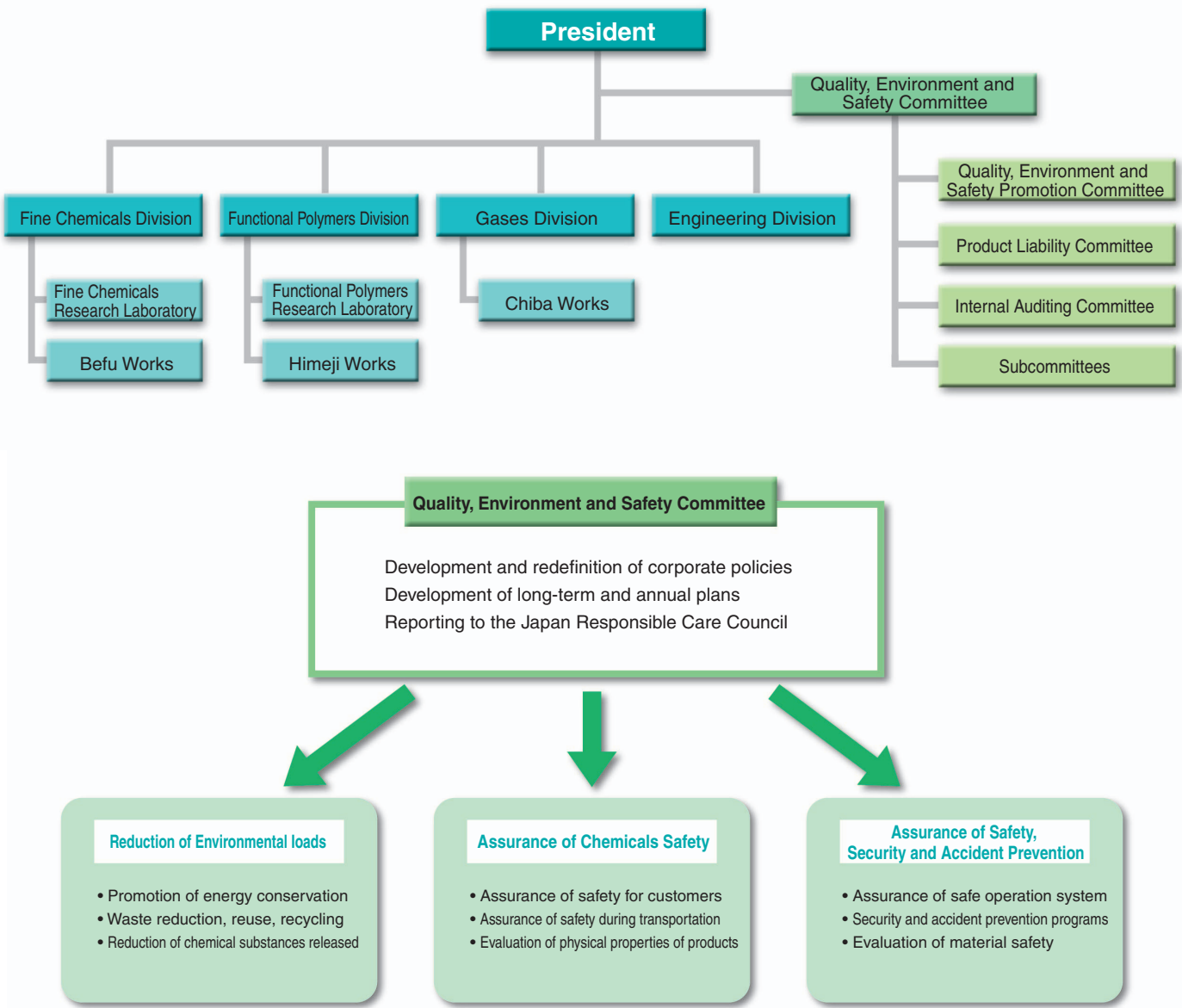
All sections and employees of our Company shall be fully aware of the significance of this policy and shall always improve operational performance, while of course abiding by laws, regulations and standards.

(Established March 1995, and revised June 1999, March 2001 and July 2003)

In 1995, Sumitomo Seika declared its commitment to promoting responsible care activities and established its Quality, Environment and Safety business management policy. This business management policy gives priority to specific objectives – customer satisfaction, zero accidents and disasters, and reduction of environmental loads over the life cycle of every product. To promote our efforts for attaining these goals, we require all our employees to strictly observe laws and regulations and continuously strive to make further improvements.

Organization and System for the Environment and Safety

In order to promote responsible care activities effectively and efficiently, Sumitomo Seika has established a Quality, Environment and Safety Committee that is chaired by the director in charge of the environment and safety. The committee also includes directors from each division. The specific responsible care activities of the entire company are decided by the Quality, Environment and Safety Promotion Committee, which is comprised of general managers.

