

Responsible Care Report 2010

Approach to safety and environment issues

If you have questions, please contact:

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

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Corporate profile (as of March 31,2010)

Corporate Name Sumitomo Seika Chemicals Company, Limited.
Head Office [Osaka] 4-5-33 Kitahama, Chuo-ku, Osaka
 541-0041, Japan
 [Tokyo] 1-13-5 Kudan Kita, Chiyoda-ku, Tokyo
 102-0073, Japan
Homepage URL <http://www.sumitomoseika.co.jp/>

Established July 1944
Capital 9,698 million yen
Sales 56,525million yen as consolidated;
 42,903million yen as solo
No. of employees 1,094 as consolidated; 874 as solo

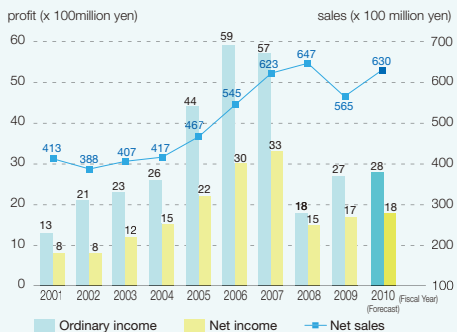
Major Lines of Business

[Chemicals Division] :
 Industrial Chemicals, Pharmaceutical-related Products,
 Water-soluble Polymers, Fine Particulate Polymers,
 and Functional Materials

[Super Absorbent Polymers Division] :
 Super absorbent polymer

[Gases and Engineering Division] :
 Medical Gases, Chemical Gases, Standard Gases,
 Electronic Gases, Generators of oxygen,
 nitrogen and hydrogen gas (PSA method),
 and General Chemical machinery

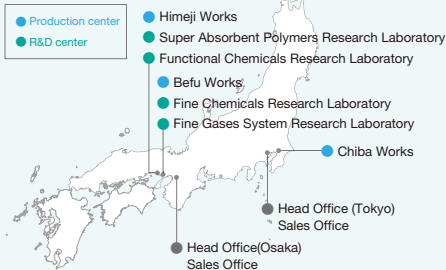
Trend of business results in the past



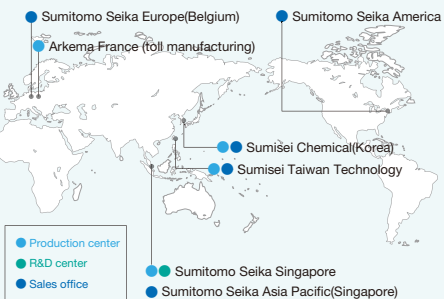
Major Business Locations

Consolidated subsidiaries : 2 companies in Japan,
 6 companies overseas
Production centers : 3 in Japan, 4 overseas
R&D centers : 4 in Japan, 1 overseas
Sales offices overseas : 5 offices

Business locations in Japan



Business locations overseas



In publishing

Responsible Care Report:

Environment and safety issues, including countermeasures for global warming, are the subjects which not only industries but also ordinary citizens are expected or rather requested to address seriously in respective positions. Building up a safe society is one of the fundamentals everyone hopes for. Industries play an important role in tackling these problems and are asked to fulfill their missions of this domain in various ways.

This Responsible Care Report has been published so as to help, even a little, familiarize community people as well as members associated with our company with activities we carry out for the purpose of environment protection and safety through plain explanations of our actions and also introductions of our employees' topics-style remarks.

We are interested in knowing how you feel about what is written in this Report and wish to incorporate your feedback into our future RC Report as well as our future RC activities.

This Report has been prepared in line with "Environment Report Guideline" and "Environment Accounting Guideline" of Japan's Ministry of Environment, and the descriptions of this Report have undergone independent third-party verification by the Japan Responsible Care Council.

Sumitomo Seika Group Charter for Business Conduct

1. We respect Sumitomo's operational rules and aim for coexistence and co-prosperity with society.
2. In the chemical field, we develop original technology accepted in the world, and contribute to society by supplying high quality products both domestically and internationally.
3. We observe laws in and outside the country as well as company regulations, social rules and ethics, and act with social sound judgment.

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Coverage of this report

Organizations : The company's domestic works (Befu, Himeji and Chiba)
 ※Consolidated subsidiaries are covered in corporate profile and site report
Period : From April 1, 2009 to March 31, 2010
Major areas : Environment and safety activities, and performance data
Publication : Sept. 2010 (Next publication: Sept. 2011)

Aiming to become a highly trusted company that contributes to building sustainable, safe and secured society

Sumitomo Seika Group, as its corporate policy, seeks to achieve, first and foremost, co-existence and co-prosperity with society and contribute to the growth of society by supplying unique and high quality products both in Japan and abroad, thereby aiming to prosper as an R&D-oriented chemical company that operates niche businesses globally, capitalizing on world-class technologies. As the Group promotes businesses, we consider it important that we address various challenges and take concrete steps steadily, centering on Responsible Care initiatives, for such issues as "Achieving Low-Carbon Society", "Promoting Safety Management of Chemical Substances", "Utilizing Resources and Energies Effectively", and "Building Safe and Secured Society", while developing business in conformity with social norms and gaining trust and confidence from society.

[Safety Comes First]

It is a mission of supreme importance for a corporation to "ensure safety of employees and people in nearby local communities". We assess a variety of risks in all stages of our business activities and undertake proper measures proactively to ensure safety, with due consideration also to opinions of neighboring communities. When we are to adopt a new manufacturing process or alter an existing process or otherwise handle new chemical substances, we carry out prior safety evaluation of equipment, including risk assessment. For existing processes, we thoroughly plan and make risk assessment as well as conducting inspection, repair and renewal of equipment according to a preventive maintenance system which equipment-associated risks have been duly factored in.

In addition, we seek to improve our employees' safety skills and sensitivity to hazard risks, providing all of them with various educational programs with the belief that ensuring safety should begin with developing human resources. Those programs include "Technical Education", "Hands-On Safety Education" and "Risk Assessment at Workplaces, Near Miss Incident Identification and Risk Prediction". We will advance these initiatives to achieve the continued performance of "zero-accident and zero-injury", guided by our basic policy of "Safety Comes First".

[Giving Due Consideration to the Global Environment]

The Japanese government, setting new targets for reduction in greenhouse gas emissions toward prevention of global warming, is looking into a possible introduction of an emissions trading scheme, etc. Sumitomo Seika recognizes this issue as having important relevance to one of its major corporate challenges and has been working vigorously on various measures that are aimed at reducing emissions. As a result, our unit emissions have improved substantially as compared with corresponding figures in 1990, although the volume of greenhouse gas emissions has increased with the expansion of production. We will further strengthen our efforts to adopt latest technologies, refine existing processes, etc., thereby contributing to achieving a low-carbon society in the future.

From a global perspective, many countries are introducing new regulations on chemicals to minimize adverse effects of chemical substances on human health and the environment by 2020. Responding to these developments properly, our company is working to conduct systematic assessment and management of chemical substances that we handle.

[Enhancing Legal and Ethical Compliance]

We have declared in our Charter for Business Conduct that we will conduct business with socially sound judgment and in compliance with relevant laws and regulations, both in Japan and overseas, company rules and social norms or ethics.

To make this guiding principles of the Charter fully known to all of our employees, we have prepared various documents such as "Handbook for Sumitomo Seika Group Charter for Business Conduct", "Company Rules Relating To Relevant Laws and Regulations", and "A Work-related Laws & Regulations Map". These documents are referred to when we provide educational programs to the employees. As a responsible member of society, we will continue to observe laws and regulations and carry out businesses with socially sound judgment.

We fully recognize that it is our mission to contribute to the growth of society as well as the formation of sustainable, safe and secured society through our business activities. With this recognition, we will work sincerely and diligently to meet various challenges ahead of us and seek to grow as a company that is highly trusted by everyone in society. This Report outlines some of the Responsible Care activities that Sumitomo Seika Group is undertaking. We hope that you will find the Report useful in understanding our ongoing efforts, and we will invite any comments or opinions you may have on the Report.

September 2010



Yusuke Ueda, President

Corporate Policy on Safety, Environment and Quality

Sumitomo Seika Chemicals performs activities, conforming to Sumitomo's Business Principles, with the corporate mission of contributing to the growth of society through the supply of unique and quality products and services that draw upon the strength of the Company's innovative and advanced technologies as well as to the formation of sustainable society in promoting business and in accordance with the basic principles of achieving "zero-accident and zero-injury operations", ensuring "customer satisfaction" and promoting "co-prosperity with society", while maintaining the fundamental policy of "Safety Comes First".

Based on these principles, Sumitomo Seika places the highest priority on realizing the following in tune with the objectives of the Responsible Care initiatives:

- 1 To ensure safety of employees and neighboring communities through continued achievement of "zero-accident and zero-injury operations";
- 2 To assure that all people concerned, including employees, logistics personnel, customers and general consumers, are free from health hazards, by ascertaining safety of raw materials, intermediates and products that the Company handles or supplies;
- 3 To supply quality products and services that are safe in use and meet customers' needs;
- 4 To protect the environment by assessing and reducing environmental load at all stages of a product lifecycle from development through disposal.

Each company section and every employee must fully recognize the vital importance of the above corporate policy and strive to address individual issues proactively and swiftly on their own initiatives and seek continual improvement in compliance with relevant laws and regulations.

(Revised March 2009)

Midterm action guidelines

Common	<ol style="list-style-type: none"> 1) "Zero"-violation of laws, and compliance with company rules 2) "Zero"-trouble related to human error and facility management <ul style="list-style-type: none"> • Efforts for anti-"near-miss", KY (risk prediction) and 5S initiatives, and thoroughgoing pointing and calling • Scheduled renewal and repair of aged facilities
Disaster Prevention & Safety	<ol style="list-style-type: none"> 1) Scheduled and effective implementation of risk assessment on operational work 2) Sure review on design and scheduled risk assessment on production process at existing facility 3) Upgrading of infrastructure in manufacturing works (upgrading of explosion protection of communication equipment; review of communication method inside manufacturing works)
Environment	<ol style="list-style-type: none"> 1) Implementation of environment protection by energy saving <ul style="list-style-type: none"> • Planning for reduction of greenhouse effect gas 2) Promotion of sustainable business operation by reduction of waste 3) Scheduled reduction of volatile organic compounds
Contribution to society	<ol style="list-style-type: none"> 1) Better communication with local community and further contribution to society

Sumitomo Seika in daily life

Sumitomo Seika's products are well accepted for their outstanding functions and qualities in various applications. The company is actively engaged in supply of products which well contribute to protection of the environment and also help enhance product safety.