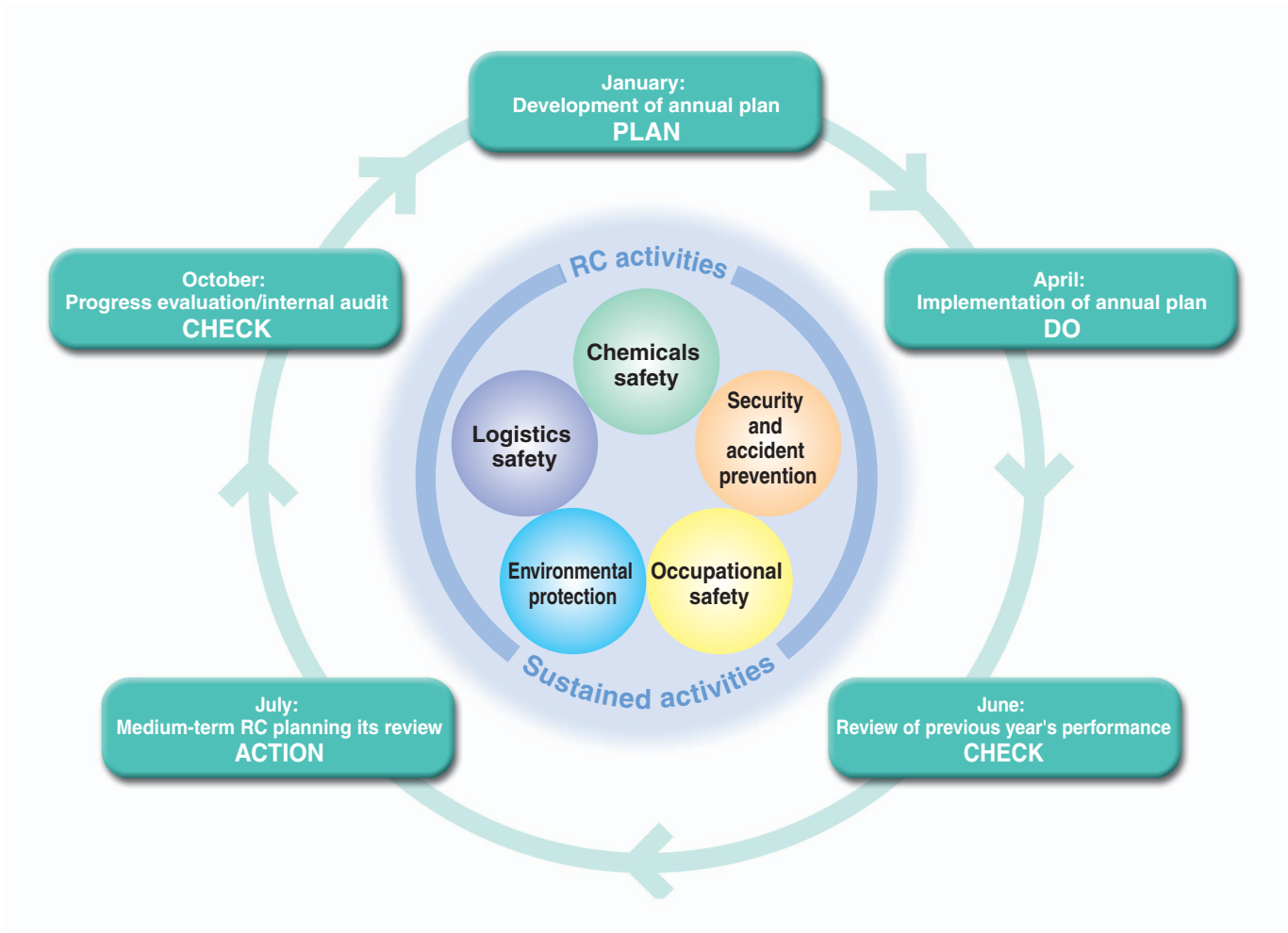


Environment and Safety Management System

The requirement of responsible care activities is the voluntary planning, execution and review of plans in management cycles that steadily achieve improvements. Sumitomo Seika is executing responsible care activities in one-year cycles in the fields of environmental protection, security and accident prevention, occupational safety, chemicals safety and logistics safety.

Sumitomo Seika's Management System

Each one-year management cycle for Responsible Care (RC) activities begins in April and consists of Plan, Do, Check and Action stages.



Enhancing and Strengthening the Management System

In fiscal 2004, Sumitomo Seika acquired ISO 14001 certification – the international standard for environmental management systems.

Auditing System

The current progress of responsible care plan implementation is inspected every year for each Sumitomo Seika works. The findings are reflected in the plan for the next fiscal year in order to help realize continual improvement.

Acquisition of ISO 14001 Certification

In order to proceed with our Responsible Care activities efficiently, in fiscal 2003 all three Sumitomo Seika works began efforts to introduce environmental management systems. As a result, by the end of June 2004, all our works had acquired ISO 14001 certification. Furthermore, Sumitomo Seika had already acquired company-wide ISO 9001:2000 certification for its quality management system.

Works	Month and year of certification acquisition	Standard designation	Certifying agency
Befu Works	June 2004	ISO14001	*1 JCQA
Himeji Works	May 2004	ISO14001	JCQA
Chiba Works	June 2004	ISO14001	JCQA
Sumitomo Seika (company-wide)	December 1996	ISO9001:2000	JCQA
Engineering Division	June 1997	ISO9001:2000	*2 LRQA

*1 JCQA: Japan Chemical Quality Assurance Ltd.
*2 LCQA :Lloyd's Register Quality Assurance Limited



Document review

On-site review



ISO 14001 certificate

Responsible care Auditing

We examine the current progress of the responsible care plans of each Sumitomo Seika works every year. These findings are reflected in the plans for the next fiscal year in order to help realize continued improvement. In addition, to verify that our environmental and quality management systems are functioning correctly, we execute ISO internal environmental and quality auditing.

Fiscal 2003 Environmental Protection and Safety Activities and Achievements

Our fiscal 2003 targets and achievements for environmental protection, occupational safety, security and accident prevention, logistics safety and chemicals safety are summarized below. For fiscal 2004, we are making further efforts based on our progress in fiscal 2003.

Main Efforts and Results in Fiscal 2003

Theme	Target	Fiscal 2003 achievement	Fiscal 2004 objective	Details
Energy conservation	Reduction in energy consumption through utilization of energy management standards	At Himeji Works, a cogeneration system was put into operation and a waste heat recovery system was installed. As a result, fuel consumption was reduced by 6% in crude oil equivalent terms relative to the fiscal 2002 level.	Examination of greenhouse gas emissions reduction	P11
Wastes	Achievement of a recycling percentage of 30%, and reduction in disposal by landfill by 20% from the fiscal 2002 level	In addition to continuing to increase the rate of operation of our own treatment facility, we sought agents that could utilize the active sludge from our active sludge treatment facility. • Recycling percentage: 37% • Disposal by landfill: reduction of 40% relative to the 2002 level	Increase recycling percentage and reduce amount of disposal by landfill	P12
Chemical substance control	• Reduction in amounts of Pollutant Release and Transfer Register(PRTR) –related substances	The second reduction plan was fulfilled, and overall emissions decreased 57% from the fiscal 2002 emission level.	• Reevaluation of risks • Investigation into Volatile Organic Compounds (VOC)	P14 P15
Job-related accidents	Elimination of job-related accidents and disasters	• No job-related accidents that led to suspension of operation • Three job-related accidents that did not lead to suspension of operation	• Execution of process hazard evaluation training • Reevaluation of risks	P18
Security and accident prevention	• Enhancement of human error prevention measures • Enhanced coordination with companies cooperating in construction works • Development of emergency reaction manuals for tasks that have high hazard potential			
Logistics safety	No transportation-related accidents • Reconsideration of logistics safety management • Execution of emergency-relief drills with transportation contractors	• Execution of hazard evaluation for product transportation • Execution of emergency-relief drills with contractors	• Support of safety guidance for logistics contractors • Enhanced safety for high-pressure gases transportation system	P20
Chemicals safety	Prevention of accidents or troubles at customer sites	• Wemade due efforts to provide information to users through measures made in preparation of JIS implementation for MSDS. (:Material Safety Data Sheet)	Appropriate and quick responses to regulatory revisions in Japan and abroad	P17
Occupational health and safety	Reduction in rate of absenteeism due to personal injuries and illnesses Reduction of traffic accidents by half	We enhanced the guidance for employees who had health problems detected during medical checkups. Countermeasures against traffic accidents • Total number of traffic accidents 34 (previous year total is 30) • Number of accidents with injuries 12 (previous year is 18)	Enhanced guidance in cooperation with the industrial physician Enhanced guidance on driving safety to the employees	P19

Environment-related Technologies

Hydrogen’s merits include low environmental loads from its combustion, ready availability, and high degrees of safety and economy. For these reasons, hydrogen is increasingly expected to be an important next-generation energy source.

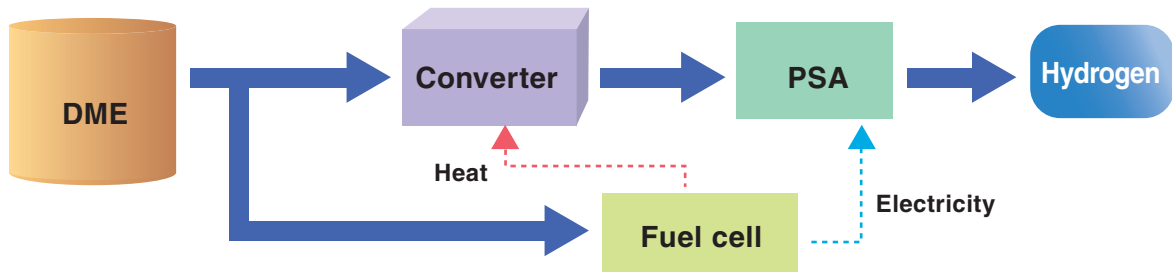
Development of a Self-Sufficient DME Converting Hydrogen Supply System

Fuel cell technology is among the environmentally friendly technologies that require urgent development. In a joint-effort with J-POWER and supported by the Agency for Natural Resources and Energy of Japan, Sumitomo Seika is committed to developing a hydrogen fuel supply system for fuel cell vehicles by building hydrogen stations that obtain hydrogen from dimethyl ether (DME).