Various High-Purity Gas Generators
For steelmaking, incinerator

Energy-saving Gas Generators
Engineering

Agricultural Chemicals
Thiophenol

Standard Reference Gases
For measurement of toxic air pollutants,
measurement of compliance with exhaust regulations

Liquid crystal display monitor
High-Purity Ammonia

Hair Gel
AQUPEC

Bathtubs
FLO-THERE

Hair spray
Dimethyl ether

Tissue paper
PEO

Shampoo, Rinse
HEC

Bonding of belt, Hoses
CSM LATEX

Tablets
BVU

Cosmetic additive agent
for foundation, emulsion
FLO-BEADS

Mosquito coil
Thionyl chloride

Pet sheets
AQUA KEEP

Cooled sheet, Adhesive skin patch
AQUPEC, AQUAANA

Personal computer
Electronic Gases

Disposable diaper
AQUA KEEP

Super Absorbent Polymers

The Super Absorbent Polymer "AQUA KEEP®", which has the ability to absorb water, is utilized for disposable diapers and industrial products. Its quality has been highly praised by our users.

- Hygiene Products
- Industrial Materials
- Other Applications

Functional Chemicals

We offer a wide variety of functional chemicals, such as water-soluble polymers, water-absorbent polymers, emulsion, latex, powdered plastics, functional materials, etc., all of which are utilized in a number of diverse situations for a variety of reasons, including daily necessities, such as shampoos, detergents, and cosmetics, as well as for polymer coating, special adhesives, and rubber products.

- Water-soluble Polymers
- Water-Absorbent Polymers
- Emulsion
- Latex
- Powdered Plastics
- Functional Materials

Fine Chemicals

We offer fine chemicals, such as pharmaceutical intermediates and various products for the IT industry, while utilizing our flagship synthetic technology of organic sulfur compound. We also run various production facilities with a broad range of applications in order to meet user needs by flexibly dealing with both pilot and large-scale productions under our established quality control system.

- Pharmaceutical-related Products
- Various Additives
- Various Industrial Chemicals

Gases

Sumitomo Seika succeeded in development of a gravimetric blending method of standard gas for the first time in Japan, and the synthesis, purification, and analysis technologies for producing those gases have been highly regarded by our users. We supply cost-competitive high-purity gases that meet every user's needs, such as semiconductor gases and industrial gases used as basic material.

- Electronic Gases (Semiconductor Gases)
- Mixed Gases
- High-Purity Gases
- Standard Gases
- Precision Pressure Regulator
- Gases for precision Industries
- Medical Gases
- Gases used in daily life

Engineering

Since our energy-saving gas generators, with a gas purification and separation system utilizing a PSA (pressure swing adsorption) method with highly efficient absorbency, have the advantage of being highly reliable and energy efficient, they are used all over the world.

- PSA System PSA Gas Generator
- Chemical Plant
- Equipment for Electronic Industry

Responsible Care

Aiming to contribute to formation of "safe and secured society" and "sustainable society through reduction of environmental load", Sumitomo Seika sets out agenda voluntarily for the purpose of dealing with issues of safety, environment and quality at all stages in the total life cycle of product from development to disposal, and steadily executes such agenda under PDCA (plan-do-check-action) management systems.

Responsible Care of Sumitomo Seika

Contributing to society through supply of quality products is the first pillar of our business operations. Meanwhile, increasingly high emphasis has been placed on "achieving low-carbon society", "minimizing adverse effects of chemical substances on human health and the environment" and "enhancing safety systems toward elimination of industrial disasters" in the area of environment and safety, and simultaneously issues in this particular area have been diversified and sophisticated year after year. Those issues need to be addressed voluntarily by entities concerned in respective positions. Sumitomo Seika has been participating in Responsible Care since 1995, which is impelled by the world's chemical industries. We, as a responsible member of society, not only comply with related laws and international rules but also voluntarily and aggressively, even beyond legal requirements, work on energy-saving, resource-saving, environment protection, disaster prevention, and many others as Responsible Care activities, and publish results of such activities, while maintaining dialog and communication with society and thereby intending to build a company more trusted by society.



Welcoming people from community



What is Responsible Care?

Responsible Care refers to voluntary activities by companies handling chemical substances aimed at preserving "environment, safety and health" in all phases of the product cycle from development to disposal via production, distribution, use, and final consumption, while publishing results of activities and maintaining dialogue and communication with society.

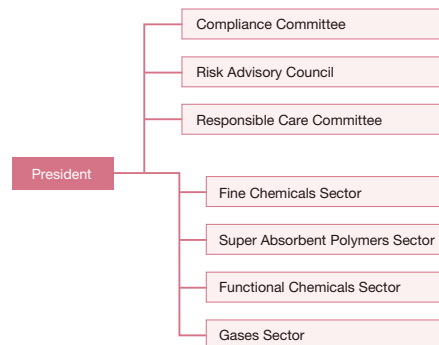
Policy

Sumitomo Seika Group's business policy is to contribute to society by supplying quality products to our customers inside and outside Japan under the fundamental principle of co-existence and co-prosperity with society. Responsible Care initiatives, among others, are extremely important issues for our chemical industries in order to continue sustainable development and gain trust and confidence from society. We have declared our intent to drive Responsible Care initiatives and set out basic policy regarding "safety, environment and quality" in our business management. The highest priority is placed on "zero-accident and zero-injury", "customer satisfaction" and "co-existence and co-prosperity with society" under the basic policy. We have made it the norm for all our employees to comply with laws and to undertake improvements constantly. This policy is reflected in the mid-term action plan as well as the annual action plan, and serves for sharing goals and unifying intentions among all the employees.

Organization

RC activities, which are to voluntarily secure safety, environment and quality, are recognized to be part of corporate social responsibility and simultaneously one of the most important pillars of business management. Issues over these years include global warming, safety of chemical substances and disaster prevention, for which greater management resources are required to be devoted. Since it gives a significant impact to business management, we have formed "RC Committee" consisting of all the executive officers for the purpose of precisely judging rightfulness of plans and executions of our RC activities. The Committee is held twice a year, where policies and plans are examined before decision is reached. RC activities are thus implemented under such PDCA management systems.

Organization Chart



Action Plan

Our RC activities are implemented under the mid-term action plan and the annual action plan. The mid-term action plan is coordinated with the company's mid term business plan. Specific objectives of the mid-term action plan are set out under the principle of "achieving safe and stable operation with zero-accident and zero-injury, preservation of global environment, risk management of chemical substances and contribution to society through proactive implementation of RC activities".

This mid-term action plan is reflected in the annual action plan for execution. Progress of the plan is reviewed twice a year, which is reported to the RC Committee for review by executives, whereby RC activities are upgraded step by step spirally.

Issues of the Mid-term Action Plan

- 1 Execute proactively RC activities, and fulfill corporate social responsibility
- 2 Achieve zero-accident and zero-injury, and nurture "safety-mind culture" to secure safe and stable operations
- 3 Achieve reduction of environmental load brought by operations and develop process and product requiring less environmental load
- 4 Comply rightly with related laws inside and outside Japan
- 5 Support RC activities of Group companies inside and outside Japan

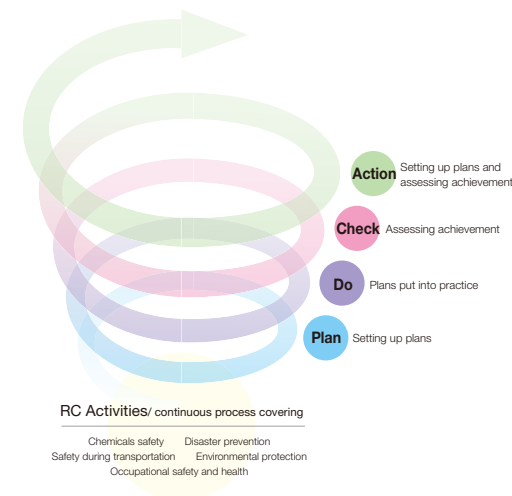
Auditing

We organized "RC Auditing Special Committee" to verify compliance with laws by respective works and laboratories at home and abroad and audit achievements of annual action programs. In such auditing, verification and opinion exchange are made, with the aim of raising management level, especially regarding practice of 3S (straightening, ordering and cleaning; all beginning with the letter "S" in Japanese words) by manufacturing premises, sharing of accident / trouble information among all sections concerned, and achievements of measures for specific issues. In 2009, our auditing centered on "checkup of aged facilities and scheduled maintenance", "measures to prevent human errors", and "compliance and visualization". In addition to these, internal auditing is carried out by our employees who have experience in accreditation of ISO.

Third-party review

We have introduced management tools such as ISO which help steadily carry out RC activities. The company has acquired certifications of ISO14001, OSHMS, and ISO9001, while continually improving systems for environment, occupational safety and health, and quality. In addition, we undergo periodical reviews by various certification authorities.

Spiral Leap of Responsible Care Activities



GENBA interview

General Manager, Responsible Care Office

Makoto Sato



Reviewing the RC activities in 2009

Aiming for "no major accident", the company took various measures including "introduction of occupational safety and health management system", "numerous voluntary actions by respective works", "introduction of a variety of maintenance systems" and "reinforcement of technical education and introduction of hands-on safety education". In 2009, however, we had three major troubles which might have led to serious accidents. We caused our community people the inconvenience and uneasiness. Reviewing this, in 2010 we will exert utmost efforts to steadily achieve our RC action programs so that we can become a "company with zero-major accident" which is highly trusted by society and community people.

Environmental accounting

Environmental accounting has been introduced as a tool to gather and evaluate data covering cost and effect associated with environment protection, whereby more effective measures could be figured out.

Environmental Accounting Guideline of Ministry of Environment and Environmental Accounting Guideline of Japan Chemical Industry Association were used as reference.

■ Counting for 2009 (unit: million yen)

Classification of environmental cost		Main implementation and effect	Amount of investment	Amount of expenses	
Business area cost	Pollution prevention cost	Prevention of air pollution	Measure to control discharge of chemical substance	134	156
		Prevention of water pollution	Installation of effluent shut-off valve Operation / management of effluent treatment facility with activated sludge	225	277
	Others	New installation of activated carbon tower	0	2	
	Global environment protection cost (global warming, energy-saving)	Installation of high-efficiency drier	173	1,020	
		Operation / management of in-house power generator			
	Resource circulation cost (industrial waste, etc.)	Investment for reduction of sludge Disposal / effective utilization of industrial waste	2	358	
	Up/Downstream cost	Procurement of environment-certified articles	5	0	
Management activity cost	Cost for operation and management of environment protection systems	13	151		
R&D cost	Study on reduction of solvent in product Study on lowering of environmental load	72	236		
Social activity cost	Greening and beautification around premises	0	0		
Environmental damage cost	Environment damage repair cost	0	0		
Total			624	2,200	

Economic effect

Increased ability of the activated sludge facility contributed greatly. Reduction was achieved with regard to expense for waste material treatment done by an outside contractor. Discharge of volatile organic compounds was reduced to lower environmental load and simultaneously procurement cost of those compounds was saved. These are some economic effects realized.

(Unit: million yen)

Kind	Contents	Amount
Cost saving	Reduction of waste disposal cost by increased ability of activated sludge facility	965
	Reduction in discharge of volatile organic compounds induced reduction in purchase cost of solvents	112
	Reduction of steam consumption by introduction of high-efficiency dryer	29
	Others	40
Total		1,146

Period covered: from April 1, 2009 to March 31, 2010

Scope: Sumitomo Seika solo

Method of calculation: Investment and cost for environment protection are calculated on a prorata basis from the total amount.

Activities and achievements

Sumitomo Seika sets out targets and prioritizes actions every year to steadily implement RC activities. The following table shows targets, prioritized actions, achievements and self-evaluations of respective areas in 2009:

Area	Target	Issue / Prioritized action	Achievement	Evaluation	Page	
Management system	Reinforcement of management system	① Enhancement and operation of environment management system	We have revised our laws & regulations map and evaluated status of compliance by our compliance evaluation system.	◎	8	
		② Enhancement and management of occupational safety and health management system	We have steadily carried out risk assessment, spruce-up and visualization.	◎	21 22	
Anti-human error measure	"Zero" trouble related to human error and to production facility	① Promotion of 5S initiatives (five actions = straightening, ordering, cleaning, cleanliness, and discipline)	We were able to greatly reduce troubles attributable to human error. ① We promoted 5S initiatives as a movement of the whole works	◎	20	
		② Promotion of scheduled renovation and maintenance of aged facility by preventive maintenance method	② Some works started operations while others started preparations for introduction.			
Compliance with law	"Zero" violation of law	① Implementation of renewal, upgrading and self-checking of law map	There were two cases where no notification of construction work was filed, but except them, there were no problems in general. We proceeded with the program to help acquisition of national vocational qualifications.	○	8	
		② Implementation of three-year plan for acquisition of nationally-recognized qualifications based on new job descriptions				
Safety	Occupational safety	"Zero" accident involving lost workday "Zero" accident involving no lost work day	① Promotion of safety education in each section ② Scheduled implementation of risk assessment on operation	○	21 22	
	Disaster prevention	"Zero" major accident	① Promotion of anti-quake measure	▲	19 20	
	Chemicals safety	Enrichment of safety data on chemicals and rightful compliance	① Compliance with REACH, regulation of chemicals in EU ② Compliance with GHS, MSDS, label or the like in each country	◎	23	
	Safety during transportation	"Zero" major accident during transportation	① Assistance to logistics contractor for their safe transportation ② Training assuming an accident during transportation (three times / year)	◎	24	
Environment	Global warming / Energy saving	① Unit consumption of energy: 1% reduction ② Unit consumption of energy for transportation: 1% reduction	① Scheduled improvement of per-unit high energy consuming process ② Participation in the business of "trial emission trading in domestically integrated market"	○	11 12	
	Waste	Actual records for 2006 to be maintained				
		① Amount of waste generated (discharge from works) ② Rate of recycling / final disposal by landfill	① Scheduled improvement of per-unit high waste discharging process	Rate of recycling and volume of landfill attained the targets, while disposal generated increased despite process improvement, etc.	○	13 14
	PRTR	① 1, 3-butadiene ② 1,2-dichloroethane ③ Trichloroethylene	Installation of water tube boiler Change of solvents and stabilization of process Study on sealing up of equipment and change of solvents	Countermeasures for facilities were completed as planned, but it does not attain yet the target of 1 t/y though the counting is still ongoing.	▲	17
	Volatile organic compound	VOC: Reduction by 30% of the emission in 2000	Targets: heptanes, hexane, pentane, methanol, MIBK	The target is not attained yet partly due to increased production, but discharge was reduced by 45 tons compared with the previous year by enhancing measures against loss from gland seal.	○	18
Contamination of environment	"Zero" environment-related trouble	① Enhancement of effluent management system	Major accident: 0 (two complaints) Automatic shut-off devices coupled with measuring instruments were installed at respective works, and effluent monitoring was enhanced.	○	15 16	

◎ : Target attained ○ : Target almost attained ▲ : Target not attained

TOPICS

"Our pro-environment approach" rated "advanced"

In February this year, "our pro-environment approach" was rated "advanced" by the pro-environment rating review program of DBJ (Development Bank of Japan) and the company received a loan under the program. DBJ's pro-environment rating system is a screening method developed by DBJ, in which each company's environment management is assessed by way of rating, and high-rated companies are selected as companies eligible to receive loans with interest rates classified in three different levels according to rating. This is the world first loan program where a professional method is introduced for environment rating, having 120 check points. Among them, the following were the items in which our approach was evaluated to be "advanced":

1. Achievement of voluntary reduction by 90% of PRTR substances compared with 1995
2. Introduction of OSHMS and efforts for safe and stable operations
3. Diligent communication with local community people
4. Disclosure of information by RC Report



Presentation of the environment rating certificate



Addressing climate change

Sumitomo Seika is actively engaged in efforts to address global climate change. At all of our Works in Japan, we formulate and implement every year annual programs to reduce our unit energy consumption. These efforts are put forward in line with the voluntary action plan of the Japanese chemical industry to achieve an average 20% reduction in the industry's unit energy consumption during the first commitment period of the Kyoto Protocol (2008-2012) from the 1990 level. In addition, we take measures against global warming in logistics.

Energy saving measures

We work to reduce our unit energy consumption at least one percent every year. To this date, a 33% reduction from the 1990 level has been achieved as a result of conversion of boiler fuel from heavy oil to city gas, introduction of a co-generation facility which supplies electric power and steam, changeover of production methods, introduction of high energy efficiency equipment, etc. In 2009 we focused on systematic improvement of high unit energy consumption processes and took various measures for:

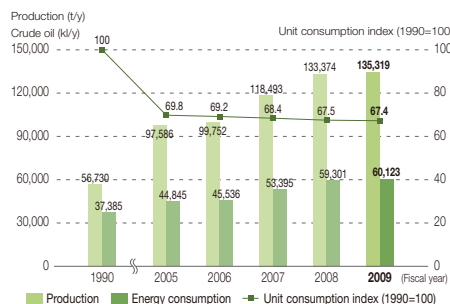
- Time cycle reduction
- Process conversion
- Realignment of operation conditions, etc.

The outcome in this area was a 0.2% reduction over the previous year. A 2.8% reduction over 2009 was realized, however, in the area of unit energy consumed for product transportation, as a result of our continued efforts that included enhanced modal shift (switchover to rail transport), increase in transport lot, improvement in load efficiency and introduction of energy-efficient tires.



Co-generation facility at Himeji Works

Evolution of production and energy consumption (as crude oil)



GHG(greenhouse gas) reduction measures

Following the recent revisions of the Law Concerning the Promotion of the Measures to Cope with Global Warming and the Act on the Rational Use of Energy, we are in the process of integrating our Works-based GHG reduction efforts into a comprehensive company-wide effort to address climate change. Specific GHG reduction programs will be defined and developed in the context of the Mid-term Responsible Care Plan. Our GHG reduction efforts have been made mostly through energy saving/energy efficiency measures. While we have successfully reduced our emissions per ton production of our major products by 33% from the 1990 level, the total emissions have increased 60% because the production has increased by 140%, reflecting strong market demands. In view of the expected further increase in sales, it appears quite difficult to achieve the reduction targets that the Japanese government has proclaimed in the form of a Cabinet Decision, namely:

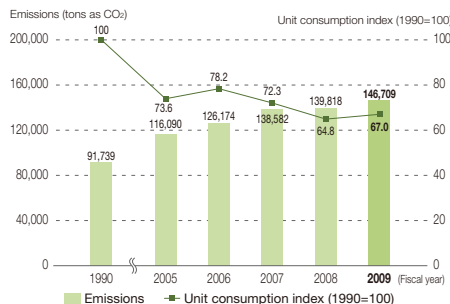
- ① 25% reduction by 2020 from the 1990 level, and
- ② 80% reduction by 2050 from the 1990 level.

We view creation of a low-carbon society as one of our corporate social responsibilities. In the mid-term plan now under preparation, we will work to develop a comprehensive GHG reduction program toward 2020 that would be based on forecasted sales and possible introduction of new measures such as the cap-and-trade emissions trading that was newly mentioned in the government's recently announced "Medium- to Long-term Roadmap".



Container shipment for railroad transport

Evolution of CO₂ emissions (2009 figure includes GHGs as CO₂)



CO₂ reduction in logistics and awareness-raising among employees

Contributing to climate change mitigation is a task required not only at our shop floor but also in the transportation of our products and in every household today. We continue the efforts we started in 2002 to achieve continued improvement of our energy efficiency in product logistics.

Our efforts include: change in transport routes, shift in transport means (modal shift to rail transport), increase in transport lot and improvement in load efficiency. We call on our employees to consider change of life style. In addition to an awareness-raising "No idling" campaign, the company provides commuter bus services to workers at all of its Works in Japan to help minimize use of private cars for daily commute. An increasing number of employees have switched to the company commuter bus.



Company commuter bus

GENBA interview

General Manager, Technical Office

Shunichi Hayakawa



Our efforts for GHG emissions reduction

The national emissions reduction goals the government has set out are extremely ambitious, especially for industries like ours. But further aggravation and more visible emergence of climate change problems would require prohibitively costly all-out countermeasures and such a situation must be avoided by all means. The government, based on its "Medium- to Long-term Roadmap", is considering emissions trading system, environment tax and other measures to promote emissions reduction. Private companies will be increasingly required to integrate such climate change mitigation and adaptation measures into their business management. We at Sumitomo Seika are in the process of drawing up various scenarios for our GHG emissions in 2020 as a function of our future business growth. My Office intends to identify in this way the challenges we should be meeting in terms of production technologies.

Our environment-related products

PSA gas generators

Our PSA gas generators are used to separate CO₂ and methane from waste gas to help reduce GHG emissions or to generate hydrogen which is expected to be in increasingly strong demand as a clean energy source.



High purity gas generation facility

Standard gases/calibration standard gases (JCSS)

Standard gases are indispensable for the gas concentration analysis of automobile exhausts or industrial waste gases. Since its successful development and commercialization as early as in the 1960s, Sumitomo Seika has been contributing to environment protection through the supply of a large variety of such standard gases.

A recent example of our renewed commitment to environment protection in this line is the development of "standard gases for atmospheric and ecological environment measurements" including those for CFCs that destruct the ozone layer and cause the global warming.



Standard gases used in exhaust and air pollution analyses

Sample gas injection equipment for ICP-MS

The company has developed novel sample gas injection equipment for ICP-MS that for the first time permits real-time monitoring of elemental metals suspended in atmosphere. This equipment is expected to be widely used for the measurement of metal components of fine particles (PM_{2.5}) contained in industrial waste gases or in the general environment.

Recycling-oriented society

Aiming to contribute to building recycling-oriented society through effective utilization of limited resources, Sumitomo Seika has been taking measures for : ①reducing quantities of waste generated; ②reducing quantities of waste disposal by contractors; ③promoting effective use of waste; and ④reducing landfill disposal.

Orientation to reduction of waste

Based on the principle of "disposal by ourselves on our own responsibility", we are implementing measures for reduction of chemical substances emitted to the environment, effective use of waste, reduction of landfill disposal.

All substances produced and/or by-produced throughout the manufacturing steps of our products are subsequently subjected to dehydration, separation, concentration, in-house use, detoxication (waste water treatment), and/or weight-reduction (incineration, etc.). Remaining waste is passed onto outside contractors for final disposal.