The System in Development

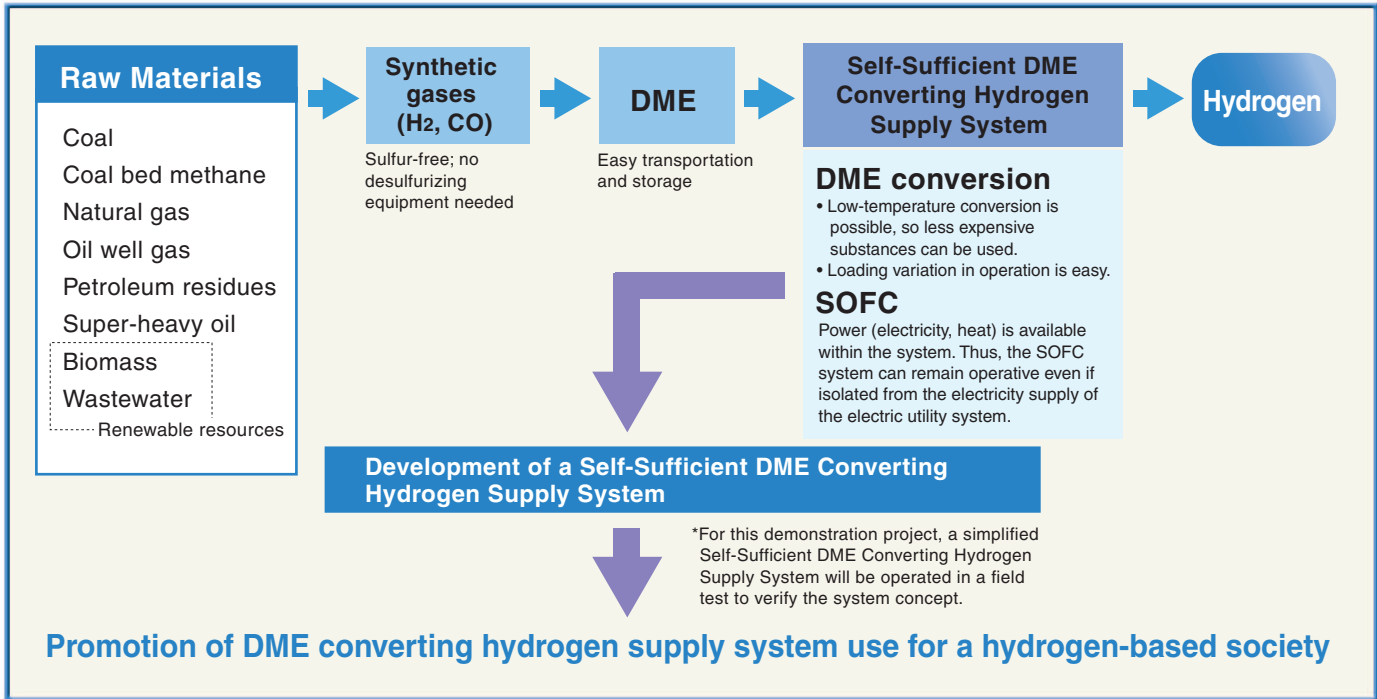
- This is an unconventional, novel hydrogen supply system in that:
- 1. DME is used as a raw fuel (hydrogen carrier).
 - 2. The system is comprised of a DME converter, solid oxide fuel cells (SOFC) and a gas purifier (PSA).
 - 3. The system is capable of maintaining self-sustained operation even if the system power supply from a power utility company is stopped

System Overview



Development Objectives

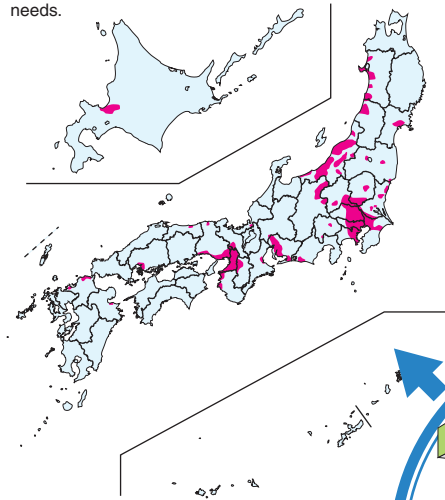
Field test site: Sumitomo Seika's Himeji Works Project Period: 2003-2005 (3 years)



Application Examples

System for Regions where Natural Gas Service is Not Yet Available

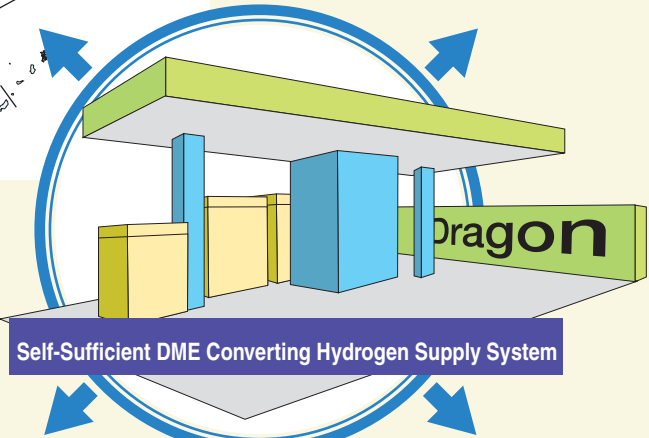
As little as 5% of the land area of Japan has a natural gas supply. In other words, for 95% of Japan, distributed energy supply systems such as our system, rather than a centralized energy supply system, are practical. Our energy supply system that uses DME as a hydrogen source will be one of the best options for future energy needs.



*Areas in red are regions where natural gas service is available.
Data: "DME Study Meeting Report" from the Liquefied Petroleum Gas Center of Japan

Disaster Relief-Capable System

It took three months before the lifeline was restored in the aftermath of the 1995 Great Hanshin Earthquake in Japan, but the supply of LP gas was reestablished within three days of the earthquake. Like any LP gas supply system, our DME converting hydrogen supply system is a distributed-type energy system, and, therefore, can provide an effective disaster-proof system that can supply its own electricity and hydrogen as long as DME is available.



System for Remote Island Areas

Without a large sum of investment in infrastructure, this system enables a supply of hydrogen on islands where pipeline construction work is difficult.



System for Regions where Power Distribution from Power Sources is Insufficient

This system is useful in mountainous regions and other areas where power distribution from power sources is insufficient.



Sumitomo Seika's Environment-Related Products

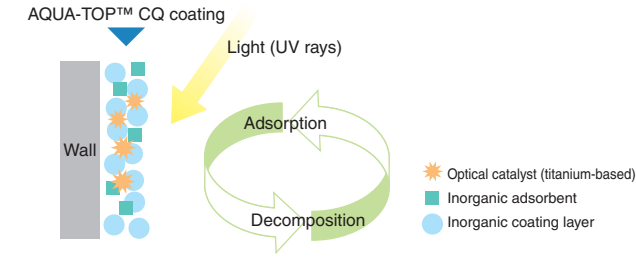
Our products have been used in various industrial fields because of their functionality and quality. We have also been actively committed to supplying a variety of products that contribute to environmental protection and product safety. Some of our environment-related products are described in this section. We will continue to be committed to the development of products that contribute to society.