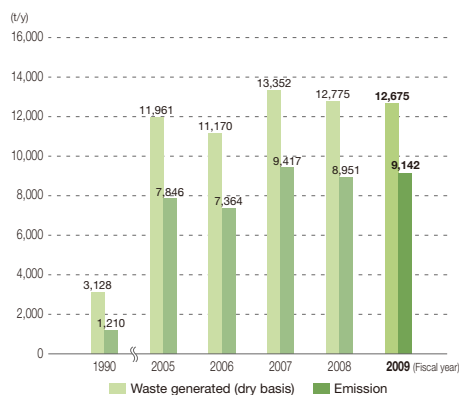
While we should eventually establish waste-free manufacturing processes, efforts are made in the meantime to reduce waste to a possible extent toward establishment of recycling-oriented society, and we are pursuing the following four objectives:

- ①Obligatory waste reduction research at the development stage of new products;
- ②Reduction of waste generation by means of improvement in existing processes;
- ③Reduction in weight by in-house facilities; and
- ④Prioritized contracting-out to those who reuse our waste.

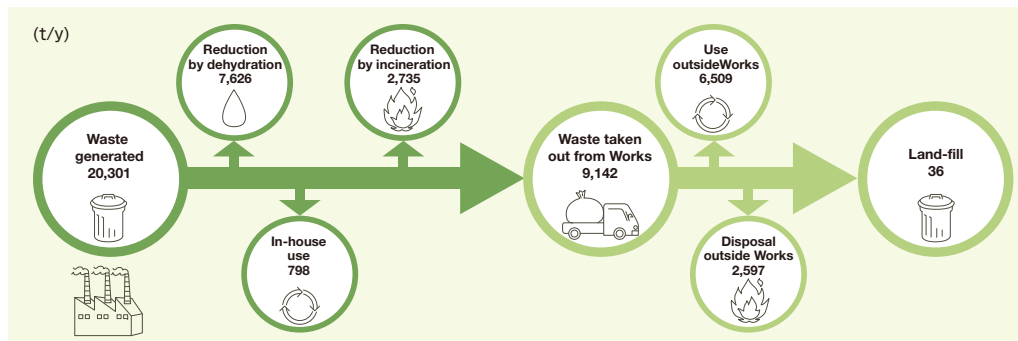
In 2009, we implemented "scheduled improvements of high waste output processes", "achievement of a recycling rate of 53% or more", and "reduction of landfill disposal to less than 100 tons".

More specifically, we endeavored to reduce waste through process improvements of high waste output products, improvement in solvent recycle rates, offering for sale of waste, etc. but failed to meet the annual targeted level of waste reduction (below the actual level in 2006).

Trend of waste generation



Waste disposal



Effective use by classified recovery (Himeji Works)



Submerged combustion-type waste liquid incinerator (Befu Works)



Kazuyuki Kobayashi

Waste reduction by way of improvement of formulations

Manufacturing processes of specialty chemicals generate a large amount of by-products and waste. Our production group has been trying to reduce waste by such means as effective utilization, reduction in volume and detoxication of waste. In recent years, green chemistry urges us to reduce by-products and waste generation from the development stage and to select environment-friendly raw materials. The research laboratory is aiming at realization of recycling-oriented society through:

- ①(for newly developed products) development of manufacturing processes that generate less waste and use eco-friendly raw materials; and
- ②(for existing products) reduction in waste output through improved yield and switch to eco-friendly raw materials.

Improvement of recycling rate

Most of our waste is in the form of waste liquid. Some kinds of waste can be recovered by distillation to distilled products, but incineration has so far been the mainstay of our waste treatment.

In the past few years, however, there has been mounting requirement to adapt ourselves to recycling-oriented society and with a view to improving recycling rate, we are seeking outside collaborators who will recycle our waste to prepare fuel additives, neutralizing agents, reducing agents, and who undertake thermal recycling (effective use of waste heat).

We attained the target rate in 2009 although it was 1% less than in the previous year.

Reduction in landfill disposal

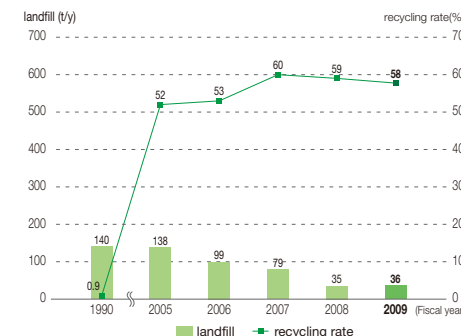
Most of our landfill disposal consists of sludge which derives from waste water purification by activated sludge in our Himeji Works. In addition to the dehydration facility, a sludge dryer was installed in Himeji Works in the previous year. Thus, sludge is recycled as raw materials for cement milling and/or fertilizer making, resulting in a drastic reduction in landfill use.

In 2009, our landfill disposal tonnage was reduced to 36 tons, which corresponded to as low as 0.2% of the total waste generated.



Sludge dryer (Himeji Works)

Trend of recycling rate and landfill



Orientation to prevention of air and water pollution

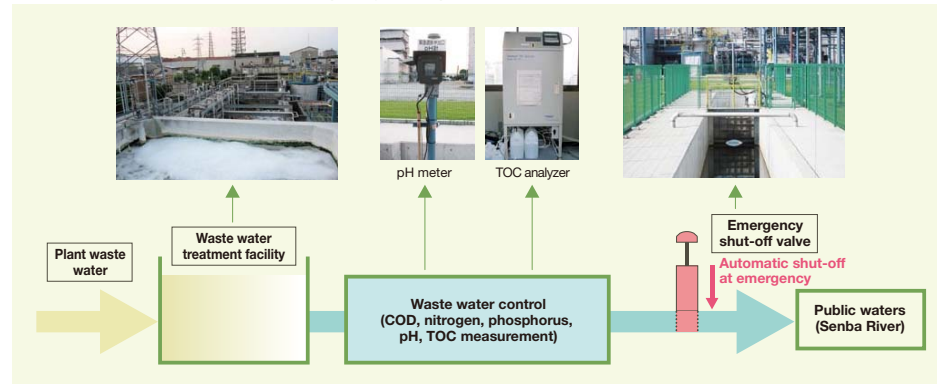
In the past several years, Sumitomo Seika has, to prevent emergency emission of polluting substances to the environment, given priority to investing in automatic analyzers for waste water, emergency shut-off valves and realignment of waste water sewage mainly at Befu Works and Himeji Works.

Orientation to water pollution prevention

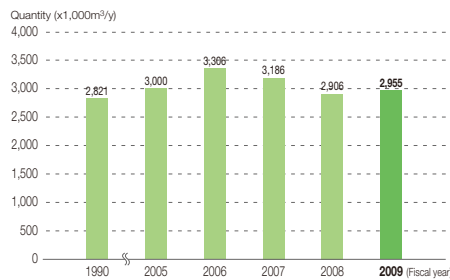
Befu Works and Himeji Works are facing Seto Inland Sea, a closed water area, and are under strict water emission regulations. We manage to meet the regulations by keeping track of load on each machine and installing treatment facilities. To meet the waste water regulations, we constantly watch out COD, nitrogen and phosphorus by automatic measuring apparatus. Each of our Works is stepping up waste water control, based on the lessons of waste water troubles in the past. In 2008 an independent waste water control group was organized (software), while as to hardware all waste water emission lines were integrated, and emergency shut-off valves interlocked with monitoring instruments were installed. In 2009, Himeji Works put up additional waste water treatment facilities to cope with expanded production.

<Emergency prevention measures>	
July 2003	Emergency shut-off valve at waste water outlet (Befu Works)
July 2005	Emergency shut-off valve/TOC-1 etc. of plant sewage (Befu Works)
Sept. 2006	Emergency shut-off valve/TOC-2 etc. of plant sewage (Befu Works)
Nov. 2007	TOC at the inlet of waste water tank (Befu Works)
Sept. 2008	Emergency shut-off valve at waste water outlet (Himeji Works)
Mar. 2009	Emergency shut off valve/pH meter/TOC (Himeji Works)
Jun. 2009	Pit/pH meter in sewage line to final pit (Chiba Works)

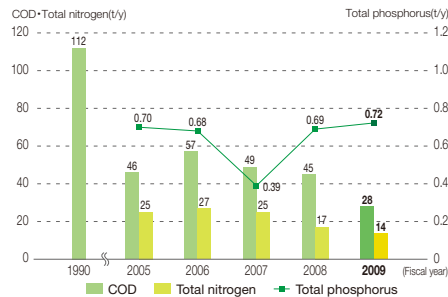
Flow chart of waste water treatment (Himeji Works)



Trend of specified waste water



Trend of load of water contamination



Efforts by Safety, Environment & Utilities Department

The department is in charge of voluntarily lowering load to environment that results from our plant operation in order to maintain health and life of the regional people. To this end, we endeavor to shift raw materials to those which generate less pollutants to air, to improve existing processes and to install detoxication equipment. Each of our works has environmental protection agreements with local governments, prefectural and municipal, which provide for pollution criteria for "air", "water", "environment in general including noise and vibration" and which require accurate measurement, recording and reporting of substances generated and/or emitted from plants. We must always be aware of operating conditions of machines and equipment, and check if any agreed criterion is surpassed; for example, sulphur oxides, nitrogen oxides and particulates emitted to the air are constantly monitored and reported to authorities every two months.

GENBA
interview

Safety, Environment and Utilities Dept.
Himeji Works
Daisuke Tanaka

Orientation to water pollution prevention

Waste water control, among others, is the most sensitive issue because even a minor mistake may lead to pollution of rivers and the sea. Waste water is suitably treated by activated sludge and then discharged to public waters in compliance with current regulations. To intensify control, waste water lines were integrated, and emergency shut-off valves, pH meters and TOC for constant monitoring were installed. This has resulted in automatic closure of shut-off valve at emergency, minimizing the possibility of discharge to public waters. Around-the-clock surveillance in a tense atmosphere is always in place so that we can promptly adapt to abnormalities. Perfection of waste water control is not to generate any abnormal waste water, which requires intensified control at every origin of waste water. Our works is united to attain this end.

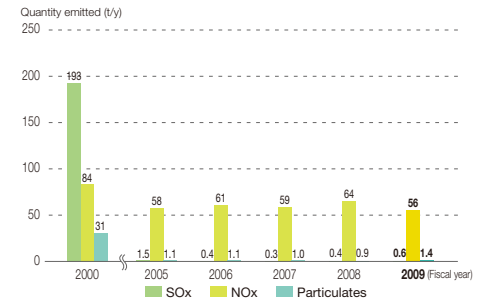
Orientation to Air pollution prevention

Air Pollution Prevention Law regulates SOx, NOx and particulates emitted from plants, while agreements with local governments provide for total emission ceiling. Despite increase of our production year after year, we have managed to reduce drastically SOx and particulates emission by switching boiler fuel from heavy oil totally to city gas. Chlorine and other gases exhausted from the manufacturing processes are treated in detoxication units before vented to the atmosphere. In 2009, however, we had two complaints of bad smelling: we investigated the causes of these incidents, and in order not to recur them, we decided ① to incinerate exhausted gases and ② to automatically control the detoxication column.



Low NOx boiler (city-gas specifications) (Befu Works)

Trend of emission of three air-polluting substances



Orientation to reduction of specified chemical substances

To reduce emission to the environment of specified chemical substances and volatile organic chemicals, we establish annual reduction targets every year.

PRTR Law (Law concerning release and register of specified chemical substances)

PRTR Law, put into effect in 1999, requires to grasp emission to the environment of specified chemical substances and to take voluntary measures for reduction. In 2008, after a lapse of ten years from the enactment, the law was revised to include 462 substances instead of the original 354 and the law requests chemical companies to report data and information regarding new chemical substances to be specified from 2011 onward. On the other hand, we started surveying pollutant release with a view to reducing released quantities as early as in 1995, ahead of the enforcement of the law in 1999. In addition to the specified substances, our survey covers 480 kinds of chemicals set out by Japan Chemical Industry Association.

The total amount we released in 2009 was cut down to 29 tons, compared to 330 tons estimated for 1995, due to the emission reduction measures such as manufacturing process improvements, installation of solvent recovery equipment, introduction of enclosed type vessels, withdrawal from some businesses and so on. In 2010, certain substances will be added anew to the specified chemicals list and we are taking measures to reduce such additional chemicals.

Priority substances for emission reduction

Focusing on eight items among the 22 priority substances announced by the Ministry of Environment, we are taking reduction measures.

Use of some of these substances was already discontinued, but the others are taken care of in the order of priority and in several steps because they are highly volatile and require hardware modifications.

For the past few years, in particular, we have been carrying out a emission reduction plan to less than 1 t/y respectively for 1,3-butadiene, trichloroethylene, and 1,2-dichloroethane.

In 2009, the following three measures were taken:

- ① 1,3-Butadiene: incineration in a newly installed water-tube boiler;
- ② Trichloroethylene: full enclosure of crude product outlet; and
- ③ 1,2-Dichloroethane: intensified control.

Yet our original target has not been attained, and studies are still going on. As to 1,2-dichloroethane, a study is underway with a view to changing the solvent (including non-use).

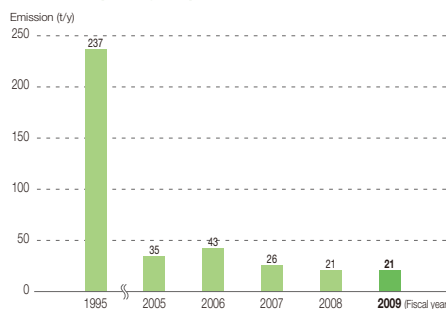


Solvent recovery unit (Chiba Works)

Main reduction measures

Acrylonitrile	use discontinued (2003)
Dichloromethane	switched to substitute solvents (1998, 2002, 2003 etc.)
1,2-Dichloroethane	addition of recovery equipment, etc. (1996, 1999, 2002, 2007)
Trichloroethylene	addition of recovery equipment, etc. (1998, 2000, 2002, 2006, 2009)
Ethylene oxide	formulation changes, contracting out, etc. (2001, 2003, 2006)
1,3-Butadiene	incineration of exhaust gas (2003, 2007, 2009)
Benzene	incineration of exhaust gas (2001)
Formaldehyde	installation of pressure-equalizing piping (1998, 2000)

Trend of priority air pollutant emission



Establishment of emission standards to the atmosphere

Unlike the preceding environmental regulations, PRTR Law does not specify any emission standards or environmental criteria except for certain substances. On the contrary, emitting companies are supposed to voluntarily reduce emission at their own initiative.

This is because no causal relationship between emitted amounts and hazards has been proven yet.

Thus, emitting companies are required to set up voluntary emission criteria and put them into practice.

We established our own voluntary emission criteria, making due reference to WHO/EPA indications. We have an internal audit system whereby observance of the criteria is regularly verified, and strict control is in place on this basis.

Reduction of volatile organic compounds (VOC)

In 2004, a revision to Air Pollution Prevention Law came into force calling for a 30% reduction of VOC by 2010 on the basis of the 2000 actual figures.

We made a decision to follow this revised reduction policy. However, production volumes of our products for which VOC's are used as solvents have increased notably, and our current emission level is far above the benchmark year.

To cope with such circumstances, we worked out a reduction scheme including such order of priority as follows:

1. Legally bound substances: emission prevention from methanol tank (completed in March 2010)
2. Other substances for voluntary reduction of emission: reduction plans for substances that are emitted in large quantities.

In 2009, we implemented the following measures:

1. Installation of an exhaust gas washing column to methanol tank (recovery for reuse);
 2. Reinforcement of ground-sealing of rotating machines;
 3. Process improvements;
- which resulted in an emission reduction of about 5% or 45 tons as against 2008. However, given that emission in 2009 increased 1.9 times as high as the 2000 level, we will add equipment for recovery, burning, incineration etc. under the medium-term plan.



VOC recovery unit (Himeji Works)

GENBA interview

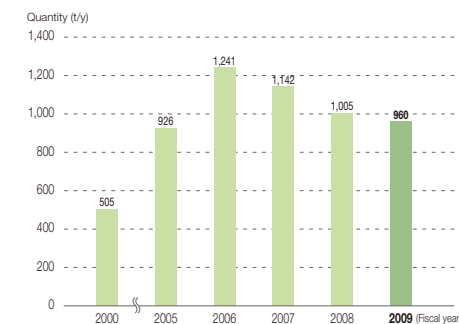
Chiba Technical Office(Technical Group)

Tomoya Hata



At Chiba Works where we manufacture fine powder plastics, organic solvents are used in the manufacturing processes. Many of the organic solvents are designated as specified chemical substances, and we need to voluntarily reduce their emission but reduction of emission is not easy at all because of high volatility. Chiba Works has so far made a number of trial-and-error approaches. This is a task yet to be achieved since increase in production always requires further reduction measures. In January this year, the product discharge part was fully enclosed, which enabled us to reduce 96% of the 1995 emission. All the works will be united in pursuit of safe and stable operations of and conservation of the environment.

Trend of VOC emission



Security and disaster prevention

Safe operation free from accident and injury is fundamentally important for manufacturers like Sumitomo Seika. Placing "Safety Comes First" as a fundamental principle of our corporate management, we are committed to promoting our voluntary security programs under our Responsible Care initiatives.

Safe and stable operation

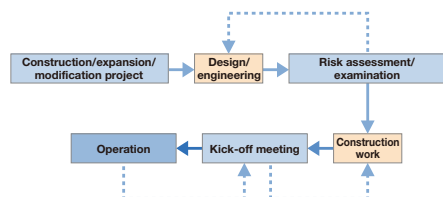
We work to implement all possible security assurance and disaster prevention measures both in "hardware" (tangible facilities and equipment) and "software" (intangible human and information factors) to not only prevent accidents before they occur but also to respond to any crisis situations promptly and properly to prevent escalation. For fiscal 2009, we set out below-mentioned focus areas for our continued efforts. Unfortunately there were three incidents during the year. There were no personal injuries and the damages were minor. But we immediately took actions for inspection of similar equipment and for recurrence prevention. Moreover, we viewed the incidents as a reason for reassessment of our security and disaster prevention strategies, and made an in-depth review of not only the specific incidents but also the entire security and disaster prevention programs of the company.

Focus areas in 2009

1	In-depth safety assessment of new constructions and modifications of facilities
2	Improvement of technical capacity and skill of personnel engaged in operation
3	Facilities risk management and systematic maintenance/replacement
4	Enhanced security measures with attention to earthquake and other natural disasters
5	Stepped-up emergency drills

Risk assessment of facilities

For every new construction and modification project of production facilities, risk assessment is performed in accordance with the company's Facilities Design Management Standards with respect to all stages of process research and development, plant design and engineering, construction and operation. Through a process risk assessment based on HAZOP (hazard and operability study) and other methodologies, the environmental load and operational risks of the contemplated project are assessed and examined by a group of our experts responsible for production, design and engineering, security and environmental protection, etc. to ensure our commitment to environment and to accident prevention.



Measures for aged facilities and readiness for earthquakes

Facilities handling chemical substances inevitably suffer from fatigue/degradation and corrosion development after years of continued use; conditions at the time of plant commissioning are no longer reproducible and the associated risks increase. In addition, it has become necessary to manage risks (as a function of probability of damage occurrence and potential impact) from a new perspective in recent years as concerns increase over the threats of a Tonankai Earthquake and other natural disasters.

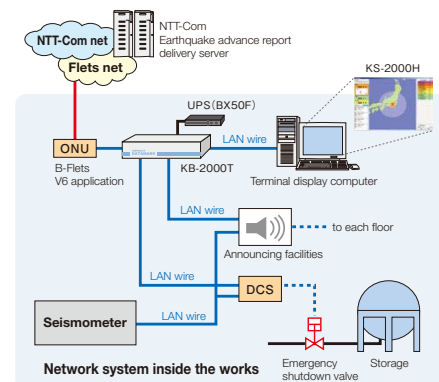
To come to grips with these risks, we collect and manage in standardized format maintenance and repair records of machinery and equipment and other data and information required for facilities management. In this way, we have accurate and up-to-date understanding of breakdown histories and the conditions of machinery and equipment, use such understanding to predict "probability of damage occurrence and potential impact", and accordingly formulate and execute preventive maintenance programs (frequencies and methods).

Readiness for earthquake

We carry out in a systematic manner seismic assessment of high-risk facilities and buildings and implement necessary measures accordingly. In addition, we launched in 2008 the "Emergency Earthquake Alert System" which is designed to catch the signals of an "emergency earthquake alert" issued by the Japan Meteorological Agency as well as those of our own seismometers installed at our premises. Upon catching such signals of an imminent heavy earthquake, the system will automatically put the production plants into emergency shutdown mode and warn the employees through the PA system.

This year again, selected storage tanks and vessels were tested of the seismic strength, and were found to withstand Level-Two Earthquake Ground Motion (the maximum level of seismic force probable at present and in the future).

Outline of Emergency Earthquake Alert System



Efforts for human error elimination

Until recently approximately 60% of all incidents at Sumitomo Seika were due to insufficient checking, incorrect operation and other human errors, a level close to the average of all industries. Elimination of such human errors was obviously needed for prevention of incidents. Thus, we have redoubled our efforts in the last years in the following directions:

1	Clean and tidy workplace, implementation of visual control, identification/labeling
2	Prioritized implementation of mechanization projects justified by risk assessment and other safety considerations
3	KYT (risk prediction training), pointing and calling, near-miss toolbox meeting
4	Technical education, hands-on safety education (electrostatic spark, etc.), support for employee effort to obtain nationally-recognized certifications and licenses

As a result, the number of human error incidents has declined steadily. In 2009 we succeeded in keeping it as low as 17 or 34%. We intend to make further efforts in identifying causes of human errors and accordingly improving our facilities and work procedures in order to eliminate human errors.