Functional Polymers Division

AQUA-TOP™ CQ (chemical quencher)

AQUA-TOP™ CQ is an indoor air quality improving paint that adsorbs and decomposes hazardous substances, including formaldehyde, that are regarded as causes of sick-house syndrome, as well as offensive odor-releasing substances.

Adsorption and Decomposition with AQUA-TOP™ CQ



Gases Division

Standard Gases for Analyzing the Atmosphere and Ecosystems

- [1] HAPs standard gases
Standard gases for monitoring hazardous air pollutants
- [2] PAMS standard gases
Standard gases for monitoring photochemical smog
- [3] NMOG standard gases
Standard gases for compliance with new regulations for automotive exhaust gas analysis
- [4] IAP standard gases
Standard gases for monitoring indoor air pollutants (sick-house syndrome inducing substances)
- [5] ODOR standard gases
Standard gases for monitoring odorous substances
- [6] Soil pollution standard gases
Standard gases for monitoring hazardous substances in soil

General Purpose Standard Gases/
JCSS (Japan Calibration Service System) Standard Gases

Standard gases for monitoring automotive exhaust gas and air pollution



Handling a standard gases



Management of standard gases cylinders

Engineering Division

PSA Gas Generator

PSA (Pressure Swing Adsorption) Gas Generator is used to supply oxygen for energy conservation, to recover greenhouse gases (CO₂ and methane) that contribute to global warming, and generate hydrogen, which is expected to serve as a clean energy source.



Combustion-Type Exhaust Gas Treatment System
for the Semiconductor Industry: e-SHINE

This system has been specifically designed to decompose the greenhouse gas CF₄. It realizes low energy consumption operation by incorporating a cooling-rinsing system into the combustion-decomposition process, which is executed with a high-temperature burner.



Efforts toward Preventing Global Warming

With the goal of improving cost efficiency through resource conservation, Sumitomo Seika has been making a variety of efforts including process improvements, introduction of a cogeneration system (Befu Works, 1989), conversion to new fuels and recovery of waste heat. In fiscal 2003, our absolute energy consumption value dropped by 6% relative to the fiscal 2002 level. This is due in part to full utilization of the cogeneration system that was installed at our Himeji Works in fiscal 2002. From fiscal 2004 onwards, we will further our commitment to reducing the emissions of greenhouse gases including carbon dioxide and dinitrogen monoxide.

Main Efforts in Fiscal 2003 for Global Warming Prevention

Befu Works

Flow meters were installed in the steam pipe network to monitor the steam consumption of each steam system. At the same time, measures were taken to prevent steam waste, including the renovation of problematic steam traps and the reduction of steam loss.

Himeji Works

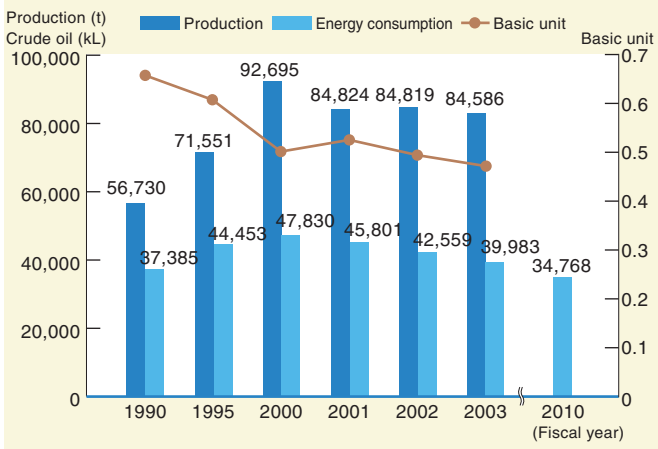
For energy conservation, drying equipment, waste heat recovery equipment and distilling process improvements were introduced.

At the same time, the cogeneration system installed in fiscal 2002 achieved full operation. Thus, the absolute energy consumption value of this plant dropped by approximately 9% compared to the fiscal 2002 level.

Chiba Works

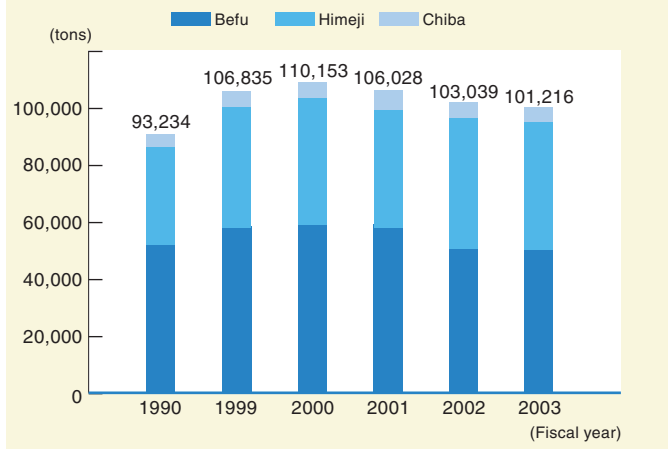
The boiler fuel was converted from heavy oil to natural gas, reducing the equivalent carbon dioxide emission of this plant for fiscal 2003 by 6% relative to the fiscal 2002 level.

Trend in Production and Energy Consumptions



Note: The basic unit for energy is an index calculated as the [total energy consumption as a crude oil equivalent] ÷ [total production]. "Total production" is a concept established in the Law Regarding the Rationalization of Energy Use and is a value based on the energy amount used by a main product in which each product is calculated as an equivalent to this main product. (Actual product weight differs.)

CO₂ emissions



Introduction of a cogeneration system (Himeji Works)

Efforts to Realize a Recycling-Oriented Society

Sumitomo Seika has been committed to waste reduction and recycling according to the principle of "taking responsibility for disposal of our own waste." Believing that waste arising from our business activities should be processed according to this principle, we are making waste reduction and recycling efforts.

Commitment to Waste Reduction

Usually, the products and byproducts (wastes) occurring from chemical reactions are subjected to:

- 1 Dehydration, separation and/or concentration
- 2 Utilization by the manufacturer
- 3 Detoxification (wastewater treatment), and/or volume reduction (incineration, etc.)

Then, the residues are commissioned to external waste treatment agents that conduct final disposal.

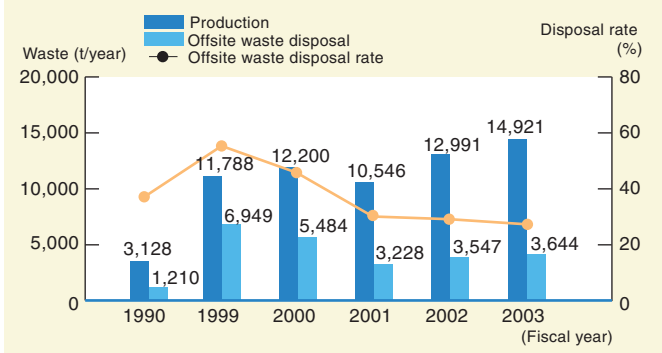
Believing that the maximum possible reduction in wastes from our plants through these efforts is critical in helping to realize a recycling-oriented society, we remain deeply committed to:

- 1 Mandating research into byproduct reduction in the new product development phase
- 2 Inhibition of waste occurrence by improvement of existing processes

Amounts of Waste Produced and Offsite Waste Disposal

Due in part to increased production, the amount of waste produced by Sumitomo Seika in fiscal 2003 increased by 15% over the fiscal 2002 level. However, as a result of efforts toward onsite waste utilization and volume reduction, the increase in the amount of offsite disposal was limited to 1% over the fiscal 2002 level. In addition, the percentage of offsite disposal of all waste produced in fiscal 2003 was reduced to 24.4% from the fiscal 2002 level of 27%.