Hands-on safety education

Third-party appraisal

With a view to bringing our safety and security/disaster prevention standard to a still higher level, we are planning to invite a number of chemical industry experts to make a detailed appraisal and recommendation for improvement with respect to the chemical processes (design philosophy and current state of the facilities), safety management systems and other aspects of our facilities. The third-party appraisal will be carried out over the course of fiscal 2010 with respect to our major facilities, and the comments and recommendations to be given will be reviewed jointly with our own technical experts for implementation of necessary improvements.

Emergency drills to enhance our preparedness

As mentioned elsewhere in this report, we have in place a full range of emergency prevention measures. However, most incidents occur in unforeseeable situations. Emergency drills are indispensable to keep the damage to the minimum if an emergency should ever occur.

Our Himeji Works and Befu Works are both subject to the "Act on the Prevention of Disasters in Petroleum Industrial Complexes and Other Petroleum Facilities". In the two Works, particular efforts are exerted to strengthen our preparedness by regularly conducting drills (fire extinguishing, calling out, and fire dispatch) pursuant to the company's in-house emergency response regime as well as joint drills for first responses and mutual assistance in accordance with the respective "community disaster prevention agreements".



Emergency drill at Himeji Works

Occupational safety and health

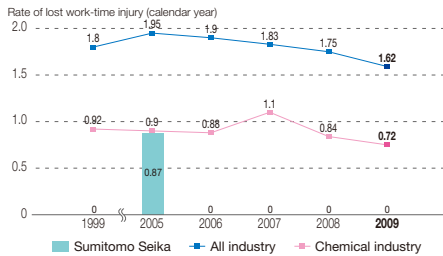
Sumitomo Seika promotes a variety of programs and activities to ensure employee safety and health at workplace. In recent years a particular emphasis is placed on prevention of accidents and incidents; we work to find out hazards, assess potential risks and take appropriate measures according to extent of potential damages. In this way, we are seeking to make a transition from “zero-accident” to “zero-risk”.

Occupational safety and health

All our three Works in Japan have been OSHMA certified, and in this context the Company promotes activities and campaigns including “near-miss accident listing”, “5S initiatives (five actions = straightening, ordering, cleaning, cleanliness, and discipline)”, “KYT or risk prediction training”, and “pointing and calling”. And every plant unit seeks continual improvement of its workplace through assessment of its specific risks or hazards, based on which appropriate preventive measures are implemented. At all sites first-aid drills are performed every year to ensure proper emergency responses, and training programs are conducted to familiarize employees with the use of AED’s (automatic external defibrillators) that have been installed in the sites. In 2009 we successfully improved our occupational safety performances to: nil loss in work-time, 3 incidents without loss in work time, and zero percent rate of lost work-time injury. We recognize however there are still rooms for improvement. The President of the Company takes the lead in our commitment to achieving zero accident. He himself visits the Works for safety patrol to demonstrate and emphasize the importance of security and safety to the employees and partner companies, calling on them to execute day-to-day safety activities steadily.

We will continue to intensify the company’s commitment to the “Safety-Comes-First” principle by nurturing a workplace culture that would allow any employee to point out without hesitation any unsafe behavior or action of his/her teammates with no regard to age or work experience.

Rate of occupational injury



Frequency of incidents (inside Works)



President's safety patrol

GENBA interview

Safety, Environment and Utilities Dept.
Chiba Works

Keiko Ai

OSHMS (Occupational Safety and Health Management System)

The OSHMS is a management system to “promote safety and health activities in a systematic, continuous and voluntary manner for the purpose of raising the level of safety and health in workplaces. “ Our Befu Works, Himeji Works and Chiba Works obtained the official certification in February 2009. When the decision was made to introduce the system, I was somewhat concerned personally about a possible reaction of “Oh, not again”, because the people in these Works had worked hard to obtain ISO certifications for quality and environment. My concern was unwarranted. The people on the shop floor had a good understanding of the concept of a management system and they were very cooperative and proactive throughout the processes of system implementation and official inspection. The OSHMS is founded on the principles of “release of safety and health policy by the employer” and “incorporation of workers’ opinions”, and it is based on the concept of systematic upward spiral of PDCA cycle. It cannot be used and maintained without active participation of all those involved. The very worker who knows and does the job is in the best position to assess the risks associated with the particular job action. Accordingly we encourage all workers to assess the risks of their respective jobs to ensure systematic improvement and creation of better workplaces.

Risk assessment

Risk assessment at workplace levels is a prerequisite to ensure safety. It is a preventive tool against incidents of injury and other emergencies. Unlike the traditional approach of taking countermeasures after an incident has occurred, risk assessment represents an approach of identifying potential risks as exhaustively as possible, prioritizing them and thus raising the level of safety control and management. More than 200 such risks were identified in 2009 and remedial/improvement measures were taken accordingly.



Education during “Safety Week”



Emergency first-aid training

Employee education

Sustained growth is a social responsibility of a corporation. The driving force of such a growth is its human resources, and their development is a major challenge for the corporation. In a chemical company, the role played by its employees with technical background is particularly important in terms of development of novel compounds and processes as well as safe operation and maintenance of the production facilities. The company’s growth is largely dependent on the capacity development of individual employees.

From this perspective, Sumitomo Seika is actively engaged in efforts to develop technical human resources by setting up organizational units exclusively dedicated to technical education and training. New recruits acquire basic knowledge and operational techniques through an intensive group education program upon entry and a series of technical courses that extend over the first year. Basic and advanced technical education courses are available for employees with years of service at the company. The courses offer chemical and chemical engineering knowledge directly needed for their respective job performances. Furthermore, topics of environment protection, safety and incident prevention, compliance and management systems are added into the curricula to allow the employees to translate their empirical work skills into theorized knowledge and deepen their understanding. Employees, both young and old, are encouraged to obtain nationally-recognized certifications for handling of hazardous substances, high-pressure gases and the like that are needed for their career development as technical experts of a chemical company. Special courses are offered to help them pass the official examination.



Technical education



Safety meeting

GENBA interview

No.2 Manufacturing Section
Himeji Works

Yohei Onishi

What I learned at the technical education program

I took a basic technical education course and learned a lot about the regulatory framework and the impact of chemicals substances to humans and the environment. The HAZOP meeting, a practice to assess hazards associated with a chemical plant, was quite useful for me to build upon my accumulated work knowledge what I had not known and what I had known only vaguely. I was able to increase my understanding and knowledge considerably. The electrostatic demonstration was particularly impressive. In class we learned the mechanism of electrostatic spark and fire ignition, and then we observed a demonstration of dust explosion as a part of the hands-on safety education course. I really felt and understood that my routine daily work is next neighbor to potential major incident. It was a good opportunity for me to revisit the way I did my work.

Chemicals safety

New developments are taking place in the global chemicals management scene including the United Nations recommendation on adoption of GHS (Globally Harmonized System for Classification and Indication of Chemicals) and the coming-into-force of chemicals safety risk assessment and registration regimes in Europe and certain parts of Asia. In line with these global developments, Sumitomo Seika makes strenuous efforts to evaluate the properties and safety of its products, make available clear information related to their use and ensure sound chemicals safety data management and information disclosure so that our customers will use Sumitomo Seika products safely.

Chemicals management

Chemicals are used in almost every scene of our modern society and are indispensable for enrichment and comfort of our daily life. Chemicals meanwhile can be hazardous or toxic in many cases. There are, therefore, ongoing efforts around the world to evaluate and reduce the risks associated with the use of chemicals.

With full understanding of this dual nature of chemicals and the global efforts, Sumitomo Seika is committed to assessing and reducing the risks associated with the chemicals we handle. More specifically, we collect and evaluate the safety information on the chemical substances, both novel and known, that we handle in the course of our product development and production. The safety information and data thus acquired are duly managed and are made available to our customers in the form of product safety information for proper use and handling of our products.

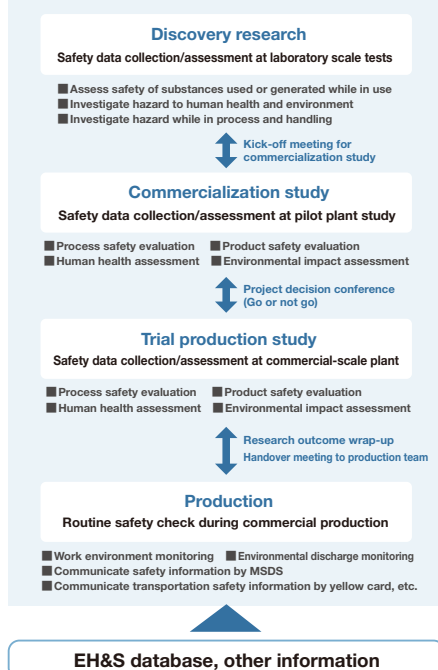
At a global summit conference on sustainable development, it was agreed that adverse impact of chemical substances should be minimized by 2020. Following this agreement, the European Union now requires safety evaluations on all chemical substances that are manufactured or imported in the amount of one ton per year or more. Also in Japan, the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, Etc. has been revised to require safety evaluation of existing chemical substances. Sumitomo Seika contributed to the Organization for Economic Co-operation and Development (OECD) program of global chemicals evaluation by collecting and compiling all the required safety data and information on one substance and submitting the data set to an OECD initial assessment meeting. Following the coming-into-force of new chemicals management scheme in the European Union that requires registration, evaluation, authorization of chemicals marketed in the region, we are proceeding with the acquisition of necessary data and information with respect to the products we export to Europe.

Data collection and evaluation

With the view to ensuring sound management of chemical substances, we conduct biodegradability test, mutagenicity test and other safety tests on substances we newly develop and obtain the required national approval pursuant to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, Etc. before they are commercially produced. In addition to the legally-required safety evaluation, we operate our own chemicals safety evaluation program encompassing selected substances we handle (including raw materials, auxiliary materials and solid waste) in terms of hazard to human health, environmental impact and process safety in production. The safety information thus acquired are registered in our database and are made available to interested parties in the form of material safety datasheet ("MSDS"), emergency communication card during ground transportation ("yellow card") or waste datasheet ("WDS").

Chemical safety risk assessment flow diagram in product development

Assess risk at every stage, using all available information



Quality assurance

The top priority in our quality assurance activities is to deliver "reassurance and satisfaction" to our customers through operation and improvement based on the quality management system (ISO 9001). For the manufacture of pharmaceutical chemicals, we provide full quality assurance in conformity with the GMP of ICH. And with the view to strengthening our quality assurance performances in a broader sense covering not only the product quality but also the function, cost, and delivery time, we have set up the Quality Assurance Office, which oversees and controls all product quality matters of the Company in a comprehensive manner. We are thus constantly improving our quality assurance practice and systems.

※ ICH : International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use, among Japan, U.S.A. and EU.

GMP: Good Manufacturing Practice (regulations for controlling manufacture of medical and pharmaceutical products and their quality control)

Safety during transportation

An accident during transportation of chemical products, if it happens, could give serious impact to the environment and the affected community. Cooperation of logistics contractors is indispensable to achieve safe transportation. We therefore work to maintain strong collaborative relations with logistics companies to ensure safety during transportation and environment protection.

Efforts to ensure safe transportation

Safe and secure delivery of products to customers requires the same degree of attention and awareness to safety as is required in the manufacture of those products at the plant. Every year since 1999 we have hosted the annual meeting of the "Logistics Safety and Environment Council" inviting representatives of our logistics contractors. At this meeting we communicate our EH&S policy on the transportation of our chemicals products, and in turn listen to the contractors' presentations on their EH&S plans and performances. Through this two-way communication, we work together with our logistics contractors to achieve zero-accident /zero-injury.



Security education for logistics companies

Furnishing of safety information

To enable logistics companies to transport our products safely, it is necessary for us to provide them with product information such as properties of the chemical substances, emergency measures, and the information desk to be contacted in case an accident occurs. We provide our logistics contractors with the emergency communication card ("yellow card") and emergency response guidelines that would be needed in the event of an accident. We require the drivers of logistic companies to carry these documents with them at all times during the transportation.

Hazard analysis and transportation mode analysis

We conduct a hazard analysis of every product we ship, based on the three elements of hazard --- health hazard, fire hazard and unstable hazard --- that are used in the U.S. National Fire Protection Association (NFPA) Standards. In 2009, this hazard analysis was made on 14 products that began to be transported.

The products that are found to be especially hazardous by this analysis are then analyzed with respect to the way they are transported. We set out our internal standards that are more stringent than are legally required so that our products would be transported with maximal safety considerations.

Assistance for safe transportation

In accordance with our logistics contractors education/training plan, we offer safety education programs to managers and crews of logistics companies to become fully familiarized with our products including their properties, handling, necessary emergency responses and emergency communication. We thus seek to prevent incidents and injury during product transportation. Also, emergency drills are carried out periodically simulating an accident during product transportation. The drills are exercised jointly with our logistics contractors to enhance our combined responsiveness to emergency situations.



Emergency drill

GENBA interview

Nigawa Transportation Co., Ltd.
Representative Director

Tadao Mizohata



Our company serves Sumitomo Seika in the transportation of high-pressure gas products mainly in the Kansai region of our country.

We strive to make sure that all our employees receive safety education on the properties and characteristics of the products we transport as well as the applicable laws and regulations and take all possible precautions in the provision or our logistics service to prevent any incident during transportation.

And we actively take part in the regularly organized transportation emergency drills jointly exercised with Sumitomo Seika in order to upgrade our emergency response capability.

We commit ourselves to ensuring safe transportation of Sumitomo Seika products and environment protection through our intensified efforts in employee education/training and capacity enhancement.

To our customers

Sumitomo Seika's products are widely used in various fields of the society. Because increasingly serious attention is paid to safety of chemicals, the drive to ask for safety assessment as well as supply of safety data is being accelerated. In line with this trend, we exert the utmost effort to collect information on risks and hazards of our products and provide our customers with information as to how to use or handle our products safely through frequent dialogues with them.

Acquisition of information on hazards and supply of information on safe handling

In Europe (EU member states), a new regulation to control chemical substances was put into effect in June of 2008 so as to minimize possible adverse effects of chemicals to human and environment. This regulation demands assessment on hazardiousness of chemical substances and submission of data to government offices from manufactures and importers, and simultaneously requests them to provide customers with information on safe use of their products in conformity with customers' actual usages.

We are now promoting acquisition of safety data while collecting information on customers' usages of our products through staff of our sales groups. Based on such information from customers, we verify if their current usages are problem-free from the safety standpoint, and then incorporates the evaluation results into MSDS, which is made available to customers. Since this practice is expected to be a world standard, we will work on it seriously to ensure safe use of our products by our customers.

Product label, MSDS

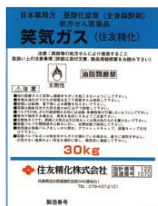
It is our routine practice to stick warning labels on hazardous products or materials, such as drawings illustrating hazardous nature and precautions in handling for safe use by customers.

In the midst of increased global trading of chemical products, the United Nations recommends supply of information meeting GHS (globally harmonized system), an international common rule pertaining to "classification / indication", which is a communication device to convey information in a proper way to handlers regarding characteristics (risk and hazard) of chemical substances.

The company has been providing safety information in Japanese for domestic customers and in English for overseas customers. Meanwhile, regulations of each country demand supply of information by way of pictorial indication or a language which is understandable among workers of the country. To meet this requirement, we are now preparing MSDS and warning labels in various languages.

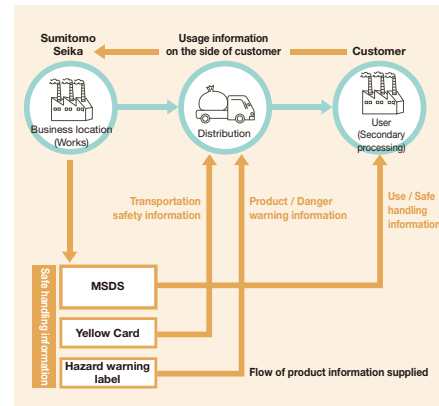


MSDS



Warning labels

Supply of safety information (an example)



GENBA
interview

Super Absorbent Polymers Division
Ayano Tani

It has long been said that the cardinal rule of business is to supply "a good product" at "a better price". Chemical products which we supply, however, are required to ensure more than that; "safety and security" as the third essential condition. Sales to customers, particularly in Europe, are conditioned under the regulation to be accompanied by prior confirmation of customers' usages and provide them with information conforming to relevant usages. Not only in Japan but also in other Asian countries, indications meeting the international rule are needed when hazardous materials are traded, where information is expected to be given in various languages understandable among handlers. We need further efforts in supplying functionally better products ensuring safety and security with focus on standpoint of customers.

To local community people

Sumitomo Seika's basic policy lies in "co-existence and co-prosperity with the society". In conformity with this principle, we initiate actions as a member of the society toward co-development with local communities as well as creation of amicable and harmonious relations with the local society.

Together with people of our local community

We have been endeavoring to create a good community by setting out various programs including plant tours where local people are invited to familiarize themselves with our activities for safety and environment protection, presentations at the environment festivals hosted by local government, and meetings where we examine jointly with local community people ways of environment protections at the community. In 2009, we invited residents' associations and fishery cooperatives to our Himeji Works where we explained our plant operations, products and daily actions for the issues of environment safety. Through Q&A session, they were able to have better understanding of our company.

They took a close look at our control facility as well as treatment facility of effluent and the monitoring system prepared for emergency which we have enhanced in their capabilities. We obtained some words from them, for example, they were able to deepen their understanding on our business activities and increased their sense of security toward our company. We will work out programs of this sort from time to time to familiarize as many as possible people with our company. At Himeji Environment Festival, many children enjoyed an event at ease, doing coloring which was designed to increase their interest in environment issues.



Plant tours by people of the local community



Himeji Environment Festival

Internship program

The company takes in students under the internship program to help them develop job consciousness and to provide them with opportunities of voluntary job selections. In 2009, we took in 21 internship students, who were stationed in the research lab and manufacturing plants, where they experienced analysis, design, maintenance, and some other skills. Under this program, we introduced how we tackle environment and safety issues, which they usually have no chance to learn at school, and how important this endeavor is for industries. The internship students expressed their comments that the program enabled them to understand the role played by the chemical industry in the society and helped them determine their future courses. To develop human resources in a practical manner in the future, three-party systems (school / industry / student) should be workable, particularly for increase in professional job capabilities. We intend to continue to support the internship program.



Experimental lab work

NPO-support actions / Community-rescue efforts

We have participated in various activities to support communities such as local town cleaning and some other events. In 2009, we threw in a campaign to collect caps of PET (polyethylene terephthalate) bottles. This is a campaign promoted by "the Japan committee of vaccine for children in the world". The proceeds are credited to purchase vaccines for afflicted children in the world. In addition, we participated in the support activity of Disaster Relief Volunteer Network of Japan, more specifically the Network's "charity calendar market" where we sold unused calendars and datebooks with an intention to have the proceeds utilized for helping people in disaster-stricken areas. The proceeds for 2009 were used for disaster-relief activities both inside and outside Japan including flood-damaged Sayo-Cho in Hyogo Prefecture, Japan, and quake-stricken Sichuan in China. We will continue these activities even if our contribution is modest.

Befu Works



Location: 346-1 Miyarishi, Harima-cho, Kako-gun Hyogo 675-0145, Japan
 Number of employees: 395
 Production Items: Fine Chemicals, Basic Chemical Products, Gas Products etc.

[Outline of the Works and the policy for RC activities]

This Works is located in Harima Industrial Zone facing Harima-nada (part of Seto Inland Sea). Since its establishment in 1944, this Works has been the main Works of Sumitomo Seika with the longest history among all the company's works. Major production items are now specialty chemicals (fine chemicals, basic chemicals, and gases). With the basic principles of achieving "zero-accident and zero-injury operations", ensuring "customer satisfaction" and promoting "co-prosperity with society", while maintaining the fundamental policy of "Safety Comes First", we are endeavoring to create corporate culture where every employee always aspires to self-development in skill and knowledge without being ruled by stereotypes, implement planned activities in accordance with the RC programs of Befu area, and maintain good communications with the local community people. By so doing, we intend to build up an excellent works.

Performance Data at Befu Works

Energy (as crude oil)		13,472 kl/y
Air	CO ₂ ※	57,511 t/y
	SOx	0.6 t/y
	NOx	16.2 t/y
	Volume of effluent(unit : X 1,000 m ³ /y)	1,591
Effluent	COD	17.0 t/y
	Quantity	9,643 t/y
Waste material	Recycle ratio	58 %
	Landfill	22 t/y
	PRTR (Volume of exhaust to air)	8.9 t/y

※Source of green house effect gas has been added.

Reviewing the appraisal of the results of activities in 2009

General Manager, Befu Works
Hiromoto Shigeta



We caused inconveniences and concerns to local community people due to troubles such as odor generation and rupture of the effluent tank in 2009.

We have completed taking preventive measures, and under this year's RC action plan which reflects the review of last year's results, we focus on improvement in the fundamental conditions for safety from the aspect of "human", "equipment" and "rules", which we have fostered from the past. We will work hard to build up such safe and dependable business establishment as is trusted by communities, customers and employees, while exerting further efforts for environment protections.

Himeji Works



Location: 1 Irifuno-cho, Shikama-ku, Himeji City Hyogo 672-8076, Japan
 Number of employees: 336
 Production Items: Super Absorbent Polymers, Water-soluble Polymers, Fine Particulate Polymers etc.

[Outline of the Works and the policy for RC activities]

Himeji Works is located in Harima Industrial Zone facing Harima-nada (part of Seto Inland Sea) in southern part of Himeji City, Hyogo Prefecture. The objectives of our plant operations are "manufacturing trusted by customers with the highest priority" and "achievement of a sustainable growth ensuring co-existence and co-prosperity with communities and development of safe and stable production activities". To accomplish these objectives, we place emphasis on basics and develop our RC activities, while leveraging various experiences, which secure the environment protection at all stages of a product lifecycle from R&D to disposal via production, distribution, use, and final consumption. We aim at "the Works continually trusted by communities and customers", while maintaining the good work environment where "5S initiatives (five actions = straightening, ordering, cleaning, cleanliness, and discipline, all beginning with the letter "S" in Japanese words)" are well practiced and employees are able to work in safety and at ease.