Amounts of Production and Offsite Waste Disposal



The major contributing cause of increased waste in fiscal 2003 was the amount of waste-liquids occurring from the increased production of intermediate products for new pharmaceuticals in fine chemicals production processes.

Reduction in Final Disposal by Landfill

Since fiscal 2002, we had been seeking an alternative measure to the disposal by landfill of the active sludge produced by our Himeji Works. In fiscal 2003, the scope of utilization of the active sludge as a raw material for cement and fertilizer greatly expanded. Thus, we significantly decreased the amount of active sludge that is disposed of by landfill.

- 3 Waste volume reduction with volume-reduction equipment use onsite
- 4 Preference in commissioning waste to external disposal agents that are more committed to waste utilization

Through these efforts, we have been attempting to achieve two parallel objectives – waste reduction and waste utilization. In fiscal 2003, we emphasized:

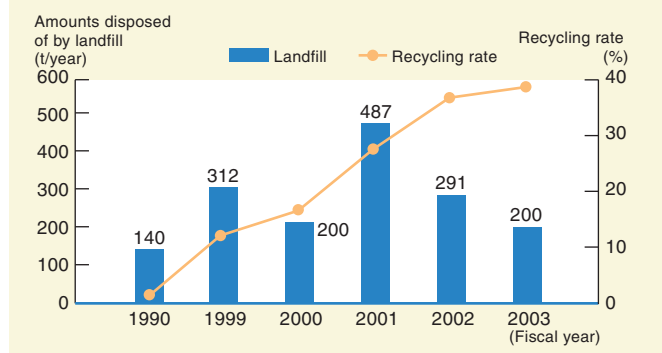
- Improvement of the recycling rate (utilization of wastes)
- Reduction of the amount of waste disposal by landfill

In this context, we tried to utilize wastes (which were previously disposed of by landfill) as raw materials for fertilizer and commissioned certain wastes (which had been previously disposed of by incineration) to waste heat recovery agents. Thereby, we succeeded in increasing the recycling percentage by 10% and reducing the amount of waste finally disposed of in landfills in fiscal 2003 by 40% from the fiscal 2002 level.

Improvement of the Waste Recycling Rate (Utilization)

The most common wastes produced by Sumitomo Seika are waste-liquids. Though certain types of waste-liquids can be converted into useful products through regenerative distillation processes, in the past, most waste-liquids had been disposed of by incineration as a means of volume reduction. In recent years, however, the popular desire to become a recycling-oriented society has been growing. Therefore, in order to achieve positive utilization of our waste-liquids, we have been seeking agents that can utilize them as auxiliary fuels, as neutralizing and reducing agents, and in thermal recycling processes (utilization of waste heat).

Recycling Rates and Amounts of Disposal by Landfill



Waste-incinerating volume-reduction plant



Collection of carefully classified wastes

Air Pollutant Reduction

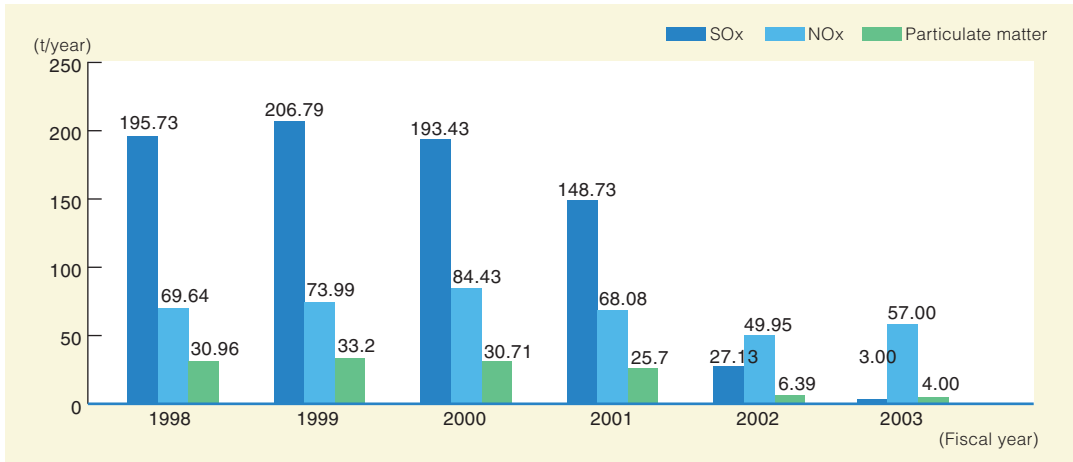
Air pollution in large cities still poses a serious problem. To address this problem, the Air Pollution Control Law of Japan stipulates emission controls of sulfur oxides (SOx), nitrogen oxides (NOx) and particulate matter for factories and automobile exhaust gases. In addition, the Law Concerning Special Measures for Total Emission Reduction of Nitrogen Oxides and Particulate Matter from Automobiles in Specified Areas was established and came into effect in fiscal 2003.

Commitment to Air Pollution Prevention

Sumitomo Seika has not only been operating its plants so that the amounts of air pollutants released by them do not exceed the control levels specified in the Air Pollution Control Law but has also been making efforts to reduce the amounts of these emissions in accordance with its voluntarily imposed control levels. In fiscal 2002, we significantly decreased the emissions of SOx, NOx and particulate matter from

our plants. In fiscal 2003, we succeeded in further reducing emissions of SOx and particulate matter through conversion to a new fuel. In fiscal 2004, a government ordinance for controlling volatile organic compounds (VOC) will be enacted. Accordingly, we are going to introduce measures for controlling the emissions of VOC substances covered by this ordinance.

Emissions of Three Air Pollutant Types



This cogeneration facility also contributes to reducing the amounts of SOx and particulate matter (Befu Works)

Reduction of Chemical Substance Emissions

In July 1999, the Pollutant Release and Transfer Register (PRTR) Law was enacted in Japan, and in fiscal 2002, the emissions reporting system of the PRTR Law was implemented. Under this system, manufacturers that handle chemical substances are required to report the amounts of chemicals that they emit and transfer, and to remain committed to voluntary efforts to reduce emissions.

Commitment to Reducing Chemical Emissions

As a part of our responsible care activities, since fiscal 1995, Sumitomo Seika has been voluntarily investigating the amounts of chemical substances that it has emitted and transferred. In particular, Sumitomo Seika has been actively and systematically reducing the emissions of 12 chemicals that the chemical industry is seeking to phase out in favor of alternative substances. We have achieved this through improvements in manufacturing processes, conversion to alternative solvents, more thorough

recovery of chemical substances and complete sealing of tanks. Furthermore, we promoted reduction of emissions of these 12 substances according to the second voluntary reduction plan for these substances that ended in fiscal 2003.

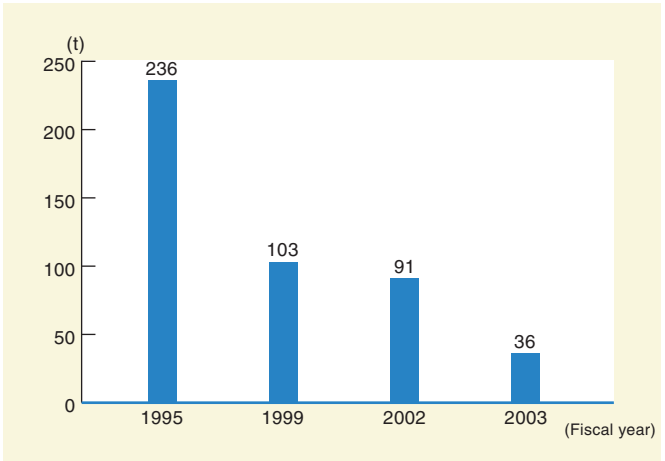


Exhaust gases pollutant removal equipment

Substances Subject to Voluntary Emission Control

Sumitomo Seika handles nine of the twelve chemical substances that have been selected by the chemical industry in Japan for special control measures. We developed emissions reduction plans for these nine substances, and have been taking measures to inhibit the release of these substances into the atmosphere. In fiscal 2003, we banned the use of acrylonitrile and the emissions reduction measures that we implemented for 1,2-dichloroethane, trichloroethylene and ethylene oxide in fiscal 2002 were effective. As a result of these measures, the total amount of emissions of these substances in fiscal 2003 was 57% less than the fiscal 2002 level. We will seek to overcome technical challenges to reduce the emissions of these substances further.

Emissions of Hazardous Air Pollutants that are Subject to Voluntary Reduction Plans



Some of the fiscal 1995 emissions used are approximate values.

Major Reduction Measures to the Present

[1] Trichloroethylene	Enhancement of condensing-cooling recovery facility, extension of distillation time. (1998, 2000, 2002)
[2] Dichloromethane	Adoption of alternative solvents for certain products. (1998, 2002, 2003)
[3] 1,2-dichloroethan	Enhancement of recovery facility. (1996, 1999, 2002)
[4] Formaldehyde	Installation of equalization piping (1998, 2000)
[5] Benzene	Disposal by incineration after modification of the exhaust gases line (2001)
[6] Ethylene oxide	New charging scheme, installation of simple pollutant removal equipment. (2001, 2003)
[7] Acrylonitrile	Total ban on use of acrylonitrile (2003)
[8] 1,3-butadiene	Execution of exhaust gases disposal by incineration (2003)

Atmospheric Emissions Reduction Plan

Sumitomo Seika has fulfilled the objectives for the 1st stage reduction plan of the 12 chemical substances specified by the chemical industry (30% reduction relative to 1995 emission levels). For the 2nd stage reduction plan, it was decided that each

chemical manufacturer in Japan should specify their atmospheric emissions for fiscal 2003 based on their fiscal 1999 emissions levels. We implemented the plans summarized below and achieved most of our goals.

Substance	1995 emissions (t)	1999 emissions (t)	2003 target values (t)	Actual 2003 emissions (t)
Acrylonitrile	9	8.8	4	2.5
Dichloromethane	70	24.8	8.6	3.5
1,2-dichloroethane	72	35.3	10	11
Tetrachloroethylene	1	1.2	0.5	0.5
Trichloroethylene	70	18.9	8	9.7
Ethylene oxide	4	4.7	2.7	3.7
1,3-butadiene	4	2.8	3.4	3.5
Benzene	4	4.1	0	0
Formaldehyde	3	2	1.8	1.9
Total	237	102.6	39	36.3



Gases recovery facility (Himeji Works)

Sumitomo Seika's Atmospheric Emissions Standards

No emission control or environmental standards have yet been specified for most of the substances that have been categorized as subject to the PRTR Law or as hazardous air pollutants. The reason for this is that the correlation between the amount of emission and the magnitude of the hazard of these substances has not yet been verified. It is believed, however, that chemical manufacturers should voluntarily control the emissions of some substances that have certain levels of hazard. Therefore, in fiscal 2002, Sumitomo Seika established voluntary

emissions standards by referring to the guidelines of the WHO and the EPA, and has been verifying at regular intervals that the emissions of certain chemical substance do not exceed their control values. In accord with these standards, we have been strictly controlling the emissions of potentially hazardous chemical substances.

(NOTE) WHO: World Health Organization
EPA: U.S. Environmental Protection Agency

Dioxin Control Measures at Incineration Facilities

Sumitomo Seika's waste-liquid incineration facility in Befu Works belongs in the small-scale incinerator furnace category. In compliance with the Law Concerning Special Measures against Dioxins and the Waste Management and Public Cleansing Law, we have been measuring dioxin concentrations in the atmosphere,

water and the working environment. The measurements in fiscal 2003 were ten percent or lower in comparison with the fiscal 2002 control values. Furthermore, the small-scale incinerators for burning refuse at our Befu, Himeji and Chiba Works are either currently inactive or have been decommissioned.

PRTR Law Reporting

The PRTR Law specifies 354 substances and stipulates that manufacturers must report to the authorities the status of these substances. Starting with these, Sumitomo Seika has been monitoring 480 substances, including those specified by the Japan Chemical Industry Association (JCIA) for voluntary survey. For fiscal 2004, the number of substances that we had to report in compliance with the PRTR Law was 35. Sumitomo Seika released more than one ton per year of 14 of these substances into the environment. (Befu Works: 5 substances, Himeji Works: 7 substances, Chiba

Works: 4 substances)
→ The data for ethylene oxide, xylene, etc. has been reported as a sum from all of our works.

14 Substances Covered by PRTR

- [1] 1,3-butadiene

[2] Dichloromethane

[3] Ethylene oxide

[4] Chloromethane

[5] Xylene

[6] Acrylic acid

[7] Acrylonitrile
- [8] Ethylene glycol

[9] 1,2-dichloroethane

[10] Formaldehyde

[11] Toluene

[12] Trichloroethylene

[13] Ethyl benzene

[14] Methyl cellosolve

Measures to Reduce Water Pollution Impacts

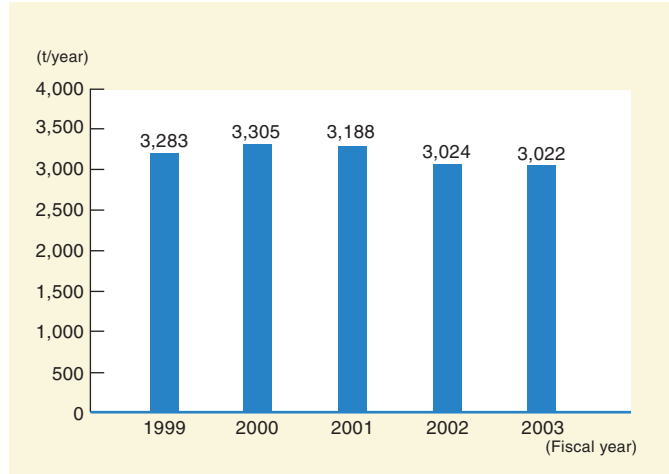
Our Befu Works and Himeji Works are located at the Harima Industrial Park on the Seto Inland Sea. The mechanisms that cause red tide and the eutrophication of this wide stretch of closed water have been investigated. In addition, area-wide total pollutant impact control has been implemented here in order to decrease chemical oxygen demand (COD) and alleviate the overall impacts of pollutants such as nitrogen and phosphorus that adversely affect water quality.