Performance Data at Himeji Works

Energy (as crude oil)		44,723 kl/y
Air	CO ₂	80,343 t/y
	SOx	-
	NOx	39.5 t/y
	Volume of effluent(unit : X 1,000 m ³ /y)	1,081
Effluent	COD	10.2 t/y
	Quantity	2,828 t/y
Waste material	Recycle ratio	58 %
	Landfill	7 t/y
	PRTR (Volume of exhaust to air)	14 t/y

Reviewing the appraisal of the results of activities in 2009

General Manager, Himeji Works
Hironobu Masumoto



In order to secure "the sustainable growth and safe and stable plant operations", we should examine how we can innovate our style of manufacturing and how we can change the consciousness of employees for better directions in respective workplaces and responsibilities, while working hard to strengthen the basis of Himeji Works so that we may win the confidence from local communities and customers and that employees in Himeji area may work in the Works cheerfully, healthfully, and comfortably. We will continue to exert our efforts for building up layers of safety covering the total cycle of business.

Chiba Works



Location: 1384-1 Kamikoya, Yachiyo City, Chiba 276-0022, Japan
 Number of employees: 81
 Production Items: Gas Products, Fine Powder Plastics etc.

[Outline of the Works and the policy for RC activities]

Chiba Works is located about 30 km from the center of Tokyo, the company's production base in Kanto Area. The Works keeps bright atmosphere, surrounded by greenery. Its major products are special gases such as standard gases and gases for semi-conductors, coating materials for metal products, and powdered plastics which are materials for fabricating bathtubs, each of which keeps major market share in Japan. We are exerting continued efforts to run the plants in the Works without accident and injury as long as possible and "create safe and comfortable work environments" with "Safety Comes First" as the fundamental policy. We will make concerted efforts to build up the works which is trusted by neighboring communities with the slogan "Clean & Safety, Communication & Speed".

Performance Data at Chiba Works

Energy (as crude oil)		1,838 kl/y
Air	CO ₂	3,060 t/y
	SOx	-
	NOx	0.2 t/y
	Volume of effluent(unit : X 1,000 m ³ /y)	283
Effluent	COD	0.5 t/y
	Quantity	204 t/y
Waste material	Recycle ratio	27 %
	Landfill	7 t/y
	PRTR (Volume of exhaust to air)	5.7 t/y

Reviewing the appraisal of the results of activities in 2009

General Manager, Chiba Works
Satoshi Kamashima



In this Works we took measures for reduction of discharge of solvent used five times in the past and succeeded in reducing to 1/20 compared with 1997, which is one of the noteworthy achievements in the field of the environment protection. Among our production items, standard gases are indispensable materials for environment measurements. They contribute to reduction in environmental load in various fields. We will tackle still more seriously the issue of "formation of safe and comfortable work environment" and "co-existence and co-prosperity with society".

Sumitomo Seika Singapore Pte. Ltd.



Location: 17 Sakra Road #01-04 Singapore 627886
 Number of employees: 42
 Production Items: Production Items: Super Absorbent Polymer

[Outline of the Works and the policy for RC activities]

This Works started its operation in 1999 as Sumitomo Seika's overseas subsidiary to produce super absorbent polymers. In 2006, its second expansion project was completed. This Works is located in Jurong Island, which is called "the Chemical Island". Its products are shipped out from the Singapore Port, one of the largest ports in the world in terms of container shipment handling capacity, to the markets covering Southeast Asia, Middle East, Africa and Americas. We operate our plant, maintaining "safe and stable operations", "protection of the environment", "supply of quality products and advanced technical services" and "compliance with laws", and having the business policy that is to increase customer satisfaction by supply of superb products and services. We acquired certifications of ISO9001 in 2003 and ISO14001 in 2006, and have been running the plants without accident and lost work time attributable to accident for longer than 10 years since its start. We will try to improve this record still longer, working on "5S Initiatives and others. (*5S Initiatives: please refer to an earlier explanation in this Report.)

Performance Data at Sumitomo Seika Singapore Works

Energy (as crude oil)		-
Air	CO ₂	38,771 t/y
	SOx	-
	NOx	-
	Volume of effluent(unit : X 1,000 m ³ /y)	129
Effluent	COD	-
	Quantity	496 t/y
Waste material	Recycle ratio	0 %
	Landfill	483 t/y
	PRTR (Volume of exhaust to air)	-

Reviewing the appraisal of the results of activities in 2009

General Manager, Sumitomo Seika Singapore Works
Wong Chee Seng



As a result of our continued efforts to reduce discharge of organic solvents which are used in our plant, we were able to cut it down to about 50% in 2009 compared with 2006, and will further reduce it down to about 40% in 2010. The government of Singapore has been aggressively laying out these years a policy to reduce discharge of CO₂. In line with this policy, we are working hard to protect the environment in various ways including checking of the energy saving results of our manufacturing plant.

Sumisei Taiwan Technology Co., Ltd.



Location: No.2 ChangPing West 4th road, Chang Ping Industrial Park, Siansi Township, Chang Hua County 50741 Taiwan R.O.C. Number of employees: 15
Production Items: Electronic Gases (High-Purity Ammonia)

[Outline of the Works and the policy for RC Activities]

Taiwan, called "High-tech Island", is one of the most sophisticated IT-related product manufacturing centers in the world. This Works started in 2005 as the company's overseas manufacturing center of high purity ammonia for customers in the fields of semi-conductor, LED and some others. It was operated initially on a small scale just for filling and repackaging into smaller sizes. Its full-fledged plant operation was started with production of 1,500 t/y ammonia in 2008.

As a company who manufactures and sells high-grade gases for world-leading companies, we place priority on quality assurance activities as well as supply of quality products and services, acquiring certification of ISO9001 in 2007 and having a target of increasing customer satisfaction. We, as one of Sumitomo Seika group companies, intend to fulfill our social responsibilities, gaining trust from our customers inside and outside Taiwan through implementation of major policies based on "Corporate Policy on Safety, Environment and Quality" conforming to Sumitomo's Business Principles.



Gas production operations

Reviewing the appraisal of the results of activities in 2009

President

Hiomasa So



We are in the process of operating the plant by four-team-three-shift systems, and our production has been increasing at a good rate since we obtained an official business license in 2009 for our ammonia production facility. Accidents happen frequently in chemical plants in Taiwan. We place priority on safe and stable operation. In May this year, just one year after the acquisition of the license, the labor committee of the Taiwanese government inspected our plant. We are required to place further emphasis on "safe operation" and "education and training". It is our intention to totally reconfirm and review ISO standards, various regulations and related procedures to ensure safe and stable plant operations.

Sumisei Chemical Co., Ltd.



Location: Paju-si, Gyeonggi-do, Korea
Number of employees: 13
Production Items: Electronic Gases (High-Purity Ammonia)

[Outline of the Works and the policy for RC activities]

This Works is a plant for purification and filling of super high purity ammonia gas, built in July 2009 in Paju-LCD Industrial Complex (70km from Seoul), which is one of the complexes for display industries in Korea. We are making concerted efforts to supply stably our quality products to customers of semi-conductors and LCD/LED in Korea.

In line with Sumitomo Seika group's business principles, we operate business with due attention to the basic guidance for "zero-accident and zero-injury", "customer satisfaction", "co-existence and co-prosperity with society", while maintaining the fundamental policy of "Safety Comes First". We acquired certification of ISO9001:2008 in December 2009, and have been keeping zero-accident until now, improving various systems while dealing with all sorts of audits. We will develop our business activities for further enhancement of our basis.



Business operation meeting

Reviewing the appraisal of the results of activities in 2009

President

Hisashi Fujimura



We are still in the early days of the start of operation and continuing zero-accident status since the establishment in spite of the fact that only a few are experienced members in handling gas. In winter time, the temperature is sometimes minus 20 degrees Centigrade, which we usually do not experience in Japan. We have to deal with such unexpected situations flexibly. We will work hard to build up the plant paying attention to safety and environment.

Independent Verification Report on the Responsible Care Report 2010



To: Mr. Yusuke Ueda, President
Sumitomo Seika Chemicals Company, Limited

August 5, 2010

Saburo Nakata
Chief Director, Responsible Care Verification Center
Japan Chemical Industry Association

■ Purpose of verification

The Responsible Care Report Verification aims to express opinions of Responsible Care Verification Center, in its capacity as an expert in the chemical industry, on the following items concerning the "Responsible Care Report 2010" (hereinafter "the Report") that was compiled by Sumitomo Seika Chemicals Company, Limited:

- 1) The rationality of collection, compilation and calculation methods of performance indices (numerical values) and accuracy of the values
- 2) The accuracy of information other than numerical values presented in the Report
- 3) The contents of responsible care activities
- 4) The characteristics of the Report

■ Verification procedure

- For the corporate head office, we audited the rationality of the calculation methods of numerical values reported from each site (office and works), as well as the accuracy of information other than numerical values presented in the Report. This was done by interviewing personnel responsible for relevant business operations and those in charge of preparing the Report about the contents of the Report, and comparing their explanations with supporting documents.
- For Befu Works, we audited the rationality of the calculation methods of numerical values reported to the corporate head office and the accuracy of those values as well as the accuracy of information other than numerical values presented in the Report. We conducted the audit of Befu Works by questioning personnel responsible for relevant business operations, hearing their explanations of supporting documents, and cross-checking the data and information with evidential matter.
- We applied a sampling technique to the audit of numerical values and other information presented in the Report.

■ Opinions

- 1) The rationality of collection, compilation and calculation methods of performance indices (numerical values) and accuracy of the values
 - Rational methods were employed at the corporate head office and Befu Works to collect, compile and calculate numerical values.
 - As far as we audited, the performance numerical values were accurately collected, compiled and calculated.
- 2) The accuracy of information other than numerical values presented in the Report
 - We confirmed that the information presented in the Report was accurate. Although a few comments were made concerning appropriateness of expression and readability of sentences at the draft stage, reasonable corrections have been incorporated in the final Report. As a result, we recognize that no important matters required to correct are existing at present.
- 3) The contents of responsible care (RC) activities
 - We laud the company's active efforts for RC activities, such as passing on the company policy from the corporate head office to every section at each Works, summarizing action programs in respective Works' brochures of "Responsible Care Action Plan 2009", sharing information among all the staff members and implementing steadily Plan-Do-Check-Action cycles.
 - We value the steady reduction in waste which was disposed for final land-fill despite increase in production volume.
 - Befu Works is admired for the leadership exercised by its management including General Manager in providing basic educations to rapidly-increasing young employees hired in the past few years such as greeting, discipline and 3S (three actions = straightening, ordering and cleaning).
 - Successful reduction in emission of hazardous chemical substances.
- 4) The characteristics of the Report
 - Many photos and messages of employees presented in the Report give readers a feeling of familiar ease.
 - We look for further ingenious contrivance as to the method for presenting the improvement effects in the environmental accounting.