Pollutant Handling

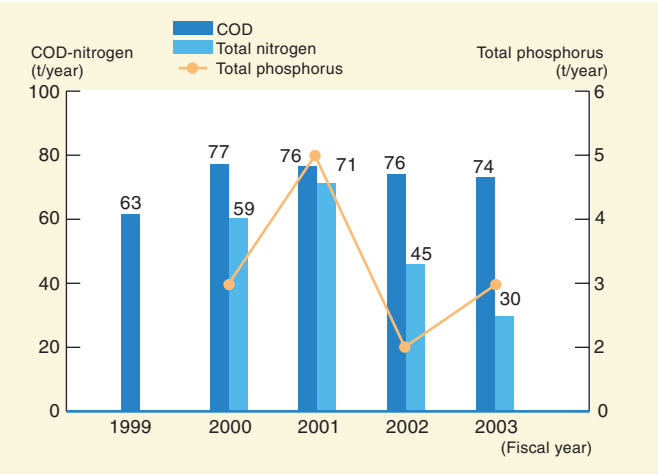
So far, total COD control has been carried out in four stages, but the environmental standard has not yet been satisfied, due in part to the increase in household wastewater. To address this problem as well as the eutrophication problem, the fifth total pollutant impact control stage has been implemented with fiscal 2004 set as the goal for completion. The scope of this stage also includes nitrogen and phosphorus pollutants. Sumitomo Seika is committed not only to fulfilling these standards in compliance with relevant laws and regulations but also to maintaining the quality of its wastewater through a system for constantly reporting the measurements of its wastewater to

government authorities. Our past record of water resources utilization and change in the COD with our wastewater are summarized below. Emission control of nitrogen and phosphorus at existing facilities will come into effect in fiscal 2004. For this purpose, we introduced automatic nitrogen and phosphorus analyzers in fiscal 2003 to monitor the concentrations of nitrogen and phosphorus emissions. We will continue to remain committed to controlling emission concentrations of nitrogen and phosphorus pollutants.

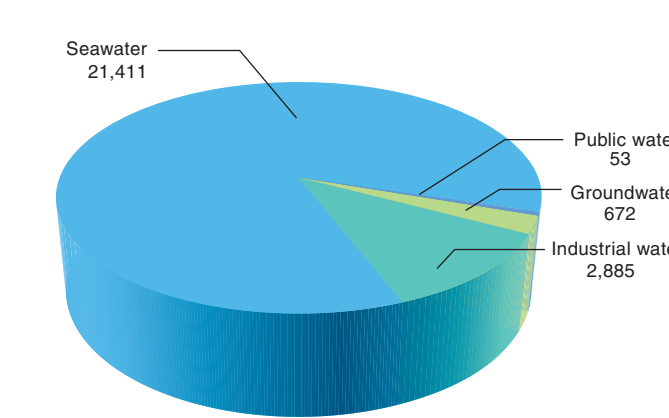
Change in Wastewater Amounts



Change in Water Pollution Impacts



Water Resources Utilization (t/year)



Wastewater treatment facility (Himeji Works)

Commitment to Chemicals Safety

Chemical substances are indispensable for providing abundance and comfort to modern society. However, certain chemical substances pose danger and can cause harm to people and the environment. Sumitomo Seika has been making appropriate efforts to assure safety with chemical substances through the activities introduced below.

Safety Survey on High Production Volume Chemical Substances

At the 1992 Earth Summit held in Rio, Brazil, the proposal was made that the acquisition of safety data for existing chemical substances should be promoted. Then, the Organization for Economic Cooperation and Development (OECD) decided to acquire safety data on chemical substances in use with annual national production levels in excess of 1,000 tons. Sumitomo Seika agreed when the Japan Chemical Industry Association (JCIA)

expressed its intention to support this project, and voluntarily promised to acquire the data for seven substances (sulfolane, hydrogen sulfide, formalin, dimethyl ether, sulfur dioxide, thionyl chloride, and sulfuryl chloride). Currently, the review in Japan for sulfolane has been completed, and the results are scheduled to be reported to the OECD during fiscal 2004.

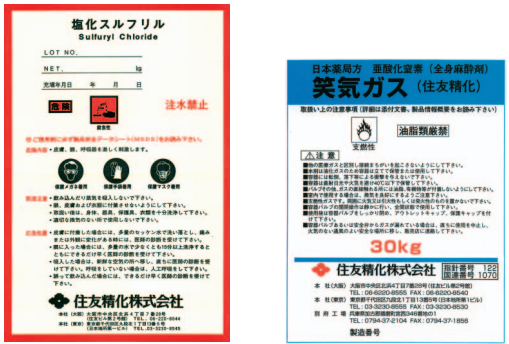
Quality Assurance

Having acquired ISO 9001 certification, the international standard for quality assurance systems, Sumitomo Seika remains committed to "providing a sense of reliability and satisfaction to our customers" by implementing this quality assurance system in accordance with ISO 9001 guidelines. Furthermore, in manufacturing medical drugs and their intermediates, we follow a comprehensive quality assurance practice that is compliant with the Current Good Manufacturing Practices (CGMP) for medical drug manufacturing and quality control that are specified by the U.S. Food and Drug Administration (FDA).

Warning Labels

In addition to MSDSs, we provide warning labels so that our customers can quickly judge the danger or hazard of Sumitomo Seika products that the customers use.

Warning Label Examples



Provision of Product Safety Information

Material Safety Data Sheets (MSDS) for chemical substances are documents that describe the characteristics and possible hazards of related substances to prevent possible accidents with the substances. Currently, every chemical manufacturer is required to provide MSDSs in compliance with the PRTR Law, the Industrial Safety and Health Law, and the Poisonous and Deleterious Substances Control Law. Since 1993, Sumitomo Seika has been actively utilizing its MSDS to provide customers with accurate information on the characteristics of the substances we offer to prevent accidents and disasters.



Safety and Accident Prevention Efforts

Learning from past accidents and disasters, the chemical industry is focused on putting "safety first" and is committed to proactive prevention of accidents and disasters.

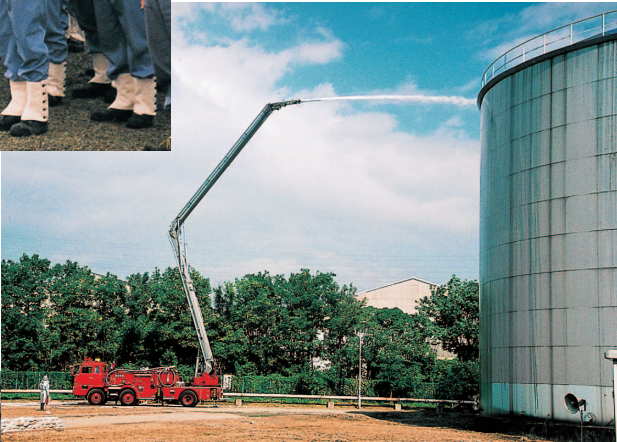
Efforts in the Past Five Years

We have been trying to prevent accidents through a variety of measures including automation of equipment and facilities, scheduled maintenance work, introduction of safe equipment that reduces erroneous operation, thorough safety education for operators, education about close-call experiences, and promotion of hazard prediction activities. We have also been holding accident response drills at regular intervals and promoting activities to prevent the aggravation of accidents. Nevertheless,

we had two incidents in 2002 and one incident in 2003. To strengthen further our accident prevention measures, we are now introducing new methods for updating the existing facility safety evaluation system so that we can more efficiently review renovated and newly installed facilities. Currently, we are working on a training program for our personnel to learn the new review techniques.



Disaster prevention training



Water sprayed from a fire truck



Water spraying drill

Commitment to Occupational Safety

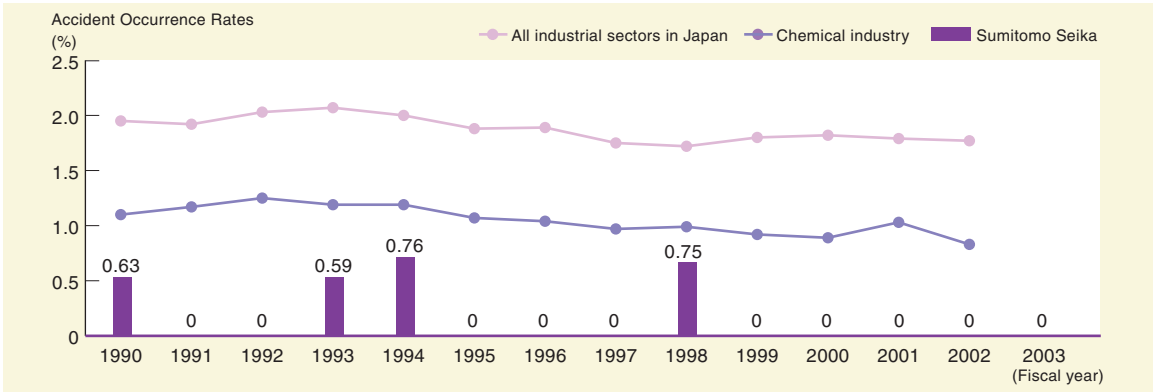
According to statistical data from the Japanese Ministry of Health, Labor and Welfare, the number of job-related accidents resulting from the execution of assigned tasks has been decreasing significantly in recent years. In particular, the number of job-related accidents in the chemical industry in Japan is much lower than the average of all industries.

Toward Elimination of Accidents and Disasters

In addition to making efforts for security and disaster prevention, Sumitomo Seika, with the goal of elimination of accidents and disasters, has been committed to accident prevention through execution of its annual safety activity plans. Consequently, in the past 13 years beginning with fiscal 1990 only three accidents in our

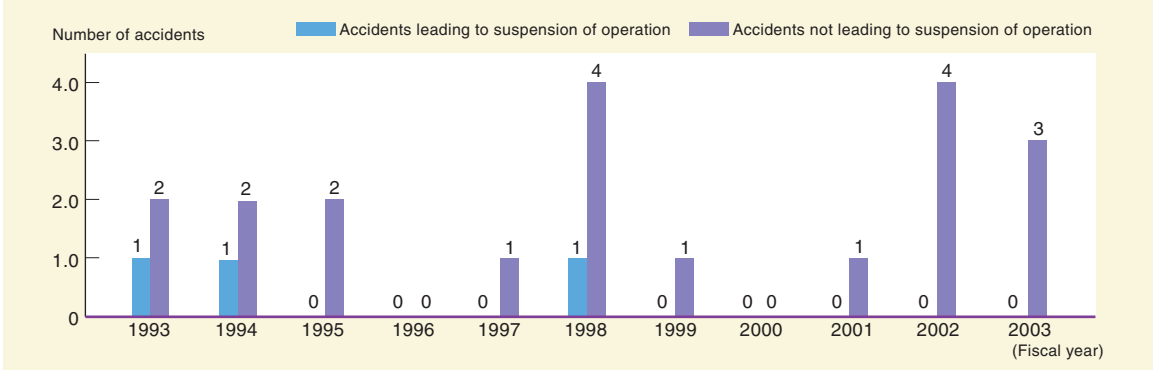
works resulted in temporary suspension of operation. To eliminate accidents including those not leading to suspension of operation, we are further enhancing management and guidance and executing routine safety improvement activities, including hazard prediction and potential danger identification.

Comparison of Job-Related Accident Occurrence Rates in Japan



Accident occurrence rate = (number of deaths and injuries caused by job-related accidents)/(total work hours) × 1,000,000 hours
The accident occurrence rate is for accidents that occurred in factories.

Number of Job-Related Accidents (at factories)



Life-saving drill



Rescue drill with respiration aid equipped

Commitment to Logistics Safety

Safe delivery of products to customers is a critical requirement for chemical manufacturers. An accident during logistics can cause serious trouble for local communities and customers. Therefore, in addition to a commitment to prevention of accidents, chemical manufacturers must also prepare for and conduct drills to respond to emergency situations that might arise.

Yellow Cards and Warning Labels

As the number of traffic accidents has increased in recent years, the number of accidents during transportation of chemical substances has also increased. We hold safety association meetings with our logistics subcontractors and execute safety oversight in our comprehensive safe logistics program. However, total elimination of traffic accidents would be impossible because of present-day road traffic situations. In anticipation of the occurrence of a traffic accident during the transportation of chemical substances, each driver transporting our chemical products carries a yellow card that summarizes the logistics safety information about the chemical substances being transported. Furthermore, a warning label attached to each container identifies the type of substance in the container and the precautions for handling the substance to allow drivers to react quickly to a possible emergency and prevent aggravation of an accident.



Yellow cards that summarize accident countermeasures

Hazard Assessment for Substances Being Transported

Before transporting our products, we review the hazards that could arise from each chemical substance by referring to the standards of the National Fire Protection Association of the USA. These standards are based on three elements – health hazard, combustion hazard, and instability hazard. Based on the results of our review, we determine the container construction, the transportation unit amount, the transportation route, and the subcontractor for transportation to assure safety during transportation. In fiscal 2003, we executed hazard reviews for 47 products and transportation method reviews for 36 products.



Tank lorry that incorporates safety features

Transportation Accident Relief Drills

As a member of the High Pressure Gases Regional Accident Prevention Association, Sumitomo Seika is participating in regional accident relief drills held at its plants to prepare for possible accidents as well as to develop a liaison network in preparation for response to emergency situations.



Transfer from transportation by lorry to safe JR cargo train

Promotion of Communications with Local Communities

Companies increasingly need to build the support of local communities through communications with them. Sumitomo Seika furthers its commitment to environmental protection through efforts to promote dialog at community meetings sponsored by the Japan Responsible Care Council (JRCC) as well as programs undertaken by local governments.

Communication Activities with Local Citizens

Our first dialog meeting was held in 2002 with a local community self-governing body, local government personnel and subcontractor representatives. We presented our commitment to responsible care activities and exchanged opinions with other participants. In 2003, our Befu Works held an opinion exchange meeting for the pollution prevention council sponsored by the Harima-cho

government. The Himeji Works participated in the Himeji City Environmental Fair that is held every year by the Himeji City government to promote communication with local citizens. Through such activities, we hope to make Sumitomo Seika a company that is loved by the people of the local communities where we have operations.



Panels showing Sumitomo Seika activities related to the environment and safety, as well as handicrafts made of vines and acorns collected at our works were displayed to visitors to exhibit our efforts for coexistence with nature.



Responsible Care Community Dialog Meeting

We are holding community dialog meetings to present to local citizens our efforts for environmental protection and safety activities through descriptions of our responsible care activities. In fiscal 2002, we presented our responsible care activities in the Hyogo area at a community dialog meeting. We are scheduled to hold another community dialog meeting in the Himeji area in fiscal 2005 to report our responsible care activities.



Responsible care activities for three companies were reported.